The Metaphor of Patchworking as a Viable Concept in Developing Networked Learning?

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Abstract

This paper sets out to explore the notion of networked learning, through discussing a particular interpretation of networked learning which has emerged over the past years. Initially the paper outlines and discusses the particular definition of networked learning. This definition and understanding is then discussed in relation to a proposed metaphor of understanding learning as a process of patchworking. From this it is argued that learning is located in a flow of activities and that the metaphor of patchworking can enhance the analytic focus on studying such flows of activities by closely inspecting *how* connections to people and resources come to shape the learning process.

Keywords

Networked Learning, Patchworking, Communities of Practice, Collaboration, Flows of activity

Introduction

The aim of this paper is to explore the notion of networked learning and to further develop the theoretical and methodological concepts within this area of research. It does so through introducing the metaphor of patchworking as a way of understanding and investigating learning processes and by discussing how this particular perspective might inform networked learning. The metaphor has emerged from a detailed interactional study of a short, intensive learning process in which eight young people (age 13-16) worked collaboratively with an open-ended problem (Ryberg, 2007). Even though the work process involving the young people spanned a period of almost three months, the majority of their actual work on addressing the problem and creating a final presentation was accomplished within three days of work. Throughout the process the learners were co-located, but their work was heavily mediated by and dependent on ICT in the form of e.g. tablet-PC's, video-cameras, mini-discs, internet access and the use of various software applications. Furthermore, the learners were put in contact with 'experts' and other resource persons, whom they could interview and discuss with – also they were given a 30 minutes lecture by local researchers.

The notion of metaphorically understanding learning as a process of patchworking encompasses for one thing a particular view of learning, but also it suggests specific ways of analytically approaching learning processes. It suggests that we can metaphorically view learning as processes of creating or stitching a patchwork by assembling and continuously reorganising multiple patches and pieces into a 'final' patchwork. Furthermore, it suggests that it is not the 'final patchwork' in and of itself, which should be the object of analysis. Rather, the analytic focus is to investigate how, when and why various 'patches and pieces' (or resources) such as ideas, arguments, pictures or web-texts are stitched together into provisional patchworks, which are combined, reorganised, negotiated and assembled into a 'final' patchwork. For the purpose of this article some of the analytic concepts, methods and theoretical ideas will be discussed in relation to a particular interpretation of networked learning. The discussion will revolve around the view of learning in networked learning and how networked learning provides another perspective than other ideas and fields. Also, the paper will discuss the nature of the case, as the case is different from what is often the object of study within the area of networked learning. In spite of this the paper will argue that the insights gained from the study can feed into and contribute to theory and methodology within the area of networked learning.

Perspectives on and a particular understanding of networked learning

Networked learning in a sense has two different meanings. On the one hand it can be interpreted very broadly as another way of talking about 'online learning' or 'e-learning'. The object of study within networked learning typically concerns studies of or designs for online learning within virtual learning environments (VLEs). Studies usually focus on courses or master programmes within higher or continued education and typically concerns different modes of either blended learning, where the online environments supports and extends, face-to-face activities, or distance education where most, or all of the learning activities, take place through the online learning environments. In this way it can be understood as an umbrella term similar to e-learning or online learning and as encompassing a multiplicity of theoretical, practical and methodological ways of designing for and investigating learning processes taking place in online learning environments.

There are, however, also some theoretical and methodological assumptions associated with the term 'networked learning'. This interpretation has especially come to life through the work represented by groups of researchers associated with The Centre for Studies of Advanced Learning Technology (CSALT) programme at Lancaster University, through collaborations and projects with e.g. researchers from Sheffield University. From these groups and research collaborations the following definition of networked learning has emerged.

> "Networked learning is learning in which information and communications (ICT) is used to promote connections: between one learner and other learners, between learners and tutors; between a learning community and its learning resources" (Goodyear *et al.*, 2004)

This definition of networked learning goes beyond being a term to denote 'online learning' or 'e-learning'. It also encompasses some theoretical assumptions about the notion of learning itself, and how to design for learning. For one thing the definition stresses the connections *between* people and *between* people and resources, meaning that mere access to on-line materials is not a sufficient characteristic to define networked learning (Goodyear, 2001). Equally, the definition points to a certain level of social organisation between learners, tutors and resources i.e. a learning community.

