It Looks Like You're Writing a Letter: The new value systems embedded in digital inclusion programmes

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Abstract
The concept of digital inclusion as a toolbox of strategies to combat the digital divide is currently an idea with traction in Europe. For example, Portugal recently drew up an ambitious plan for digital inclusion due to complete by 2030. In a country noted to have good digital infrastructure, it is also true that 26% of Portuguese have never been online (a high figure compared to Finland at 4% and the entire EU at 12%). [1] This paper will examine elements of the digital inclusion agenda alongside specific concerns and examples drawn from fieldwork currently in progress. While the benefits of online participation and digital literacy are many, what are the embedded social values in the tools introducing new users to technology? The consequences of implementing this agenda in rural Portugal, driven by a desire to maintain pace with the rest of Europe, will be addressed through a discussion of relevant literature in STS and adjacent fields and fieldwork findings.

Keywords
digital inclusion, STS, ethnography, social innovation

Introduction
This paper will examine the Portuguese digital inclusion agenda with specific concerns and examples drawn from fieldwork currently in progress at the extreme edge of Europe: the bairro of Palmeira, Câmara de Lobos, Madeira, Portugal. Here the Social and Parish Center of Santa Cecilia works to promote behavior change in at-risk youth, and operates the Esc@Up project (funded by the Portuguese mainland government and the EU) to address digital inclusion, entrepreneurship, and youth empowerment.

While the benefits of online participation and digital literacy are many, it is also crucial to question the embedded social values in the tools being introduced to new users of technology. In areas experiencing the digital divide, there is an opportunity to make deliberate choices regarding which aspects of digital culture are transmitted to a population which did not have access for many years. Analyzing which values should be emparted is a key, if frequently neglected, issue. Calls for scientists and engineers to pay more attention to the values embedded in the systems they create are often made, though this also invites the question of who should have the power of deciding which values are worth imparting. [2] In this paper I examine the aims of the Portuguese digital inclusion programme, describe some of the training programmes being actively used, and make suggestions for possible customization based on a premise of working towards not just digital inclusion, but also community empowerment. As potential new value systems around technology and its use are created from the ground up, what could we change to ensure a healthier ecosystem of values around technology? What are the positives and negatives of introducing a standard curriculum developed abroad to a remote corner of Europe experiencing poverty and out-migration?
Digital Inclusion and Portugal's Ambitions
The digital inclusion policies of the European Commission fall under the aegis of the Digital Single Market initiative. The projects funded by the EC which are grouped under the digital inclusion umbrella tend to focus on resolving issues for potential technology users with varying types of physical or cognitive disabilities; the one grant recently given towards a social inclusion project focused on elderly people. [3] For a wide range of reasons, 80 million Europeans don't use the internet because it's too difficult or expensive. [4]

A group of governmental bodies created Portugal's InCoDe.2030 document in 2017, outlining the ambitions for Portugal's digital future. The programme has five axes: Inclusion, Education, Qualification, Specialisation, and Research. The Fundação para a Ciência e a Tecnologia (FCT), which is the national Portuguese funding agency for science, research and technology, is responsible for overseeing the bulk of the deliverables. The overall aim of the programme is to overcome three main challenges:

- Ensure digital literacy and inclusion for full citizenship
- Encourage specialization in digital technologies and application to improve employability skills

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- Produce new knowledge in the context of international cooperation

The INCoDe.2030 platform therefore aims to tackle the challenges Portugal faces in the digital realm at both the entry-level end (accessibility and basic competences for those not yet online or using technology) and the advanced end (increased opportunities for academic researchers and other specialists). Central to to the policy are themes of citizenship and employability. The policy document notes that digitally savvy citizens comprise nations "where more people are included, involved, and able to deal with the society they are part of." [1] Moreover, the policy acknowledges that developing the digital skills of a population is a task requiring flexibility, in the face of unknown evolutions in the field: "developing new competences, particularly digital ones, which are constantly changing and evolving; at the same time, it involves preparing people for growing uncertainty". [1]

Context

My current fieldwork is based in the housing projects of Palmeira, Câmara de Lobos, Madeira. The partner organization in this research is the Esc@Up project within the Centro Social e Paroquial Santa Cecilia. The Center runs several programmes for the local community including a daycare, a social kitchen, a studio for leisure activities, and the digital inclusion and entrepreneurship programmes of the Esc@Up project. My fieldwork is more broadly concerned with topics of social innovation and the methodologies which artists use to intervene in that process. The subset of observations I have made regarding the digital inclusion aspects conducted by my partner organization and additional desk research on European and Portuguese digital inclusion policies comprise the contents of this paper.

