

Postdigital Science and Education

Networked Learning and Postdigital Education

--Manuscript Draft--

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Abstract:	<p>This paper considers the position of networked learning in higher education learning and teaching in the postdigital era. The underlying origins and principles upon which networked learning are based can be traced back to the critical pedagogy of Freire and emphasise a critical relationship with the digital, the human and the current socio-political and material higher educational context. We examine the theoretical and practical ideas around networked learning in which connections are forged between learners; between learners and their tutors; and between learning communities and learning resources. We describe two case studies to illustrate the theory, pedagogy and practice of networked learning for contemporary higher education learning and teaching. One from the perspective of the online distant learner and their experience of networked learning; the other from the perspective of tutors, which focuses on the challenges they face in moving into the digital world. We conclude by claiming that the way networked learning has developed in theory and practice means it is an approach and pedagogy that makes it entirely suitable for a postdigital world.</p>
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Response to Reviewers:	<p>Specific responses below, within the text of reviewer 2's comments</p> <p>Comments from and responses to reviewer 2 In any case, here are some comments:</p> <p>*Although I appreciated and really enjoyed the historical account from a networked learning perspective I am wondering if you could initially make it clearer why this is important in relation to the postdigital. Why go back in time, rather than just discussing recent literature from NL? You do state that the principles are more or less the same, so a devil's advocate question would be why the historical development is important? I am certainly not suggesting it isn't, but I thought this could perhaps become more explicit - and I will also mention it in relation to the next comments</p> <p>Response; we have tried to address this more at the beginning and throughout the paper by making more specific references to the postdigital literature in particular – see further comments below.</p>

*I think the relations between the postdigital and networked learning could be explored more thoroughly in the article. There are initially a few remarks about postdigital education, and postdigital perspective as congruent with NL emerges later in the paper, however, it is not quite clear what you mean by the postdigital apart from the initial reference "we are no longer in a world where...". I would suggest that you in the discussion/conclusion engage in discussing the postdigital and NL even more carefully. I know the literature on the postdigital might be scant, but then there is the more reason to engage with it, and also there are some recent papers in PDSE that could perhaps be interesting. This could help us all in better grasping with and thinking about how to conceptualise and think of postdigitality; and could unearth some links between current postdigital thinking with the history of NL (also emphasising the relevance of the historical account). Further, in the intro it says you will discuss NL as relevant for postdigital education, and postdigital education is in title, but not something that appears explicitly in the concluding part and discussion. I think this could be elaborated - what is the vision or understanding of postdigital education from a networked learning perspective. How can networked learning help us realise postdigital education, what could it look like etc. I think that could be interesting - using the past experiences also a bridge to the future (and that would perhaps also make it clearer why the historical account is important). I think this to some extent is already there, but could be strengthened.

Response; these are very important comments which we have tried to address by bringing in more of the postdigital education literature and thinking. We have done this not so much to show how NL can help to realise postdigital education perhaps but more to show it is by the way it has developed in parallel with digitalisation a living social and material example of postdigital education and pedagogy.

*The notion of critical pedagogy features quite strongly in the abstract/intro, but then actually disappears as an explicit concept until page 8 - so it is not explicitly picked up in relation to the principles, but is later stressed as very essential in relation to NL. This mainly being an observation, but perhaps it could also be woven more explicitly in with the principles, and perhaps also later in the concluding part become a stronger bridging concept between the history and development of NL and the current thinking within the postdigital literature (where my feeling is that it also features quite strongly) - so this could perhaps also be a concept that could weave together NL and postdigitality in the concluding/discussing part and in thinking about the future of postdigital education.

Response; we agree that critical pedagogy features quite strongly within the postdigital literature and consequently have made the position of critical pedagogy within NL and postdigital education stronger in the paper in an attempt to show how this does indeed reflect and bridge NL and postdigital education.

*One minor comment: In the section 'Illustrative example of Networked Learning' there are some shifts between past- and present tense - as I wrote in a specific comment: "Here it is written in past tense and as describing something you once did. However, in the text following it is mostly in present tense 'we encourage learners to set aside' - not sure it should be changed, but just wondering since it is a description of a design made some years back?" I have marked up some examples in the attached PDF, where it seems to shift between past/present.

Response; thanks for pointing this out – we have we hope now addressed this issue in the resubmission!

We have in addition sought to address the comments as inserted in the submitted text itself which reflect more specifically the above comments.

[Click here to view linked References](#)

Networked Learning and Postdigital Education

Abstract

This paper considers the position of networked learning in higher education learning and teaching in the postdigital era. The underlying origins and principles upon which networked learning are based can be traced back to the critical pedagogy of Freire and emphasise a critical relationship with the digital, the human and the current socio-political and material higher educational context. We examine the theoretical and practical ideas around networked learning in which connections are forged between learners; between learners and their tutors; and between learning communities and learning resources. We describe two case studies to illustrate the theory, pedagogy and practice of networked learning for contemporary higher education learning and teaching. One from the perspective of the online distant learner and their experience of networked learning; the other from the perspective of tutors, which focuses on the challenges they face in moving into the digital world. We conclude by claiming that the way networked learning has developed in theory and practice means it is an approach and pedagogy that makes it entirely suitable for a postdigital world.

Keywords

Networked Learning, Postdigital, Education, Critical Pedagogy,

Introduction

In this paper, we will explain and explore the origins of the early principles and characteristics of networked learning (NL) and consider their relevance and importance for postdigital education. We will then describe further with an illustrative example the theory and practice of networked learning. We conclude with a review and consideration of important issues that take thinking about networked learning forward in an era where 'We are increasingly no longer in a world where digital technology and media is separate, virtual, 'other' to a 'natural' human and social life' (Jandrić et al 2018)

We have written elsewhere a brief history of networked learning [REDACTED]. In that chapter, we describe the ITOL (information technology based open learning) project where we developed the initial framework using information technology to support a Master's programme based on the early principles of networked learning. We applied the ITOL networked learning principles to an existing part time MA that already ran at Lancaster University and in 1989 was offered as a computer mediated MA for the first time to a small cohort of management development students. Importantly the ITOL framework and MA were influenced by educational theories and approaches that linked to radical emancipatory and humanistic educational ideas and approaches. Thus from the beginning networked learning sought to reflect principles associated with existing areas of educational thinking, such as critical pedagogy (cf Freire 1972 ; Giroux 1992) and democratic and experiential learning (cf. Dewey 1916 ; Kolb et al. 1974). Further, it adopted what Fawn describes as a '*postdigital perspective*' in that networked learning has always taken a critical stance towards understanding how technology is used, or adopted, for educational purposes (Fawn 2018). Indeed the rationale for establishing the Networked Learning Conference in 1998 was a reaction against the technological determinism of the time, and as a way of critically examining that determinism.

Other programmes based on the ideas and principles of networked learning followed alongside the Networked Learning Conferences, which became a forum to share and discuss the emerging research interest in networked learning. It is probably true to say that, while these programmes were considered innovative back in the 1990s they were seen at that time as specialist and often niche and were not considered mainstream or very likely to become a main fare pedagogy or

1 integral to campus based institutions of higher education course designs or provision. As often
2 observed, many early online and/or blended HE programmes were designed and run by enthusiasts
3 and largely bypassed the majority of educators. Fawn, and increasing others, argue we should no
4 longer be making these distinctions between digital and non-digital forms of education but should
5 be recognising that technology and education are interdependent and can support more effective
6 teaching. (Fawn op. cit.). As he comments, '*All teaching should take account of digital and non-*
7 *digital, material and social*'.
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10 It is the case that increasingly, traditional campus based institutions no longer feel they can be left
11 behind or ignore digital learning and education. However, as Bates (2018) found in a survey of
12 Canadian Institutions, while almost three quarters reported integration of online learning with
13 classroom teaching, in the form of blended or hybrid learning or teaching was occurring in their
14 institution, two thirds reported that fewer than 10% of courses are in this format. In other words,
15 integrated online learning is wide but not deep. What is more, where it is occurring there is often
16 limited understanding of changes needed to work successfully with online groups of students who
17 live in a digitally mediated world with constant access to social media, collaborative platforms and
18 other digital resources.
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22 Networked learning on the other hand has developed alongside and in parallel with these
23 developments. We will go on to describe how it has developed in theory and practice to become an
24 approach and pedagogy that make it entirely suitable for a postdigital world.
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27 **Characteristics and principles of networked learning**

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29 The early principles and characteristics of NL were reflected in two definitions that emerged, the first
30 with the first Networked Learning Conference (NLC) in 1998 (██████████) and the second in an
31 early 1999 UK JISC (Joint Information and Systems Committee) project on Understanding Networked
32 Learning in Higher Education. This latter definition has since become the accepted standard
33 definition used by the conference and as cited in the first book of papers based on the NLC 2002
34 (██████████). They are respectively:
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38 Networked collaborative learning (NCL) is therefore the bringing together of learners via
39 personal computers linked to the Internet, with a focus on them working as a "learning
40 community", sharing resources, knowledge, experience and responsibility through reciprocal
41 collaborative learning (██████████)
42
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44 And

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46 We define 'networked learning' as learning in which information and communications
47 technology (ICT) is used to promote connections: between one learner and other learners,
48 between learners and tutors; between a learning community and its learning resources.
49 (██████████)
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52 What is interesting to note here is that in both definitions there was already a socio-material
53 dimension to the way networked learning was being depicted. This dimension today is at the
54 forefront of many discussions about networked learning.
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58 Arguably, two other key projects helped establish the characteristics of networked learning in those
59 early years. One a UK project that led to the presentation of the 'E-quality in e-learning Manifesto' at
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1 NLC 2002, available at <http://csalt.lancs.ac.uk/esrc/>. The other a large European follow-up project,
2 EQUEL, which had 14 partners from six different European countries that presented several
3 symposia and papers from the project at NLC 2004 conference. As with the Manifesto, the project
4 title stood for 'e-quality in e-learning'.

