“I am not simply learning and regurgitating information, I am also learning about myself”: learning portfolio practice and online distance students

Orna Farrell and Aidan Seery
School of Education, Trinity College Dublin, Dublin, Ireland

ABSTRACT
This case study explored the experience of learning portfolio practice and whether learning portfolio practice facilitated the development of critical thinking skills among online distance students. Data were generated using the participant learning portfolio entries and two-time semi-structured interviews. Five themes were constructed in the data-led thematic analysis: being an online distance student, the experience of learning with a learning portfolio, my approach to learning, thinking critically in my learning portfolio, the sociology discipline context. Findings indicate that learning portfolio practice can enhance the nature of the learning experience by providing students with a personal space to evaluate their own learning, to process their thoughts and experience and to document their lives and learning in an authentic and meaningful way. The findings suggest that learning portfolio practice can facilitate the development of critical thinking skills within a disciplinary context.

“In this way, the learning portfolio differs in comparison to other modes of learning; in other words, I am not simply learning and regurgitating information, I am also learning about myself” (Participant 2 [P2], learning portfolio entry 1). As indicated in the quote, this study set out to explore the experience of learning portfolio practice in general and the development of critical thinking skills in particular. A case study approach was adopted, following 24 online distance students over one academic year studying an intermediate sociology module as part of their humanities degree at DCU Connected, Dublin City University.

The case study is bounded by a theoretical framework for learning portfolio practice called critical folio thinking (Farrell, 2018). An eportfolio can be defined in many ways as it can fulfil many functions – it can be a technology, a practice, a pedagogical model, an assessment and a framework for learning (Chen & Black, 2010). The focus of this study was developmental learning portfolio. As such, the definition by Corley and Zubizarreta (2012, p. 65) was adopted. They conceptualise a learning portfolio as:

A vehicle for bringing together judiciously selected samples of students’ work and achievements inside and outside the classroom for authentic assessment over time. The learning portfolio, then, becomes more than a product, a simple repository of artefacts; it becomes

CONTACT Orna Farrell farrelor@tcd.ie School of Education, Trinity College Dublin Arts building, Dublin, Dublin 2, Ireland © 2018 Open and Distance Learning Association of Australia, Inc.
a process of reflection, of organizing, prioritizing, analysing, and communicating one’s work and its value, which may prompt insights and goals.

Critical thinking in this study was conceptualised as “a judgement process. Its goal is to decide what to believe and/or what to do in relation to the available evidence, using appropriate conceptualizations and methods and evaluated by the appropriate criteria” (Facione & Facione, 2008, p. 2).

Developing university students who can think critically and learn in a self-aware, authentic and meaningful way is a fundamental goal of higher education. In fact, the Irish National Strategy for Higher Education describes critical thinking as one of the key characteristics of future graduates (Department of Education and Skills, 2011). Although critical thinking has been perceived as one of the key outcomes of higher education, it is often unfulfilled (Ennis, 2016; Facione, 1990). One approach to fostering critical thinking skills may be through new methods, such as learning portfolio practice. There is growing evidence of the impact of learning portfolio practice on student learning, with research suggesting that learning portfolio practice enables students to integrate their learning and make connections between modules in an authentic and meaningful way and foster a sense of belonging (Barbera, 2009; Bolliger & Shepherd, 2010; Eynon & Gambino, 2017). However, very little is known about the impact of learning portfolio practice on critical thinking skill development.

Learning portfolio practice

As a digital tool, a learning portfolio has many affordances and can be used flexibly for a variety of purposes in higher education. Eportfolio can take many forms, depending on the purpose, the programme, the disciplinary context and the desired learning outcomes. There are four purposes for eportfolio practice in higher education: assessment, developmental learning portfolio, placement and careers (Farrell, 2018).

The focus of this study was developmental learning portfolios, which focus on the process of learning. Zubizarreta (2009) argues that portfolios should focus on learning rather than on skills and that a learning portfolio can enable students to self-reflect on how their learning took place, and why it was valuable. This focus on the learning process can develop reflective judgement and higher order learning.

The positive impacts of learning portfolios on student learning in the literature indicate that they can be personal and collaborative, and deepen the learning experience (Eynon & Gambino, 2017; Kabilan & Khan, 2012; Wakimoto & Lewis, 2014). Shepherd and Bolliger (2014, p. 4) found that one of the key benefits of learning portfolio for online distance students was “the opportunity to consider, document, and reflect on learning experiences throughout the programme”. The key role of reflection in learning portfolio practice is evidenced by Brandes and Boskic (2008), who found that students developed more nuanced and complex articulations of their learning processes through reflection.