However, many authors within the field of networked learning have criticised notions such as Communities of Practice (CoP) (Lave & Wenger, 1991; Wenger, 1998) and the strong focus on 'collaborative learning' within CSCL. The critique has for one thing concerned implicit assumptions and expectations of harmony, consensus, homogeneity or participation as being ideals for a learning community – an ideal which has been an outcome of many interpretations and practical applications of Communities of Practice theory (Hodgson & Reynolds, 2002; Jones *et al.*, 2006a). The problematic, possibly oppressive or even tyrannical potentials of such implicit assumptions are clearly and forcefully demonstrated by (Ferreday & Hodgson, 2008 (this volume)). Likewise, some authors have voiced a concern that CSCL and the theory of Communities of Practice are focusing too much on exploring and creating networks composed of strong ties and overlooking the value of weak ties between learners (Jones & Esnault, 2004; Jones *et al.*, 2006b; Ryberg & Larsen, 2006). From a social network perspective a CoP can be viewed as a network composed of strong ties and dependencies between the members e.g. a shared repertoire, joint enterprise, mutual engagement. A social network perspective suggests that a too exclusive focus on interdependency and mutuality might be overlooking the learning potential of connections between people and resources unfolding in more weakly tied and structured networks or communities.

Despite the critique of CSCL and CoP theory, proponents of networked learning also argue for learning and knowledge construction processes that are organised around focused and intensive negotiations of problems – as for instance the article of (Zenios & Goodyear, 2008 this volume) exemplifies. Even though learning is not necessarily seen as primarily unfolding through strong collaborative interdependencies, the notions of relations and connections suggest that learning is not confined to the individual mind or the individual learner. Rather, learning and knowledge construction is located in the connections and interactions between learners, teachers and resources, and is seen as emerging from critical dialogues and enquiries. In this sense the definition of networked learning points to an understanding of learning as a social, relational phenomenon and a view of knowledge and identity as constructed through interaction and dialogue. At the same time, one characteristic that has been associated with this particular definition of networked learning is that it does not privilege a particular

pedagogical model or ideal; at least not in terms of uniformly favouring collaboration or unity of purpose in a community of learners (Jones et al., 2006a; Jones et al., 2006b).

One thing, however, seems to be lacking from this particular definition; namely that networked learning (or any formal learning situation), seems also to include a certain orchestration of flows of more or less structured activities. One could argue that master programmes, courses, modules and pedagogical activities always have a more or less defined beginnings, ends, middles, peaks and that they are structured around a certain flow of activities, which is orchestrated and designed.. This is not to argue that learning itself has clear beginnings and ends (far from), but only to point out that connections between the different entities in this definition of networked learning take place in and are shaped by a flow of activities over time. This point will be taken up after the analysis where a small part of a larger set of data is presented and analysed to illustrate the analytic and theoretical ideas of patchworking.

Case description and methodology

The backdrop of the case and the empirical data presented in this paper was an event organised by the 'Power Users of Technology' project. This is a research project formed around the hypothesis that young 'power users of technology' may be learning, working and solving problems in new and innovative ways due to their intensified use of technology. To investigate these hypotheses an event called "Power Users of Information and Communication Technology International Symposium" was designed as an exploratory test-bed for studying young 'power users' and their use of technology[1]. The event took place August 8th to 10th, 2005 in San Juan, Costa Rica. During these days six teams of young 'power users' from different countries worked intensively on addressing some open-ended learning challenges. Each of the teams had chosen a specific problem to work with before and during the symposium, and on the last day they presented their findings to approximately 100 grown-ups attending the event.

Throughout this event the author, in collaboration with other researchers, intensively followed the Nordic (or rather; Danish) team of eight power users. The team consisted of four boys and four girls between the ages of 13-16 years. They worked with the open-ended challenge of 'how to use technology to reduce poverty in the world', and as mentioned the majority of their work was carried out within the time of the symposium. Our research group's overall approach and research design focused on qualitative methods and was an ethnographically inspired open-ended investigation with intensive participatory observations and documentation of their work. The data collected during and after the symposium were: Field notes from the participatory observation; 8 individual interviews and 2 group interviews with the young people; collection of hand-written notes and documents and also we harvested digital notes and documents from the Tablet-PCs they used. Throughout the symposium the vast majority of their work was video-recorded. The major bulk of the empirical data are therefore approximately 20 hours of video. Thus, their work during the symposium was thus quite extensively documented. In the following a brief, narrative account of the entirety of the learning process and a short description of their final presentation will be given.

