Mapping the Field of Digital Wellbeing Education: A Compendium of Innovative Practices and Open Educational Resources

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Executive Summary

This report maps the field of digital wellbeing education practice in Higher Education settings. It is intended for educators (e.g. teachers, lecturers, trainers and professional developers) and researchers interested in advancing their understanding of digital wellbeing education and exploring new ways to improve the digital wellbeing of their students. It showcases innovative, creative and participative approaches to digital wellbeing education, including media literacy, digital citizenship and critical thinking, and sets out the challenges, risks, opportunities and future directions for digital wellbeing education.

The **survey of practice** highlights 14 examples of digital wellbeing practice, from UK, Ireland, Spain and Denmark (countries of the project partners) and beyond, as well as a range of open educational resources that can be reused by educators. Most research and practice in digital wellbeing has been carried out in schools and youth work not within Higher Education. As a result, we have included some examples and resources that may be inspirational or have potential for transfer to the Higher Education context.

The **study of the perceptions of practitioners** (educators and professional developers) revealed the challenges, risks, opportunities and future directions of the field from the perspective of experienced educators. The ten experienced educators who were interviewed had experience of creating digital wellbeing resources or delivering teaching on digital wellbeing.

Participants see two main **challenges**: that there is not a uniform definition of digital wellbeing; and that only a few studies report on the impact of an intervention, so, it is difficult to critically evaluate the success of initiatives.

The **risks** are reported as distraction (however there is no evidence to suggest that screen time affects the wellbeing of young people), and the attention-economy whereby companies compete for our attention which may lead to unintended effects on wellbeing.

The **opportunities** are seen as the development of ethical frameworks for a digital society. As a digital citizen in a digital society, there is a need to be aware of laws, threats to personal data, manipulation tactics, and how the digital experience

affects you and others around you. We all need to be aware of how to behave ethically in a digital society. This is not just a personal need but a social responsibility. Companies need to be aware of how the design of their products affects us individually and collectively, e.g. Peters (2019) calls for the responsible design of technology using a process that includes a wellbeing assessment and ethical analysis. As educators we need to be aware of the effects of our own decisions on students and teach ethics and online netiquette.

The **future directions** that researchers should explore include: the use of games for digital wellbeing and students' preferred media for communications; the development of guidelines and evaluation criteria to improve the quality of courses and trustworthiness of digital tools. Finally, the participants called for Higher Education institutions to embrace digital wellbeing, integrate it into their strategic plans and create better environments for students and staff.

Our **theory of change** is that if we can develop the capability of educators in digital wellbeing and digital literacy then we can promote the digital wellbeing of students. This report is a first step towards achieving this objective as we share examples of innovative practices and open educational resources. For more information on the project and other outputs (two mobile applications), see the Digital Wellbeing Educators project website.

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1 Introduction

The Digital Wellbeing Educators project aims to increase the capacity of educators in Higher Education to integrate digital wellbeing education into their professional practice and promote the digital wellbeing of their students. By building the capacity of educators through an intensive training course, digital literacy app for educators, and an e-learning course (as an app for students or resource for teachers), the project aims to improve the ability of students to: manage their online time, make the most of digital learning, critically assess the media they consume, and create and become responsible, confident citizens. Our theory of change is that by improving the capacity of educators (in digital literacy and digital wellbeing) we can improve the digital wellbeing of their students (Davies, 2018).

The field of Digital Wellbeing research and practice within Higher Education has been mapped through a process that includes literature review, review of practice and interviews with experienced practitioners.

From the review of practice, 14 examples of digital wellbeing practice have been selected along with a range of open educational resources that can be reused by educators. Most research and practice in digital wellbeing has been carried out in schools and youth work not within Higher Education. As a result, we have included some examples and resources that may be inspirational or have potential for transfer to the Higher Education context.

The perceptions of 10 practitioners (educators and professional developers) in the field have been gathered and analysed thematically, highlighting the challenges, risks, opportunities and future directions of Digital Wellbeing research and practice.

This compendium is a resource for educators, teachers and other stakeholders to use as a means of generating ideas to solve their own specific challenges, with links to open educational resources and examples of practice that are inspirational and innovative. The intention is to promote peer learning, stimulate dialogue and the sharing of experiences of digital wellbeing education (or professional development) as well as improving understanding of the field and its challenges, risks, opportunities and future directions.

2 Mapping the Field of Digital Wellbeing Practice in Higher Education

2.1 Research Design

Mapping the field of digital wellbeing theory and practice in Higher Education involved carrying out a literature review, identifying innovative examples of praxis (e.g. e-learning courses, open online courses) and interviewing experienced practitioners to identify pioneering practices, and their views on the challenges, opportunities, risk and future directions of digital wellbeing research and practice.

The 10 research participants were selected because of their experiences within the field, i.e. they had already created an intervention (course, MOOCs, training seminars, frameworks, resources) and have an awareness of the issues surrounding digital wellbeing education. The semi-structured interview questions, see appendix A, were informed by the JISC framework (2015) and based on the JISC definition of digital wellbeing. Interviews were recorded, transcribed and analysed thematically, see findings in section 4. Literature on theory and practice is discussed in relation to experienced educators' perceptions of the challenges, risks, opportunities and future directions of the field.

2.2 Criteria for Selecting Examples of Practice

The second element of mapping the field of digital wellbeing practice in higher education was to survey current practice to identify and showcase innovative examples.

All project partners suggested examples of good practice in digital wellbeing education and reviewed the literature to find content and potential interviewees. Sixty digital wellbeing cases were identified however, many did not evaluate the impact of their intervention and so it was difficult to determine which were high-quality and could be seen as representing best praxis. Therefore, an axiology was developed and used as criteria for the selection of the examples, or case studies.

The chosen projects, or initiatives, must have:

1. open educational resources (OER), so that educators can share and re-use them;

2. a focus on critical thinking, digital citizenship, or media literacy;
3. a regional focus on Spain, Denmark, Ireland, and the UK;
4. a focus on the Higher Education sector;
5. a formal evaluation of impact.

During the selection process three criteria were amended. Criteria 3 was relaxed to include examples from other countries as there were insufficient examples identified from these countries alone, which may be due to the emerging nature of the field or to the limitations imposed by the search criteria. For example, collaborative, multi-national projects were classified on the basis of the location of the co-ordinating partner and this does not reflect the location of partners.