Critical thinking

While there is no agreed definition of critical thinking in the literature, there are two broad approaches evident in the literature: the normative and the descriptive. Descriptive definitions
of critical thinking (e.g., Brookfield, 2015; Halpern, 1998) focus on the cognitive skills and mental processes. By contrast, normative definitions of critical thinking (e.g., Ennis, 2016; Facione & Facione, 2008; McPeck, 1990) highlight the formulation of judgement, and the quality of thinking over mechanistic lists of skills and processes. In these definitions, critical thinking is not viewed as a skill but rather as an attitude or state of mind that enables decision-making and judgement (Facione & Facione, 2008; McPeck, 1990). The most holistic definition from the normative tradition is that of Facione and Facione (2008). Their definition brings together the key elements of judgement, standards and attitude and evolves from the American Philosophical Association Delphi definition and framework of critical thinking skills (Facione, 1990).

The question of whether critical thinking is best acquired within a subject context or generally is contentious in the literature. Ennis (1989) argues for a general approach to critical thinking; by contrast, McPeck (1990) argues that critical thinking is closely associated with subject discipline.

Recent research indicates that critical thinking instruction, which includes real-world problems, reflective writing and discussion, can improve students’ critical thinking skills (Heijltjes, van Gog, Leppink, & Paas, 2015; Huber & Kuncel, 2016). Abrami et al. (2015) found that students’ critical thinking improved after instruction and that the discipline-specific cohort demonstrated much greater improvements in critical thinking over the generic one. Similarly, Niu, Behar-Horenstein, and Garvan (2013) found that instructional interventions were effective in fostering students’ critical thinking skills and that discipline and time had an impact.

**Learning portfolios and critical thinking**

There are solid theoretical links between learning portfolio practice and critical thinking in the literature. Zubizarreta (2009, p. 10) argues that “the intrinsic merit of learning portfolio is that involving students in the power of reflection, the critically challenging act of thinking about their learning and constructing a sense of the learning experience as a coherent, unified, developmental process”. Further, Light, Chen, and Ittelson (2012, p. 7) contend that “documenting learning is perhaps one of the most important ways for students to develop their critical thinking skills”.

Empirical studies have examined the impact of learning portfolio practice on self-regulation. There are six critical thinking skills identified in the critical folio thinking theoretical framework for this study: self-regulation, interpretation, analysis, evaluation, inference and explanation (Farrell, 2018). Nguyen and Ikeda (2015) found that learning portfolio practice had a positive effect on students’ self-regulated learning skills. Further, Alexiou and Paraskeva’s (2010) study explored the potential of learning portfolio to support self-regulated learning among undergraduate computer science students and found “higher levels of motivational and affective factors across all phases of self-regulated learning and eportfolio implementation” (p. 3053). However, no empirical studies have investigated the impact of learning portfolio practice on the development of the critical thinking skills of interpretation, analysis, evaluation, inference and explanation.
Theoretical framework

This case study is bounded by a theoretical framework of learning portfolio practice that draws on the learning portfolio and critical thinking literature and is called critical folio thinking (Farrell, 2018). The conception of learning portfolio in this case study brings together three distinct theoretical approaches to learning portfolio practice: Zubizarreta’s (2009) learning portfolio and Chen and Black’s (2010) folio thinking. Zubizarreta’s model brings together the conceptual relationship between learning portfolio and critical thinking skills. Of particular relevance are the elements of Zubizarreta’s learning portfolio model that emphasise critical thinking and developmental process.

Critical thinking skills are an integral element for effective learning portfolio practice. This study places itself firmly in the normative tradition of critical thinking. Two theoretical approaches inform the conception of critical thinking in this study: Facione and Facione’s (2008) definition of critical thinking and the American Philosophical Association Delphi framework of critical thinking skills (Facione, 1990). The clearly defined skills of critical thinking set out by Facione’s (1990) model are adopted as a robust framework which sets out the six critical thinking skills of interpretation, analysis, evaluation, inference, explanation and self-regulation. Further, this study argues that critical thinking skills should be developed within a discipline, following the ideas of McPeck (1990).

The critical folio thinking framework (Farrell, 2018) conceptualises effective learning portfolio practice as comprising our elements: the process of learning, critical thinking skills, reflection and discipline context. The process of learning portfolio practice can be transformative, personal and empowering for students. Effective learning portfolio practice can stimulate critical thinking, provide space for students to experiment and reflect on their learning journeys. Reflective writing is the medium which facilitates learning portfolio practice. The developmental process of learning portfolio practice can be authentic, promote deep learning and should be grounded in a disciplinary context (see Figure 1).

Methodology

This study is a qualitative case study that is grounded in the constructivist paradigm (Stake, 1995). The research questions were refined over time to the following versions for the study:

1. Can learning portfolios enhance the nature of the learning experience among online distance students?
2. Can learning portfolios enhance the development of critical thinking among online distance students?