The bairro and the Center

The Palmeira bairro is more commonly referred to by its nickname, "Malvinas". The name refers to the fact that the bairro was constructed in 1980, as the Falklands War was ending. Falklands translates to Malvinas in Spanish and the bairro was considered to be a "war zone" at the time of its hasty construction in just six months with prefabricated materials. (Fig. 1)

Figure 1. The housing projects of Malvinas. ©Sara Tranquada

The Santa Cecilia Center, established in 1995, works to combat child marginalization by providing programmes for at-risk youth and youth already engaged in delinquent behaviour (alcoholism or drug abuse, aggression, etc). The children who participate in this project are often the victims of neglect, ill-treatment, and severe poverty. The Esc@Up project at the Center runs programmes which teach digital skills and online safety, encourage self-confidence and physical activity, as well as learning life skills (such as cooking) and participating in leisure activities as a group.

An initial workshop was conducted by myself and two colleagues from Madeira Interactive Technologies Institute (Simone Ashby and Sonia Matos) in July 2017. At the workshop the youth of the Esc@Up project were asked to brainstorm about what they liked and disliked about their neighbourhood. This group of ten boys and girls aged from 11 – 14 replied that they were concerned about rubbish, rodents, and lack of job opportunities; they appreciated that they have enough room for sporting activities and wished for more sporting facilities. (Fig. 2)

When questioned on the types of jobs they were hoping for, jobs in a bank or a kitchen were recurring responses.

The bairro faces numerous challenges stemming mostly from poverty, and the Santa Cecilia Center aims to address them. In line with the Portugal INCoDe.2030 agenda, the Center also offers programmes related to digital inclusion. As part of the Esc@Up project, there is an open access computer center with several PCs and multiple training programs are operated for the bairro residents.

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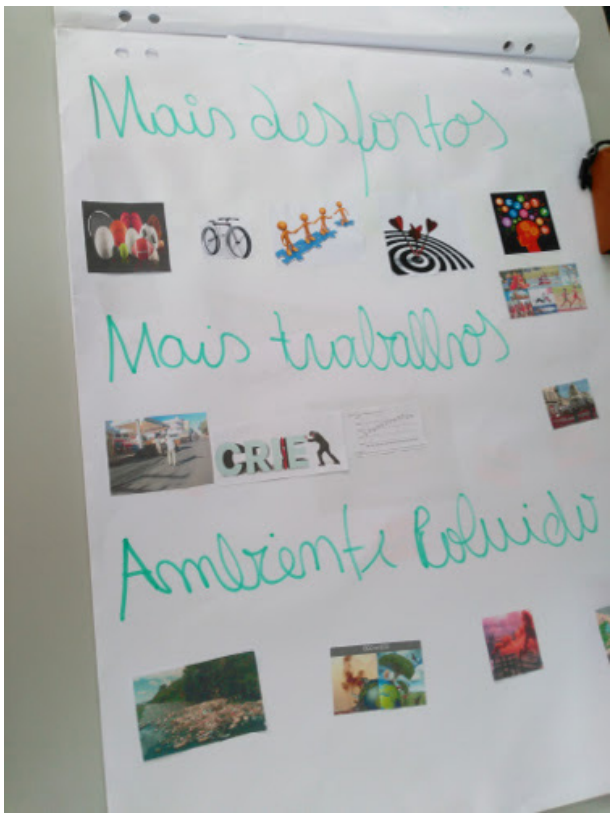

Figure 2. Some of the brainstorming results. ©Michelle Kasprzak

The Curricula

There are several digital inclusion programmes running at the Center, and some allow users to earn diplomas. Created by FCT, the model exam for the Diploma de Competências Básicas em Tecnologias da Informação (Basic Competencies in Information Technology Diploma) requires that users be able to use the computer's operating system to create and name folders; use word processing software to generate and save text documents; use a search engine and print a page from the world wide web; create a webmail account; send an email. [5] The model exam does not specify which operating system, browser, or webmail system to use, but it does say to open "Wordpad", indicating an assumption that the people taking the course are using computers running the Microsoft Windows operating system.

