You did ***what*** at the weekend? - A workshop to develop the digital awareness and understanding of digital footprints amongst Primary Education Studies undergraduates

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Abstract

Digital footprints, the records left online through the use of social media such as Twitter and Instagram, are a growing concern for the future employability of undergraduates. This case study explores research into the co-creation – with undergraduates on a Primary Education Studies degree in an English university – of a workshop about digital footprints to protect professional identities. The workshop included a range of activities to help undergraduates to learn about the importance of digital footprints and how to check their own, to explore steps to protect their digital identities on different social networks and to discover how to curate a positive digital identity. It is argued here that students need more opportunities to learn about digital footprints.

Keywords: digital footprint, digital literacy, employability

1. Introduction

A digital footprint is "*what you leave behind when you go online*" (Osborne and Connelly, 2015, p.23). Dennen (2015) elaborates on this further, by explaining how a digital footprint is "*the collection of information about a person that exists online. Digital footprints, like physical ones, are unique to their owners*" (2015, p.47). A digital footprint is information recorded through deliberate actions – for example, sharing photographs on social media platforms, such as Twitter – or data collected passively – for example, by tracking cookies used on some websites (Thatcher, 2014).

Research on digital footprints has focused on individuals' perception and creation of them. This case study proposes to extend this research by reporting on a collaboration – with Primary Education Studies undergraduates – intended to 1) elicit participants' views on the nature and importance of digital footprints and 2) to co-create with them a workshop about managing such footprints to support future employability.

Digital footprints often begin to develop in childhood and persist as young people enter adulthood: on social media sites, United Kingdom (UK) parents share, on average, seventy-one photographs and twenty-nine videos every year of children under the age of thirteen (Children's Commissioner, 2018). As children grow older, they demonstrate more agency over their digital footprints as they communicate with friends using social media. boyd (2014) argues that teenagers view online participation as a means of communicating with their intended audience of friends and not university admission tutors or potential employers. Furthermore, owing to the persistent, visible, spreadable and searchable nature of social

media, online data is frequently available to an audience for whom social media posts were not intended (*ibid*.). Gardner, Davis and Gardner (2013) also agree that teenagers have a focus on how they appear to peers and "*present a socially desirable, **polished self** online*' (2013, p.63 [Emphasis as in the original]).

Osborne and Connelly (2015) investigated university student attitudes to digital footprints and suggested strategies to help students learn about online safety. Similarly, Gadekar and Pant (2015) surveyed 199 university students about privacy awareness when using Facebook. They found that most students were aware of privacy settings, but only forty-five per cent applied them, indicating an area to be developed among students. Explaining this low percentage, boyd (2014) observes that "*interactions are public by default, private through effort*" (2014, p.12). Furthermore, students' personal data can be collected and analysed by universities to enable learning analytics to support student learning. Cerratto Pargman and McGrath (2021) undertook a literature review of learning analytics ethics and found a key theme to be the importance of universities' recognising transparency, privacy and informed consent.

The Jisc Digital Capabilities Framework provides an approach to digital identity management and to "*develop and project a positive digital identity or identities*" (Joint Information Systems Committee, 2019, p.8) for university students and staff, as well as considering the reputational risks and benefits associated with an online presence. Linked to this concept of reputational risks, digital footprints can affect future employability, since many employers screen the social media history of potential employees. In the US, seventy per cent of employers check the digital profiles of potential recruits and fifty-seven per cent of employers who carried out such checks had refused to employ some job applicants because of their digital footprint (Career Builder, 2018). However, Jeske and Shultz (2016) pointed out that not all potential applicants will have a visible online identity and highlighted the ethical and legal implications of screening applicants in this way.

A "*digital divide*" exists between many individuals and groups in society, on the basis of: access to technology and the internet; technological skills; and outcomes based on technology use (van Deursen and Helsper, 2015; van Deursen and van Dijk, 2010). Robinson *et al*. (2015) link this digital divide to a "*digital footprint gap*", whereby those with lower access to the internet have fewer opportunities than those with ready access to it. Furthermore, Micheli, Lutz and Büchi (2018) argue that many internet-based services, such as online shopping, utilise data through the digital footprints of potential users and that a digital inequality in terms of digital footprints exists between different socio-economic groups. The authors draw on research from the US, that those from lower income households are less likely to apply privacy settings online (Madden *et al*., 2017), thereby increasing the risk of having personal data harvested.

Some researchers have explored curation of a digital footprint to create a positive impression of an individual, in order to help develop a professional reputation supporting employability and career progression. Similarly, Jeske and Shultz (2016) point out that some individuals may aim to portray a positive digital identity. Likewise, Mihailidis (2016) argues that it is essential to understand how to curate a digital identity and digital footprint. Furthermore, Buchanan *et al*. (2017) explored and evaluated a programme to develop digital footprint awareness amongst primary-school-aged children in Australia to equip children with the skills to manage this aspect of digital literacy. They found students identified only the negative

effects of digital footprints and recommended that teaching young people about curating a positive digital footprint should be included in the curriculum.