The context for this research is DCU Connected at Dublin City University. DCU Connected was founded in 1982 with the aim of providing access to higher education to adult students through online distance learning. This case study relates to the undergraduate humanities programmes offered by DCU Connected which are part-time modular degree programmes. The module setting for the study was an intermediate sociology module.
Twenty-four online distance students participated in the study in the academic year 2016–2017. There were seven males and seventeen females in the cohort. The participants’ ages ranged from 21 to 63, with an average age of 39.

In order to gain a rich, thick and personal account of learning portfolio practice, data were generated using the participant learning portfolio entries and two-time semi-structured interviews. Two instruments were developed: a learning portfolio data-generation instrument and an interview schedule.

The learning portfolio data-generation instrument was designed as a series of eight critical question prompts which guided participants’ learning portfolio reflections (see Appendix 1). Participants completed five learning portfolio entries over the course of one academic year. Entries followed a prescribed structured template of critical questions which was set by the learning portfolio instrument and intended to encourage reflection and critical thinking about their learning in the module. The platform used for the study was Loop Reflect, a customised Mahara instance.
An interview schedule was created which contained 26 open-ended questions and was shaped by the research questions and the critical folio thinking theoretical framework (Farrell, 2018). The interview schedule contained questions about demographics, studying sociology, learning portfolio practice and critical thinking; the interviews ended with a walkthrough of the participants’ learning portfolios (see Appendix 2).

The interview data were collected in two phases: at the midpoint of the academic year and at the end of the academic year. Interviews were conducted by the authors either face-to-face or online depending on the participants’ location and preference. The interviews lasted between 40 and 80 minutes. Online interviews were conducted in a private online classroom using Adobe Connect; face-to-face interviews were conducted in DCU. The participants were interviewed with their learning portfolios, which were used as stimulus during the interviews (Prosser & Loxley, 2008).

Data analysis was an ongoing process throughout the project, following a circular model of generation and analysing data, as “coding is analysis” and was carried out by the researchers (Miles & Huberman, 1994, p. 7). The data-led analytical approach for the study was thematic analysis following the Braun and Clarke’s (2006) six phases of thematic analysis, which involved a number of cycles of coding, generating candidate themes, reviewing and refining themes, assessing for internal homogeneity and external heterogeneity and generating thematic maps.

The two sources of data for the project were the 24 participants’ five learning portfolio entries and two sets of interview data which resulted in 20 interviews in the first cycle and 18 in the second cycle. Of the participants, four declined to participate in Interview 1 and six in Interview 2. The two data sets of learning portfolio data and interview data were integrated during the analysis process. Five themes were constructed through the data analysis process; a detailed analysis of the themes was conducted in relation to the research questions, existing literature and the theoretical framework for the study.

Quality was ensured in the analytical process by applying Braun and Clarke’s (2006, p. 96) 15-point checklist of criteria for good thematic analysis to the study (see Table 1).

Findings

Five themes were constructed through the analytical process (see Figure 2). They were being an online distance student, the experience of learning with a learning portfolio, my approach to learning, thinking critically in my learning portfolio, and the sociology discipline context. Considering the themes in relation to the overall context of the study, two contexts frame the study – the mode of study as an online distance undergraduate degree and the sociology disciplinary context of the module.

The data as presented are aimed at addressing the study’s research questions. Question 1 – Can learning portfolios enhance the nature of the learning experience among online distance students? – is in relation to the following themes:

- Being an online distance student
- The experience of learning with a learning portfolio
- My approach to learning.
Table 1. Braun and Clarke’s (2006, p. 96) 15-point checklist of criteria for good thematic analysis applied to this study.