5
6 What was stressed in this early work and definitions of networked learning was not how technology
7 could change or enhance learning but the way new connections that technology was materially
8 offering to staff and learners alike could assist and extend important pedagogical thinking and ideas.
9 Following on from the 'EQUEL' project, ENSel - Engaging Networks for Sustainable eLearning,
10 another EU funded project identified and described the learning principles reflected in the earlier
11 EQUEL project. A full description of the ENSel learning principles is available in [REDACTED]
12 2006. The eight principles capture and reflect the emergent pedagogical ideas and concepts that
13 were associated with networked learning programme designs and the growing research into the
14 theory and practice of networked learning. An abridged version of them are;
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- 18 1. The focus is on learning which has a perceived value to the learners.
- 19 2. Responsibility for the learning process should be shared (between all actors in the network).
- 20 3. Time has to be allowed to build relationships
- 21 4. Learning is situated and context dependent
- 22 5. Learning is supported by collaborative or group settings
- 23 6. Dialogue and social interaction support the co-construction of knowledge, identity and
- 24 learning.
- 25 7. Critical reflexivity is an important part of the learning process and knowing.
- 26 8. The role of the facilitator/ animator is important in networked learning.
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35 Before going on to give an example of an actual networked learning programme in practice we will
36 first describe some of the underlying learning theories and ideas associated with each of the eight
37 principles at that time and largely still are. In doing so we draw on [REDACTED] and a
38 UK CEL (Centre for Excellence in Leadership) research report from 2006*.
39

40 **Principle 1: The focus is on learning which has a perceived value to the learners.**

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43 This principle upholds the view that learning is an ongoing process that involves knowledge that
44 matters to the learner. The focus is on how knowledge is applied to make sense of the world,
45 including making sense of their own position in it, of unclear situations, solving issues or problems
46 and creating value. Learning from this perspective also includes the development of the capacity to
47 *interact* with other relevant interlocutors and the generation of new ways of seeing things, that
48 leads to change. Knowledge associated with such learning is not necessarily explicit but very often
49 tacit (Polanyi, 1966) and cultural (Choo, 1998), rooted in the assumptions, norms and beliefs of the
50 local context/situation and embodied in the relationships between the learner and others social
51 actors. Thus, it assumes that what we know and how we practice it is inter-subjective, inherently
52 indeterminate and continually emerging (Tsoukas, 1996).
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56 **Principle 2: Responsibility for the learning process should be shared (between all actors in the network).**

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1 The idea of taking responsibility for the learning process has moved on since the early work of adult
2 educators such as Malcolm Knowles (Knowles, 1975) who placed a great emphasis on self-directed
3 learning. Critical writers, such as Brookfield (1994), recognized the political and socio-cultural
4 aspects associated with self-directed learning and adopt a more critical perspective. Increasingly the
5 unequal distribution of power and control between learners and educators within the educational
6 process has been seen as a significant element in the learning process when learners are being
7 invited to take greater responsibility. (See also Gore, 2001, Ellsworth, 1989)
8

9 Power, age, gender, identity, socio-cultural norms, language, and discourse are all recognized as
10 important dimensions and influences on the process and experience of taking and sharing of
11 responsibility. Language and discourse are seen to be the key medium through which relations of
12 power and control are practiced (Fairclough, 2003). From this perspective, language is seen as the
13 means by which learners construct reality, establish social relations, act in relation to each other and
14 develop their professional identity. Implicit in this view is the idea that we are both shaped by such
15 social and linguistic processes and are agents who can intervene in and change them.
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17

18 **Principal 3: Time has to be allowed to build relationships**

19 Learning and knowing that is seen as a social process based on dialogical interactions is associated
20 with and can depend on the relationships between learners and other social agents (i.e., peers,
21 facilitators, experts, intermediaries, etc.). Building reciprocal and positive relationships requires time
22 and patience. Relationship building is developmental and starts with establishing knowledge and
23 understanding of each other's views and histories. Both the learners and other social agents
24 involved in the learning experience need to get to know each other. In any learning relationship
25 there is, however, always the danger of reciprocity of perspectives being privileged over different
26 perspectives (Keddie, 1971). As [REDACTED] point out, consensus-bound
27 discourses that frequently dominate participative practices in adult and higher education can
28 discourage recognition of differences and different perspectives.
29

30 Jones et al (2006) argue that trust is at the heart of networked relationships for learning and in
31 particular, they point to how the condition of trust affects different types of relationships, including
32 the weak links identified in network analysis and the strong links of community and collaboration.
33 Garcia-Lorenzo (2006) claims that, particularly in knowledge intensive networks, trust is becoming
34 reconfigured and inscribed in informational social bonds that are based less in hierarchical relations
35 and more in the complex, reciprocal intricacies of transverse networks of information exchange.
36 Trust, she suggests, becomes based less on knowledge of someone's character and more on the
37 knowledge of someone's resources and his or her position in the social field and a matter of 'mutual
38 influence' (Garcia-Lorenzo, op cit.)
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45 **Principle 4: Learning is situated and context dependent**

46 Situated learning theorist such as Brown, Collis and Duguid (1989) argue that learning is inextricably
47 connected with the activities that people perform. Lave and Wenger (1991) make similar claims and
48 suggest that 'learning' and 'education' is not the same thing. Two important consequences result
49 from situated learning theory or 'SLT': one being that learning cannot be considered independently
50 of the learner (in terms, for example, of experience, assumptions and expectations); the other being
51 that practice and learning are inseparable.
52

53 Context also becomes important within this view of learning and influences who interacts with
54 whom and how interactions occur. Lave (1988) argued that individuals will always address a problem
55 in different ways according to the context. Each context shapes and is being shaped by forms of
56 thought and action, which implies that learning and knowing should not be considered from a
57 perspective or idea of "universal truth" and/or "general knowledge". [REDACTED] refer
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1 instead to Dewey's alternative way of seeing learning and knowing as a sort of "warranted
2 assertability" (Dewey, 1938), which grounds coherent action with respect to the context, purposes,
3 history, and needs of the situation.

4 **Principle 5: Learning is supported by collaborative or group settings**

7 Following on from the previous principles, collaborative group work is frequently seen as a main
8 pedagogical method for networked learning. According to [REDACTED] the literature claiming
9 this was growing and within that literature there is an emphasis on community building and group
10 work within networked e-learning environments. Jones and Steeples (2002) concurred with this view
11 and claimed that the use of collaborative methods has been absorbed into the outlook of
12 experienced practitioners of networked learning. [REDACTED] argued that collaboration can help to
13 clarify ideas and concepts through discussion, develops critical thinking and provides opportunities
14 for learners to share information and ideas. In addition, he suggested that it also helps to develop
15 communication skills, provide a context where the learners can take control of their own learning in
16 a social context and offers or provides validation of individuals' ideas and ways of thinking through
17 conversation (verbalising); multiple perspectives (cognitive restructuring); and argument (conceptual
18 conflict resolution) ([REDACTED])

22 Cousins and Deepwell (2005), like other writers in the field, made a direct connection to the overlap
23 between the collaborative pedagogic values of network learning and Wenger's theory of situated
24 learning within communities of practices. They explain that Wenger has acknowledged a debt to
25 Paul Willis' study of human agency with respect to school countercultures (Willis, 1977) as well as to
26 similar theorists of culture such as symbolic interactionism (Goffman, 1959), ethnomethodology
27 (Garfinkel, 1967) and anthropology (Lave, 1988). All of whom, they explain, Wenger used to support
28 and refine his understanding of how we make meanings in the context of the people we meet, the
29 times, purpose, places and social conditions of those meetings.

34 **Principle 6: Dialogue and social interaction support the co-construction of knowledge, identity and 35 learning.**

38 In many discussions of SLT the emphasis is on the relationship between learning and activities or
39 practice. Networked learning, however, moves the emphasis more towards learning that emerges
40 from relational dialogue with both online resources and significantly, with others in either learning
41 networks or communities. It thus aligns itself to a social constructionist view of the world and the
42 social constructionist emphasis on language and the construction of meaning (Berger & Luckman
43 1966, Gergen, 1973). SLT theorists Cook and Brown's notions of 'productive inquiry' and the
44 'generative dance' that takes place in conversations and leads to or evokes new insights and new
45 meanings (Cook and Brown, 1999) is not dissimilar to the idea of learning through relational
46 dialogue.

