The emergence of participatory learning: authenticity, serendipity and creative playfulness

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Abstract

This thesis is my reflection about my experiences of researching a participatory culture. It began as a traditional research project into peer learning, evolved into a type of participatory research, and has ended up going beyond that as I found myself writing myself into the story and including autoethnographical elements in the final version. The subject of this research is an open, online community called CLMOOC (Connected Learning Massive Open Online Collaboration), which I have belonged to for the last six years, and my focus is to investigate how learning can occur in a participatory culture such as CLMOOC and how, it its turn, a vibrant learning community can emerge from a summer CPD course and become a self-sustaining entity.

I use the literature about connected learning, constructionism and participatory cultures in order to understand the theoretical framework that CLMOOC is built on, and use socio-cultural models of Community of Practice (CoP) and affinity spaces in order to understand its structure. Ultimately, I reject both of these as being problematic, though I conclude that the construct of an affinity space is in many ways a better fit. I consider the design of the original MOOC by looking at the literature from the original designers and show how their clever design overcomes many of the issues with other open learning spaces (such as MOOCs) and how the structures they put in place allow a tightly-connected participatory culture to emerge and thrive.

I use a variety of methods in order to investigate CLMOOC. Social Network Analysis helps me to analyse the tight-knit community and thematic analyses highlight the beliefs and values that members share. As my thesis is that CLMOOC is a culture of participatory *learning*, I also set out a series of vignettes to ascertain what the practices are in CLMOOC, and to see how they align with the beliefs and values of the community. I conclude that CLMOOC is, indeed, a participatory culture based on the principles of connected learning, and its practices can be understood as being remix and bricolage. I close by presenting a series of reflective questions for educators who are interested in developing meaningful learning experiences for students in higher education, and offering some tentative suggestions for implementation.


emergence
learning
participatory
creative
authenticity
serendipity
playfulness

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Dedication

To CLMOOC, and all the lurkers.

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Huge thanks to my supervisor, Fiona Patrick, for believing in me even when I didn't believe in myself.

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And to my loyal little research assistant, Lacey the parrot cat, for reminding me that there are things more important than sitting in front of a computer screen.

Declaration

I declare that, except where explicit reference is made to the contribution of others, that this dissertation is the result of my own work and has not been submitted for any other degree at the University of Glasgow or any other institution.

Printed Name: Sarah L. Honeychurch

Signature:

Definitions

Strictly speaking, these are not definitions, but interpretations. These are the concepts from Deleuze and Guattari that inspire my thinking and underpin my worldview, whether or not I explicitly acknowledge them in this thesis.

Arborescence

> We're tired of trees. We should stop believing in trees, roots, and radicles. They've made us suffer too much. All of arborescent culture is founded on them, from biology to linguistics. Nothing is beautiful or loving or political aside from underground stems and aerial roots, adventitious growths and rhizomes.
>
> *A Thousand Plateaus*, p.15

The concepts of arborescence and the rhizome have probably influenced my thinking (or helped me to understand what I think) more than any other writing. These have nothing to do with actual trees – Deleuze and Guattari are not poor biologists – they represent two different ways of organising, or of justifying, power and control. On the one hand there are 'official' structures: state institutions, experts, the idea that knowledge is power to be controlled. All of these are arborescent. On the other hand there are the 'unofficial' structures: grass roots organising, indy music, DIY cultures, the idea that knowledge should be freely shared. All of these are rhizomatic. Official structures tend to be top-down hierarchies such as truth trees and Plato's Forms (foundational theories of knowledge); unofficial ones tend to be bottom-up structures such as webs and coherentist theories of knowledge. Arborescent structures only allow knowledge to flow through approved channels in pre-approved ways. Rhizomatic structures allow for serendipitous emergence of knowledge, and thus learning between nodes is possible, there are no prearranged hierarchies.

Along with the contrast between arborescence and rhizomes is the distinction between two types of space: smooth and striated (furrowed). The (Nomad) War Machine lives in smooth space, the State's space is striated. In striated spaced people can only move in certain ways – they are limited to certain pathways they can use – like arborescent knowledge structures. The State sets out

arborescent structures with striated pathways. Royal Science is State approved and arborescent - there are no surprises in this model. Nomads, by contrast, live in smooth, rhizomatic spaces – they can move in any direction that they want and connect up with any other node in the network. Of course, these are not real nomads, they are philosophical concepts.

The contrast, throughout A Thousand Plateaus, is between the official and unofficial ways of organisation. I see this as being the same as the distinction I will show later between two types of MOOC – the institutional and the educator (grass roots) led. These are useful dichotomies to help us understand concepts. Arborescent structures are safe, secure and predictable. You can set them up and leave them to it without worrying. Rhizomatic structures are subterranean and unpredictable. You do not know how or when they will emerge, and they are hard to irradicate.

Lines of Flight

In the original French, these are called 'lignes de fuite', which is a play on words with the French for vanishing point (point de fuite). I understand this as referring to a change in perspective, the moment when change happens, when a threshold between two paradigms is crossed. Lines of flight are oriented *away* from the mainstream not *against* it. This is how remix happens – by a change of perspective of some sort. Remix is the practice of altering a piece of media not by merely copying it, but by altering its meaning in some way. There is no simple characteristic or set of characteristics of remix, but it is not just an edit (shortening) or a copy. A remix is an interpretation that helps the audience to understand the original. See Chapter Seven for a fuller discussion.

Maps

> Make a map, not a tracing … A map has multiple entryways, as opposed to the tracing, which always comes back "to the same." "The map has to do with performance, whereas the tracing always involves an alleged "competence."
>
> *A Thousand Plateaus,* pp.12-13

A map is a representation, or interpretation, that helps the reader to understand the original. A tracing is not original, it is an attempt at an exact copy. The subway map, for example, is not a faithful representation, but it is a useful map. I understand remix as a mapping, and not a tracing.

Rhizome

> A rhizome has no beginning or end; it is always in the middle, between things, interbeing, intermezzo. The tree is filiation, but the rhizome is alliance, uniquely alliance. The tree imposes the verb "to be," but the fabric of the rhizome is the conjunction, "and. . . and.. . and. . ."
>
> *A Thousand Plateaus*, p.25

The structure of a rhizome is the opposite of an arborescent hierarchy. In a rhizome, any point can be connected to another point. This model is compatible with coherentist theories of knowledge, and connectivist theories of learning.

War Machine

The war machine has nothing to do with war or with machines: it is a line of flight from the State, and an alternative to the rigid hierarchy of the state. DIY Culture, indy music, grass roots activism are all examples of war machines.

My name on social media (Nomad War Machine) is derived from this.

Section One: Setting the Scene

Introduction

Biting my truant pen, beating myself for spite,

"Fool," said my Muse to me, "look in thy heart, and write."

Sir Philip Sidney

Putting pen to paper is a leap of faith. I dithered about what tone I should use, what style will be acceptable, whether my overall approach is sufficiently academic and rigorous. I second guessed my readership and decided, without giving them a chance to speak, that my writing will be deemed to not have enough gravitas, to be too conversational in tone, to be too anecdotal. But because the purpose of this research is to understand how learning can occur in a participatory culture, it is necessary to provide as rich a description of that practice as possible, and that means that I must use that practice as I write this thesis. At the centre of all of my research and practice is a belief in the need to be as authentic as possible, and to model in this thesis the values of the participatory culture that is the subject of this research. The community that I am writing about, and that I belong to, is called CLMOOC. We are a community of educators who practice in the open, share our work in progress and ask for feedback on our unfinished work - and that willingness to share imperfect artefacts is one of the most important aspects of that practice. In a very deep sense this is authentic practice: it is open, it is honest, it is vulnerable. Authenticity underpins everything we do. How, then, could I write anything about this in a mode that is not also open, accessible and authentic? For these reasons I decided to approach this thesis by using participatory methods. As my own place in the community and in the research became more central, I decided, ultimately, to write it up as an autoethnography.