Criteria 4 was discussed extensively as it was recognised that there are many examples of good practice already in place within schools and youth education. Some examples have been included if there was potential for transfer of knowledge from these other educational sectors to Higher Education.

Criteria 5 was amended as too few projects and initiatives had formal evaluation studies to assess their impact. An alternative measure of quality was used, namely that they had been identified by expert reviewers as award winning initiatives, or success stories, within European Union Erasmus+ Project Results platform.

The Erasmus+ Results platform is an important source of open educational resources for online materials and examples in many aspects of digital wellbeing. Searching the Erasmus+ platform, there were 1349 projects for keyword: ***digital citizenship***, ongoing; 1464 projects for keyword: ***critical thinking***, ongoing, and 576 projects for keyword: ***media literacy***, ongoing. An additional 78 initiatives, or projects were recommended by project partners from within their country or region. In total, over 3467 initiatives or projects were considered for inclusion in this compendium.

Another useful resource is the European Commission's EACEA National Policies Platform which is a wiki on national youth policies, categorised by country, in Europe.

3 Examples of Practice

These 14 examples of practice have been selected based on the criteria in section 2.2 and presented in this section according to country: Spain, Denmark, Ireland, United Kingdom of Great Britain and Northern Ireland. Our search found many more initiatives and research projects from the UK and Ireland (or projects co-ordinated from the UK and Ireland) in comparison with those found from Spain and Denmark. This may be due to limitations imposed by the search criteria or to the emerging nature of the field.

3.1 Spain

Example 1. Women as Spiritus Movens Towards Equality in the European Citizenship

This project focuses on: students' education and employment and how they cope with insecurities around these issues; and the teenagers' presence in the virtual world, including issues of prejudice and social exclusion. It could raise hopes and reduce the stigma of social and personal failure and exclusion. The open resource materials could be integrated into courses and open discussions.

This project has been recognized as an example of a Success Story and Good Practice project on the Erasmus+ Project Results website. Additionally, it was chosen by the Polish National Agency during the international eTwinning conference as a unique digital citizenship project using the eTwinning platform (September 2016).

Project description and resources: *Women as Spiritus Movens Towards Equality In The European Citizenship.*

Keywords: Key Competences, basic skills, Critical thinking, EU Citizenship, EU awareness and Democracy, Gender equality.

Target groups: Educators working with youths.

3.2. Denmark

Example 2. Collaboration and Innovation for Better, Personalised and IT-supported Teaching

The aim of the COLIBRI project was to develop new teaching approaches, increase the relevance of education to employers, and promote the use of innovative practices in education. The project focused on personalised learning, collaborative learning, and the use of ICT. There is a bibliography that could help readers - especially academics - understand media literacy and innovative teaching practices and how to foster the need for more personalised and active learning. It also includes teaching materials, i.e. ten modules, including group projects and teacher guidelines. The materials are free and can be adapted by others.

This project has been recognized as an example of a Success Story and Good Practice project on the Erasmus+ Project Results website.

Project description and resources: ***Collaboration and Innovation for Better, Personalised and IT-supported Teaching.***

Keywords/topics: ICT - new technologies, media literacy, citizenship, personalized learning.

Target groups: Educators in Higher Education.

3.3. Ireland

Example 3. Digital Skills Pathways for Youth across Europe

This project aims to provide teenagers, from across Europe, with opportunities in the field of digital media, to: develop a range of digital media competences, such as Digital Image Editing, Stop Motion Animation; showcase their work online; engage in networking activities; explore a range of possible careers; and identify pathways to further education and future employment. In addition to the digital pathways programme of modules, there are also materials for professional development of digital mentors.

This project has been recognized as an example of a Success Story on the Erasmus+ Project Results website.

Project description and resources: ***Digital Skills Pathways for Youth across Europe.***

Keywords/topics: Youth Work, Youth Policy, ICT - new technologies, media literacy, employability, career guidance / youth unemployment, citizenship.

Target groups: Educators and mentors working with youths.

Example 4. All Aboard! Digital Skills in Higher Education

All Aboard! Digital Skills in Higher Education, is an open resource that was designed to improve the digital literacy of university staff, educators and students. The digital skills are presented in an attractive and imaginative manner as a metro map. The metaphor of journey and progress is continued with the use of the student travelcard which sets out a mini course for students to follow that will provide essential skills. Digital badges are awarded on completion of courses.

All Aboard is a collaborative project funded by the National Forum for the Enhancement of Teaching & Learning with a consortium of 4 Irish Universities (NUI Galway, University College Dublin, University of Limerick, Mary Immaculate College).

Project description and resources: All Aboard!

Keywords/topics: Digital literacy, digital identity and digital wellbeing.

Target groups: students, educators and others in Higher Education.

Example 5. Screenagers International

Screenagers International is a project that explores the innovative uses of Information and communications technologies (ICT), digital and social media in youth work. It focuses on the safe and effective use of ICT, social and digital media, in youth work. The project supports young people, discusses new competences for youth workers and provides well-informed recommendations to promote the use of ICT, social and digital media in youth work at organisational, national and European level. The project report and infographic show the next steps needed in digital youth work and open access resources are available.

This project has been recognized as an example of a Success Story and Good Practice project on the Erasmus+ Project Results website.

Project description and resources: Screenagers International project, ***resources, infographic, International report.***

Keywords/topics: ICT - new technologies, digital competences, social media, critical thinking.

Target groups: youth workers, and youths.

3.4 United Kingdom of Great Britain and Northern Ireland

Example 6. Children's Identities and Citizenship

The “Children’s Identities and Citizenship – Best Practice Guides” project enhances awareness of EU citizenship, identity, integration, democracy, equity and inclusion. Several best practice guides were produced, e.g. on European Integration in pre-school and school education, and on European Integration in pre- and in-service teacher education. Guidelines for schools and guidelines for teacher education on topics such as inclusion of minority groups, identities and European citizenship and intercultural dialogue.

This project is a collaboration of 25 higher education institutions from 17 countries that are coordinated by London Metropolitan University.