Description of their work, learning process and final presentation

Even though some work was conducted ahead of the symposium they did not have much to work with from the outset. They had only vague ideas and conceptualisations of poverty and how to address, define and work with their overarching problem. Their work really began in the evening the 7th of August in a room at the hotel, where they started to create interview guides for some expert interviews and it culminated on the 10th of August where they presented their work to the symposium attendees[2]. Most of the time they all worked in a room, kindly provided by Universidad Nacional, but also they went out to interview various resource persons and experts. Furthermore, we had arranged for a small lecture on poverty, which was given by two local researchers. The Nordic Team's final presentation was called 'How to improve a poor society' and the pictures below are from this presentation.

[1] For more information about the Power Users Project and the symposium please refer to: http://powerusers.edc.org/ - For a more thorough discussion of the event and the notion of 'power users' please refer to (Ryberg, 2007), as this will not be further explored or explaind in this paper.

[2] For a more thorough description of the presentation please refer to: http://www.ell.aau.dk/PhD-Thesis-on-Power-Users.429.0.html where one can find an appendix from the author's PhD thesis. This appendix describes their presentation in more detail.

From the pictures one might be able to sense that the presentation was heavily multi-modal and combined many different media and resources. On one of two projector screens a slideshow with looping pictures of 'poor people' was displayed, while they used the other screen for their main PowerPoint presentation. Their presentation was composed of multiple media and resources, such as: music, pictures, a self-made cartoon-like animation, small video clips from the interviews (some of them subtitled) and also different graphs with statistical information about poverty, which was accompanied by their oral presentations. The many resources, ideas and arguments came from various sources. Some of the graphs used in their own presentation came from the PowerPoint presentation used by the local researchers in a lecture; facts and information came from various web pages and books. Ideas and arguments came from the interviews and informal conversations. The four different interviews they conducted were all recorded on video. They were then edited and made into small clips, which were used as part of the presentation. Pictures of poor people were found through image search on the web, while the graphics in the animation were hand-drawn and animated in PowerPoint. The music used was carried on their computers from home.

In this way the entire presentation was a 'patchwork' of many different resources and media which were assembled to convey their conceptualisation of poverty, and how to address this problem. But also the presentation was a conceptual patchwork that drew on information, facts, discussions and ideas from many different sources. The presentation outlined an overall argumentation focusing on 'taxes' and 'education', but also many other issues were drawn in as causes of or solutions to poverty: Corruption, lack of secondary education, Intel Clubhouses as an opportunity for young people to gain a new perspective on life. Also, more broadly, education was presented as a mean to provide civic engagement. While it is difficult to convey in full the complexity of their arguments, the presentation and the whole process, the next section aims at illustrating this through analysing a smaller part of the whole.

Analytic concepts and analysis of patchworking processes

As more thoroughly argued in (Ryberg, 2007) their final presentation was both a very complex and impressive assemblage of different media, means as well as arguments and lines of reasoning. However, a central point of the entire study and this paper is that the analysis should not be limited to a product, its multimodality or the final assemblage of various resources or 'patches and pieces'. Rather, it is the process through which these resources are assembled, negotiated and produced that we critically need to engage with. In this particular case the young people foraged quite a number of different resources from both the web and also from e.g. the PowerPoint show of the researchers, who gave them the lecture on poverty. Some of the slides that the researchers used in their lecture were incorporated and used as part of the young people's own presentation (as were two other slides and similar resources e.g. clips from the interviews). From such an example a critical question becomes whether the slides were just copy-pasted or whether they were creatively and critically re-appropriated. This also opens an analytic pathway into looking at how particular resources, arguments and lines of reasoning (that were enabled through the connections established to people and resources) were embedded into the flow of activities, transformed and made part of their patchwork. In the subsequent analysis this example will be taken up by following the 'itinerary' of the slides and how they were stitched and negotiated into their patchwork. First, however, some of the analytic concepts through which such processes can be analysed will be briefly presented.