I also chose to include autoethnographical elements into the final version of this thesis so I could include my own learner journey in the conversation as well as my researcher journey. The main inspiration that I take from autoethnography is this: this thesis is a personal story – it is part autobiography and part empirical research (Ellis and Bochner, 2010). But it is more than *just* my story, it is also my interpretation of my empirical research: I use my own experiences in order to paint a picture of my research community. As Carolyn Ellis and Arthur Bochner say, an autoethnography "seeks to describe and systematically analyse personal

experience in order to understand cultural experience" (Ellis and Bochner, 2010, n.p.). I am using my story in order to introduce you to a rich pedagogical theory and practice - I am not merely telling you an interesting anecdote, I am telling you an interesting and relevant story about an exciting way of learning.

In telling you about my research I do not pretend to be objective or assume that I can be a neutral observer. Autoethnography makes a virtue of the intimate relationship between a researcher and their research and highlights the fact that no researcher can be neutral. Ultimately all research is personal because it involves the researcher making choices and autoethnographical approaches are explicit about this. A researcher always chooses which data to use, which methodology to implement, which results to highlight. Autoethnography highlights the selection of data in a reflective way that 'objective' studies do not and lays the process open for inspection and analysis. Objectivity is not possible and neither is it necessary. It is an impossible standard that no educational research can attain. Autoethnography embraces the researcher's subjectivity instead of concealing it – and so the main criticism of the method (that it is subjective) is also what I consider to be its greatest strength. Autoethnography is honest and it is authentic – it allows me to tell my story as I see it – and although a story told is never the same as a story heard, this does not make my story any less worthwhile (Denzin, 2014). Ellis tells us that autoethnography takes the personal and connects it to the cultural and the social; feminism reminds us that the personal is always political; Durkheim, Williams and Jenkins observe that the cultural is also personal (Ellis, 2004; Hanish, 1970; Durkheim, 1995; Williams, 2014; Jenkins, Ito and boyd, 2016). One of my aims in this thesis is to take my story and show how it might be used in order to change the culture in higher education so that it also incorporates the personal.

This means that my thesis needed to be told in my own voice, and this was surprisingly difficult to do. As a philosopher, I am used to writing in the first person – as we are often (somewhat pompously) told it is *people*, not *papers*, that make arguments, but there is still a formality of style and (often) a combative tone. Philosophers *argue* for their position and *refute* the arguments of their opponents. Aristophanes parodies all of this in *The Clouds*, and there is some truth in this parody (Aristophanes, 1973). This was not a style that I wanted to use for this research. In order to write up this thesis I needed to unlearn my formal,

analytic style of writing and find my own, authentic voice – this is my story, and it needs to be written in my own tone of voice.

My style of writing might appear casual to you; it might even appear unfinished. It might seem as if I am being lazy in using this language and this narrative, conversational style, but it is *hard* to write in this manner for any prolonged period of time because it has become so unfamiliar for me, used as I am to writing for academia, to write in an authentic tone. And, in one sense, of course, my research is unfinished – as a piece of research it is ongoing because I have not yet finished investigating and understanding the concepts and practices I describe in these pages – this type of learning does not end with a publication. We often think of a PhD as a finished body of work, and the language that we use to describe the stages of PhD research encourages this: as I type this section I am in what used to be called a 'write-up' year – a year tacked onto the end in order to allow me to pull together the results of eight years of part time study into a coherent story. But that's not the way I learn – I do not first understand something and second sit down to type it out neatly and explain it to others - I write to learn what I think as well as to share my thinking with others. I write in order to understand what I want to say and my writing is part of my learning journey, so this thesis is as much process as it is product. Rather than tidying all of my thinking processes away, I have tried to uncover them for you.

As I struggled to find my voice and articulate my thoughts, a friend from my community suggested that I look at Laurel Richardson's writings, and sent me some suggestions. I had no time to read, no time to change my methodology, no time to reframe this research – I felt under pressure to have this thesis submitted so that I could take back my evenings and weekends and relax. Yet, as I read her words, I knew that I had found the approach that I needed. Richardson suggests that writing can itself be a method of enquiry: that as well as telling you what I think, I can write to find out for myself what I think:

> Writing is also a way of "knowing" – a method of discovery and analysis. By writing in different ways, we discover new aspects of our topic and our relationship to it. Form and content are inseparable. (Richardson, 2000, p. 923)

I have another reason for using this style of writing: I want to share with you the sense of excitement and amazement that I felt as I discovered this world of connected learning and realised that learning could be serious fun. I write to take you through the sense of wonder that I felt as I realised that the serendipitous learning that I was experiencing was not a random occurrence, but something that was, in an important sense, designed.

I emphasised above the need for authenticity. As a practitioner who works out in the open, sharing my work publicly over Twitter and on my blog, I have spent a considerable amount of time thinking about how I want to present myself. I began this research tentatively, without knowing what methodology I needed. Alongside my 'formal' PhD research, I began writing with friends I met in the open, and together we grappled with issues of ownership, authorship, and membership; of equity, diversity and authority. Some of these friends are also members of the particular community I write about in this thesis. As time progressed, the methods that I was using for my collaborations became the ones that it was natural for me to adopt in my PhD research, and it became important to me that it would be legible to non-academics, and not to hide behind jargon and "ten-dollar" words. (Ghodzee, 2016)

I chose this narrative style for a third reason. Richardson describes her disappointment, as a reader of qualitative research, at the way that many qualitative studies are written up. Like me, she believes that qualitative research should draw you in, that it should be a rich story that fascinates readers so that they get sucked into the story and cannot stop turning the pages. Richardson tells us that she finds a lot of qualitative research disappointingly boring because it is "chronically" passive, and that when qualitative research tries to be neutral, passive, "objective", it becomes sterile and loses its vitality. She pleads with qualitative researchers to walk our readers through our journey and bring it alive for others - to show the researcher as active in the story and show why we took each step (Richardson, 2000). I hope that I do not bore you, and that you enjoy hearing about my journey from participant, to facilitator, to researcher; from digitally hopeful to digitally confident, as much as I have enjoyed writing it.

I have kept my discussion light on philosophy as I have not wanted to interrupt the flow of the conversation, or to change it to the cut and thrust of philosophical debate, but you will have noticed that I am a philosopher by training

and, in particular, you will have noticed that the aphorisms I chose to frame each chapter are mainly from philosophers. I have thought long and hard about whether to include a discussion of the concepts that have most influenced me, because this is a PhD in Education, not in Philosophy. However, two voices have echoed in my head as I have played with the concepts in this thesis – those of Ludwig Wittgenstein and Gilles Deleuze. Both of these writers are non-traditional philosophers who care more about the creation of ideas in others than in the attribution of their thoughts; about what others are inspired to think rather than what they might have meant. On reflection, I realise that this thesis is a hybrid in many ways – and that rather than trying to unlearn all of my philosophical skills I should celebrate my interdisciplinarity. This also means that you will not find all of the elements that you might expect of a traditional thesis in Social Sciences.

This thesis is not a traditional PhD. It contains some elements you might not expect and omits others that you might assume. As with all of my writing, this is intentional. The thesis is structured into three sections. Section One sets the scene for the thesis. The Introduction sets out my methodology and research questions. Chapter One is my research context. In this chapter I explain the background to this research and describe the community that is the focus of this thesis. In Chapter Two I discuss the body of work that has motivated me to write this thesis. This is not written in the form of a 'traditional' literature review – due to the iterative nature of my practice and my wish to keep this relevant, I have only included the topics and works that have most influenced me in my understanding of online learning and in my research for this thesis– the writing that I constantly refer back to and recommend to others. With this in mind, I have called it 'Inspirations'. Chapter Three looks at the socio-cultural literature relevant to this thesis.