This project has been recognized as an example of a Success Story and Good Practice project on the Erasmus+ Project Results website.

Project description and resources: Children's Identities and Citizenship, guidelines for educators and guidelines for citizenship education in a plural Europe.

Keywords/topics: Citizenship, identity and integration, citizenship education.

Target groups: education professionals and researchers working with young people on citizenship education.

Example 7. Visual/Video Literacies

The “Visual/Video Literacies” project aimed to improve the visual literacy of educators in Higher Education and vocational training. To achieve this aim, the team developed a massive open online course (MOOC) on “Visual Literacies: Exploring Educational Practices and Technologies” and open educational resources (OERs) which are available for educators to use free of charge. Topics include critical thinking, visual literacy, video literacy, immersive literacy (for virtual and augmented reality technologies) and online identity.

Keywords/topics: visual literacies, media literacies, immersive literacy, online

identity, critical thinking.

Project Description and resources: Visual/Video Literacies project, *MOOC.*

Target groups: educators in Higher Education, Further Education and vocational training.

Example 8. JISC Digital Capability Framework

JISC is a not-for-profit organization that promotes the use of digital technologies in UK Higher Education. It provides advice and practical assistance to universities, colleges and vocational training centres. A JISC project led to the creation of the Digital Capability Framework that is widely used in the UK. One of the 6 elements in the framework is 'Digital Identity and Wellbeing". JISC shares open access resources for educators, students, resource managers, librarians, and researchers.

Project description and resources: JISC, ***Learning and research resources, digital literacy.***

Keywords/topics: Digital literacy, media, digital identity, digital wellbeing.

Target groups: students, educators and researchers in Higher Education, Further Education and skills sectors.

3.5 Award Winning European Initiatives & Global Projects

Example 9. Lie Detectors

The 'Lie Detectors' organisation promotes news literacy, increased awareness of misinformation and critical thinking regarding the mainstream media industry. It focuses on positive and thought-provoking contact between young people and journalists, e.g. where professional journalists help young people check facts and disinformation circulating on social media. The Lie Detector project sees a new role for education in developing critical thinking as a route to resilient, well-informed communities.

Lie Detectors won the European Commission's Digital Skills Award 2018 in the Digital Skills in Education category.

Project description and resources: Lie detectors collaborated with EAVI (a not-for-profit organization that developed teaching and learning resource for media literacy for citizenship), e.g. an infographic on 10 types of misleading news (in 13

languages).

Keywords/topics: Critical thinking, fake news, media literacy for citizenship, citizenship education.

Target group: schoolteachers/educators working with young people on citizenship education and critical thinking.

Example 10. Acting European 3

The Acting European 3 project promotes European citizenship within Romania, developing public policies in the youth field but especially facilitating meetings between young people and youth policy makers (for promoting European citizenship and democratic education).

This project has been recognized as an example of a Success Story and Good Practice project on the Erasmus+ Project Results website.

Project description and resources: Acting European 3

Keywords/topics: Critical thinking, digital citizenship, European citizenship.

Target group: youth workers/educators working with young people to promote European citizenship.

Example 11. Equality Training Network

The “Equality Training Network: European Contributions to Gender Mainstreaming and Citizenship” project promotes gender equality, European integration and citizenship. It produces courses, in Spanish and English, for different audience on gender equality in the integration process. Developing relationships between universities in Latin America and Europe, the project promotes inclusion through citizenship education.

This project has been recognized as an example of a Success Story and Good Practice project on the Erasmus+ Project Results website.

Project description: Equality Training Network: Eu Contributions To Gender Mainstreaming and Citizenship, training resources.

Keywords/topics: EU Citizenship, EU awareness and Democracy, Gender equality,

inclusion, citizenship education.

Target groups: university students, educators, and policy makers (including politicians and public administrators).

Example 12. Digital IQ

The Digital Wellbeing research centre “Benessere Digitale” at the University of Milan-Bicocca has engaged in a series of projects around digital wellbeing, smartphone use and quality of life, and the impact of digital competence on educational outcomes. Working in high schools across Milan, they created media education courses that were delivered to 3659, 15-16 year old schoolchildren, from 171 different classes. A questionnaire for measuring “Digital IQ” (i.e. digital competences and attitudes) was created and validated, although, at present it is only available in Italian. The randomized trial measured the effectiveness of media education and found that there were 3 key factors: media usage habits, levels of digital competence, and subjective wellbeing.

This is an example of a project that has been systematically designed, implemented and evaluated. There are several academic papers presenting the findings of the research asking, e.g. “The impact of digital skills on educational outcomes” and “Does public investment in ICT improve learning performance?”

Centre description and resources: Benessere Digitale, Digital Wellbeing Project Report.

Keywords/topics: digital wellbeing, digital literacy, digital IQ, media education.

Target groups: schoolteachers, researchers.

Example 13. Digital Citizenship Education

The Digital Citizen Education project aims to empower children through education to gain the competences that they need to be active and responsible citizens in a democratic society. The project provides recommendations for teachers, parents, and other stakeholders who are teaching digital citizenship to young people. They have also developed a conceptual model and definition of digital citizenship which combines digital engagement, digital responsibility and digital participation. Digital citizenship is seen as developing competence in critical thinking and digital media which is underpinned by respect for human rights and democracy.

It was approved by the Steering Committee for Educational Policy and Practice and launched in March 2016 as part of the 2016-2017 Programme of the Council of Europe.

Project description and resources: Digital Citizenship Education project, Conceptual Model, Literature Review, 10 Digital Citizenship domains

Keywords/topics: digital citizenship, democracy, digital competences, critical thinking.

Target groups: schoolteachers, educators, parents, school managers, policy makers.

Example 14. Designing for Wellbeing: Tools, Resources and Ethics

Dorian Peters and Rafael Calvo have undertaken a series of projects around design of technology for digital wellbeing and ethics. They advocate a "responsible design process" that includes the consideration of digital wellbeing and methods for ethical analysis in the design of technology. Peters, Calvo and Ryan (2018) present a theoretical framework (METUX) based on psychological research that can be used by designers to increase motivation, engagement and digital wellbeing.