The other certification curricula used by the Esc@Up center include a Digital Literacy certificate programme by Microsoft, and two more technical programmes by Cisco Systems. The Microsoft programme is divided into five modules: Computer Basics; The Internet, Cloud Services, and World Wide Web; Productivity Programmes; Computer Security and Privacy; and Digital Lifestyles. The programme is available in sixteen languages and the language level used is accessible even for those with basic reading skills. This programme forms a small part of Microsoft's numerous education initiatives: in 2016, Microsoft promised to reach 5 million youth with their digital education programmes across all 28 EU member states within 2 years. [6]

The Microsoft modules introduce concepts as basic as using a mouse to more sophisticated topics such as dealing with keeping one's information secure online. A typical question on the certification exam is as follows:

Barry purchases a computer that has a word processor installed.

Which of the following tasks can he perform by using a word processor? Select three.

- Create documents
- Print pages.
- Format text
- Perform real-time communication
- Host a website
- Edit videos

Notably, once again the curriculum takes care to use terms which are not specific to any particular operating system or software, using the generic term "word processor" instead of Wordpad or Microsoft Word.

One feature of the Microsoft curriculum which is open for deeper interpretation is the section "Digital Lifestyles" which describes "Digital Technology and Career Opportunities". The lead paragraph emphasizes the possibilities of working remotely and an animated interactive simulation again stresses telecommuting by inviting the learner to simulate setting up a home office by dragging illustrations of a PC, monitor, and microphone onto an illustration of a desk in a home. Further in this section the course offers information about careers as information workers, IT professionals, and developers. In the course "information workers" are characterized as bloggers and newsletter writers; "IT professionals" as network, web, or database administrators; and "developers" as programmers, project managers, and web or game designers.

The other training course offered at Esc@Up is Cisco's Networking Academy, which offers basic training in installing and configuring computers and mobile devices, security issues, and preparation for the CompTIA A+ Certification (an entry-level certification for prospective IT engineers and network administrators).

Interpretation

The three programs – FCT's Basics diploma program, Microsoft's Digital Literacy program, and

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the Cisco Networking Academy – offer a solid entry-level basis into becoming confident using PCs to perform common tasks and being able to install and troubleshoot one's own PC. The information provided by the programs overlaps somewhat and this redundancy ensures that the most basic elements will be covered in one form or another. While an overt product bias is not present in the Microsoft course, there is inevitably a "one size fits all" view of technology and its uses presented, without much scope for local customization or input. Also a clear direction is presented in terms of the possible career futures that some IT knowledge can enable which possibly forecloses ambition or fails to take local possibilities into account. Too much simplification or stereotyping can be problematic and require countermeasures. For example, Connelly and Miller developed a guide to computing disciplines for students and career advisors to address the lack of nuanced information and abundance of cliched or stereotypical information about possible careers in IT (and other computing disciplines). [7]

Career Paths

The elements of the three training programmes under examination which reference possible career trajectories, in this case the Microsoft and Cisco training, present defined paths towards specific jobs. In the case of the Microsoft training, emphasis is strong on the concept that these are jobs which can be done remotely, from anywhere. Importing this practical advice into a small and relatively isolated place like the Malvinas bairro in Câmara de Lobos may seem to be a helpful tip. As we discovered in our first workshop, even young teens are concerned about jobs, and so the solutions proffered by these digital trainings could address these concerns by forming a path to local employment instead of economic migration.