| Process       | Criteria                                                                                                                                                                                                 | Applied to this research study                                                                 |
|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|
| 1. Transcription | The data have been transcribed to an appropriate level of detail, and the transcripts have been checked against the tapes for “accuracy”.                                                               | Yes, the transcripts were checked against the original recordings during the data preparation phase. |
| 2. Coding     | Each data item has been given equal attention in the coding process.                                                                                                                                 | Yes, through multiple cycles of coding and recoding.                                            |
| 3. Coding     | Themes have not been generated from a few vivid examples (an anecdotal approach), but instead the coding process has been thorough, inclusive and comprehensive.                                     | No, the themes that were generated from a large number of supporting data chunks.              |
| 4. Coding     | All relevant extracts for all each theme have been collated.                                                                                                                                             | Yes, this was done and checked during the review and refine processes during Phases 4 and 5.    |
| 5. Coding     | Themes have been checked against each other and back to the original data set.                                                                                                                          | Yes, during the review process in Phases 4 and 5.                                               |
| 6. Coding     | Themes are internally coherent, consistent and distinctive.                                                                                                                                              | Yes, although two themes overlap somewhat.                                                      |
| 7. Analysis   | Data have been analysed/interpreted, made sense of/rather than just paraphrased or described.                                                                                                            | Yes, this is evident in the findings chapters.                                                  |
| 8. Analysis   | Analysis and data match each other/the extracts illustrate the analytic claims.                                                                                                                           | Yes, analysis and data are consistent.                                                         |
| 9. Analysis   | A good balance between analytic narrative and illustrative extracts is provided.                                                                                                                          | Yes, a good balance was achieved.                                                             |
| 10. Analysis  | Analysis tells a convincing and well-organised story about the data and topic.                                                                                                                             | I think there is a consistent and organised narrative.                                         |
| 11. Overall   | Enough time has been allocated to complete all phases of the analysis adequately, without rushing a phase or giving it a once-over-lightly.                                                                | Each phase was carefully carried out and the research process was documented in the above analysis section. |
| 12. Written Report | The assumptions about, and specific approach to, thematic analysis are clearly explicated.                                                                                                                    | It was clearly stated that this study was following the Braun and Clarke’s (2006) six-step approach to Thematic analysis (TA). |
| 13. Written Report | There is a good fit between what you claim you do, and what you show you have done/ i.e., described method and reported analysis are consistent.                                                                 | There is consistency.                                                                           |
| 14. Written Report | The language and concepts used in the report are consistent with the epistemological position of the analysis.                                                                                             | Yes.                                                                                           |
| 15. Written Report | The researcher is positioned as active in the research process; themes do not just “emerge”.                                                                                                                  | The researcher was active in the analysis process; this is evident in the description of the process, in the section above. |
Question 2 – Can learning portfolio enhance the development of critical thinking among online distance students? – is in relation to the following themes:

- Thinking critically in my learning portfolio
- Sociology discipline context.

**Being an online distance student**

This theme documents the experience of being an online distance student, studying on the humanities programmes. The data revealed that the most challenging aspect of being an online distance student was studying while balancing work, family and caring responsibilities. This is very clearly articulated in the participant narratives as documented in their learning portfolios:

For the first time since taking up third-level education again, I found it very difficult to juggle my work demands, assignment demands and minor ill health. However, the first three assignments were all due in November rather than December this year and the first sociology assignment, as well as the first psychology assignments, coincided with annual parent–teacher meetings. As a primary school teacher, my job is my priority and I had prepared for the clash of assignment and meeting dates. What I couldn’t prepare for was getting sick at the same time. It is fair to say that I felt very overwhelmed with everything happening all at once. (P7, learning portfolio entry 2)

The struggle to balance competing demands, it clearly articulated by participant 7 above and impacted negatively on her learning experience.
Participants placed a high value on the peer communities they formed over the course of the academic year. Three types of peer communities were formed – the tutor-led community, a student-generated community and smaller cohorts of student-formed study groups. These peer communities were perceived by participants to be an essential source of support, reassurance, encouragement and human connection.

I: Ok that’s interesting. And then evidence 2 is your WhatsApp group.
P19: I need those women, that’s my cohort. We are in contact most days supporting one another. Like when I was feeling down and I was thinking I do not want to do this course anymore it’s too much, they were like you’re great and you’re smart. I read your post, your post is really insightful. If I don’t understand a concept we can discuss it. If WhatsApp isn’t sufficient we can ring each other.

I: So your study group is really important.
P19: It’s not a study group. My sister when she did her they give you a cohort you do all your classes together. You do all your study groups together, projects together. There’s something about that approach that makes you feel like you’re part of a supportive group.

I: You’re in something greater than yourself?
P19: Yeah.
(P19, interview 1)

The benefits of discussing the module theory and content with their peers was reported by participants as deepening their understanding and enhancing their learning:

I feel I am fortunate enough to be in a group with classmates that encourage and engage in debates around various topics in sociology, whether it be in class, between breaks or through the online forum. (P12, learning portfolio entry 1)

The importance of learning through discussion was further evidenced by participant 19, by including the image below (Figure 3) in her learning portfolio, which she described as:

I amalgamate the knowledge I have acquired organically through discourse and debate. To this end, I have cultivated a small group of verbose, opinionated friends with whom I participate in regular discussions. Our impromptu meetings are reminiscent of seventeenth-century French Salons; we enjoy coffee, wine, and good food and deliberate sociological topics. (P19, learning portfolio entry 2)

Despite the active peer community found in the participants’ narratives, feelings of isolation were expressed by some participants. Participant 22, in particular, reported intense feelings of isolation over the course of the academic year:

Isolation with studying throughout the year would definitely be one of the major challenges for me. (P22, learning portfolio entry 3)

Because it’s very isolated and you’ve nobody to ask and say well what should I be doing about this or what resource could I be using or is this the right approach. Yeah, it’s very isolated so … (P22 Interview 2)