With a strong emphasis on actionable methods they have developed and shared the results of several projects, e.g. a YouTube video introduction, a book, academic journal papers, training materials, a process for responsible design with tools and methods, and a series of video interviews with leaders in computing, psychology, health and wellbeing.

For example, the 'Wellbeing Deck of Cards' can be used to analyse projects or interventions from a wellbeing perspective (Peters, 2019). The 9 cards are based on (a) 3 fundamental psychological needs necessary for engagement, motivation and wellbeing derived from self-determination theory (Ryan and Deci, 2000, 2017), and (b) 6 spheres of technology experience (Peters, Calvo & Ryan, 2018) so that wellbeing is not just limited to interaction with the technology but also how the technology is used in a wider social context.

Description & resources: Digital Wellbeing Lab (Peters & Calvo), Responsible Tech Design: Tools and Methods, Ethics of Digital Experience, Digital Wellbeing Tools & Resources, Wellbeing Cards, METUX framework.

Keywords/topics: digital wellbeing, responsible design of technology, ethics of digital experience.

Target groups: philosophers, computer scientists, designers of technology, researchers, practitioners.

4 Challenges, Risks, Opportunities and Future Directions

The challenges, risks, opportunities and future directions in the field of digital wellbeing education in the Higher Education sector have been identified from thematic analysis of interviews with 10 leading practitioners in the field, and this has been combined with a review of the literature on theory and practice, see section 2.1 for further detail of the research design. Open educational resources and examples of practices are highlighted to illustrate relevant research and development within each theme.

4.1 Challenges - Definition and Lack of Impact Studies

Two main challenges were identified: (1) the lack of an agreed definition of digital wellbeing, and (2) the lack of impact studies to formally evaluate the effectiveness of interventions such as training to mitigate the effects of technology on digital wellbeing.

4.1.1 The challenge of defining digital wellbeing

Digital Wellbeing is a new concept which has not yet reached the stage of having a well-understood and commonly accepted definition; definitions have been developed in the last 6 years (Ferrari, 2013). As a participant commented:

"everyone has a difference perception of the concept." (Mary)

So, there is a need to discuss the various definitions and enhance understanding of the term to pave the way for more research in the field. The following paragraphs present some of the definitions and approaches to digital wellbeing currently used:

a) Finding Balance (Google, n.d.)

One approach to the field of digital wellbeing emphasizes monitoring habits and promoting healthy behaviours by balancing life and use of digital tools. It considers the lack of focus, distraction, amount of time spent on screens as a personal (or family) responsibility and that good habits can be achieved with the support of tools and apps, e.g. to monitor screen time and app usage (Google, n.d.). Google claim that 1 in 3 people in the USA were thinking about their digital well-being last year and they provide a range of tips and tools to help you find your balance.

b) Digital Wellness (Royal, Wasik, Horne, Dames & Newsome, 2017)

The Digital Wellness model frames the concept as:

> *"A way of life, while using technology, that promotes optimal health and well-being in which body, mind, and spirit are integrated by the individual to live more fully within the human, natural, and digital communities. Ideally, it is the optimum state of health and well-being that each individual using technology is capable of achieving." (Royal, et al., 2017, p.106)*

Royal et al. (2017) propose the Digital Wellness model (Royal 2014 as cited in Royal et al., 2017) and stress that digital wellbeing is an issue of mental health and that digital addiction is a metaphor not a diagnosis. They acknowledge that extended and excessive use of digital technologies can cause problems with relationships and meeting obligations at work and in education. However, just because someone spends a lot of time using technologies does not necessarily mean that they will experience adverse effects. They make recommendations and propose a range of strategies for promoting digital wellness.

c) Benessere Digitale (2017)

Gui and colleagues at the Italian research centre for digital well-being, propose a definition that highlights the ability to exploit opportunities offered by digital technologies as well as the ability to know how to control unwanted effects. They define digital wellbeing as:

> *"a state obtainable not only by the individual through his/her personal 'digital well-being skills', but also as a characteristic of a community*

whose norms, values and expectations contribute to its members' comfort, safety, satisfaction and fulfilment". (Gui, Fasoli, & Carradore, 2017, p.155)

This definition is notable as it does not place responsibility solely on the individual but includes the community who share responsibility through expectations, practices and norms.

d) JISC digital capabilities framework (JISC 2015)

The JISC digital capability framework arose out of a project that interviewed staff in Higher and Further education about digital technologies (Beetham, 2015). It identified digital wellbeing as a key concern for staff whose lives are saturated with digital technologies. Concerns raised by staff included: information overload, work-life balance, quality of relationships and responsibility for the wellbeing of their students in digital learning settings. While acknowledging the responsibility of the institution, it also recognised the individual's need for digital skills (or capabilities) to be able to perform their duty, e.g. to promote respectful behaviour online, to ensure equality and inclusion. Students also identified concerns around distraction, concentration and loss of face-to-face interactions with staff (Digital Student, n.d.).

The 'digital identity and wellbeing' element within the JISC framework is defined as:

"Digital Identity and Wellbeing (self-actualising)

Digital Identity Management:

The capacity to develop and project a positive digital identity or identities and to manage digital reputation (personal or organizational) across a range of platforms; to build and maintain digital profiles and other identity assets such as records of achievement; to review the impact of online activity; to collate and curate personal materials across digital networks. An understanding of the reputational benefits and risks involved in digital participation.

Digital wellbeing:

The capacity to look after personal health, safety, relationships and work-life balance in digital settings; to use digital tools in pursuit of

> *personal goals (e.g. health and fitness) and to participate in social and community activities; to act safely and responsibly in digital environments; to negotiate and resolve conflict; to manage digital workload, overload and distraction; to act with concern for the human and natural environment when using digital tools. An understanding of the benefits and risks of digital participation in relation to health and wellbeing outcomes." (JISC, 2015)*

Within our research, we have used this definition of digital wellbeing as a starting point, as it is the most well-formed definition. As a participant observed:

> *"There is not a lot of research on this, but we have used the JISC definition and this is what most people know about" (Joan)*

and another added that:

> *"The JISC definition is very comprehensive". (Mary)*

e) Digital Well-Being Lab

The Digital Well-Being Lab in Toronto, led by Anna Lomanowska, offers a brief definition that "our sense of well-being is tied to our personal, social and environmental circumstances" (Lomanowska, 2017). Stressing that as digital technologies become increasingly integrated into our everyday lives, it is essential to investigate their influence and carry out research into topics such as "the potential impact of online intimacy on well-being" (Lomanowska & Guitton, 2016, p. 138).

f) Center for Humane Technology

The Center for Humane Technology campaigns for the humane design of technology, technology that minimizes potential harm and protects the vulnerable in society. They are concerned by issues surrounding digital citizenship and potential treats to society from abuses of technology.