Section Two (Investigation and Interpretation) is where you will find my combined methods and findings. I begin by looking at the ethical issues of conducting research on an open, online community. I made the decision to make this a separate chapter, rather than incorporating it into my methodology, because it is an important topic for me – partly because of my training as an academic philosopher, and because of my ethical beliefs. I spend time in this chapter teasing out the values that are of importance to me and my community and explain how these issues shaped my research and continue to motivate me in my online

interactions. I end by describing my methods of data collection. I do not have a separate methodology chapter. Due to the iterative nature of my research, it is virtually impossible to explain my choice of methods without at the same time describing the data analysis and so I describe each as I go along. In Chapters Five to Seven, as I set out my findings, I also talk through the various methods that I have used in order to understand this community – both quantitative and qualitative - and my move from conceiving of myself as an 'objective' researcher, through to conducting participatory research, before deciding to use an autoethnographical framework in order to make sense of it all, and finding a narrative style that is authentic. It is here that I walk you through my researcher journey. I use a method of situated recall in order to bring alive for you the excitement that I felt, and still feel, about finding CLMOOC and working out how best to explain it to others. First, I look at CLMOOC through the lens of community, asking what it looks like and who is there; then through the lens of principles, asking what this community believes and values; and, finally, by looking at what we do, by seeing which practices we participate in and what these tell us about the community. In the final chapter of this section, I give some answers to my research questions. I frame all of this around the key concepts of my thesis: emergence, authenticity, serendipity and creative playfulness.

My third, and final, section is called Consolidation. In this section, I reflect on my researcher journey and try to articulate how I have grown as a result of this process – I give myself permission to consider myself as an expert in my field. In the rest of this section, I try to think about what it would be to put into practice what I have learnt and move beyond my work of informal learning. Rather than just making suggestions about how to harness the power of connected learning and participatory culture into higher education learning, I shape this around some reflective questions aimed at higher education educators, and give some suggestions for generating authentic learning designs that others can adapt and adopt.

Research Questions

There are two questions that any PhD researcher dreads: the first is from the well-meaning conversationalist who asks what your PhD is about. I learnt, late in my journey, that there was no 'one size fits all' answer to this question, and

that my answer should reflect what the interlocuter would engage with from my research, rather than being a summary of it all. The second question that I dreaded, and still dread, is the question of what my research questions are – because the answer is, that I have so many. Ultimately, I realised that I needed to know what I was looking at before I could ask the questions that would give me helpful answers.

As with any piece of research, especially one that is sustained over a long period of time, my research interests and focus have evolved, although my main research area has remained broadly the same. However, in the case of this PhD, my early research was shaped and altered by a series of events that led to me losing both of my original supervisors, one after the other. This allowed me space to reflect on where my research was going, and where I would like it to go, and this led to my decision to use CLMOOC as a research topic.

I think that one shift is particularly worth noting. I began this journey with the intention of conducting empirical observations of peer interaction between face-to-face groups of undergraduates and write up a fairly traditional PhD about Vygotskian social constructivism and the importance of active learning. I began with a thin picture of behaviour as interaction: wondering how individuals learn with and from their peers and thinking about discrete situations (individuals, courses). I have ended with a thick description of practices and spaces (Ryle, 2009): investigating the necessary and sufficient conditions for learning communities to emerge and flourish in a participatory culture, looking at how to develop and support practices and structures to develop and support whole life learning, and attempting to write up a thesis that explains how open, online participatory cultures support and enhance authentic and serendipitous learning. All this became possible because I refocussed my research to explore my community, CLMOOC.

My first thesis title was so dire that I have expunged it from my memory. My second thesis title was ‘underexplored issues determining the effectiveness for learning of peer interaction’ and related research questions were about how individual learning was facilitated by collaborating or co-operating with peers. As time progressed, I realised that I needed a new title to reflect the new direction of my research, and my working title became ‘how learning occurs and is supported

in a participatory culture', and the questions I used to frame my research are these:

1. How does meaningful learning occur in a participatory culture?
2. How does a participatory culture emerge and how is it sustained?

As I began to frame my research findings, I formalised three broad sub-questions which I use to frame my findings:

- What structures support a participatory culture?
- What beliefs and values are evident in a participatory culture?
- What practices exemplify a participatory culture?

I have summarised here what was a lengthy process. After many series of iterations, where I drafted question sets, used them to frame my findings, redrafted and so forth, these questions were finally sufficient to motivate my investigation.

Thesis statement

Although I dislike many of the argumentative practices of analytic philosophy because they are combative, and not congenial, there is one that I find useful, and that is the convention of stating from the outset what the main conclusion will be. Although I did not know my final destination when I began my journey, as I make final edits to this thesis I feel confident in sharing it. As I take you through my researcher journey, I am going to show you that CLMOOC is best conceptualised as being a sort of affinity space, in which the principles and values of connected learning support and facilitate a participatory culture of lifelong learners. These learners engage in regular reciprocal and collaborative practices called bricolage and remix in a spirit of creative playfulness. This does not mean that all members of CLMOOC are constantly engaged in creative play, but rather that they are (pre)disposed to respond in this sort of way. This ethos of creative playfulness leads to meaningful, authentic learning because members of CLMOOC perceive themselves to be in a safe space where they can experiment and learn new skills without fear of ridicule or censure, and can ask openly for help and advice as they need it. Much of the learning that occurs in CLMOOC is emergent and thus unplanned in one sense, and the structure and ethos of CLMOOC are

carefully designed so that they support and facilitate this serendipitous learning. However, although this structure is carefully designed, this design is not immediately obvious. In addition, the affinity space itself has emerged as an entity in its own right from being a summer course into an independent entity, and that itself was made possible by the original design.

Another phrase that CLMOOCers use to describe their practices is as engaging in 'serious fun'. This acknowledges that while some activities might look trivial, nevertheless they can lead to transformational learning. Playful learning and serious play are well established areas of educational research, and there is a considerable body of literature about the efficacy of games for learning because they encourage risk-taking and learning from failure. For example Whitton (2018) talks about the power of playful learning and the transferability of this to adult learning, and suggests that tactics such as surprise, chance and humour are typical of successful playful learning in adults. The use of Lego for Serious Play is also well documented (Gauntlett, 2005; Montesa-Andres, Garrigos-Simon and Narangajavana, 2014), and serious play is also a term used in organisational research to describe the intentional use of playful behaviour to achieve work-related outcomes (Statler, Heracleous and Jacobs, 2011). The phrases serious fun and creative playfulness riff off each of these. All of the above emphasise the powerful learning that can happen when learners are free to experiment and all highlight the importance of serendipitous emergence to learning.

Position of this research

I have heard it said, often by those with no experience, that qualitative research is a second-rate version of quantitative research which researchers only undertake because we do not have a sufficiently large data set to number crunch. And it is true that sometimes we do not have a large data set. However, it is also true that even when we do have a large data set we choose not to play number games. I use a fairly big data set in this thesis, with a large number of tweets (over 40,000 at the time of writing, with collation ongoing). This data has been collected over a period of six and a half years, so there is the possibility of a longitudinal study if any researcher wished to undertake that. My data set is open and accessible to anyone who is interested – either to reinterpret or validate my interpretation, or to undertake their own research, and links to an open copy of all

my data sets are included in an appendix. I could, if I chose, do more number crunching than I do – but I chose not to because I am interested in rich pictures of learning.