Linked to curating a digital footprint is the development of a 'professional learning network' (PLN) which Trust (2012) defines as a 'system of interpersonal connections and resources that support informal learning' (2012, p.133). PLNs are created by using social media networks such as LinkedIn and Twitter to build connections with other professionals. Limited research into the professional impact of digital footprints when using social media has been undertaken. Forbes (2017), for example, worked with Education undergraduates to set up professional Twitter accounts to establish relationships with other educators and create positive digital footprints. Drawing on medical research, Kim *et al*. (2018) found that patients who looked for information online about their prospective neurosurgeons could not readily access all relevant information, as reviews about these practitioners appeared on unsignposted and discrete websites. Graduates, therefore, who have their digital footprints checked by employers, colleagues or clients, should manage their digital identities proactively, to ensure that searches find intended information.

This case study therefore asks: how effective is a co-created digital footprint training session at improving understanding and awareness of this issue and how successful is it at enabling Primary Education Studies undergraduates to achieve what they need to do?

2. Method

2.1 Participants

The project was completed during the 2019/20 academic year, with undergraduates studying for a BA Primary Education Studies degree in a post-1992 university with a focus on vocational degrees and recruiting students from a broad range of backgrounds. The participating students were completing a level 5 module about teaching primary-aged children about science and technology. As part of the co-construction approach, a focus group of six students was formed from a cohort of twenty-eight students, to explore their understanding of digital footprints and to identify areas to be developed for the planned workshop. However, one week before the workshop was scheduled, the university moved to 'emergency remote teaching' in response to the COVID-19 pandemic (Hodges *et al*., 2020) and its consequent lockdowns. Lecturers rapidly adapted face-to-face teaching to online delivery. As a result, the adapted workshop was delivered during the following trimester to a different cohort of students who were also enrolled on a Primary Education Studies degree. In this cohort, there were thirteen students, all of whom attended the workshop. Of these, five students participated in the subsequent focus group.

2.2 Ethics

Ethical approval was obtained prior to the start of the study from the researcher's university ethics panel. Second-year undergraduates received an email about the project and were invited to participate in a focus group at the start of the project to help co-create the workshop by sharing their understanding of digital footprints, measures they take to protect their online identities and areas they would like to learn more about. Those who replied were emailed and provided with a consent form and an information sheet, which concerned anonymity and confidentiality and explained that they could withdraw their data if they wished at any time up

to two weeks after the interview had taken place. Participants' informed consent was also confirmed before the start of the interview. Interviewees received a £20 Amazon gift card to acknowledge the time committed. Following the workshop, attendees were invited to attend an evaluative focus group. Potential participants were again provided with an information sheet and a consent form which they completed before the start of the interview. As before, participants received a gift card.

2.3 Procedure

The co-creation, development and implementation of the digital footprint workshop followed the steps outlined in table 1 below and each stage will be further explained.

Phase	Action
1	Ethical approval acquired by university ethics committee
2	Initial focus group to explore undergraduate understanding of digital footprints and topics to include in the workshop
3	Analysis of focus group transcript and identifying topics to develop further
4	Creation of digital footprint workshop
5	Delivery of digital footprint workshop
6	Evaluative focus group to discuss the workshop
7	Analysis of evaluative focus-group data

Table 1. The stages of co-creating, developing, and implementing the digital footprint workshop

The researcher wanted to co-create and work with "*students as partners*" to reject "*traditional hierarchies and assumptions about expertise and responsibility*" (Cook-Sather *et al*., 2018, p.1). To co-create the workshop on digital awareness and digital footprints, level 5 undergraduates were invited to participate in a focus group to explore their understanding of digital footprints and what they would like to do in the workshop. Five participants joined the face-to-face focus group, which was audio-recorded and transcribed. Participants had a range of understanding of digital footprints, as shown by one participant who thought a digital footprint was "*a passcode*" while another participant explained it was "*the trail of information you leave behind on the internet*". These responses supported the suggestion by Robinson *et al*. (2015) that a "*digital footprint gap*" exists, with a variety of digital footprint awareness. The focus group attendees talked about how digital footprints could broadly affect careers, but they were unsure about how it could specifically affect their teaching careers. One interviewee wanted, in a workshop, to learn "*not only about the problems, but the benefits of digital footprints and social media*", thereby demonstrating awareness of curating a digital identity (Mihailidis, 2016).