The Center for Humane Technology claims that technology companies have inadvertently enabled a direct channel through which entire societies can be manipulated with unprecedented precision:

''Technology platforms make it easier than ever for bad actors to cause havoc:

- *Pushing lies directly to specific zip codes, races, or religions.*
- *Finding people who are already prone to conspiracies or racism, and automatically reaching similar users with 'Lookalike' targeting.*
- *Delivering messages timed to prey on us when we are most emotionally vulnerable, e.g. Facebook found depressed teens buy more makeup.*
- *Creating millions of fake accounts and bots impersonating real people with real-sounding names and photos, fooling millions with the false impression of consensus".* Center for Humane Technology (2019)

They suggest new (more compassionate) approaches to the design of technology that support the digital wellbeing of individuals and communities, e.g. new design practices and new business models. These new approaches are required to reduce harm and protect the individual and collective wellbeing. At the heart of their endeavor is concern for the wellbeing of the most vulnerable in society who may not have the ability to protect themselves.

To sum up, these definitions of digital wellbeing are very similar. There are three notable issues (a) whether the view of digital wellbeing is seen as a negative or positive, (b) whether the responsibility is individual or social, and (c) the extent to which technology designers are responsible for the digital wellbeing of their users.

Some psychologists do not subscribe to the JISC (2015) definition of digital wellbeing, as it is based on a deficit model, a perspective that views the issue as a lack of understanding and prefer a positive model of wellness where digital wellbeing is described as experiencing and evaluating life positively (Royal et al., 2017). This was supported by the research participants, for example:

"Unless we use double-speak and define wellbeing in terms of risks of stress, anxiety and other mood disorders, then surely wellbeing is about wellness not illness. I see this pathologizing of digital wellbeing as part of the moral panic surrounding digital technology and human wellbeing. And I don't see it as helpful". (Nick)

Another striking difference between definitions is in who is seen as responsible for digital wellbeing – is it the individual or is it a responsibility that should be shared by the community or society? Benessere Digitale embrace the social aspect of digital wellbeing and explicitly include it in their definition. While it is not an explicit feature of the JISC (2015) definition, Beetham (2015) acknowledged that the institution is also responsible as well as the individual educator. Similarly, Google stressed the value of working together to establish common ground rules for digital use suggesting that one should find balance as a family by setting ground rules together and identifying healthy habits for the whole family.

Along the same lines, the Center for Humane Technology focuses on the effects of digital technologies on society as well as the individual and stresses the need for technology companies to take some responsibility for the digital wellbeing of their users and take more responsibility for the design of technologies and any potential harm to society that they might cause.

The JISC (2015) digital capabilities framework provides the most detailed definition of individual digital wellbeing however we expand on this definition and place greater emphasis on the need to consider how groups and communities can work together to mitigate potential harm from the use of digital technologies.

4.1.2 Lack of impact studies

Researchers in several disciplines are interested in digital wellbeing research and practice in higher education, including psychologists, educators, technologists, sociologists, philosophers, doctors, and ethicists to name few. It shows the need and significance of digital wellbeing research but creates an additional challenge for researchers. Hence, it is important to find ways to collaborate and promote research into different target groups, to investigate different disciplinary perspectives and to contextualize findings.

The key issues that emerge from the study was the lack of evaluation and impact studies for the interventions. As a study participant said:

> *"I think the biggest challenge for me is to find evidence-based resources. I must make a lot of decision on what to suggest in order to better manage digital being but most of the information comes from internet sources. People have some suggestions but there is not enough evidence based." (Kostas)*

Most of the interventions and resources developed were designed by teams aiming to do their best to improve the everyday life of staff and students within and outwith the educational institution. Joan stressed:

> *"We need more strategic impact research". (Joan)*

A concern is that most evaluation studies focus on the achievement of educational goals, and improvements in knowledge and understanding of the resources presented, e.g. improved knowledge and understanding of digital wellbeing as demonstrated by passing a quiz. Mark remarked that:

> *"There was a sort of evaluation from an educational point of view. How many people were engaging with the content? How many participants we have? We have not measured impact or how they engage with the technology." (Mark)*

As a result, there are insufficient interventions that measure the short-term and long-term effects of the interventions, on changes in the behaviour (or habits), beliefs, and attitudes of participants, i.e. evaluations that go beyond looking at gains in understanding and knowledge.

4.2 Risks - Hacking the Brain and Effects on Society

Two main risks were identified: (a) the potential for smart devices to 'hijack the brain', to distract and overwhelm the individual leading to negative effects on health and wellbeing, and (b) the effects of technology products can have on society as a whole, on relationships and democracy.

4.2.1 Hijacking the brain

Smart devices have obvious advantages for productivity, social connections, entertainment, and technology-enhanced learning. The concept of digital wellbeing (i.e. mental, psychological and physical wellness related to the use of digital tools) presupposes that private and professional life is overwhelmed by technologies that do not always serve their purpose but may often distract students and educators from their daily tasks, affecting health, damaging interpersonal relations and encouraging undemocratic values, inequalities or even offensive expressions.

Distractibility is one of the issues of concern due to the time spent on screen, mentioned several times by the research participants:

> *"Educators are facing students who are distracted and less focused in their work. Laptops and phones in class prompt students to spend time off topic, not paying attention, not taking notes, and not synthesizing the information presented. They are more stressed and less able to do deep thinking". (Nick)*

New words have been born, for example cyberloafing (Selwyn, 2008) which describes the practice of pretending to work on a screen but surfing the internet instead. Julie Aranda, from Google, stated: "Across the board, mobile devices loaded with social media, email and news apps, were creating a constant sense of obligation, generating unintended personal stress". It is part of the so-called smartphone addiction, or Nomophobia (No mobile phobia), that embraces many adverse psychological effects such as stress, depression, sleep deprivation and a sedentary way of life (Gökçearslan, Uluyol, & Şahin, 2018; Center of Humane Technology, 2019). As mentioned previously in relation to the digital wellness model (Royal et al., 2017), the word addiction may not be the correct term as although there is a correlation between time spent on screens and addictive symptoms, there is not a shared causality. When discussing smartphone addiction, addiction is a metaphor and not a diagnosis (Royal et al., 2017).