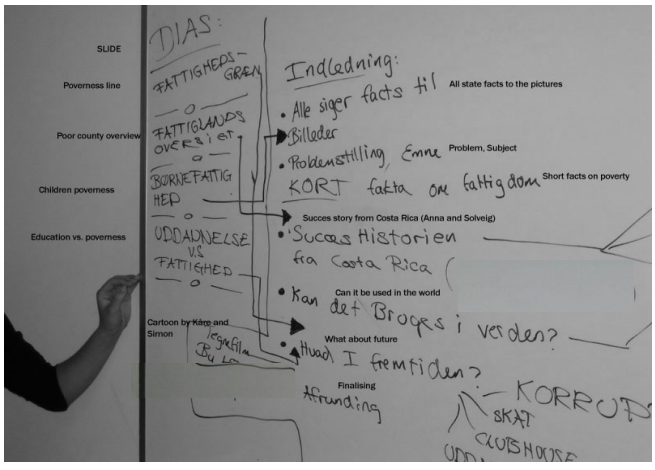
One such concept is threads, which are employed in the analysis to point to some 'organising principles' or 'persistent ideas' in their work. Prominent threads were for an example the problem formulation (their research question) or that of the presentation. The concept of threads also refers to some prominent ideas that were prevalent throughout their work. For instance, "education" was seen by them as an important factor in decreasing poverty. This was a prevalent idea or hypothesis around which their enquiries circled throughout the process. But the hypothesis developed from a more general 'education is good' towards 'education can be statistically shown to have a major impact on poverty and is a key condition for civic

engagement and democratic participation in a society'. Threads are thus 'persistent ideas' around which 'patches and pieces' such as ideas, interpretations, arguments, information, facts or digital files start to cluster and form provisional 'patchworks'. As the process progressed they developed an increasingly refined sense of the relations between their different ideas, hypotheses and their overall problem. This can be seen as the gradual development of a 'conceptual blueprint' for their overall patchwork. Furthermore, an analytic entrance point is to look at different moments or cycles in the flow of the activities where this conceptual blueprint is stabilised or destabilised – with the latter leading to moments where patchworks at different levels of scale are unravelled, inspected and rewoven.

The itinerary of slides – the development and reweaving of patchworks

On the 9th of August they were given a lecture entitled 'Balance of Millennium Goals in Central American Countries'. Quickly after the lecture the young people asked if they could have the PowerPoint slides, which they transferred to a USB-pen and distributed to all of their four TabletPCs. This is a good example of how they were always very focused on collecting, piling and sharing different 'patches and pieces'. They saved a copy of the slideshow and one of them started to re-order the slideshow by putting the most interesting slides first and deleting others; often he was joined in this work by some of the others. In the selection and re-ordering of the slides they oriented to and negotiated the slides in relation to some the primary threads and their provisional 'conceptual blueprint'. The prominent threads represented causes of or solutions to poverty and revolved around 'taxes', 'education' and 'jobs'. These threads emerged initially as part of a small-group discussion on the first night of work, where a sub-group of four people created questions for the expert interviews (as did the others in groups of two). In the document they created these three topics structured their different questions. The next day, during a longer discussion and brainstorm, the three 'categories' were reified as a shared representation for the whole group on a whiteboard. The threads then functioned as organising principles for their enquiries and represented persistent ideas or hypotheses of causes and solutions to poverty. The conceptual blueprint acted as an ephemeral and continuously negotiated blueprint of the relations between causes, solutions, ideas, hypotheses and arguments. In this way it represented an unstable model of what their final argument and presentation should revolve around and address. Whether, a particular slide was relevant or not was negotiated and aligned with this emerging and continuously developing conceptual blueprint.