This indicates that formal and informal student support groups do not necessarily engender feelings of belonging for online distance students.
The experience of learning with a learning portfolio

The experience of learning portfolio practice was described in participant narratives as a deeply personal, informal, real and flexible experience:

It is a great aide in my learning because it gives me a platform to express my thoughts and processes of my experiences. Normally coursework is so structured and formal; instead a learning portfolio is personal and I like that. (P16, learning portfolio entry 2)

The language used in participant narratives, which described the learning portfolio as a place, a platform, a sounding board, indicates that for some the learning portfolio was more than a tool. The learning portfolio was a place in which they felt comfortable writing personally, a place to try out new ideas in a low-stakes environment:

I: Because of less planning. And here you talk about using the eportfolios here as a useful sounding board, I like that word, so can you tell me a bit more about that?
P10: By sound board what I mean is that when I’m sitting down to do the learning portfolio I have to think about what I have done and I kind of almost creates a new form of study for me because I have to put it into a different form that I ever would have before. I did do a little bit of reflection last year but it was our first ever assignment that I’ve done since when I did massage it wasn’t really assignment based.
I: So that was different?
P10: Totally different.
(P10, interview 1)

The use of the learning portfolio to evaluate their own learning was strongly articulated by participants. The frequency of the learning portfolio entries, approximately once a month, was reported to have encouraged participants to take stock of what they had studied and to consider how they felt they were progressing with their learning:

I: Do you ever look back on previous entries?
P20: Yeah, absolutely … yeah yeah … I mean I can see the value of it in terms of forcing you to actually take a stop at a certain point in time, do you know what I mean and I’ve actually thought about it now, since I got the appointment with yourself, em, I was thinking eh do the learning portfolio once a month is not really good enough and I was thinking well you’re not going to be doing it once a week.
(P20, interview 1)

There is a temporal aspect evident in the data on learning portfolio practice, which is both retrospective and future focused. The retrospective aspect of reflecting back on their learning was described by participants as beneficial for reviewing progress and revising and recapping module content, which led to a deeper learning experience:

I find writing this learning portfolio very worthwhile. It is a few weeks now since I studied power and writing this is forcing me to refresh my memory on the subject which hopefully will help me imprint the information into my long-term memory. (P14, learning portfolio entry 2)

The future-focused aspect of learning portfolio practice was characterised by plans for study, and how reviewing their progress every month prompted future-focused planning:

P13: Yeah that one, and then I put in like plans, my to do lists. I started doing like multiple to do lists, like weekly, daily, everything like that. So that’s really helped me get organised.
I: That’s really smart.
P13: So I think I included one of those, and then I included I think em my style, my like kind of new style of studying and learning. So I go em like extra readings that I’ve done so I included kind of samples of those I think.
I: And have you found this more successful?
P13: Definitely, yeah I find them a lot more structured in how I’m doing it. (P13, interview 1)

As Participant 2 observes, “learning is largely a retrospective process” (P2, learning portfolio entry 3), this retrospective element of learning portfolio practice is key to the students’ development. By looking back at previous learning portfolio entries, participants were made aware of their progress as a student, and how they had changed in attitudes and approaches, over the course of the academic year.
**My approach to learning**

Personal approaches to planning, learning, study skills and doing assignments were detailed by participants in their learning portfolios. As the majority of their study was self-directed, students had to develop individual techniques to aid their understanding of the sociological content, theory and concepts:

I find if I cannot grasp a piece of information through one format, i.e., reading a text, sometimes watching a YouTube video regarding the topic can really help me comprehend the material better. (P2, learning portfolio entry 3)

Study techniques were detailed in the data, including approaches to reading and varied personal approaches to note-taking. Participants included many visual examples of their note-taking approaches in the evidence part of their learning portfolio entries. What is striking is how individual each note-taking approach was. Participant 21 in her second learning portfolio entry created a short video explaining her approach to note-taking (Figure 4).

Reflecting on their learning in their learning portfolios prompted participants to identify academic challenges and try new study techniques, which allowed them to become more assured about their personal approaches to learning:

I: And do you feel more ready for next year?
P13: Totally. I mean, I think if you had asked at the start of the year how I would feel about third year I was just very overwhelmed, I was finding it so daunting and I feel like it is going to be fine, I really do. I feel like it is just going to be the same as this year with different assignment titles.
I: So, your confidence has grown?

![Figure 4. Note-taking video (P21, learning portfolio entry 2).](image-url)
P13 Oh, without a shadow of a doubt, yeah. I feel like I know how to study now, I know how to reference, I am organised, I have my diary for doing my timelines, I feel very ready.
I: That is great, so a big jump.
P13: Yeah. Big, big jump but I mean, I feel like it is progressing very well. (P13, interview 2)

This proactivity was stimulated by the process of reflection, planning and self-assessment of learning portfolio practice.