I present for you this picture of CLMOOC not in order to provide you with a blueprint for connected learning – I am not making the naïve error of generalising irresponsibly from one example (Wittgenstein, 1989), but in order to understand what is special, for those of us who keep returning to it, about CLMOOC. By exploring a particular community, I hope to understand that way of life (Ellis, 2004, p. xvii). This is my interpretation of CLMOOC. As is obvious, I do not pretend to be objective, but neither is this picture purely subjective. This picture is not *just* my interpretation: I have involved the CLMOOC community in participatory research by asking questions and soliciting feedback on early drafts (usually in the form of blog posts). These responses came from the more engaged members of the community, of course, but these respondents were not always the most active or visible.

One comment that is often made about communities like CLMOOC is that they consist of particularly highly functioning, digitally privileged people (Kop, 2011; Weller, 2020). That is true, but there is nothing in the theory and practices that limit them to an elite, as you will see. Indeed, equity is one of the fundamental pillars of connected learning. It is true that we are highly functioning, but my belief is that our experiences of connected learning have equipped us with these skills (and I know from my own experience how much I have learnt from participating in CLMOOC).

My writings build on previous published research by other connected educators. When I began this research there was relatively little academic literature about participatory culture and I am pleased to be able to contribute to a relatively new research area, and particularly to show that participatory learning is not just for adolescents. And, of course, without wanting to make it sound as if this pandemic is a good thing, it is timely to begin writing a post pandemic pedagogy, and to rethink learner engagement and types of assessment. I think that there are valuable lessons to be learnt that can help educators interested in 'engaging' students without using the sticks and carrots of summative assessment, and I hope to show you how you can use this approach themselves. I am suggesting

a better way of looking at personalisation – to find what motivates learners, and allow them to define that. I think that this is transferable and generalisable.

So I invite you, as you participate in this journey, to think about how what I say and show might apply to you as researcher, as educator, as learner, and to see which lines of flight it inspires you to launch (Deleuze and Guattari, 1987).

Chapter One: Research Context

A rhizome has no beginning or end; it is always in the middle, between

things, interbeing, intermezzo.

Deleuze and Guattari, A Thousand Plateaus

The community that I am going to introduce you to is called CLMOOC. This is my community – it is one of the places on the internet that I feel closest to and it has helped me to grow into the digitally literate and connected educator that I am today. Sometimes communities like mine are called hashtag communities, but that does not begin to describe the rich conversations that we have with each other (similarly, there is nothing virtual about our friendships). Over the last year of the pandemic CLMOOC has been my safe haven – it is a place that has inspired me, nurtured me, given me hope. However, it did not begin as a community - as the name suggests, CLMOOC began as a type of MOOC. So the first thing to do is for me to explain to you what a MOOC is and describe the two main variations that currently exist, and consider which of these is more suitable to describe CLMOOC. I will then introduce you to the CLMOOC community itself by setting out the main features of the original course. This will show you how the thoughtful design of this course allowed a community to emerge and to self-sustain. Most importantly I will also explain how I happened upon this community and got involved in it, and why it is so important to me, both personally and pedagogically.

What is a MOOC?

I begin with a brief summary of MOOCS: explaining what they are, how they originally came about and how the original name was taken and misused to label something entirely different and inferior.

MOOC is an acronym that stands for Massive Open Online Course. The term 'MOOC' was devised by a Canadian educator called Dave Cormier to describe a course which was run in 2008 by two other Canadian educators called George Siemens and Stephen Downes, and which is now considered to be the first MOOC (Cormier, 2008). This course, which was called *Connectivism and Connective Knowledge* (CCK008), was a traditional campus-based course which had 25 on-campus students enrolled (Smith, Dillon and Zamora, 2017). Downes and Siemens

decided to open up this classroom without charge to online participants as well as the campus-based students and about 2,200 open learners enrolled (Downes, n.d). They did this because they wanted to put into practice their educational theory of connectivism, which is a theory of knowledge that holds that modern learners do not need to know facts for themselves, they just need to know where to find them. If this is true, then education should consist in equipping learners to find knowledge effectively and assess it for veracity and validity. In brief, as Downes states: "at its heart, connectivism is the thesis that knowledge is distributed across a network of connections, and therefore that learning consists of the ability to construct and traverse those networks". (Downes, 2007, n.p.)

In the years that followed, other MOOCS were created by the open, online community. One such was the 2010 *Personal Learning Environments, Networks and Knowledge (PLENK)* course by Dave Cormier, Rita Kop, George Siemens and Stephen Downes; another was the *Digital Storytelling* course (DS106) that began in 2011 and still continues. This is considered to be a sister experience to CLMOOC, with many participants taking part in the daily challenges that are an offshoot of DS106 and which have been running for nine years without a break. This is itself an example of a connectivist/connected learning network, and it is another network that I am a part of – I complete the daily creates every day, I submit suggestions for future creates and I help ensure that there are always creates in the queue ready for auto-publication each day.

I asked Stephen Downes recently over Twitter how people found out about these original MOOCs and his reply to me confirmed how low budget these original MOOCs were:

> It's true, it has to be true, because we had no budget and therefore no marketing. I'm not sure we ever said 'cMOOC participants found by word of mouth' specifically, but I would certainly say it here. (Downes, 2020)

The original MOOCs, as you can see, were dreamed up by educators who were passionate about open learning, and who were themselves networked learners. These were designed because of a love of learning, not because of a desire for profit or a wish to recruit students into paid education. However, later courses were designed from different motivations and although they were also called MOOCS, they bore little resemblance to the originals.

In the autumn of 2011, Stanford University developed three open online courses and called them MOOCs. One of these MOOCS, Peter Norvig and Sebastien Thrun's *Introduction to Artificial Intelligence*, attracted enrolments of over 160,000 students, of whom about 20,000 completed the course. This high level of sign up and drop out is very typical of these institutional MOOCS. In February 2012 Thrun formed a company called Udacity to develop more of these so-called MOOCs. In April 2012 Daphne Koller and Andrew Ng, also from Stanford University, formed a company called Coursera which partnered with other universities in order to develop and deliver MOOCs. MIT and Harvard formed a consortium called EdX which operates on a similar model (MAUT, n.d.). Later, in 2012, a company called Futurelearn was formed in the UK, originally to deliver MOOCs in partnership with UK universities. MOOCs caught the attention of the media in 2012 (the New York Times called 2012 "the year of the MOOC" (Pappano, 2012)) and many made hyperbolic claims such as that they were going to change the educational landscape for ever. For example, in an interview for *Wired* Magazine Thrun made the bold claim that in 50 years there would be only 10 institutions in the world delivering higher education and that, in his opinion, Udacity was likely to be one of them (Leckhart and Cheshire, 2012). Universities rushed to sign up with one of the MOOC platforms – nobody wanted to be left out. As time progressed it became apparent that there were many differences between the original MOOCs and the later ones, and it became usual to adopt labels chosen by Stephen Downes and to refer to these as xMOOCs and cMOOCs respectively, where 'x' stands for 'eXtended' and 'c' stands for 'connectivist' (Haber, 2013, n.p.). These differences are, I think, not trivial. One difference in particular is apparent: the original MOOCs were designed collaboratively by educators in order to test their preferred educational theories and give learners the richest possible experience; the latter 'xMOOCs' were designed by people who formed companies and wanted to capitalise on what they thought was a revolutionary model of education.