One of the psychological implications of smart devices is the race to keep your attention – it could be said that the 'attention economy' trains people to replace their self-worth with likes, encourages comparison with others, and creates the constant illusion of missing out. It can also lead to a blurring of the boundaries between the professional and the personal:

> *"When focused study or learning time can be incessantly interrupted by notifications of trivial entertainments or friendly chats, we see a blurring of boundaries that can make it very difficult to focus one thing at a time and prioritize what's most important when". (Joan)*

Annie went on to describe the pressure that results:

> *"I think the biggest problems for students is the 24/7 connectedness. You feel that you can never shut up. With staff members is that they reply e-mails when you are not in work and Instagram and social media. Even on holidays". (Annie)*

Nick summed up the risks as:

> *"Digital Addiction, Social Isolation, polarization, anxiety and nomophobia, sleep disturbances and comparison culture and competing for likes on social media" (Nick)*

A common fear, today, is that smartphone and digital technologies are damaging youths and causing mental health issues (Przybylski & Orben 2019), however, studies of youths and digital technology use have not found significant effects on wellbeing. A study by Orben & Przybylski, 2019) examined correlations between social media usage and wellbeing in youths. They found that there was a small, negative, effect that could explain 0.4% of the variation in wellbeing. The potential risks to wellbeing should not be ignored but this correlation is not strong enough to justify action.

4.2.2 Effects on society

An aspect that has an effect on individuals and society is internet misuse, e.g. misrepresentation of self, unauthorized downloading, online pornography, plagiarism, and "cyber-cheating" which may be important within higher education when the internet is considered a safe place for misbehaving by students (Selwyn, 2008).

Fake news, defined as "false often sensational, information disseminated under the guise of news" (Collins Dictionary, 2017), is an interesting example of how important it is that we understand information creation and dissemination processes in the modern world. If students are not critical of the sources and quality of information on the internet, then viewing manipulated and biased information can have a detrimental effect on decision-making and understanding of the world. If we are not evaluating information and checking facts, we risk basing our opinions and actions on false information that can have potentially major consequences for our democracy, global environment, and health.

It is not only individual habits and misbehavior that need monitoring but also the socio-political and ethical effects of technology use on wellbeing. For example:

> *"Addiction is not caused only by humans, but it is someway implemented by design; because it brings competition for attention for these companies ... They are sometimes built to make us addicted and*

for pushing us to use this technology as much as possible". (Kostas)

The Center for Humane Technology claims that the distraction problem is invisible and affects all of society. They explain that some technology products are competing for our constant attention because of profit, as part of the so-called 'attention economy'. Sophisticated techniques are used to keep our attention, for example, analysis of big data is used to target specific audiences. This may result in adverse effects on wellbeing:

> *"Snapchat turns conversations into streaks, redefining how our children measure friendship. Instagram glorifies the picture-perfect life, eroding our self-worth. Facebook segregates us into echo chambers, fragmenting our communities. YouTube auto plays the next video within seconds, even if it eats into our sleep". (Center for Humane Technology, 2019)*

Social media rewards outrage and false facts, and filter bubbles which reinforce existing beliefs without challenging them, can lead to greater division between people making compromise less likely. As a consequence, democracy may also be at risk.

4.3 Opportunities - Developing an ethical framework

Research into the spread of news on Twitter found that fake news travels much faster, and more widely, than true stories as people are more likely to share novel information (Vosoughi, Roy & Aral, 2018). Floridi et al. (2019) claims that the solution to ethical challenges is for researchers and ethicists to develop ethical frameworks to enhance situation awareness and manage digital society in a coordinated manner.

Alternatively, Tristan Harris, the former Design Ethicist at Google and the CEO of the Center for Humane Technology, presses for better collaboration with leading designers and technology executives to find ways to align technology products and services with the wellbeing of humanity. Peters (2019) also supports this view.

All in all, human wellbeing is part of every ethical theory no matter the perspective taken (Klausen, 2019). Some people consider digital wellbeing to be a personal responsibility and others see it as a collective responsibility. The opportunities identified in this research on digital wellbeing include: the development of ethical

frameworks for personal and social ethics, for education and for media.

4.3.1 Personal responsibility/ethos

There is a personal responsibility as a digital citizen of the world to be aware of laws and threats to personal data and to digital manipulation tactics; to constantly ask what is right; how I can learn more or work more effectively, how digital experience make me feel and how I can protect myself and others. According to ancient Greek philosophy, the pursuit of Arete is the personal ethos of every human when searching for the best way to live and learn to fulfil her/his true potential (Jaeger, 1945). Arete in the digital age is related to fighting the superficiality of social media (the perfect picture life, the addiction of likes), striving for more attention at the expense of personal happiness and wellness. It is related to self-satisfaction, critical thinking, free-will and values.

Personal ethos is about principles surrounding technological use, control against distraction (against recommendation engines) and standards for quality of life. For example, Joan stressed the personal responsibility for one's own behaviour online, and the role of netiquette:

> *"it is important, the netiquette, how you engage in an online conversation … engaging in a way that we acknowledge that there is a person on the other side". (Joan)*

In addition, empathy and emotions have been acknowledged as elements in ethics and cannot be ignored in the digital age: "from the times of Hume and Smith to the recent upsurge of sentimentalist theories" (Klausen, 2019, p.3).

The Markkula Center for Applied Ethics (Santa Clara University, USA) has produced an application for Android and IOS to help people make ethical choices:

> *''As long as there is technological progress, technology ethics is not going to go away; in fact, questions surrounding technology and ethics will only grow in importance.'' Brian Patrick Green, Director of Technology Ethics*

For example, a parent should understand the process of 'datafication of children' - many parents post photos of their children on social media and this can violate their privacy rights (Baron, 2019). Many children have digital footprints even before they

are born. It can be considered as a personal responsibility to be aware of digital wellbeing threats, ethical presence online and digital citizenship while monitoring personal values, feelings and health. However, digital wellbeing is not just a personal responsibility as 'humans are social animals' (Aristotle , 350 BC politics, book 1- section1253a).