**Thinking critically in my learning portfolio**

The data suggests that the combination of learning portfolio practice and the discipline context of sociology facilitated the development of critical thinking skills. The learning portfolio provided a place for students to think deeply and critically about themselves and their learning in relation to the sociology module content.

Students reported that studying the sociology module together with learning portfolio practice encouraged them to question the world around them:

Finally, I am enjoying this form of learning with loop reflect eportfolio, it allows me to delve more deeply into these concepts by putting my thoughts in writing and to ask questions. I think it will be a useful tool in my study this year! (P23, learning portfolio entry 1)

This means that by asking questions, Participant 23 was developing a more critical mindset about her own learning, which was facilitated by reflecting in her learning portfolio.

The development of more analytical approaches to thinking was evident in participant narratives, which described evolving from binary thinking to a more directional approach that acknowledged multiple perspectives and examined opinions:

While completing the first assignment, it became evident to me that defining a concept such as Power can be quite complex. Similarly, while reading for assignment two, the concept of Crime and Deviance offers a vast range of definitions. Each viewpoint makes very strong, interesting and persuasive arguments; however, none appear to be without fault. Therefore, when reading the literature I have learned to keep an open mind to the various explanations on offer and not accept one viewpoint as concrete. (P17, learning portfolio entry 3)

This skill of analysis of argument is evident in Participant 17’s above description of his analysis of sociological theory.

Developing more effective approaches to analysis was expressed by participants in terms of developing skills by comparing ideas, contrasting theorists and examining competing arguments. This is evident in the approach to examining ideas outlined above by Participant 6 in her learning portfolio entry:

So far I’ve been learning a lot about labelling theory in preparation for the fourth assignment. Researching the original studies and comparing them to more recent ones have been the most interesting part of the assignment so far as sociologists have come to develop so many more aspects in this field and the strong link between it and psychological theories is attracting plenty of my attention. (P6, learning portfolio entry 4)

In addition, the data revealed the development of a greater understanding of source quality and of the importance of using quality evidence:
I: Do you think your critical thinking skills have changed or improved?
P2: I think they’ve probably improved because I only really started, well I’ve been always interested in politics and sociological topics without realising they were I suppose but I think they’ve definitely improved but with learning how to expand on them I suppose. Like, I suppose, like looking up information and getting like valid sources and being like this is information that was studied and it was true.
I: Evidence.
I: It was evidence, yeah. So, I think I’ve gotten better at it this year. It’s almost more complex though, the more you learn the more you’re like oh there so many different ways of looking at things and different ways of validating things even, you know.

(P2, interview 1)

The above quote demonstrates the development of the critical thinking skill of inference by Participant 2 and the sub-skill of querying evidence.

Both the module content and learning portfolio practice had an impact on the development of students’ critical thinking skills. Participants documented their personal thinking processes in their narratives and described how they thought about, and reflected on, their learning during their daily lives:

I do most of my thinking a day or two after I have read something. I find walking my dogs in the mornings has been a great time to think of the reading that I’ve done, or a lecture I have listened to. I find it is in the quiet that I can hear my inner voice, which allows me to unravel the facts that I have taken in. (P24, learning portfolio entry 1)

This means that writing reflectively in their learning portfolio encouraged the critical thinking skill of self-regulation, by documenting their thinking processes. Learning portfolio practice prompted participants to assess their strengths and weaknesses and to identify and record problems they were having and to make proactive plans to resolve these problems:

One implication I think the learning portfolio will have on my future approach to learning is that, as stated earlier, as I have discovered that I find it difficult to confidently put my thoughts to paper for assignments, I have decided to discuss module or assignment topics with people I know or fellow students after I take notes on the module text or attempt an assignment as I feel it is an effective way for me to express my knowledge on a subject and solidify my thoughts about it. I think that if I could write down a few notes after these conversations will be beneficial for my confidence in academic writing. (P2, learning portfolio entry 2)

The learning portfolio prompted participants to self-examine and self-correct issues identified through the process of reflecting on their learning. This is evident in Participant 2’s narrative above, as she identified a difficulty with writing and then formulated a strategy to correct the problem.

Sociology discipline context

The discipline context of sociology, and more specifically the sociology module context, framed the learning experience for the participants in the study. The concepts, content and theory they were learning throughout the module was the material that stimulated
consideration and reflection in their learning portfolios. Without the sociological knowledge to learn, interact with, understand, read and think about, the participants would have had very little to write about in their learning portfolios. The sociology discipline context was fundamental to meaningful learning.