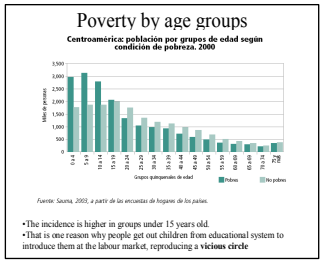
The work done in this example was typical for moments or cycles of stabilisation. During these cycles different 'patches and pieces' were foraged, discussed, altered and negotiated in relation to the threads and the conceptual blueprint. Thereby they created small, provisional patchworks of resources, ideas and arguments. In the example above this is represented by the ordering, prioritisation, sorting, negotiation of and re-organisation of the different slides. Such little patchworks would then be discussed as a large group and related to the work and ideas of the others.



This is what we shall see a small example of in the following. During the afternoon on the 9th of August they were engaged in a longer discussion regarding the structure and content of their presentation. In the picture we see an overview of the whiteboard as it looked shortly after the end of this particular excerpt. On the left side of the board there is a list of 'topics' which represented slides from the researchers' slideshow (DIAS). These were then negotiated and 'placed' into the structure of the presentation outline through the use of the arrows. In this way the whiteboard acted as an unstable representation where they reified the concepts, ideas and content for what came up during their discussions. The whiteboard, however, was used in a much more active way. It was not only used to reify, but to dynamically negotiate the content and structure of the presentation, as well as their overarching line of argumentation. Through the discussions and use of the whiteboard, the presentation itself was coming into being as they were

dynamically constructing the conceptual blueprint and the line of reasoning. In the small excerpt, which was part of a much longer discussion (1½ hours), Neil who was the one adapting the slideshow, introduces a slide about 'poverty by age group', showing that children are the most poor.

Excerpt from Tuesday the 9th of August 2005 – discussion in the afternoon



Neil: (0.5) yeah then we the one that says ehm (1.0) that it is more the young (1.0) ehm children that become poor (1.5)
Jasper: what?
Neil: ehm it is the children-
Samuel: it- but it's
Neil: that become-
Sophia: child-poorness
Neil: children below fifteen years are the most poor
Jasper: should we bother using that?
Samuel: that is that- it it is those who live at home and can't really make any money
Jasper: should we use that?
Neil: yes, precisely
Samuel: so- and it is the poor families who have the most children
Laura: yes
Sophia: yes
Angie: that is because we must teach them something about protection (*TR: contraceptives*)
Jasper: should we use that or what?
Sophia: no we want- we want to have children as ehm savings or whatever we want
Laura: as pension

Immediately after this introduction, Samuel starts to explain the graph. Here Samuel draws on earlier conversations on the topic, and the researchers' interpretations of the slides. Sophia initially contests the use of the slide and says they 'want to have children as savings'; or 'pension' as Laura follows up. This sounds rather odd, but originates in a wish of positioning the young population as resources, rather than a burden or problem. Both Laura and Sophia point out that they do not know 'what it should appear under' or' what they should use it for'. This is both a way of expressing that they are not sure where in the presentation outline this would fit in. However, it is also a way of expressing that they do not see it as having a relation to the overarching arguments of their presentation, or directly feeding into the threads on either education or taxes. A little later in the conversation they agree that the slide may be used in relation to what they call 'facts to pictures' which downplays the importance of the slide. This is because it makes quite a difference where a particular slide is placed in the 'order of the presentation'. Moving a slide to a different place simultaneously changes its argumentative weight. At this point in time the categories 'facts to pictures' or 'short facts about poorness' were envisioned as some rhetorical, oratory statements to highlight the importance of dealing with poverty. In contrast, 'the success story of Costa Rica' was seen as a point in the presentation where they would unfold in more detail causes of and solutions to poverty through more elaborated argumentation.

From the example we can see a glimpse of how these small 'patches and pieces' are negotiated, discussed, contrasted and aligned with the threads and the conceptual blueprints (the slide discussed in the excerpt was later completely removed from their line of argumentation). This also tells us that the resources were not uncritically stitched into the larger patchwork of their presentation. Rather, the larger patchwork was negotiated, unravelled, inspected and rewoven, as these different 'patches and pieces' entered the discussions. The slides were not treated as mere 'facts', but entered the discussions as, or were transformed into, argumentative resources. Furthermore, it is worth noting that these resources or 'patches and pieces' were not only 'digital artefacts'. In the example, we also see how arguments, lines of reasoning and explanations (coming from e.g. the researchers' lecture) become resources, as illustrated through Samuel's reiteration of why young people are the most poor.