4.3.2 Moral and social responsibility/ethos

The moral responsibility towards wellbeing could be described as a collective responsibility as well (Klausen, 2019). For example:

> *"I also want to add that there is also a social dimension, so if your group, your environment provides you with norms and values on how a person should manage his/her digital identity that is obviously easier for a person to be safe and to also achieve wellbeing". (John)*

With new threads and challenges of social systems, big data and artificial intelligence (AI), governments and multinational organizations have the power to enforce laws and policies while being accountable for the well-being of people. Therefore, strategic plans and educational initiatives (such as the examples of practice in section 3) could create an impact that needs to be evaluated to enable continuous improvement to keep pace with technological progress.

Governments and data scientists could become more accountable, for example, more sophisticated policies than the UK's General Data Protection Regulations could be implemented to improve digital wellbeing. Green (2019) suggests:

> *"Data scientists must recognize themselves as political actors engaged in normative constructions of society and, as befits political work, evaluate their work according to its downstream material impacts on people's lives". (Green, 2019, p.7)*

For example, MIT Technology Review Insights (2019) states that Asian governments and civil society groups are working on defining regulatory frameworks to guard against the misuse of big data and AI, and support technologies to go in more socially advantageous directions. The post-digital technologies play a political role (Knox, 2019). The most recent report from the AI Now institute at New York University cautions against the tendency to 'reframe political questions as technical concerns' (Whittaker et al., 2018, p. 32). Further,

they suggest:

> *"Historical patterns of discrimination and classification, which often construct harmful representations of people based on perceived differences, are reflected in the assumptions and data that inform AI systems, often resulting in allocative harms. This perspective requires one to move beyond locating biases in an algorithm or dataset, and to consider 'the role of AI in harmful representations of human identity,' and the way in which such harmful representations are both shaped, and shape, our social and cultural understandings of ourselves and each other". (Whittaker et al., 2018, p. 25)*

Technology companies share the responsibility for conscious use of digital media and need to carefully consider the design for their products and services because they have the moral obligation to protect their users. Companies such as Google provide guidance and tools for enhancing digital wellbeing, but the emphasis is primarily on the user who is urged to take responsibility for themselves and their children.

In contrast, within the field of AI, a white paper on the opportunities and risks of artificial intelligence (AI) for society has been produced by AI4People, a multi-stakeholder committee (Floridi et al., 2019). They outline the positive and negative impacts that AI technologies may have on society and propose an ethical framework for a "Good AI Society". The ethical framework sets out 5 ethical principles and 20 concrete recommendations that can guide the development and adoption of AI technologies. This approach to guiding the develop as well as adoption of technologies in society is valuable. However, these proposals are limited to the development of AI technologies and ethical development is a concern in the design and development of all technologies.

4.3.3 Education

Shaffer (2014) talks about how educators can bring about change within our institutions, profession and practice by thinking in terms of three levels of resistance. We can push for institutional change in policies and practice (level 1). We can make changes in our day-to-day teaching practice (level 2) and finally, we can accept that not all changes can be made within current institutional policies and practice and teach underground (level 3). Teaching underground means that we

can still influence our students and our colleagues through the professional relationships that we have outside formal teaching, e.g. through professional and social networks and media. Considering these 3 lines of resistance, we can seek to improve such issues as digital wellbeing, critical thinking, digital citizenship and design of new technologies that takes into account ethics and digital wellbeing.

Pete Rorabaugh explains:

> *"Critical pedagogy, no matter how we define it, has a central place in the discussion of how learning is changing in the 21st century because critical pedagogy is primarily concerned with an equitable distribution of power. If students live in a culture that digitizes and educates them through a screen, they require an education that empowers them in that sphere, teaches them that language, and offers new opportunities of human connectivity". (Rorabaugh, 2012)*

Curricula for all levels of education could promote digital well-being ethics, critical pedagogy and thinking for digital citizenship. The examples set out in section 3 contain many examples of curricula for digital citizenship and critical thinking. An example of ethics curricula that is available for all levels of education, which could be re-purposed has been developed at the Markkula Centre of Applied Ethics at Santa Clara University in the USA. Green and Raicu (2019) have created a template for writing technology ethics case study that could be adopted in different fields.

The Wellbeing Technology Lab (formerly the Positive Computing lab) proposes several tools and resources that could be integrated into curricula for technology design, and psychology courses. Peters (2019) recommends that design practices are improved to augment the wellbeing of people through a responsible design process that includes a wellbeing impact assessment as part of the development process.

There is also curricula from a workshop on design for wellbeing and resources such as a video interview series on "Perspectives on Tech and Wellbeing" where experts speak about how we can improve design processes so that there is more support for wellbeing. There is also an open access special issue in the journal, Psychology of Well-being, edited by Calvo, Vella-Brodick, Desmet & Ryan (2016). The seven articles highlight the multidisciplinary nature of the design and

development of technologies for wellbeing, and the many innovative approaches that researchers are taking.

4.3.4 Media ethics

Some educators believe that:

> *"digital media education must become a standard way of interacting in classrooms and it has to pervade every aspect of the student-teacher relationship". (Nick)*

However, the effects of using digital media should be considered carefully, as:

> *"we also as social scientists know, and we have published on this, that the overuse of digital media is contributing to existing inequalities. We have published a paper that shows with empirical data that the overuse of smartphones is contributing to polarizing school performance between students with high and low educated families. So, we have a lot of emerging data showing problems and showing that these problems are also connected to social inequalities". (Mary)*

Several educators use social media for teaching purposes and collaboration, however, it is important to align ethics and netiquette when using social media for learning. Sometimes, the values depicted on social platforms may conflict with personal well-being:

> *"If values of instantaneity, performativity and multi-tasking are in force in our digital life, tensions will emerge between personal-care needs and needs of social inclusion. In the development from 'web 1.0' to 'web 2.0', there has been a loss of priority for the value of 'privacy' and an increase in priority for 'visibility', 'transparency' and 'exposure' (Cohen, 2008)." (Gui, Fasoli & Carradore, 2017, p. 164)*

Popularity is often associated with truth which may not be the case. Students need to understand the difference between the Aristotle concept of 'doxa' (popular opinion) and Endoxa (tested opinion). Endoxa is a more stable belief than doxa, because it has been "tested" in argumentative struggles in the Polis(city)/society) by prior interlocutors. Endoxa is used in *Organon*, *Topics* and *Rhetoric*.