By applying the sociological theory to everyday examples in their learning portfolio, participants demonstrated their understanding of the theory. The application of theory enhanced and deepened their learning of sociology by turning theory into practice. Furthermore, it is evidence of higher order thinking in participants:

In exploring my study of negative power, conflict theory and feminist sociology and in an attempt to further understand the concepts, I sought an example in society that would demonstrate all. I believe I found it in the form of the Russian feminist lesbian/gay rights group called Pussy Riot. I believe what they did was a form of negative power, even though they ultimately did not change anything for women or lesbian/gays in their home country. Pussy Riot made a stand in their resistance to Russian President Vladimir Putin’s discriminatory practices against women and lesbian/gay community. They held protests throughout Russia and ultimately went to prison for the views but garnered international support and attention. (P23, learning portfolio entry 1)

The learning portfolio provided participants with a place to experiment with new ideas, to apply the sociological theory learned in the module to everyday life and to develop their sociological imaginations:

This has been the greatest of all learning for me, and I have discovered that we are all in fact products of a learned value system, in which we have been taught to think what we believe as opposed to thinking freely. We are raised with others beliefs and values systems, and while this is not a bad thing, it can prevent us from developing an individual understanding of the world and the society that we live in. I feel I have now developed my Sociological Imagination and that I fully understand what this means now. (P11, learning portfolio entry 5)

Participants described the development of their sociological imaginations over the course of the module – how they began to observe and take note of sociological theory all around them, in work, in the media, in everyday social interactions; these were frequently documented in their learning portfolios. Participant 20 illustrated this in his example in an image (Figure 5), which he described as:

I am now a contributor to the overinflated salaries of the RTE glitterati. I feel my previous violation of social conformity in not owning a Licence was an adaptation to the structurally induced failure of the system to allow me to feel a sense of ownership towards or democratic contribution to the state media organ. (P20 eportfolio entry 3)

The ability to apply social theory to their lives in their learning portfolios enhanced their learning experience of sociology.

Discussion

This section discusses the findings of the study in relation to the conceptual framework for learning portfolio practice, the research questions and the existing literature.
Can learning portfolios enhance the nature of the learning experience among online distance students?

From a developmental perspective, the findings indicate that learning portfolio practice enhanced online distance students’ learning experiences by facilitating them to develop self-awareness through the evaluation of their approaches to learning articulated through the medium of reflective writing. This meant that participants experienced an evolution in understanding how they learned. It highlighted to them the value of assessing their study habits while allowing them time and space to think about what they were thinking and learning in the sociology module. These findings are generally
compatible with previous research, which evidenced that students perceived that learning portfolio practice made them more aware of their growth and development (Eynon & Gambino, 2017; Wakimoto & Lewis, 2014). Further, the benefit of the evaluation and identification of strengths and weaknesses by students in their learning portfolios is supported by the study carried out by Kabilan and Khan (2012). These findings support Corley and Zubizarreta’s (2012) theory, which emphasises the developmental process of learning through reflection, which is a key element of the critical folio thinking theoretical framework (Farrell, 2018) for this study.

The temporal aspect of learning portfolio practice had a significant impact on the student learning experience. The retrospective act of reflecting on their learning was beneficial for assessing progress and revising sociological content, and the future-focused element encouraged students to plan for study. There is very little existing research on the temporal nature of learning/portfolio-based learning, with the exception of a theory by Ayan and Seferoglu (2011, p. 520), who conceptualised that “eportfolio act as a bridge between the past and the future”. This study’s finding with regard to the temporal aspect of learning/portfolio-based learning supports Ayan and Seferoglu’s (2011) theory, but contends that this temporal element is more than a bridge between the past and future; that in fact the temporal aspect is one of the key drivers of effective learning portfolio practice.

The learning experiences of online distance students as documented in their learning portfolio are largely consistent with the online distance learning literature on student experiences. This study found that the most challenging aspect of being an online distance student – studying while balancing competing responsibilities – is consistent with previous research which found that trying to fulfil multiple roles can cause online distance students to feel considerable stress (Brown, Hughes, Keppell, Hard, & Smith, 2015; Zembylas, Theodorou, & Pavlakis, 2008).

The nature of the learning experience for online distance students was enhanced by reflecting on their personal approaches to learning in their learning portfolio. The online distance students’ learning portfolios give a unique window into their learning approaches. These highly personal approaches to learning provide a detailed insight into online distance students’ study techniques, when, where and how they learned. This is consistent with previous research carried out by Brandes and Boskic (2008), Bolliger and Shepherd (2010) and Shepherd and Bolliger (2014), which found that the key benefit of learning portfolio practice was the developmental reflection on student learning processes that it enabled. This study found that participants documented the development of their highly personal approaches to studying in their learning portfolio. While consistent with research carried out by Eynon and Gambino (2017) and Kabilan and Khan (2012), one point of difference is that there are no studies that have examined online distance students’ learning approaches and study habits, as documented by learning portfolio practice.