49 [REDACTED] go further than Cook and Brown and claim that through dialogue we
50 construct meaning about who we are and what is acceptable knowledge within a given social and
51 cultural context. In addition, they argue, hierarchies and inequalities are structured and re-
52 structured through interaction/dialogue and social norms are reproduced. In the networked learning
53 literature, they suggest, there had been a tendency to foreground communication at the expense of
54 recognizing the continuing importance that social categories, such as nationality, race and gender
55 etc. have in dialogical exchanges.

58 Online dialogue from this relational dialogue perspective provides learners with opportunities to
59 articulate their social and cultural experiences and develop critical thinking through questioning and
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1 challenging existing work practices and organizational conditions, especially taken-for-granted
2 assumptions embedded in both theory and professional practice (Reynolds and Vince, 2004).
3 Dialogue also offers learners an opportunity to learn to listen to others' goals and interests. Social
4 constructionists (Shotter, 1994; Gergen, 1999) stress the importance of understanding "different
5 interests" without searching for the "most relevant" perspective. This constructionist tenet holds
6 considerable value in a world increasingly dominated by uncertainty and contradictions – where
7 there is a need to develop a sense of multiple perspectives to handle differences and tensions
8 (Reynolds and Vince, 2004).

9 Networked learning aspires to provide a space and a place for dialogue and interaction that not only
10 supports the co-construction of knowledge, identity and learning but also where this co-construction
11 is exposed to critical analysis and reflection that acknowledges ongoing uncertainty.
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13 **Principle 7: Critical reflexivity is an important part of the learning process and knowing.**

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16 A Critically reflexive approach to learning aims to go beyond the immediate context in which the
17 learner operates. Reynolds and Vince (2004) describe those aspects of a critical perspective that they
18 believe point *specifically* to the advantages of work-based or action-based learning. A summary of
19 the aspects they identified for critical management education, are equally relevant to networked
20 learning however if where they refer to managers we substitute learners. They can be summarized
21 as:
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- 24 - A critical approach will emphasize *the value of questioning and challenging existing structures*
25 *and practices.*
- 26 - From a reflexive position, *questioning own practice* is important too. Managers' collective
27 experience has validity - particularly if understood critically in ways that highlight its political,
28 emotional and ethical components as well as its conceptual or technical aspects.
- 29 - Management education has been overly influenced by individualistic - chiefly psychological -
30 perspectives. *Working, managing and learning involve social and cultural processes* as well as
31 their personal and psychological counterparts. A critical approach implies a focus on a
32 collective, situated (contextually specific) process that assists inquiry into actual and current
33 organizational projects and projections. This enables managers to question critically
34 organizational practices within their specific situation. (Reynolds and Vince, 2004)
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39 **Principle 8: The role of the facilitator/animater is important in networked learning.**

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41 The role of facilitators/animaters – as we describe it here – is predicated on the belief that learners
42 should take and share responsibility for their own learning and are encouraged to engage in critical
43 analysis and reflection. Therefore, facilitation involves interacting with members of the network to
44 support them throughout the experience: to work with them, to manage learning resources and to
45 sustain the dialogue with peers and/or experts etc. This role is different from the one played by more
46 traditional forms of face-to-face education. For instance, in his *Guide du tuteur en entreprise*, Cerf
47 (1995) pointed out that the skills required to be a face-to-face facilitator (e.g., coaching, guidance,
48 communication, assessment, sharing, etc.) are similar to those required to be an e-facilitator.
49 Nevertheless, they also indicated that e-facilitating implies differences linked to the management of
50 the virtual features of the learning environment. Similar points are made by Berge (1995) and,
51 increasingly, writers such as Salmon (2000) and Collinson et al (2000) stress the importance of
52 fostering online cultures in which participants are encouraged to take charge of their own learning
53 and tutoring. Nonetheless, a concern for expertise and skill in the questioning, coaching and guidance
54 role in technology-supported learning is often underappreciated or not sufficiently recognized. Too
55 often concern is predominantly for subject matter expertise and/content alone. As we increasingly
56 focus on handling complex situations, we can expect that academics, professionals, consultants, and
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1 more experienced colleagues will be expected to ask questions and help learners develop their own
2 knowledge and skills of inquiry.

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4 In the next section, we will offer an example of a networked learning programme to illustrate how
5 these learning principles and other networked learning characteristics become attainable through and
6 because of learning designs that in part adopt and use digital technology. The example amongst other
7 things demonstrates the centrality of the pedagogical learning design rather than technology per se
8 within networked learning practice and theory.
9

10 11 **Illustrative example of Networked Learning in Practice**

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14 In the early 1990s the then new Information and communication technologies that were being
15 developed allowed us to achieve new learning designs directed at particularly part-time adult and
16 professional students. Such students had previously at best only been able to connect and
17 collaborate on the few opportunities they had to meet face-to-face. To be able to carry on their
18 discussions and collaborate online on a continuous basis was a new and very different learning
19 experience for both staff and students and had to be carefully designed and managed to work well.
20 Moreover, we wanted to maintain the levels of criticality and reflexivity that we sought in our
21 pedagogical thinking and the learning principles just described.
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24
25 The following description of the practice and evaluation of a networked learning course is given as
26 an illustrate example of how networked learning courses may be designed and taught, and how
27 those participating in them can experience them. Closely following on from the early 1989 Lancaster
28 Computer Mediated Masters, the Master of Education (MEd) in Networked Learning, University of
29 Sheffield was established in 1996. This programme was designed for higher education staff and
30 professional developers wishing to learn about networked learning. It was followed in 2008 by the
31 PhD programme in E-Research and Technology Enhanced Learning at Lancaster University. These
32 programmes are among the first successful examples of higher education courses offered in the UK
33 designed completely on networked learning principles. They were designed to be run globally via a
34 learning management system and Web 2.0 social media technologies.
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38 For illustrative purposes the focus here is on the MEd, its impact on the student learning experience
39 and its potential to offer an alternative course design approach to the conventional instructional
40 systems design approach (). In designing the course, as mentioned in the learning
41 principles above, the starting premise was that our personal values and beliefs help determine how
42 we view the world and how we conduct our lives, and that similarly, our educational values and
43 beliefs play an important role in our educational practice.
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46 The intention was to provide participants with the opportunity to experience a course designed on
47 networked learning principles, and to engage in critical reflective processes in which they share and
48 discuss their experiences with the members of the online learning community. Additionally,
49 participants had the opportunity to understand the benefits of this form of online learning and
50 teaching for themselves. This form of experiential learning with others comprised a major and
51 important part of the 'content' of the course.
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54 In the practice and doing of the programme, value was placed on how the networked learning
55 course design could encompass six key features that formed its organisational culture and pedagogy,
56 and which guided the pedagogic practice of staff, and the learning practice of students.
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1 The first of these is **democracy and openness in the educational process**, in which attention is paid
2 to structures and processes that promote democratic relationships in learning and teaching and
3 challenges the myth of the 'expert teacher' and the 'naïve student'. Openness leads to meaningful
4 learning and can be facilitated by the development of a learning community, where one works for
5 oneself and for others and where development occurs (Pedler, 1981). This approach also centers on
6 the learner and their experiences, which is key to the formation of a critical pedagogy (Freire, 1972;
7 Leonardo, 2004) in which learners are encouraged to set aside what they accept as 'learning' and re-
8 consider who they are as learners, and how they learn. Secondly, **self-determined/managed**
9 **learning** provides participants with as much *freedom to learn* as is possible. Self-
10 determined/managed learners take primary responsibility for identifying their own learning needs,
11 and help others in determining theirs. In these processes, the aim is for learners to become aware of
12 how they learn, and develop deep approaches to learning.

14 The third area is **a real purpose in the cooperative process**. Much higher education learning is
15 abstract and often unrelated to real situations, and many students struggle to see the purpose of it.
16 If learners have a real purpose in learning, they engage with the learning process in a qualitatively
17 different way. Fourth, **a supportive learning environment**. A supportive learning environment is one
18 where learners encourage and facilitate each other's efforts. Being supportive does not, however,
19 mean a lack of intellectual challenge. Organising learning in social, action learning sets and
20 communities helps bring about opportunities for the co-construction of knowledge, and
21 opportunities for participants to share their expertise and engage in skeptical and critical thinking.
22 The fifth area is **collaborative assessment of learning**. Collaborative self-peer-tutor-assessment
23 processes are central to networked learning: they are a corollary of cooperative learning, and
24 support the cooperative process. We take the view that learners are well placed to judge their own
25 learning, and that of their peers (Illich, 1977; Heron, 1984). However, the tutor is included in the
26 process because of the need for validation of the "institutional" view of learning, but seeking not to
27 use our power as teachers to say exactly what must or does count as learning. This requires
28 negotiation and sensitivity to the learner, and a willingness as critically engaged educators to be
29 open about their experience and judgement (Perriton and Reedy, 2002). Finally, the sixth area is
30 **review and evaluation of the ongoing learning process**: assessing and evaluating the networked
31 learning course is also a cooperative tutor-learner process. Learners should feel that there is a real
32 opportunity to change the design of the course as it proceeds. This is achieved by the tutors and
33 learners reflectively working together to examine the design of the course and the teaching and
34 learning processes.