Ethics is a holistic and dynamic phenomenon that needs to be an on-going

evaluation process of technologies, values and behaviours in every field of life and sciences (Klausen, 2019).

4.4 Future Directions

More research could focus on understanding attention and distraction and their effects on wellbeing. Other issues were mentioned, for example, exploring the best ways to discuss digital wellbeing with students:

> *"Personally, I would like to find some new ways of discussing digital problems with the students, for instance I would like to find some games about digital wellbeing, but I don't know if this is possible". (Steve)*

Or, investigating students' preferred media for communications:

> *"One point of disconnect, how teachers use media and how students use media … we have this disconnect but it is important to keep up with the students, what are their preferred media". (Joan)*

The research participants also asked for the development of evidence-based guidelines and evaluation criteria to improve the quality of courses and the trustworthiness of digital tools. Open access courses were seen as valuable for students and educators.

Participants also recommended that Higher Education institutions should take responsibility for digital wellbeing and embrace it in their strategic plans so that they create a better working environment for all employees and students.

In 2018, the Pew Research Centre conducted a survey investigating people's expectations of how digital technologies will impact on their physical and mental wellbeing (in the next 10 years), they concluded that:

> *"A plurality of experts say digital life will continue to expand people's boundaries and opportunities in the coming decade and that the world to come will produce more help than harm in people's lives. Still, nearly a third say they expect digital life will be mostly harmful to people's health, mental fitness and happiness. Most say there are solutions". (Pew Research Center, 2018, p. 2)*

5 Conclusions and Next Steps for the Digital Wellbeing Educators project

The review of research and practice within Higher Education uncovered a serious lack of studies of impact of digital wellbeing interventions. As a result, alternative measures of quality had to be used in selecting examples to showcase in this compendium, namely peer review. Most studies which carried out evaluations focused on assessing the knowledge acquisition and not the impact on the lives of the individuals or groups involved. In future, there should be more focus on carrying out impact studies of digital wellbeing interventions and assessment of the emotional and behavioural changes in participants rather than just gains in knowledge and understanding.

The review of literature did not discover many examples of innovative practice but a review of practice, accompanied by suggestions from project partners, suggestions from experts who were interviewed and a search of the ERASMUS+ Project Results database did enable us to select 14 innovative, creative or inspirational practices.

The literature review (and confirmed by the interview findings) revealed that the concept of digital wellbeing is not well understood as there is no single definition. Indeed, some psychologists reject the notion of digital wellbeing as it is too restrictive and that it should not be restricted to drivers such as stress, anxiety and mood (i.e. illness) and should include wellness. On the other hand, sociologists like Gui et al. (2017) stress the importance of the community working together to counter the negative effects of the digital society.

While the concept of digital wellbeing is poorly understood and under-researched this is not true of digital identity, however, this was considered outside of the scope of this study. Within the JISC (2015) digital capability framework, 'digital identity and wellbeing' is one of the 6 elements.

Analysis of interview transcripts did uncover what educators think about the challenges, risks, opportunities, and future directions of digital wellbeing in Higher Education institutions. These include the lack of an agreed definition, and lack of impact studies. The risks from distraction to individual relationships and also to community relations and democracy. The opportunities to develop new ethical

frameworks and technology design practices that integrate an analysis of digital wellbeing and ethics into the design of technology products. And the potential to investigate further areas such as how students prefer to communicate, and the potential of games for discussing digital wellbeing. The interview process was useful in identifying gaps in the literature and possible ways to investigate them further, see section 4.

This investigation identified several areas where further dialogue is required however the multi-disciplinary nature of the field presents a challenge as it crosses several disciplines, such as psychology, sociology, education and technology-enhanced learning.

In addition to this report, that maps the field of digital wellbeing practice within Higher Education, the Digital Wellbeing Educators project is also developing:

- A Digital Wellbeing Educators Framework and App, comprising a suite of Open Education Resources (OERs) to teach digital wellbeing to students and young people in the form of a modular course and an App based on the OERs, designed to be used both as a stand-alone app and also as an additional teacher resource to complement and reinforce the OERs.

- a Digital Pedagogy Toolkit comprising an interactive toolkit showcasing 20 of the best digital learning tools and providing practical guidance for educators on their use; and a short online course to motivate/guide educators to pursue more innovative pedagogic strategies using mobile and digital e-learning resources.

For further information, on the Digital Wellbeing Educators project, and to be kept up to date with the release of our other outputs (two mobile apps), see the Digital Wellbeing Educators project website, follow us on Facebook (@wellbeingeducators) or join our Digital Wellbeing Educators group on LinkedIn.

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Appendix 1: Semi-structured Interview Questions

1. What was your motivation for engaging with the concept of digital well-being?
2. What was the main problems educators and students face in using technology for well-being (current situation)?
3. What is you desired vision/ activities/impact?
4. What have you invested (activities, tools, courses)?
5. How did your intervention affect digital identity management for educators and students (see the definition provided above)?
6. How did your intervention affect digital well-being for educators and students (see the definition provided above)?
7. Have you dealt with unforeseen difficulties? What are they?
8. How have you accessed your intervention?
9. Do you think that your objectives were achieved and to what extent?
10. Does your intervention take into account gender issues?
    If yes. How are gender issues addressed?
    If no. How do you envision interventions to promote gender equality?
11. A digital citizen refers to a person utilizing information technology (IT) in order to engage in society, politics and government. How do you promote the digital citizenship of educators and students?
12. How could online identity be managed and safeguarded? Do you have in mind relevant case studies?
13. What has been the long-term and short-term impact of your intervention?
14. What could be done to further enhance digital wellbeing of students and educators in the future? What are your future plans?