Types of MOOC

As I said, Stephen Downes named the new type of open online courses 'xMOOCs' to mean 'extended MOOC', with which he highlighted the fact that these courses are extensions of traditional higher education courses, usually offered by universities on external platforms in partnership with commercial companies such

as EdEx, Coursera and Futurelearn. These MOOCS resemble traditional higher education courses in that learning objects (typically videos, quizzes and reading materials) are uploaded to a platform by an instructor (an expert) to be consumed by participants (Bates 2014; Smith et al., 2017). Teachers are experts who provide content and thus impart knowledge which is supposedly transferred to the student. 'Open' here means that the course is free for anyone to sign up, usually the course is not open to view, and typically participants will have to sign in to view content which is held in a VLE or equivalent. Although content is free, participants are encouraged to spend money to buy a certificate of participation and these MOOCs are also often used by institutions as a method of attempting to recruit participants into paid programmes offered by the partner university.

cMOOCs are the original MOOCs. The 'c' here stands for connectivism, as mentioned above, and the connections are between participants. In this model, knowledge is thought of as something that is created by learners (in a constructivist/social constructivist sense) and content is also made by participants, not provided by expert leaders. A cMOOC is more like an online community than a traditional teacher-led course: here the emphasis is on peer-to-peer teaching, and learning is driven by the participants connecting with each other (Smith et al., 2017). In addition, participation in a cMOOC typically happens across a range of social media where participants learn from each other and generate the content of their learning through dialogue around shared interests, rather than taking place on an official learning platform (Honeychurch and Patrick, 2018). Open in this context refers to the mode of delivery. In a cMOOC participants might sign up to receive a newsletter, but any notifications would usually be published on the open web, for example as a blog post, and not hidden in a VLE. Content that participants created would be published openly in their own web spaces, or as posts to social media platforms. cMOOC facilitators might offer to curate content for participants, but again this would be openly available without requiring a login. For example, *Rhizomatic Learning, a Practical View* (#rhizo15), another course created and facilitated by Dave Cormier, had a "blog roll", which was a list of participants' blog posts curated by one of the participants (Singh, n.d.), and CLMOOC had, and still has, a Make Bank, where participants can upload picture of and instructions for their 'Makes' for others to follow or adapt (CLMOOC n.d.). DS106 Daily Creates are submitted as tweets by participants and scraped to a

WordPress blog (Levine, n.d.). DS106 itself has a website (DS106, n.d.) where anyone can submit an assignment for others to complete.

In summary, there is a contrast between the knowledge replication of those studying in a xMOOC and the knowledge creation of cMOOC participants, and the corresponding roles of the lead educators/facilitators and students/participants. As Downes says:

> Our [c]MOOC model emphasizes creation, creativity, autonomy, and social networked learning. The Coursera [xMOOC] model emphasizes a more traditional learning approach through video presentations and short quizzes and testing. Put another way, cMOOCs focus on knowledge creation and generation whereas xMOOCs focus on knowledge duplication. (Downes, 2013, cited in Stevens 2013, n.p.)

In addition to the differences between the two types of MOOC with regard to content and roles, both have different conceptions of what it means to be open. xMOOCs are open in the sense that they are free to sign up to; in a cMOOC the emphasis is on open as in opening up new ways of learning. In addition, cMOOCS and related hybrids such as DS106 generate learning materials that are open access and repurposable (Smith et al., 2017). I have summarised the main features of the two types of MOOC in the table below.

xMOOC	cMOOC
Educator as expert	Educator as host
Knowledge acquisition/duplication	Knowledge creation/content generation
Content provided by experts (videos lectures, pdfs and quizzes)	Made by participants (blog posts, comments on social media, Make Bank)
Interaction	Participation
Open means free to sign up	Opening up connections/ways of learning
Content in VLE or similar	Content on participants' own spaces

Table 2 Types of MOOC

Problems with MOOCs

Both xMOOCs and cMOOCs suffer with problems of student engagement, but not for the same reason. It is well documented that xMOOCs suffer from high attrition rates, and that although the courses tend to be highly structured there is a lack of a sense of community or connection between learners (Hickey and Uttamchandani, 2017; Jordan, 2014; Daniel, 2012). In cMOOCs the importance of connection between learners is emphasised, and there are strong connections between some learners, but some newer learners fail to make connections, all learners can feel overwhelmed by the sheer volume of activity and the lack of prescriptive structure can leave them feeling lost (Weller, 2020; Mackness and Bell, 2015; Mackness, Mack and Williams, 2010). This can also lead to participants dropping out. The designers of CLMOOC tried to overcome these known issues.

What is CLMOOC?

I find it hard to describe CLMOOC in words - some things are easier to show than to tell (Wittgenstein, 1989). CLMOOC, as the name suggests, was originally a type of MOOC. However, from the outset CLMOOC was envisioned as something

slightly different from a standard online course, and this becomes apparent when the acronym is spelled out. Normally the 'C' in MOOC stands for course, but, as one of the organisers, Christina Cantrell, said at the time when announcing the MOOC: "We're calling our mooc [sic] a 'massively open online collaboration' to emphasize that this is not a 'course' in the traditional sense of online courses" (Educator Innovator, 2013, n.p.). In full, the name of CLMOOC is Connected Learning Massively Open Online Collaboration. CLMOOC is now an open, online, affinity space or network that is grounded in the principles of connected learning and the ethos of a participatory culture which has lasted for over seven years at the time of writing. This in itself is worth noticing, because it is one thing to set up a community, it is another thing entirely to see it endure with minimal apparent support for a prolonged period of time. Although the original designers did not plan that CLMOOC would continue to exist for years after it was originally conceived, or envisage that it would make the transition from MOOC to community, it is plausible to suggest that the original framework of participatory, connected learning made this transition from event to community possible (and maybe even likely).

The original MOOC was designed and facilitated in 2013 by educators from the US National Writing Project (NWP) and the MacArthur Foundation. The NWP is a broad network of educators based at sites across the United States, many of these being situated at universities (National Writing Project, n.d.). The NWP network provides resources for use by writing teachers across the USA, and the educational model they endorse is connected learning. In 2013 the NWP decided to provide some summer CPD for its members by designing and delivering a MOOC which would provide a framework to support educators wanting to experiment with connected learning, or to refresh their existing skills. One of the principles of connected learning is that learning should be production-centred (it should focus on making, and doing, rather than on just acquiring theoretical knowledge), and so the structure of CLMOOC aimed to enable collaborative creating and participation. This means that rather than describing the theoretical principles of connected learning, the emphasis here is on active knowledge making: participants in CLMOOC learn about connected learning by experiencing it for themselves at first hand.

There are some important features to note about CLMOOC. The most important thing to appreciate is that CLMOOC was designed. This probably cannot be emphasised enough. Although it might appear as if some of the activities emerged at random, and in one sense they did (in that they were not pre-determined), in fact this serendipitous emergence was part of the design infrastructure. I will return more fully to this point later, but here I summarise some features of the original facilitated MOOC in order to provide context for my research.

CLMOOC began as a cMOOC which was designed as a professional learning experience (a summer CPD course) for educators, thus all participants were adult learners. It was originally offered over the US school summer holidays as a refresher course for connected learning educators. It was grounded in the principles of connected learning, but participants did not need to subscribe to, or even be aware of, any of these principles in order to participate in the activities. Although the course was aimed at the NWP network, it was open for anyone to join and participate, and it was advertised publicly. Participation was voluntary and there was no pressure from anyone in power for any individual to sign up. CLMOOC was totally informal: there was no assessment, no monitoring of attendance, no certificates of attainment, no official course platform. Participants could sign up for a regular newsletter, but all of the information in this was also available on open blog pages. Visible participation was not necessary: although participants were encouraged to join the online activities and share their creations, there was no judgement or censure of those who preferred to watch or lurk. Although the design of CLMOOC was for collaboration, CLMOOC also allowed for individual interests and activities. Participants could collaborate with others if they wished, or remix others' artefacts, or just do their own thing on their own. CLMOOC was organised into open-ended themes called Make Cycles, which were themed activities that were announced each week, but that had no official beginning or end. Participants could dip in and out of these non-linear Make Cycles as they wanted, and participation in earlier Make Cycles was not a necessary condition of participation in later ones because each topic was self-contained. There was no right or wrong way of responding to the Make Cycle prompts: the weekly prompts were meant to inspire and provoke, not to prescribe. The weekly newsletters which announced each topic would contain suggestions for activities and examples

produced by facilitators to inspire and spark creativity, but participants were free to respond in any way they saw fit (Educator Innovator, 2013).