40 The following design components of the MEd helped to provide a structure and supportive learning
41 environment which sought to achieve the principles of networked learning and the organisational
42 features described above.

45 **Learning community** – The idea of the learning community is present in both definitions of
46 networked learning and is considered a significant feature in the design of networked learning
47 courses including for the MEd as described above. () describes a networked learning
48 community as a cohesive community that embodies a culture of learning. The learning community is
49 expected to attend to issues of climate, needs, resources, planning, action and evaluation. A key
50 feature of such a learning community is that responsibility for learning is 'shared' among community
51 members who all bring their own knowledge and skills to the community. However, as described in
52 principle 2 above, power, age, gender, identity, socio-cultural norms, language, and discourse are all
53 recognized as important dimensions and influences on the process and experience of taking and
54 sharing of responsibility. It is not a case of simply incorporating group-work into a traditional
55 teacher led course with predefined syllabus, aims and objectives. The learning outcomes are
56 intended to emerge from the community. Participants and tutors alike collectively review, assess
57 and evaluate their learning. Which in turn, as Alexander & Alexander (2018) recently commented,

1 leads to the community contributing to the co-design of the programme. In a learning community,
2 power relations (Mann 2008) are opened for discussion with the aim of making them more
3 transparent and democratically shared. There is a determination to build new insights, ideas and
4 knowledge and become skilled in researching and developing critical thinking. The process of
5 examining the power relationships (including between tutor and community, of which the tutor is a
6 member) does expose many contradictions, as well as forcing tutors to be more open about their
7 own practice as it becomes manifest in the community.
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9 **Action research and inquiry** are widely associated with the design and practice of networked
10 learning programmes and were central to the design of the MEd. Action research is a “cyclical
11 inquiry process that involves diagnosing a problem situation, planning action steps, and
12 implementing and evaluating outcomes. Evaluation leads to diagnosing the situation anew based on
13 learnings from the previous activities cycle” (Elden and Chisholm, 1993). The action learning/action
14 research format (Carr and Kemmis 1986; Whitehead 1989; Winter 1989) allows participants to make
15 choices about the management, focus and direction of their learning. Throughout the programme,
16 there was an emphasis on reflecting on the shared educational practice of both participants and
17 tutors alike; discussing what was happening and why; and planning together what to do next.
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21 **Learning sets** are another important component of the design, and used as an alternative to tutor
22 groups. The major purpose of the learning sets is to offer participants a place to come together as a
23 group of 5 or 6 students to learn, share resources, discuss their learning and generally support each
24 other. As emphasised in principle 6 above, one of the key ideas underpinning networked learning is
25 that interactions between students are a significant aspect in constructing meaningful, intentional
26 and planned development. Changes may reside in the individual, in the learning set, or at the
27 organisational level and may be enhanced by the supportive interaction of the individual and the
28 learning set members. Learning sets are closely aligned to the work of Revans, 1979 and Pedler,
29 1996 on action learning and action learning sets. As Bird (2002) explains in his NLC 2002 paper
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34 *The action learning process provides opportunities for facilitated shared reflection on*
35 *individual perceptions of personally engaging, hitherto intractable problems, in order to*
36 *clarify and render them more manageable, and to facilitate the creation and iterative*
37 *exploration of alternative actions in the light of new insights. The learning set provides a*
38 *balance of emotional support and intellectual challenge through comradeship and insightful*
39 *questioning which enables each member to act and learn effectively on three levels: i.e.*
40 *about the problem being tackled; about what is being learned about oneself; and about the*
41 *process of learning itself, i.e. ‘learning to learn’. (Bird, 2002)*
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45 **Workshops** - while module is the more prevalent term adopted for individual units of a programme
46 in networked learning, the term workshop is frequently adopted in a deliberate attempt to engage
47 participants in rethinking their learning. Workshops are places where the whole cohort takes part in
48 active, participatory learning, where new ideas about learning and teaching can emerge, and where
49 tutors and participants can experiment and take risks in what they do. The workshops were designed
50 to have an action research ‘rhythm’, in which the issues or problems for discussion or examination
51 are introduced, sometimes by tutors, sometimes by participants. The action research rhythm
52 becomes a powerful mechanism for participants to also carry out their learning set work, and to
53 support each other.
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57 All of the above components featured in the design of the MEd, as illustrated in Figure 1.
58 A key aspect of the design focused on the ways in which staff engage participants in understanding
59 its underpinning educational philosophy. This was an important element in helping participants
60 make the shift from conventional ideas about learning and teaching which most of them came to the
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1 course with, to a form of learning that required them to consider how to work as a community,
2 share and cooperate in their learning, and engage in critical and inclusive dialogue. An evaluation of
3 the course design provided an opportunity to understand their views on these issues (Table One).

4 We were also interested in participants' experience of working in networked learning sets, a central
5 feature of the course which was designed to assist them achieve their personal and collective
6 learning needs and outcomes (Table Two).
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10 **Figure 1: Master of Education (MEd) in Networked Learning – Features of the Online Action** 11 **Research Design**

12 **YEAR ONE**

13 **Workshop 1 (4 months): Theme - Purpose of MEd, and Developing the Community**

- 14 • Phase 1: Our collective purpose – discussions in the large community
- 15 • Phase 2: Plenary discussions; networking; sharing biographies
- 16 • Phase 3: Focus on your collaborative projects (in learning sets)
- 17 • Phase 4: Collaborative self-peer-tutor review and assessment of projects; sharing
18 projects with the community & discussions

19 **Workshop 2 (4 months): Theme- Collaborative Learning Online**

- 20 • Phase 1: Community review of Workshop 1 and integration of outcomes into
21 Workshop 2; Learning set formation
- 22 • Phase 2: Your cooperative (personal) project (in learning sets)
- 23 • Phase 3: Collaborative self-peer-tutor assessment of personal projects; sharing
24 projects with the community & discussions.

25 **Workshop 3 (4 months): Theme - The Internet as a Learning Environment**

- 26 • Phase 1: Community review of Workshops 1 & 2 and integration of outcomes into
27 Workshop 3
- 28 • Phase 2: Your collaborative (group) project
- 29 • Phase 3: Collaborative self-peer-tutor review and assessment of group projects;
30 sharing projects & discussion.

31 **YEAR TWO**

32 **Workshop 4 (4 months): Theme - Designing for Research & Evaluation**

- 33 • Phase 1: Community review of Workshop 3 and integration of outcomes into
34 Workshop 4; learning set formation (in large community)
- 35 • Phase 2: Personal (cooperative) mini-action research project
- 36 • Phase 3: Design of personal action research dissertation project
- 37 • Phase 4: Review: Collaborative self-peer-tutor assessments of mini projects; sharing
38 projects & discussion.

39 **Workshop 5 (8 months): Theme – Action Research Dissertation**

- 40 • Phase 1: Community review of Workshop 4 and integration of outcomes into
41 Workshop 5
- 42 • Phase 2: Dissertation work (in learning sets)
- 43 • Phase 3: Collaborative self-peer-tutor review and assessment of dissertations
- 44 • Phase 4: Sharing dissertations in community; reviews and discussion. Your future
45 plans

Table One: Participant Views of the Educational Philosophy (N=50)

	Agree %	Disagree %
I think we have been successful in developing a sense of community	88	12
It is not possible to have an in-depth discussion online	7	93
I like to share information and ideas with others	100	0%
The depth of analysis online is not as great as in face-to-face environments	21	79
I feel I learn better on my own	23	77
I have often felt isolated	31	69
The concept of learning community is good in theory, but in practice it doesn't really work	25	75
My willingness to work collaboratively depends on:		
The degree of "openness" in the group	96	4
The degree to which my efforts are reciprocated by others	91	9
A course like this allows participants at different stages of learning to develop in their own way/pace	85	15
This form of learning has positively affected my motivation to study	72	28
I feel this learning philosophy has significantly changed my view of learning	76	24

Table Two: Participant Views on Learning Sets and Processes (N=50)

	Agree %	Disagree %
I think learning sets are a good way of organising the course	100	0
My learning sets:		
have achieved their goals	85	15
have been productive	79	21
allowed me to achieve a great deal	93	7
I feel I have been supported by others in the learning sets	88	12
Studying in this way has made me more aware of the strengths and weaknesses of my own learning processes	91	9
I enjoy discussing issues in the online conferences	93	7
If my online contributions are not responded to, I feel I am not valued	82	18
This form of learning has positively affected my motivation to study	72	28
I enjoy the freedom of "self-managed learning"	93	7

The evaluation of the MEd networked learning design is discussed more fully elsewhere (██████████). Its findings were central in developing more sophisticated understandings of participants' experiences of networked learning. Together, with over two decades of other research – and as evidenced in the eight learning principles described above - the research reported in the Proceedings of the Networked Learning Conference, various journal special issues and in the Springer Book Series on *Researching Networked Learning* – have all assisted us in understanding how to develop our networked learning practice.