There are many particularities to the situation in Câmara de Lobos, but there are many common elements between the experience of the digital divide and proposed solutions there and in numerous other locations worldwide. For example, in Siobhan Stevenson's analysis of the discourse around digital divide policies in the US during the 90s, she found that spearheading the argument with a question of "universal access" to technology appealed to American sensibilities around equal opportunity, and the linked narrative around technology providing "good high-paying jobs for all citizens" was also effective. The main thrust of Stevenson's argument, however, is that the "digital divide" is a neoliberal rhetorical trope which allows complex and stubborn issues of class to be swept aside in favor of techno-solutionism, with many opportunities for financial gain for established market players. [8] Portugal's INCoDe.2030 document bears some echoes of this, referring to raising "awareness about the importance of digital competences, specifically by creating resources and content centres and user training campaigns. This must be done while ensuring territorial cohesion, taking into account the need to reinforce the use of broadband services." [1] The INCoDe.2030 document also emphasizes the importance of education and advanced scholarship in the area of digital technologies. By pairing the inclusion agenda with a research agenda for academic researchers, there exists a greater chance for career paths to open up within Portugal.

Not Just Access

If access is merely the first step towards success in achieving digital inclusion, the next steps, identified in a 2012 paper by Armenta et al., include "grass root participation, community leadership and human development." [9] This resonates with Virginia Eubanks' fieldwork findings in digital inclusion programs, which led her to conclude that the aims of digital inclusion programmes should "not be to create proficiency or technical skill but rather to produce critical technological citizens who can meaningfully engage and critique the technological present and respond to the citizenship and social justice effects of IT." [10] Remarking on Eubanks' work, Haralanova also warns that: "The way to go is to look from different positions, and not just from one point of view. The point of view of "providing skills" looks very similar to "providing access" – some communication experts would call it "the colonialist view."" [11] As already noted earlier in this paper, the very tools themselves also come bearing their own embedded value systems and traces of the biases of engineers. Encouraging computer scientists to engage in a critical technical practice, described by Phillip Agre as "a technical practice within which such reflection on language and history, ideas and institutions, is part and parcel of technical work itself" is one way of tackling problematic engagements with the world through technology from the developer end. [12] Pairing access with the grassroots participation and community leadership highlighted by Armenta et al. is also a clear path to tackling disengagement and disillusionment from the user end.

One must then directly question the use of digital inclusion curricula funded by the profits of global corporations with a vested financial interest in the ongoing digitization of work and leisure. When examining what could truly empower a small community with multiple challenges, numerous examples exist of empowerment through using free/libre open source software (FLOSS) as an

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effective basis for change, and a new way of viewing the entire issue of digital inclusion.[8]

However, another key element in the success of digital inclusion initiatives is the social embedding of such initiatives. Even a basic curriculum could provide benefit when embellished with the local leadership described by Armenta et al. In the case of Câmara de Lobos, the Esc@Up centre provides numerous programmes alongside the standard curricula provided by Microsoft and Cisco. Frequently topics which are of concern to the community are addressed in lectures, on topics such as the UN Convention on the Rights of the Child and how to safely use social media. There is also a repair cafe wherein old computer equipment is repaired and refurbished for further use within the community, often for residents of the bairro who previously did not own a computer.

Conclusion

For lasting change, local empowerment is key. The laudable goals of Portugal's INCoDe.2030 document require proper social embedding in order to realize their full potential for change. Places such as the Santa Cecilia Center in Câmara de Lobos which already enjoy a high level of community trust and involvement are well-placed to augment the standard curricula provided by large corporations with charitable intentions but also profit motives. The notion of active citizenship, referenced in the INCoDe.2030 document, can be activated through the digital inclusion work of trusted community partners, and it is worth recognizing the role that both FLOSS and complementary offline and non-digital social innovation programmes can achieve for the community. In a study of young people's engagement and citizenship, Connolly and Miller found that their data did not reveal "any clear recognition of the Internet, social networking sites, or other contemporary technologies has being essential or even noteworthy aspects of how they [young people] pursue and experience civic engagement." [13] As the digital agenda is pursued by Portugal and numerous others, it is important to recognize the entire spectrum of activity – technology-related or not – empowering communities to become stronger and more resilient to change. Within the digital agenda, Agre's concept of a "critical technical practice" paired with genuine community engagement will ensure long-term success.

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