The feedback from the focus group was then used to plan the workshop that was delivered online using the videoconferencing software Zoom. A summary of the workshop activities is shown in table 2. For the first activity, students were asked to type their own definitions of a digital footprint in the Zoom chat box. Following this, the digital footprint definitions discussed in this case study's literature review were shared and discussed with the group. The second activity involved sharing newspaper articles, including one about a UK supermarket employee who lost his job for sharing a racist Facebook post (Mahmood, 2019) and a report about an English deputy headteacher banned from the profession by the Teaching Regulation Agency for posting antisemitic messages online (Barrow, 2018). This led to the group's reviewing of

England's professional educator guidelines – the Teachers' Standards (DfE, 2012) – to evaluate why the teacher had been barred. For the third activity, participants used Google to search for themselves online and identify their digital footprints (Osbourne, 2015), during which they searched for their names and where they had lived. Before starting, in case they discovered sensitive material, participants were told that they did not need to share their findings. For activity 4, attendees devised a checklist of steps to protect digital footprints. Participants used a bank of social media advice sheets which, although produced for teachers by the Southwest Grid for Learning (2020), were relevant to all users. Next, the group briefly considered how to curate a positive digital footprint through LinkedIn and Twitter to create a professional image and how a PLN can be created to support teacher employment. Examples of teachers' creating PLNs on Twitter and Instagram to acquire ideas for lessons were discussed. Finally, participants had time to reflect on their next steps.

Activity 1	Undergraduates share their definitions of digital footprints and then consider definitions of digital footprints
Activity 2	Evaluating newspaper articles about when negative digital footprints have affected employability, including teachers
Activity 3	Using a search engine to explore individual digital footprints
Activity 4	Group activity to protect digital footprints on different social media networks
Activity 5	Curating a positive digital footprint and developing a professional learning network
Activity 6	Plenary exploring how attendees can apply learning from the workshop to their own social media use

Table 2. A summary of activities used in the digital footprint workshop

Following the workshop, attendees were invited to join an online semi-structured focus group to discuss the impact of the session. The focus group – with six participants – was audio-recorded and transcribed.

3. Outcomes

The qualitative data generated by the focus group were input into NVivo 11 and analysed thematically, using the process identified by Braun and Clarke (2006). The researcher became familiar with the data through reading the transcript several times. A combination of deductive and inductive approaches to the coding was used with the data. The themes identified were: definitions of digital footprints; the impact of a negative digital footprint on future employability; actions to take to enhance digital footprints.

The students in the focus group were from a Generation Z age group, had "*grown up immersed in technology and* [had] *never known life without the internet*" (Chunta, Shellenbarger and Chicca, 2020, p.88). Nevertheless, responses suggested that the workshop led to a change in students' online behaviour, thanks to a now greater awareness about privacy settings and understanding how to change them on social media sites. For example, one participant said: "*Well, I've changed my privacy settings. That was after the session we had*." This illustrates the point made by boyd (2014), that additional thought and effort needs to be applied to make social media posts private.

Another focus group participant, though acknowledging having changed privacy settings, explained that their digital awareness had developed through consideration of how others

might perceive their posts, so demonstrating another of boyd's (2014) observations that young people may have an intended audience which is different from their actual audience. The student explained:

> "*Because obviously, if when I looked at my accounts, and I could see everything on mine, I wouldn't want someone from the school I volunteer at to do that and see all my posts, so I've made my Facebook more private, like they can't actually see much*."

When asked about how the workshop could be improved, one participant raised the issue of the timing of this intervention:

> "*I think to improve it, I think I would have wanted to know a bit more about it beforehand… but it would have been really interesting to look at it when we like first started uni because then I could have changed a lot more things before actually volunteering at schools and then only realising that my settings are more out there for the public*."

This indicates that participants did recognise the value of the workshop, consistent with the approach of Jisc (2019) that students can be supported to manage digital identities more effectively. However, participants tended to focus on the potential negatives of a digital footprint and did not identify how they would curate their digital footprints (Mihailidis, 2016) and develop a PLN to support informal professional learning (Trust, 2012).

Additional areas for future exploration in workshops could include undergraduate understanding of data mining through digital footprints and material shared online. Furthermore, this case study did not consider the implications of the digital divide on curating a positive digital footprint, which could be a priority for further interventions.

4. Conclusion

This case study describes the co-creation, with Education undergraduates, of a workshop to develop digital footprint understanding and the impact of such footprints on employability. This case study has shown that participants valued the workshop, responded positively to the session and identified changes in their online behaviour. Using a co-construction approach ensured that the session was relevant to the needs and interests of Education students. This is particularly important when considering internet use, leading to students' using the internet in rapidly evolving ways.

Notwithstanding the relatively small sample size, this case study offers valuable insights into how undergraduates can be supported to develop their awareness of digital footprints. Although this case study involved working with Primary Education Studies undergraduates, digital footprint awareness can support the future employability of all graduates. While the workshop was included as part of science and technology education module, the session could be included in personal tutor sessions.

As for future developments, a subsequent workshop will be planned for students develop a PLN, using social media platforms such as Twitter and LinkedIn to curate a digital footprint and collaborate with professionals in the field. Additionally, there could be further research into the impact of digital inequalities, into curating a digital footprint and into participating in PLNs.

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