The evaluation and ongoing networked learning research indicate that it is important to pay attention to developing the culture of collaborative and community-based learning that the programme expects, and to actively maintain its presence throughout the course. Raffaghelli and Richieri (2012) discuss the complexity of working in a networked learning community, stating that

1 the quality of peoples' relations is an important characteristic in these settings. Value has to be
2 placed on students learning how to belong to a learning community and how to discover and
3 practice how to take part in the community. As [REDACTED]
4 put it:

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6 *There is a tangible shift during the history of a learning community from seeing itself as a*
7 *group of individual learners, to the members seeing themselves as people learning in a social*
8 *environment where collaboration and cooperation is expected and rewarded. The learners*
9 *come to own the value of seeing learning as "community", and we believe that this value can*
10 *be transferred into the wider socio-political lives of the learners".* ([REDACTED])
11

12 In summary, we have learnt that to maintain a collaborative networked learning community it is
13 important to;

- 14 - Provide guidance, and support learning processes. We cannot assume learners know how to
15 work together in groups or communities, or how to collaborate.
- 16 - Learners have to be given time to learn how to learn in these ways. This is sometimes
17 provided through modelling of inclusive participation (Ryberg and Sinclair, 2016).
- 18 - Learners have to be given time to develop trusting relationships in order for them to feel
19 comfortable working together online. "Trust, in turn, fosters a collaborative culture which
20 enhances the creativity of the team." (Barczak, Lassk, & Mulki, 2010)
- 21 - Learning takes time to mature – a crowded curriculum prevents participants from taking a
22 critical perspective on their learning, and makes it difficult for them to think about what they
23 are doing and why (Nielsen and Danielsen, 2012).
- 24 - Process and relational dialogue is central to networked learning- that is where new
25 understandings and new knowledge are created.

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30 Our experience indicates the many learning benefits of involving students as active partners in
31 decision making about the course, and in its ongoing design. By doing so, we are showing that we
32 are serious about their involvement, that it counts and that reciprocity in partnership is important
33 (Mercer-Mapstone et al, 2017). Students as partners has been described as:

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36 *"A collaborative, reciprocal process through which all participants have the opportunity to*
37 *contribute equally, although not necessarily in the same ways, to curricular or pedagogical*
38 *conceptualisation, decision-making, implementation, investigation, or analysis."* (Cook-
39 Sather, Bovill & Felten, 2014)
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44 As we can see from the results of the evaluation, participants' views indicate that they experience
45 the pedagogical attributes of networked learning in different ways. Some students are less positive
46 than others about some of the characteristics and features of networked learning. Views on learning
47 collaboratively in sets and in communities are however mostly positive. Nevertheless, responses
48 show there are participants who are not so enthusiastic and who apparently still see face-to-face as
49 a preferable option. There have been some well-rehearsed critiques of the potential downsides of
50 community. For example, by Mann (2005) on how the learning environment from a communication
51 and social organisation perspective of the learning and teaching context creates conditions that can
52 lead to experiences of alienation for some.

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55 Blitz (2013) carried out a literature review into the possible benefits and draw-backs of online
56 learning communities. She suggests that there can be many benefits to these new forms of learner
57 support; "Overall, there is good (but not strong) evidence that online communities of teachers can
58 achieve the professional development goals of professional learning communities". However, Blitz
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1 points out that “Across the studies reviewed there were multiple indications that teachers’
2 motivation to engage with their peers and contribute regularly to the group was lower online than
3 face-to-face.” Something we will discuss further in the following section.

4 The purpose of the evaluation was not to compare networked learning with face-to-face, or
5 conventional learning. It was designed to illuminate the experience of learners who had been
6 involved in networked learning for some considerable time – over two years in fact. They were well
7 placed to assess the strengths and weaknesses of networked learning and to consider the potential
8 of this form of learning in higher education contexts. The outcomes of this and other research (eg
9 see Arasaratnam-Smith & Northcote, 2017) has generally been encouraging. Most of the research
10 indicates that when networked learning is designed with care and attention to the meaning of
11 learning in groups and communities, the experience of learners is generally positive and the learning
12 outcomes of a good standard.
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16 The evaluation of the MEd and other networked learning research led the course team to consider
17 ways in which the course design could be changed to be more inclusive and to support better those
18 participants who felt alienated or less than enthusiastic about more participative and community
19 based learning approaches. As already observed it is important to recognise that in any community
20 or group there are issues of power, control and difference, and these cannot be eliminated or
21 designed out. They can however and should be acknowledged and addressed if we want to take full
22 account and embrace the principles of criticality and reflexivity that networked learning aspires to.
23 One of the key factors in achieving this is the approach and support offered by programme tutors
24 and staff. We will discuss their experience of networked learning and working online briefly in the
25 next section.
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29 **The Educators’ Experience of Working Online**

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31 Up to now, our focus has been on student participants and their experience of networked learning
32 designed programmes. Equally important and often less explored is the experience of staff
33 participants, particularly staff new to working on such programmes. The literature that does exist
34 often focuses on staff resistance (Mitchell et al 2015) or lack of interest in becoming involved in
35 online programmes (Redpath 2012). However a review by Englund, et al (2017) of existing research
36 into the successful implementation of any kind of educational technology higher education initiative
37 identified that a critical factor is the competence of teachers to know why, when and how best to
38 implement educational technologies. Other research suggests teachers might be struggling with
39 being squeezed between top down demands by their institutions and bottom up expectations of
40 their students regarding the use of web based blended learning instruction (Benson and Kolsaker,
41 2015 and Hanson, 2009). Preston (2018) however comments, ‘some previous literature in this area
42 has tended to lament academics’ lack of participation in the move to online teaching rather than
43 acknowledging that there may be real concerns for the academics involved.’ (p 266)
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48 Recent work with staff from all the departments at Lancaster University Management School would
49 concur with Preston’s remarks. We found that it was the same principles of a networked learning
50 approach that helped to support staff to develop their confidence and capability to design online
51 learning modules and initiatives. The things that one group of staff claimed to have found during a
52 2/3-year initiative to support and increase the use and adoption of digital pedagogical practices and
53 resources into the School’s learning designs and pedagogy are interesting and complex. They are
54 being written up in a joint paper intended for publication but some of the ideas emerging include, in
55 their own words;
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- That the introduction of an online learning project takes place within a complex and contested political environment. Within the context of higher education such projects take place within the competing organizational and wider political market economy which has become increasingly driven by tables of ranking and consumerist discourses.
- (our) case study suggests that there is a need for academic institutions to ensure the existence of a 'holding environment' (Heifetz and Laurie, 1997: 127) where academics and students alike can 'process and mutually adjust to the changed identities and roles implicit in' (Iszatt-White et al, 2017: 594).
- Particularly in the early days of adoption, a shift to networked learning approaches can highlight an academic's lack of skill with new technologies when compared with their students, thus breaching their 'protective cocoon' (Giddens, 1991: 3) of being an expert knowledge provider.
- Spatial and temporal dimensions of delivery matter, getting used to the online space, being willing to fail requires courage and celebration – otherwise distancing occurs (Ingleton 2000).
- Institutional guardians are of paramount importance in the process to encourage a new social category of digital educators – pushing individuals past the shame nexus into a situation where one let's go.
- Assessment in the online module becomes a continuing and regular activity that is done every week, and not only at the end of the term.
- Students participate in the assessment activities by co-evaluating one other. Thus, instead of a one to one interaction where the instructor assesses each student, the assessment routine incorporated a change in that students peer-evaluated one another.

These and other findings and experiences of this group of staff and others involved in the initiative demonstrate that 'becoming a networked learning educator' (Hodgson et al 2016) is challenging and complex for most academic staff. It requires support and development that as in the case of the MEd described above allows the staff concerned to work as a community, share and cooperate in their learning, and engage in critical and inclusive dialogue.

Networked Learning and Higher Education in General

Since we started running the Networked Learning Conference and researching networked learning in the 1980s/90s, much has changed in the higher education landscape in general, including but also beyond digitisation. Perriton and Reynolds (2018) considering critical pedagogies in the context of critical management education (CME) identify three significant influences on the way such pedagogies have developed. They are the emergence of full tuition fees as part of the marketisation of education along with other public services. Internationalization of the student body, though few studies examine how international students respond to critical content and/or pedagogy and/or the experience of critical educators, in teaching international students. And the reduction in risk-taking, by educators where they claim a visible effect is the reduction of financial and pedagogical risk-taking has seen the homogenisation of management education.

Alongside this, as we have already discussed there is still considerable general skepticism concerning the educational benefit of the use of technology in higher education learning and teaching. To the extent that the vice-principal for internationalisation at the University of Glasgow recently commented:

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“There is much talk of e-learning, and no doubt it has its place, but on the evidence to date it is hardly a substitute for the intellectual encounter that more traditional forms of educational practice entail.” (Conroy, 2018).