The designers of CLMOOC recognised the importance of flexible structure/structured flexibility, and so all of the learning experiences were 'intentionally fragmentary'. By this I mean that facilitators set out a loose structure that participants could extend as they liked so that different types of activity could emerge. The prompts in CLMOOC are there to inspire participants by sparking their creative imaginations and to leave gaps that they could fill in for themselves. The emphasis of CLMOOC was on experimental play: CLMOOC was designed to allow participants to try out new media, software and techniques in a supportive environment without fear of failure, to enjoy playing around with the making and remixing of digital artefacts and to experience the serendipity of this emergent learning. It should be noted that this does not mean that the experiences in CLMOOC were trivial – the emphasis was on experimental play in *professional* learning experiences. Play, in this context, is a technical term. CLMOOC was non-hierarchical – although there were facilitators, there was no overall module leader, course convenor or charismatic expert and those who facilitated in one week were participants in other weeks. Participants were also encouraged to take on a lead role for a new activity as one emerged, and a facilitator for one activity might (just) be a participant in another. Thus, everybody could potentially be both leader and learner at the same time. Although there was no overall leader, this does not mean that there was no structure: the roles in CLMOOC were very important. Everybody in CLMOOC was first and foremost a participant, whatever their other roles, and facilitators also took an active role in the activities. The CLMOOC designers coined the term facilitator-participant to refer to participants who were also part of the design or organisational team and who learned alongside other participants. In 2014 the role of supporter was also added. These participant-supporters (my term) were participants who the organisers identified as having experience in connected learning. As well as participating, their role was to watch participants and reach out to offer a helping hand to those who appeared to need it. (Smith, West-Puckett, Cantrill and Zamora, 2016; West-Puckett, Smith, Cantrell and Zamora, 2018). Appendix Six sets out in detail the design process for CLMOOC. Here I will summarise the basic design.

CLMOOC was composed of Make Cycles. Although these could be completed at any time, they did have a weekly structure. Participants were encouraged to sign up to the newsletter, and these were also published to the CLMOOC blog, which is open for anyone to view without a login. The week began on a Sunday. Each Make Cycle was announced by a newsletter containing the theme for the week, some suggestions for activities, and some examples of 'makes' from other participants (usually the facilitators). Participants completed activities as they chose and posted the results to social media. The week's asynchronous activities were augmented by two synchronous events: a Google Hangout on a Tuesday, a Tweet Chat on a Thursday and a second 'wrap-up' newsletter on the Friday. The Hangout was an informal event where the Make Cycle's facilitators were joined by volunteer participants, and there was a lively discussion about the week's theme. The hangout was recorded and posted to social media for those who were not able to attend. The Tweet Chat was organised by each Make Cycle facilitators, and followed the usual format for educational Tweet Chats (Fasimpaur, 2013).

A Tweet Chat, or Twitter Chat (the two terms are used interchangeably by practitioners) is a scheduled, regularly occurring Twitter conversation. They are usually an hour long, and have a set of questions (usually between 5-10) which are prepared ahead of time. The host, or facilitator, will tweet out questions are regular intervals to the community or course hashtag, prefaced by Q.1, Q.2 and so forth. Participants reply with A.1, A.2, and so forth, and include the hashtag. Typically, the chat begins with introductions and there are often conversation tangents, with different groups of people joining in with threaded sub-conversations. Of course, as this is all out in the open anyone can join in with any conversation and participate in as many as they have the cognitive capacity and typing agility to manage.

A make cycle in practice

How did this work in practice? Here is a brief sketch from the point of view of a participant. Each Sunday evening at about 5pm I would receive a CLMOOC newsletter into my inbox announcing the theme and giving lots of hints and suggestions about how I might start tinkering with ideas. There would be ideas that would be easy for me to do, some that would be harder, some that would be challenging – how I responded would depend on what I felt like playing with and

what I had time to do. I might have an idea that I could knock together immediately and post, or a slower burning one that was going to take more time to prepare – or both. The newsletter also included links to 'makes' that the facilitator-participants had put together on the Make Cycle theme. These helped me in a couple of ways: they might give me inspiration to begin making something myself, or I might take one of the existing makes and remix it into a different media, genre or form. These exemplars were very important – they presented me with inspiration and they gave me permission to play and remix. Also, and maybe this is the most important aspect, they brought the facilitator-participants into my line of vision, into my world: as makers and learners, and not just as educators. The newsletter was also published as a blog post and the link was posted to all of the CLMOOC social media spaces, so if I preferred to chat before making anything I could join a conversation there.

The design and facilitation team also recognised the importance of affirmation. In order to ensure that no make went unloved, they made sure that someone was always on hand to respond to posts and makes. This they organised without recourse to rotas or workload models, but by ensuring that the facilitation team were geographically dispersed and disposed to respond to any activity. Sometimes this response was a 'woo hoo, go you' type of reply, sometimes it would be a full remix of the make – the wonderful thing was that all activity was *affirmed*. As one of the few participants in the UK I was not left to play alone – some of the night owls on the west coast of the USA were still awake when my early morning alarm woke me, and the early birds on the east coast were at their games by the time I broke for a mid-morning cuppa. There really was a 24/7 network of support. As one of the original facilitators said: "we posted and talked, tweeted and hung out, encouraged and reflected, 24/7" (Fasimpaur, 2013).

I first came across CLMOOC in 2015. I had participated in two other cMOOCs in January 2014 and April 2015, had become friendly with some participants who also took part in CLMOOC and who suggested to me that I might enjoy the type of activities there. So, in the summer of 2015, I signed up for CLMOOC and joined in. I knew nothing about connected learning, I did not even realise that there was a special theory behind CLMOOC, I just knew that I was having a lot of fun and learning a lot of new skills. In January 2016, one of the core facilitators of CLMOOC put out a call for volunteers to become future facilitators. The NWP were moving

in a different direction, and some of the original facilitators were hoping to still run a version of CLMOOC. I registered my interest and became part of the team. It was then that I began to appreciate how much clever design underpinned CLMOOC, including the structured 'onboarding' that was used to support newer facilitators (this was a bespoke programme of mentoring by experienced facilitators).

As I became more and more involved in CLMOOC I began to get interested in finding out more about the principles of connected learning. As I began to read around the topic, I realised that CLMOOC has two main influences, which are themselves linked: the MOOCs that preceded CLMOOC, and the educational literature about connected learning and participatory culture. From a practical point of view, CLMOOC was influenced by the connectivist MOOCS that preceded it; from a theoretical point of view it was influenced by the writings about connected learning and participatory culture by Henry Jenkins and his collaborators. I will discuss this literature in the next chapter. I made the decision not to write this as a traditional literature review, but to focus on the texts that have been central to my understanding of participatory culture and have informed my learner and researcher journey.

Chapter Two: Inspirations

There is no greater mistake than the supposition that a true originality is a mere matter of impulse or inspiration. To originate, is carefully, patiently, and understandingly to combine.