*Can learning portfolios enhance the development of critical thinking among online distance students?*

The findings indicate that learning portfolio practice facilitated the development of the critical thinking skills of analysis, inference and self-regulation. This finding confirms Light...
et al.’s (2012) and Eynon and Gambino’s (2017) theories that learning-portfolio-based learning can develop students’ critical thinking skills. Further, it is in keeping with research carried out by Nguyen and Ikeda (2015) and Alexiou and Paraskeva (2010), who found that learning portfolio practice supported the development of self-regulation in higher education students. As there is a dearth of research in this area, this study makes an original contribution in demonstrating that learning portfolio practice supported the development of critical thinking skills within a discipline context for online distance students.

The discipline context of sociology and more specifically the module context framed the learning experience for online distance students. These findings support the emphasis on the development of critical thinking skills grounded in discipline context, which are key elements of the critical folio thinking theoretical framework (Farrell, 2018) for this study. This supports the finding from the study by Turns, Sattler, Eliot, Kilgore, and Mobrand (2012), which investigated the relationship between the subject discipline and learning portfolio practice; they found that learning portfolio practice aligns with the characteristics of a discipline.

Conclusion

The evidence from this study suggests that it would be beneficial to include learning portfolios in online distance degree programmes. The findings of this study indicate that learning portfolios should be located within a discipline context to encourage critical thinking development. Overall, this study strengthens the idea of the personal and authentic aspect of learning portfolios for online distance students. The evidence from this study indicates that the design of learning portfolio activities which prompt students to look back on previous entries can enhance the learning experience. Finally, the findings of this study suggest that the design of learning portfolios which make use of critical question prompts may stimulate the development of critical thinking skills. Future research could investigate the relationship between discipline and learning portfolio practice in other disciplines.

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Notes on contributors

Orna Farrell is Programme Chair for the DCU Connected BA in Humanities, BA in English & History, and BA Single Module in Dublin City University. She has recently completed her doctoral research at Trinity College, which explored the development of critical thinking through eportfolio-based learning for online distance students.
Aidan Seery is Assistant Professor of education at Trinity College. His principal field of interest is in the philosophy of education with particular regard to the connection between education and self-formation and the nature and status of knowledge in educational research.

ORCID

Orna Farrell http://orcid.org/0000-0001-9519-2380

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Appendices

Appendix 1. Learning portfolio instrument

**Learning portfolio entry**

**Date:**

**No.**

**Critically Reflect**

Write a piece (500 words) which critically reflects on your recent work in Soc3A.

Use these guiding questions to structure your response:

1. What have you learned doing this module? *(explain)*
2. Describe your learning process throughout this module and discuss the skills you are still developing. *(explain)*
3. What challenges with the module have you faced so far? *(analysis)*
4. What does your work on the module illustrate about you as a student of Sociology? *(interpret)*
5. How have you found the eportfolio process? *(analysis)* *(interpret)*
6. What is it like working with an eportfolio? *(evaluate)*
7. How does learning with an eportfolio compare to other modes of learning? *(evaluate)*
8. What implications will your eportfolio experience have on your future approach to learning? *(inference)*

**Evidence**

Provide 3 pieces of evidence to support your reflection. Write a brief rationale (100 words) for their inclusion.

Evidence might include:

- Photographs relevant to the module
- Diagrams/infographics
- Audio/Video
- A section of work

**What next . . .**

What is the next step in your learning portfolio?
Appendix 2. Interview schedule

Part 1: General questions

1. Can you tell me the story of how you got here, how you came to be studying in DCU?
2. How is your module going?
   (a) What is the most interesting topic you have learned so far?
   (b) Has it been easy or difficult so far?
   (c) What stage are you at now in the module?
3. Can you tell me about your eportfolio?
   (a) What have you written about?
   (b) What evidence have you included?
   (c) Has it been easy or difficult to do?
4. What is it like working with a learning portfolio?
   (a) How does it compare to other modes of learning?
   (b) Do you feel like you have changed or developed as a student? How?
   (c) How have you found using the technology?
   (d) Have you enjoyed the experience?
5. Do you know what is meant by the term critical thinking?
6. Do you think your critical thinking skills have improved?
   (a) Can you give me an example of a change in your critical thinking?
7. Have you gained a fuller understanding of the topics in the module?
   (a) What are you more careful about?
   (b) Are you more open-minded in your approach to learning?
   (c) What did you learn about your own thinking?
   (d) What are the strengths and weaknesses of the learning portfolio approach?
   (e) What would you like to learn more about?
8. Let’s look at your learning portfolio together.
9. Tell me about the entries.
10. What parts are you most proud of?
11. What would you change or improve?