While the focus of Perriton and Reynolds is on critical management education, the same influences are relevant to any pedagogical approach such as networked learning that aligns itself with the ideas and values of critical pedagogy. In addition, as they comment they have had the effect of crowding out programmes that appeal to social solidarity, aesthetic gratification and intellectual accomplishment that has traditionally formed critical practice in HE. (Gross and Hogler, 2005)

Similarly, Levinsen and Nielsen (2012) suggested that in the current context of higher education, there are two contrasting meta discourses:

The Economic-Pragmatic discourse: that demands fast, efficient, predictable and controllable productivity; uses instructional system designs with predetermined learning goals, activities, assessments; and where determinism is most likely to dominate. And the *Political-Ethical discourse*: that focuses on the good life and what ought to be done; concentrates on the new educational paradigm inspired by social constructivism; knows that the complexities of learning take time to mature and be recognized; and in which knowledge and identity are linked.

Levinsen and Nielsen indicate that these opposing demands produce a paradox between the political demands of society and the qualitative demands of a learning paradigm, such as networked learning, that asks for self-initiated lifelong learners. “The paradox exposes itself at this level as students who demand instructional teaching, where we stress constructivist and social constructivist approaches” (Levinsen and Nielsen, 2012).

In such a socio-political educational context, the challenges to critical pedagogies and specifically networked learning programmes are becoming more demanding but also, we would argue, more important and significant than ever if we wish to bridge these different discourses and maintain a social justice and equality agenda for higher education. As Giroux commented in Pedagogy of the Precariat chapter in Jandrić (2017), ‘critical pedagogy ought to adjust to the circumstances in which it finds itself’ and the circumstances we know are increasingly socially and materially challenging.

However, Perriton and Reynolds are critical of the way critical management educator (CME) scholars and academics have responded to these emergent challenges. They comment ‘We need to also question the easy assumption that any critical space we create is a ‘clean’ or ‘safe’ space for discussion and encounter (Eliasoph, 2011) while ignoring the permeable boundaries to the exterior world and its inequalities. Critical education may, as Yoon (2005) suggests, be impossible, but it is the impossibility of critical pedagogy that creates the forward momentum as we try and move through one stuck moment after another.’ (Perriton and Reynolds, 2018).

Unlike Perriton and Reynolds, networked learning scholars, as witnessed at NLC 2018, we would suggest, have been quicker than their CME counterparts to take up and examine the issues associated with the complexities of the changing and postdigital landscape of HE. Gallagher(2018) and Lee (2018), for example, both consider the multiple interactional contexts of mobile or networked international students and the resultant multiple and different communities that they have to span and manage during their studies. While Nelson and Parchoma (2018) set out to theorize the spatial-cultural ‘othering’ in networked learning and teaching practices. Ross and Macleod (2018) on the other hand address the increased issue in a low risk HE environment of lack of trust and greater surveillance processes that have followed the advent of digitalisation within HE.

1 These and other networked learning researchers critically address the political, cultural and social
2 realities of higher education while continuing to still develop networked learning theoretically and
3 practically. This is we would suggest is what it means to take a 'postdigital perspective' to education
4 and what it means if networked learning and/or higher education is going to be able to 'assist the
5 current generation in creating a world less infused with the injustices that are evident everywhere
6 that we look' (McLaren, 2015)
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9 **Conclusions**

10 In this paper, we have set out to show how networked learning emerged and developed historically
11 as a critical pedagogical response to the advent and development of new Information and
12 communication technology and ultimately online learning programmes and provision. We have done
13 this by describing and illustrating the theoretical and practical ideas and principles upon which we
14 based our thinking about networked learning. We have then examined and reviewed these ideas
15 and principles in the light of more recent work and research. We believe networked learning by
16 focusing on and not separating pedagogical and socio-material aspects of integrating new
17 technology into learning designs captures and is in keeping with a postdigital attitude and approach.
18 We have not sought to provide or claim we have the answer or a predetermined way to design a
19 networked learning course or programme so much as portray the origins and ongoing critical attitude
20 to the development and practice of networked learning.
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23 As Peters and Besley (2018) point out in this journal, postdigital does not describe a situation,
24 condition or event *after* the digital. It is not a chronological term rather a critical attitude (or
25 philosophy) that inquires into the digital world, examining and critiquing its constitution, its
26 theoretical orientation and its consequence. Networked learning emerged as a critical pedagogical
27 response and attitude to perceived technological determination and set out to develop a more
28 pedagogically driven theory and practice not determined by technology. In terms of not only its
29 theoretical orientation but also its consequences. Network learning researchers have been doing
30 this for over 20 years since the first networked learning conference in 1998. Over that time, the
31 world of education has become, as in other sectors completely digitalised, which makes the
32 continued development of the theory and practice of networked learning as important and relevant
33 now as it was 20 years ago.
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35

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38 *management learning for educational leaders* and was based on input from Debra Ferreday and
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47 **References**

48 Alexander, I. D. and Alexander, F. (2018) Designing an inclusive intercultural online participatory
49 seminar for higher education teachers and professionals. In Bonderup Dohn, N., Cranmer, S.,
50 Sime, J. A., de Laat, M. & Ryberg, T (es) (2018) *Networked learning: Reflections and challenges*.
51 NY: Springer
52

53 Arasaratnam-Smith, L. A., & Northcote, M. (2017). Community in Online Higher Education:
54 Challenges and Opportunities. *Electronic Journal of e-Learning*, 15(2), 188-198.
55
56
57
58
59
60
61
62
63
64
65

- 1 Barczak, G., Lassk, F., & Mulki, J. (2010) Antecedents of Team Creativity: An Examination of Team
2 Emotional Intelligence, Team Trust and Collaborative Culture. *Creativity and Innovation*
3 *Management*. 19(4)
4
5
6 Bates, T. (2018). The 2017 national survey of online learning in Canadian post-secondary education:
7 methodology and results. *International Journal of Educational Technology in Higher Education*,
8 15(1), 29.
9
10 Benson, V., & Kolsaker, A. (2015). Instructor approaches to blended learning: a tale of two business
11 schools. *The International Journal of Management Education*, 13(3), 316-325.
12
13
14 Berge, Z.L. (1995). Facilitating Computer Conferencing: Recommendations From the Field.
15 *Educational Technology*. 35(1) 22-30.
16
17
18 Berger, P. & Luckman, T. (1966). *The social construction of reality*, London, Penguin Books
19
20
21 Bird, L. (2002). Action Learning Sets: the case for running them online. In proceedings of *Networked*
22 *Learning Conference 2002*. Accessed 30th October 2018:
23 <http://www.networkedlearningconference.org.uk/past/nlc2002/proceedings/index.htm>
24
25
26 Blitz, C. L. (2013). Can online learning communities achieve the goals of traditional professional
27 learning communities? What the literature says.(REL 2013–003). Washington, DC: U.S.
28 Department of Education, Institute of Education Sciences, National Center for Education
29 Evaluation and Regional Assistance, Regional Educational Laboratory Mid-Atlantic. Retrieved 22nd
30 October 2018 from <http://ies.ed.gov/ncee/edlabs>
31
32
33 Brookfield S. (1994) Tales from the dark side: a phenomenography of adult critical reflection
34 *International Journal of lifelong Education* 13 (3) 203-16
35
36
37 Brown, J.S., Collins, A. & Duguid, P. (1989). Situated cognition and the culture of learning.
38 *Educational Researcher*, 18, 1, 32-42.
39
40 Carr, W. and Kemmis, S. (1986) *Becoming critical: Education, knowledge and action research*.
41 Brighton: Falmer
42
43
44 Cerf, J. M. (1995). *Guide du tuteur en entreprise*. Foucher, Paris.
45
46
47 Collinson, G., Elbaum., B. Haavind and Tinker, R. (2000). *Facilitating Online Learning: Effective*
48 *Strategies for Moderators*, Madison: Atwood.
49
50
51 Choo, C. W. (1998). *The Knowing Organization: How Organizationse Information to Construct*
52 *Meaning, Create Knowledge, and Make Decisions*. Oxford University Press, Oxford
53
54
55 Conroy, J., *Times Higher Education* October 23 2018
56 <https://www.timeshighereducation.com/news/flipped-classroom-struggles-catch-europe>
57
58
59 Cook, S.D.N. and Brown, J.S. (1999) Bridging Epistemologies: The Generative Dance between
60 Organizational Knowledge and Organizational Knowing. *Organizational Science*, Vol. 10 No 4 pp
61 381-400
62
63
64
65