Edgar Allan Poe

Earlier in this thesis I talked about how my professional and personal life had been transformed as a result of my discovery of the world of online connected learning and open educators. When I started participating in, then facilitating, cMOOCs I had no idea that there was a body of literature that would explain why all of this was so rewarding – I just thought that I was having fun. However, when I made the decision to use CLMOOC as the subject of my PhD I discovered that there was a rich seam of literature, and this writing has helped me to understand how and why CLMOOC was so successful at supporting emergent learning. A fundamental insight for me was the realisation that learning in a participatory culture is not incidental or compartmentalised, it is embedded into that culture. The serendipitous timing of the publication in 2016 of Jenkins, Ito and boyd's *Participatory Culture* changed the direction of my research. I read this book collaboratively with some of my CLMOOC facilitators and friends when it was first published, and as we read and annotated it online together I joked, as I so often do, that the CLMOOC collective was helping me to write my literature chapter. As the saying goes, there is many a true word written in jest, and working 'out loud' by annotating and blogging has helped me to refine my thoughts. Since reading Jenkins et al. I have read around the literature, but I return often to this book. Because of this, and because Jenkins' work on participatory culture led to the development of the theory and practice of connected learning, I will begin this discussion with his writings.

Another work that we read and annotated together was a chapter by James Paul Gee about affinity spaces, and that writing had just as profound an impact on my thought (Gee, 2004; 2005). Gee's writings build upon Jenkins' work, and reading these led me to return to earlier works on community (such as those by Lave and Wenger (1991), and by Thomas and Seely Brown (2011)) with fresh eyes. I will therefore spend time setting out the main points from each of these writers

and showing how and why they resonate so deeply with me. In addition to Jenkins and Gee, the writings about connected learning, which are derived from Jenkins' research, underpin this thesis.

Intrinsic to all of the above is the belief that, for a large part, we learn by doing, and my belief in this premise has been reinforced both by my experiences and my reading of all of this literature. This will be an undercurrent running through this thesis, to be teased out as I weave the strands together. Of course, my thinking owes a lot to the earlier educational literature, particularly writings in constructivism and social constructivism, but I am not going to provide an overview of all of that literature. Instead, I am going to focus on writers who have directly influenced my thesis, such as Seymour Papert (Papert 1993; Turkle and Papert, 1991). Papert's constructionism is of particular relevance because his emphasis on the importance of creating concrete artefacts allows me to understand, and to explain, how CLMOOC's practices of creating and remixing tangible artefacts can lead to meaningful learning. Although his writing focusses on computer programming, it is of wider relevance than this, as I will show. His conception of tinkering as a way of generating feedback is particularly relevant to the remix culture of CLMOOC, in particular the discussion of bricolage he co-writes with Sherry Turkle, and I will explain this in detail.

In this thesis I am particularly interested in how learners in a participatory culture support each other, how learning arises from that participation, and the related question of how learning communities develop and endure. A large part of my answer will be that CLMOOC, like similar successful endeavours, was carefully designed to support emergent learning, and it is this design that has led to its endurance and success. When I first became a member of the CLMOOC facilitation team in 2016, I began to realise how structured it was and how much careful planning and organisation was involved. Since then, some of the original designers and facilitators of CLMOOC have published academic papers in which they set out their pedagogical and design principles, and I have found these incredibly helpful in shaping my understanding of what is involved in making successful connected learning experiences. I will talk through these at the end of this section.

What is a participatory culture?

The overarching ethos of CLMOOC, the glue that holds it all together, is the principles and practices of a participatory culture. So, without further ado, I begin my discussion of participatory culture by defining it, putting it into its historical context, and showing how it led to the development of the educational theory of connected learning. The writer who first used the term 'participatory culture', and who continues to be a major influence on the development of all of this, is Henry Jenkins, so in what follows I will draw heavily from his writings, and likewise from those of his collaborator Mimi Ito.

Jenkin et al. define a participatory culture as a community whose members share knowledge and practices with each other – a community that creates (and then depends upon) deep ties that bind the members of that community together:

> A participatory culture is a culture with relatively low barriers to artistic expression and civic engagement, strong support for creating and sharing creations, and some type of informal mentorship whereby experienced participants pass along knowledge to novices. In a participatory culture, members also believe their contributions matter and feel some degree of social connection with one another (at the least, members care about others' opinions of what they have created). (Jenkins et al., 2007, cited in Jenkins et al., 2016, p. 4)

No culture is politically neutral, and Jenkins et al. are explicit about their political stance:

> A participatory culture is one which embraces the values of diversity and democracy through every aspect of our interactions with each other - one which assumes that we are capable of making decisions, collectively and individually, and that we should have the capacity to express ourselves through a broad range of different forms and practices. (Jenkins et al., 2016, p. 2)

A fundamental part of Jenkins' understanding of a participatory culture is that it refers to the everyday practices and interactions of its participants, and this understanding is inspired by Raymond Williams' definition of culture. For Williams, culture is ordinary and has two aspects: first it refers to the whole way

of life of members of that culture, and second it refers to the higher aspects of human life (Williams, 2014). These two aspects are interlinked, and questions about the first are also questions about the second. What I mean by this is that I can explain what type of culture we live in by giving examples of things that members find valuable. So, for example, we live in a Western culture, and the higher aspects of human life that we value include arts and creativity. Other cultures will have other values. Jenkins extends Williams' definition of culture as being ordinary and applies it to a participatory culture, writing that "forms of creative expression [are] woven into the practices of everyday life" (Jenkins et al., 2016, p. 8). The insight here is that in a participatory culture the principles and practices are lived and breathed, they are not incidental activities.

In order to examine the structure of a culture and to make clear the connection between its elements I am going to use a framework derived from Durkheim's sociology of religion. I do this with some hesitation, as Durkheim's name is often associated with positivist methodologies, and my autoethnographical narrative inquiry would sit uneasily with that methodological approach. However, after much consideration, and having made the attempt, I believe that I can successfully extract Durkheim's discussion of the sociology of religion and use it in order to explain the emergence and endurance of CLMOOC as a learning community. It might also seem odd at first glance that I am taking a framework from a religious context in order to describe a secular community, but I think that there are important similarities. Durkheim's ethnographical approach looks at social forces and asks how and why these lead to a religion emerging; I suggest that his analysis generalises to other social institutions. He shows that we need posit no supernatural being in order to justify the beliefs and values of a religious community, nor to set its rules: rather religion should be understood as a social phenomenon that emerges as a product of human activity; I suggest that likewise the creative playfulness that occurs between CLMOOC participants can be understood as an emergent feature of a participatory culture.

Durkheim defines a religion as "a unified system of beliefs and practices relative to sacred things, i.e. things set part and forbidden – beliefs and practice which unite in one single moral community called a Church, all those who adhere to them" (Durkheim, 1995, p. 44). For Durkheim, religion emerges and is legitimised by the "collective effervescence" that emerges as individuals come

together to perform a ritual. Individuals represent to themselves their culture and their relationship to it. In these moments a group communicate the same thoughts and participate in the same action, and this unifies the group. Though it might seem that communities/religions/cultures form spontaneously, in fact there need to be certain conditions in place. He suggests that religious communities will form and endure because of the juxtaposition of fundamental elements: the sacred, a (moral) community and the beliefs and practices of the group.

- The sacred: Durkheim argues that the sacred is not a supernatural being (i.e. a god). Rather, it is the collective forces of a group hypostatised (being treated as a real thing). In other words, it is those ideas, sentiments and activities of a society or community which inspire respect and are thought to be worth preserving.

- A (moral) community: This is a group of individuals who actively subscribe and adhere to a common set of beliefs and practices.

- The beliefs and practices of the group: Beliefs alone are not sufficient to sustain a community – it is through practice (ritual) that these beliefs are reaffirmed and reinforced. This is what Durkheim means by creating a "collective effervescence" (Durkheim, 1995). Although Durkheim puts beliefs and practices together into the same category, I will look at them separately.

In this model we have a community with a shared set of beliefs and values, where the practices affirm these beliefs and values and both reaffirm the sense of community. The sense of community emerges and is sustained by the continued practice of these beliefs and values by members of the community. There is nothing supernatural which creates this community – it is a human creation.