Concluding discussion

After having presented a glimpse of understanding learning as a process of patchworking through the analysis these ideas will now be more intimately discussed in relation to the particular definition of networked learning. First, however, it seems in order to discuss the case in relation the predominant domain of enquiry within networked learning. As mentioned, networked learning is often used as synonymous with 'online learning' and usually the points of analysis and discussion revolve around learning unfolding in online learning environments; or how to design for learning in online environments. Furthermore, studies usually concern learning within higher or continued education. Arguably, the case presented in this article is somewhat different from this. First of all the learning process was not part of a formal course or within higher education (or the educational system at all). Secondly, the case does not represent what is usually understood as blended learning or distance education. While the interaction and communication between the young people was heavily mediated by ICT it was not in the form of e.g. asynchronous or synchronous tools. A critical question would not only be, "where is the learning networked learning", but where is the networked learning in this paper?

In relation to this, and as already discussed, an important concept in the particular interpretation of 'networked learning' is the notion of promoting connections – both between learners, between learners and teachers, but also connecting people with 'resources'. In this case the young people were not only given access to a wide range of resources i.e. content, digital media and tools for transforming these. Equally, we promoted connections between them and resource persons, which gave them access to interact with various people and networks of knowledge represented by these resource persons. These connections to both people and resource were very important in their learning process.

However, the argument of this paper is that the learning is not only located in the 'connections' or 'interactions' between the entities. Rather, it is located in a flow of activities. An important part of metaphorically understanding learning as a process of patchworking, is the analytic focus on studying such flows of activities and closely inspecting *how* connections to other people and resources come to shape and form the learning process and the knowledge construction. Even though the learning process described in this case was not primarily mediated through (a)synchronous tools or online environments it is worth noting how the different digital resources became an intimate part of their learning process. These were mediating their interactions through being shared representations or 'patches and pieces' to manipulate, negotiate and alter. Thus, the digital resources were important parts of the processes of reweaving their conceptual blueprint and constructing the smaller and larger patchworks. The resources which entered the flows of activity were not only 'digital objects'. In the analysis we saw also glimpses of how arguments, lines of reasoning and explanations, which were drawn from e.g. the interviews and interactions with the interviewees, became resources in their discussions. In fact, the case shows that the 'boundaries' between digital and non-digital were fleeting and mutable. Ideas may have come from a conversation, but would then be reified in a document with a certain structure, which would shape their enquiry. The ideas would then evolve and sharpen through the oral discourse of an expert interview, which would be digitised. These digitised resources would again enter discussions of what excerpts should be used, 'where' to place them in a presentation and 'what' the argument or 'meaning' of such a piece would be. They would then be further edited, negotiated and transformed into small video-clips, which were embedded as part of the presentation and appeared as part of a line of reasoning. Such processes are what is meant by flows of activity; and it is in such flows the 'connections' and 'interactions' are enacted and become part of the learning process and construction of knowledge.

Arguably, there are differences between studying co-located work drawing on video-data and then studying online synchronous or asynchronous dialogues. The case or analysis does not necessarily transfer unproblematically into understanding flows of activity in online learning environments; on the other hand it is worth noting that a prevalent argument within CSCL and networked learning is the advantage of studying settings in which learning is observably embedded in e.g. online dialogues (Koschmann, 2001; Stahl, 2006). Though, this paper and the metaphor of patchworking may not readily lend itself to studies of online networked learning environments, it does represent a particular perspective on how to understand and analyse learning processes and knowledge construction.

The metaphor of understanding learning as a process of patchworking is a perspective that foregrounds the constructive and productive aspects of learning processes, through analysing flows of activity. The metaphor suggests an analytical focus on how resources of a widely different fabric are assembled into provisional patchworks of different scale. It suggests an analytic focus on how various resources are aligned, contrasted and negotiated in relation to an emerging and developing conceptual blueprint, which is continuously re-woven and negotiated. In this sense the final product is not the primary object of analysis. Rather the aim is to study the processes of patchworking through analysing how 'connections' and 'resources' are dynamically transformed and negotiated in an ongoing flow of activities and how they become part of the fabric of the learning process and knowledge construction.

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