- 1 Cook-Sather, A., Bovill, C. & Felten, P. (2014) *Engaging Students as Partners in Learning and*
2 *Teaching: A Guide for Faculty*. Jossey-Bass
- 3 Cousin, G, and Deepwell, F (2005) Designs for networked learning; A communities of practice
4 perspective. *Studies in Higher Education* 30, (1) 57-66
- 5
6
7 Dewey, J. (1916). *Democracy and education: An introduction to the philosophy of education (1966*
8 *edn)* . New York: Free Press
- 9
10 Dewey, J. (1938/1991). Logic: The theory of inquiry. In J. A. Boydston (Ed.), *John Dewey: The later*
11 *works, 1925—1953, Vol. 12*. SIU Press, Carbondale, IL. [Originally published in 1938]
- 12
13
14 Ellsworth, E (1989) 'Why Doesn't This Feel Empowering: Working Through the Repressive Myths of
15 Critical Pedagogy'. *Harvard Educational Review* Vol 59, No 3 pp 297-324
- 16
17
18 Elden, M. & Chisholm, R.F. (1993) Emerging varieties of action research. *Human Relations*, 46(2):121-
19 142
- 20
21 Englund, C., Olofsson, A. D., & Price, L. (2017). Teaching with technology in higher education:
22 understanding conceptual change and development in practice. *Higher Education Research &*
23 *Development*, 36(1), 73-87.
- 24
25
26 Eliasoph N (2011) *Making Volunteers: Civic Life after Welfare's End*. Princeton, NJ: Princeton
27 University Press.
- 28
29 Fairclough, N. (2003) *Analysing Discourse: Textual Analysis for Social Research*. London/New York:
30 Routledge
- 31
32
33 Fawn, T. (2018) Postdigital Education in Design and Practice. *Postdigital Science and Education*
34 <https://doi.org/10.1007/s42438-018-0021-8>
- 35
36
37 Ferreday, D., Hodgson, V., & Jones, C. (2006). Dialogue, language and identity: critical issues for
38 networked management learning. *Studies in Continuing Education*, 28(3), 223-239.
- 39
40 Freire, P. (1972). *Pedagogy of the oppressed*. Great Britain: Penguin Education.
- 41
42
43 Gallagher, M. (2018). Amira's complexity and cosmopolitanism: the role of disposition in mobilities
44 and mobile learning'. In *Proceedings of the 10th International Conference on Networked Learning*
45 (pp. 189-196).
- 46
47 Garfinkel, H. (1967). *Studies in ethnomethodology*. Englewood Cliffs, NJ: Prentice Hall.
- 48
49
50 Gergen, K. (1973). Social psychology as history. *Journal of Personality and Social Psychology* Vol.
51 26(2) 309-320
- 52
53
54 Giddens, A. (1991) *Modernity and self-identity. Self and society in the late modern age*. Stanford:
55 Stanford University Press.
- 56
57
58 Giroux, H. (1992). *Border crossings: Cultural workers and the politics of education* . New York:
59 Routledge
- 60
61
62
63
64
65

- 1 Goffman, E. (1959) *The Presentation of Self in Everyday Life*. Doubleday: Garden City, New York.
- 2 Goodyear, P., Banks, S., Hodgson, V., and D. McConnell (2004) “*Advances in Research on Networked*
3 *Learning*”. Dordrecht: Kluwer Academic
- 4
5
6 Gore, J. (2001). Disciplining bodies: on continuity of power relations in pedagogy. In C. Paechter, R.
7 Edwards, R. Harrison & P. Twining (Eds.), *Learning, Space and Identity*. London: Paul Chapman
8 Publishing Ltd.
- 9
10 Gracia-Lorenzo, L. (2006). Networking in Organisations: Developing a Social Practice Perspective for
11 Innovation and Knowledge Sharing in Emerging Work Contexts. *World Futures, 62: 171-192*
- 12
13
14 Gross MA and Hogler R (2005) What the shadow knows: Exploring the hidden dimensions of the
15 consumer metaphor in management education. *Journal of Management Education 29(1): 3–16*.
- 16
17
18 Hanson, J. (2009). Displaced but not replaced: the impact of e-learning on academic identities in
19 higher education. *Teaching in Higher Education, 14(5), 553-564*.
- 20
21 Heifetz, R.A., and Laurie, D.L. (1997) The work of leadership. Harvard Business Review. (January-
22 February 1997: 124-134
- 23
24
25 Heron, J. (1984) Self and peer assessment. In Boydell, T. and Pedler, M. (eds) *Management self-*
26 *development*. London: Gower
- 27
28
29 Hodgson, Vivien, De Laat, Maarten, McConnell, David, and Ryberg, Thomas (2014): Researching
30 Design, Experience and Practice of Networked Learning: An Overview. In V. Hodgson et al. (eds.),
31 *The Design, Experience and Practice of Networked Learning*, pp. 1-26, NY: Springer
- 32
33
34 Hodgson, Vivien, McConnell, David, and Dirckinck-Holmfeld, Lone (2012): The Theory, Practice and
35 Pedagogy of Networked Learning. In L. Dirckinck-Holmfeld et al. (eds.) (2012), *Exploring the*
36 *Theory, Pedagogy and Practice of Networked Learning*, pp. 291-305, NY: Springer.
- 37
38
39 Hodgson, V.E. and Reynolds, M. (2005). Consensus, difference and ‘multiple communities’ in
40 network learning’. *Studies in Higher Education, 30, 1, 9-22*
- 41
42
43 Hodgson, V. E., Watton, E. L., & Ralph, N. D. (2016). A practical action perspective and understanding
44 on becoming a networked learning educator. In *Proceedings of the 9th International Conference*
45 *on Networked Learning* (pp. 405-413).
- 46
47
48 Illich, I. (1977) *Deschooling Society*, Harmondsworth: Penguin
- 49
50
51 Ingleton, C. (2000). Emotion in learning—a neglected dynamic. *Research and Development in Higher*
52 *Education, 22, 86-99*.
- 53
54
55 Iszatt-White, M, Kempster, K and Carroll, B (2017) An educators’ perspective on reflexive pedagogy:
56 identity undoing and issues of power. *Management Learning, 48(5) 582-596*.
- 57
58
59
60
61
62
63
64
65

- 1 Jandrić, P., Knox, J., Besley, T., Ryberg, T., Suoranta, J., & Hayes, S. (2018). Postdigital science and
2 education., *Educational Philosophy and Theory*, 50:10, 893-899, DOI:
3 [10.1080/00131857.2018.1454000](https://doi.org/10.1080/00131857.2018.1454000)
4
5 Jones, C., Dirckinck-Holmfeld, L., and Lindström, B. (2006) A Relational, Indirect, Meso-Level
6 Approach to CSCL Design in the Next Decade. *International Journal of Computer-Supported*
7 *Collaborative Learning*, ijCSCL Vol 1 No 1. Springer.
8
9 Jones, C., and Steeples, C. (2002) Perspectives and issues in networked learning. In Steeples, C, and
10 Jones, C. (2002) *Networked learning: Perspectives and issues*. London: Springer
11
12
13 Keddie, N. (1971). Classroom knowledge. In Young, M.F.D. (Ed.), *Knowledge and Control*. Collier-
14 Macmillan Publishers, London.
15
16 Knowles, M. (1975). *Self-Directed Learning: A Guide for Learners and Teachers*. Englewood Cliffs:
17 Prentice Hall/Cambridge.
18
19
20 Kolb, D. A., Rubin, I. M., & McIntyre, J. M. (1974). *Organizational psychology: A book of readings* (2nd
21 ed.). Englewood Cliffs, NJ: Prentice-Hall
22
23
24 Lave, J. (1988). *Cognition in Practice: Mind, Mathematics and Culture in Everyday Life*. Cambridge
25 University Press, Cambridge
26
27 Lave, J., and Wenger, E. (1991) *Situated learning: Legitimate peripheral participation*. Cambridge:
28 Combridge University Press.
29
30
31 Lee, K. (2018). Everyone already has their community beyond the screen: reconceptualizing online
32 learning and expanding boundaries. *Educational Technology Research and Development*, 66(5),
33 1255-1268.
34
35
36 Leonardo, Z. (2004). Critical social theory and transformative knowledge: The functions of criticism in
37 quality education. *Educational Researcher*, 33(6), 11-18.
38 <http://dx.doi.org/10.3102/0013189X033006011>
39
40
41 Levensen, J.L & Nielsen, O. D. (2012) Problem Oriented Project Studies: The Role of the Teacher as
42 Supervisor for the Study Group in Its Learning Processes. in Dirckinck-Holmfeld, L. Hodgson, V. &
43 McConnell, D. (eds) (2012) *Exploring the Theory, Pedagogy and Practice of Networked Learning*
44 pp. 3-24, NY: Springer.
45
46
47 Mann, S. J. (2008) *Study, power and the university*. Milton Keynes: Open University /Society for
48 Research into Higher Education.
49
50
51 Mann, S. J. (2005). Alienation in the learning environment: a failure of community? *Studies in Higher*
52 *Education*, 30(1), 43-55.
53
54
55 McConnell, D., Hodgson, V., and Dirckinck-Holmfeld, L. (2012): Networked Learning: A Brief History
56 and New Trends. In Dirckinck-Holmfeld, L. Hodgson, V. & McConnell, D. (eds) (2012) *Exploring the*
57 *Theory, Pedagogy and Practice of Networked Learning*, pp. 3-24, NY: Springer.
58
59
60
61
62
63
64
65

- 1
2
3
4
5
6
7
8
9
10
11
12
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45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
- McConnell, D. (2005) Examining the Dynamics of Networked E-learning Groups and Communities. *Studies in Higher Education*, 30(1), 23-40
- McConnell, 1998 Developing Networked Learning Professionals: A Critical Perspective. In Banks, S., Graebner, C., and McConnell, D (editors) (1998) *Networked Lifelong Learning : Innovative Approaches to Education and Training Through the Internet*, University of Sheffield (ISBN 1 899 323 05 1)
- McLaren, P., & Jandrić, P. (2015). The critical challenge of networked learning: Using information technologies in the service of humanity. In *Critical learning in digital networks* (pp. 199-226). Springer, Cham.
- Mercer-Mapstone, L. et al, 2017 A Systematic Literature Review of Students as Partners in Higher Education. *International Journal for Students as Partners*. 1(1), 2017
- Mitchell, L. D., Parlamis, J. D., & Claiborne, S. A. (2015). Overcoming faculty avoidance of online education: from resistance to support to active participation. *Journal of Management Education*, 39(3), 350-371.
- Nielsen, J. L., & Danielsen, O. (2012) Problem oriented project studies: the role of the teacher as supervisor for the study group in its learning processes. In Dirckinck-Holmfeld et al. (eds.) (2012), *Exploring the Theory, Pedagogy and Practice of Networked Learning*. NY: Springer
- Nelson, D., & Parchoma, G. (2018) Toward theorizing spatial-cultural 'othering' in networked learning and teaching practices. In *Proceedings of the 10th International Conference on Networked Learning*
- Pedler, M., (1996) *Action Learning For Managers*, London: Lemos & Crane.
- Pedler, M. (1981) Developing the learning community. In Boydell, T. and Pedler, M. (eds) *Management self-development: concepts and practices*. Aldershot: Gower.
- Perriton, L. and Reedy, P. (2002) Walk on by: anarchist possibilities for the reconceptualisation of the virtual community. In *Proceedings of the Third International Conference on Networked Learning*. <http://www.networkedlearningconference.org.uk/past/nlc2002/proceedings/symp/06.htm#06c>
- Perriton, L., & Reynolds, M. (2018). Critical Management Education in challenging times. *Management Learning*, 1350507618795090.
- Peters, M. A., & Besley, T. (2018). Critical philosophy of the postdigital. *Postdigital Science and Education*, 1-14.
- Polanyi, M. (1966). *The Tacit Dimension*. Gloucester: Peter Smith. (Reprinted:1983).
- Ponti, M. and Hodgson, V. (2006) Networked Management Learning for Managers of Small and Medium Enterprises, In *Proceedings of the Fifth International Conference on Networked Learning 2006*. Lancaster: Lancaster University
- Preston D. (2018) The Move to Online Teaching: A Head of Department's Perspective. In: Baxter J., Callaghan G., McAvoy J. (eds) *Creativity and Critique in Online Learning*. Springer

- 1 Raffaghelli, J.E., & Richieri, C. (2012) A classroom with a view: Networked learning strategies to
2 promote intercultural education. In Dirckinck-Holmfeld et al. (eds.) (2012), *Exploring the Theory,*
3 *Pedagogy and Practice of Networked Learning*, pp., NY: Springer
- 4 Redpath, L. (2012). Confronting the bias against on-line learning in management education.
5 *Academy of Management Learning & Education*, 11(1), 125-140.
- 6
7
8 Revans, R., (1979) 'The nature of action learning', *Management Education and Development*, 10, 3-
9 23.
- 10
11
12 Reynolds, M. and Vince R., (2004). Critical management education and action-based learning:
13 synergies and contradictions. *Academy of Management Learning and Education*, 3, 4, 442-456
14
- 15
16
17 Ross, J., & Macleod, H. (2018) Surveillance,(dis) trust and teaching with plagiarism detection
18 technology. In *Proceedings of the 10th International Conference on Networked Learning*
- 19
20
21 Ryberg and Sinclair, 2016 The relationship between policies, boundaries and research in networked
22 learning. In Ryberg, T., Sinclair, C., Bayne, S., & de Laat, M. (2016) *Research, boundaries and policy*
23 *in networked learning*. Switzerland: Springer
- 24
25
26 Salomon, G. (2000). *E-moderating*. London: Kogan Page.
- 27
28
29 Shotter, J. (1994). *Conversational Realities: Constructing Life through Language*. Sage, London.
- 30
31
32 Tsoukas, H. (1996). The firm as a distributed knowledge system; A constructionist approach.
33 *Strategic Management Journal* 17 (winter special issue), 11-25
- 34
35
36 Whitead, J. (1989) How do we improve research based professionalism in education? A question
37 that includes action research, educational theory and the politics of educational knowledge.
38 *British Educational Research Journal*, 15(1):3-17
- 39
40
41 Willis, P. (1977) *Learning to labour: How working class kids get working class jobs*. Routledge
- 42
43
44 Winter, R. (1989) *Learning from experience: Principles and practice in action research*. London:
45 Falmer.
- 46
47
48 Yoon KH (2005) Affecting the transformative intellectual: Questioning 'noble' sentiments in critical
49 pedagogy and composition. *JAC: A Journal of Rhetoric, Culture, and Politics* 25(4): 717–759
50
51
52
53
54
55
56
57
58
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61
62
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Response to reviewers

We would first like to thank the reviewers for their positive comments on our paper which were much appreciated.

In the attached copy, we have addressed the comments made by reviewer 2 indicating the need for some minor improvements to the paper. We found the comments very constructive and believe they have helped us to better focus the paper and explain why we included the history of networked learning in exploring the bridge between NL and postdigital education. We hope the reviewers agree

We have inserted more specific responses below, within the text of reviewer 2's comments

Comments from and responses to reviewer 2

In any case, here are some comments:

* Although I appreciated and really enjoyed the historical account from a networked learning perspective I am wondering if you could initially make it clearer why this is important in relation to the postdigital. Why go back in time, rather than just discussing recent literature from NL? You do state that the principles are more or less the same, so a devil's advocate question would be why the historical development is important? I am certainly not suggesting it isn't, but I thought this could perhaps become more explicit - and I will also mention it in relation to the next comments

Response; we have tried to address this more at the beginning and throughout the paper by making more specific references to the postdigital literature in particular – see further comments below.

* I think the relations between the postdigital and networked learning could be explored more thoroughly in the article. There are initially a few remarks about postdigital education, and postdigital perspective as congruent with NL emerges later in the paper, however, it is not quite clear what you mean by the postdigital apart from the initial reference "we are no longer in a world where...". I would suggest that you in the discussion/conclusion engage in discussing the postdigital and NL even more carefully. I know the literature on the postdigital might be scant, but then there is the more reason to engage with it, and also there are some recent papers in PDSE that could perhaps be interesting. This could help us all in better grasping with and thinking about how to conceptualise and think of postdigitality; and could unearth some links between current postdigital thinking with the history of NL (also emphasising the relevance of the historical account). Further, in the intro it says you will discuss NL as relevant for postdigital education, and postdigital education is in title, but not something that appears explicitly in the concluding part and discussion. I think this could be elaborated - what is the vision or understanding of postdigital education from a networked learning perspective. How can networked learning help us realise postdigital education, what could it look like etc. I think that could be interesting - using the past experiences also a bridge to the future (and that would perhaps also make it clearer why the historical account is important). I think this to some extent is already there, but could be strengthened.

Response; these are very important comments which we have tried to address by bringing in more of the postdigital education literature and thinking. We have done this not so much to show how NL can help to realise postdigital education perhaps but more to show it is by the way it has developed in parallel with digitalisation a living social and material example of postdigital education and pedagogy.

* The notion of critical pedagogy features quite strongly in the abstract/intro, but then actually disappears as an explicit concept until page 8 - so it is not explicitly picked up in relation to

the principles, but is later stressed as very essential in relation to NL. This mainly being an observation, but perhaps it could also be woven more explicitly in with the principles, and perhaps also later in the concluding part become a stronger bridging concept between the history and development of NL and the current thinking within the postdigital literature (where my feeling is that it also features quite strongly) - so this could perhaps also be a concept that could weave together NL and postdigitality in the concluding/discussing part and in thinking about the future of postdigital education.

Response; we agree that critical pedagogy features quite strongly within the postdigital literature and consequently have made the position of critical pedagogy within NL and postdigital education stronger in the paper in an attempt to show how this does indeed reflect and bridge NL and postdigital education.

* One minor comment: In the section 'Illustrative example of Networked Learning' there are some shifts between past- and present tense - as I wrote in a specific comment: "Here it is written in past tense and as describing something you once did. However, in the text following it is mostly in present tense 'we encourage learners to set aside' - not sure it should be changed, but just wondering since it is a description of a design made some years back?" I have marked up some examples in the attached PDF, where it seems to shift between past/present.

Thanks for pointing this out – we have we hope now addressed this issue in the resubmission! We have in addition sought to address the comments as inserted in the submitted text itself which reflect more specifically the above comments.

TITLE PAGE

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- A concise and informative title;

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