My suggestion is that the practices and beliefs of participatory cultures such as CLMOOC and cognate communities are whole life commitments that are similar in pertinent ways to belonging to a religious community. In order to explain this, I am going to identify three aspects which I will label as community, creed and cultus. This alliterative categorisation is one I was first introduced as a first year undergraduate, taking a module in theology as a filler course. I have always thought that these categories were taken from Durkheim, but my internet searching had not been successful and I wonder if my memory is faulty and if these

were the Minister who taught the course's own categorisation. No matter the provenance, I have thought about religion in these terms for nearly thirty years now, and I find it helpful. I also like the alliteration and I am going to refer to this as the '3Cs model of a culture'.

- Community: the group of individuals who participate
- Creed: the beliefs and values of that community
- Cultus: the practices, or rituals, of that community

In a participatory culture, participants can be seen as a community of practitioners with similar beliefs and values. As they take part in the particular practices of their community, they reinforce their beliefs and values.

The first thing that needs to be emphasised is that a participatory culture is not a new phenomenon –although nowadays the term is usually used in the context of online and/or digital collaborative practices, and often when talking about youth culture and/or social media usage, in fact the practices of participatory culture predate the internet. What the digital does is to open up the possibility of participatory cultures such as "fandom" dramatically. Fandom, or fan culture, is defined by Jenkins as "a culture of participation … spread across an informal and national network of people who shared common passions but who might never have met face to face" (Jenkins et al., 2016, p. 17). It develops because of a shared enjoyment of a particular aspect of culture. Modern fandom is sometimes said to have originated with Star Trek (Hellekson and Busse, 2006), but Jenkins traces the behaviour further back to the mid-nineteenth century and gives examples of zines and amateur radio as well as sci-fi fandom (Jenkins et al., 2016). Jenkins sometimes also refers to this activity as a "DIY Culture" (Jenkins, 2010). The term DIY Culture is one that is often used to refer to alternative practices such as grass roots activism, or independent music and film making, and has all of the usual connotations of the well-known sense of make do and mend. it would be categorised as a rhizome, in Deleuze and Guattari's sense (Deleuze and Guattari, 1987).

Jenkins sets out the relevant features of participatory culture by providing a detailed example of zine making.

> Sometimes the women are working on individual, self-defined projects and sometimes they are working together on mutual projects but always they

> are drawing moral support from their membership in an interest-driven network. Each plays multiple roles: sometimes the author, sometimes the reader; sometimes the teacher, sometimes the student; sometimes the editor, sometimes the researcher, sometimes the illustrator. They move fluidly from role to role as needed, interrupting their own creative activity to lend skills and knowledge to someone else. Their creative interests straddle multiple media practices: they write stories, they take telepics, they edit videos, they publish zines, each of which constitutes a complex cultural practice combining technical skills and cultural expertise. (Jenkins 2010, n.p.)

A prime example of a participatory culture that predates the internet is that of crafting. Jenkins describes his grandmother, who was a quilter, as a "remix artist" because her quilting takes materials used in one context and remixes them into patchwork quilts (Jenkins et al., 2016, p.7); the example I offer, as it is of particular relevance to me, is knitting. This has had a camaraderie and a strong ethos of sharing long before the internet: patterns were passed down through the generations and amongst friends, knitters would share tips and tricks with each other, meet and knit together, help out when others got stuck. Knitters can also be remix artists in Jenkins' sense: more experienced knitters copy and adapt each other's patterns, for example they might see a stitch or technique they like in one pattern and adapt it for their own; talented designers see patterns in art and nature and turn them into knitted versions. Nowadays this is also a participatory culture with digital, online interaction, with a particularly interesting example being an online 'interactive' platform called Ravelry for knitters (and those who crochet). Ravelry facilitates all of the practices I mentioned above, and is where I have found one of my communities. I find patterns, post pictures of my creations, congratulate my fellow knitters when they upload their pictures, ask for and offer suggestions for yarn, help others when they need to learn a new technique, and generally share my passion for all things yarn. Here I learn with and from others.

However, although these practices are not new, the term 'participatory culture' *is* relatively new, and was introduced by Jenkins in 1992 in the context of his research into youth culture, where he makes a comparison with consumer culture (Jenkins, 1992). He makes a stark contrast between some sci-fi fans who merely watched (consumed) sci-fi programmes and others who do something to

add to these. He calls these more active fans “poachers” because they “steal” the raw materials and remix them (Jenkins, 1992). For example, some fans (such as the zine creators mentioned above) wrote spin-off stories about their favourite characters created digital art works, and engaged in cosplay (dressing up as their favourite character, particularly at a sci-fi convention). These fans are also often early adopters of new platforms and technologies who are happy to experiment with new modes of digital creation (Jenkins, 1992, cited in Jenkins et al., 2016). As we saw above (in the example of zines) using and learning how to use technology are social activities that help participants to bond and to reinforce their collective identity. Another way of explaining this would be to emphasise that participants in a participatory culture are interested in developing processes, and find the activities themselves enjoyable, rather than (just) producing artefacts (Jenkins, 2010).

Participation versus interaction

One thing it is really important to appreciate, Jenkins et al. emphasise, is the difference between a participatory culture like CLMOOC, where participants engage in collaborative activities, and so-called “interactive” technologies (online platforms such as Facebook and Twitter, often referred to as Web 2.0 technologies) that can be used to facilitate communications (Jenkins, et al., 2016, p. 12). Jenkins cautions readers of the danger of using this latter model in education as it views students as consumers, rather than as participants (Jenkins, 2010). Sadly, I think this model has passed into everyday usage. What is being highlighted here is that participation is not a passive, solitary activity – you participate in an activity with other people (although this participation might not be synchronous). Interactivity, by contrast, is a property of a technology. It indicates the possible functionality of technology; it does not guarantee how it will be used. Interactive technologies can be used for participatory activities, but not all uses of interactive technology would be instances of participatory culture. In particular, I would argue that the ‘liking’ of social media posts does not constitute participation in Jenkins’ sense, it is just a type of interaction.[1] Jenkins further emphasises the difference between the two types of behaviour by looking at the

[1] I think it does have a function, but that is not best described as participation but as affirmation.

different relationships. With a Web 2.0 technology, the relationship is between the user and the software, while in participatory culture the relationship is between people. This distinction between interaction and participation is similar to the two types of MOOC that I set out in an earlier chapter (Research Context) and helps to further explain the differences between them - xMOOCs have content that can be interacted with, whereas one participates with other people in a cMOOC. An understanding of learning in a participatory culture also helps to explain another difference between taking a modular course, or an xMOOC, and a cMOOC like CLMOOC – in a participatory culture learning is not additional – the practices become a part of a participant's everyday dispositions and actions. I do not think I can emphasise this too much. Mimi Ito coined a phrase that sums up the type of behaviour in a participatory culture, and this phrase has been adopted by some CLMOOC participants to describe their online behaviour.

Ito's research, like that of Jenkins, focusses on modern youth culture. She defines the behaviour of adolescents engaging in participatory culture as HOMAGO (Hanging Out, Messing Around, Geeking Out) (Ito, 2010). She further suggests that this behaviour is best understood as a self-directed structure of experiential learning that can support informal, peer-led learning structures for youth and that also describes how youth learn in new and social media environments (Ito, 2010; 2019). She builds on the work of Jenkins and shows that the behaviour of the majority of adolescents online is not dissimilar from that of previous generations, in that it is friendship-driven participation: the difference is *where* they participate, and not *how*. "Hanging Out" consists in activities such as using (viewing) YouTube, posting to Facebook and text messaging, which both Jenkins and Ito see as a fairly passive activity. However, sometimes adolescents go beyond this baseline media and digital literacy. A minority have more sophisticated creative, intellectual and 'geeky' skills. These adolescents use social media platforms and games in order to create and remix. They develop specialised interests and sophisticated and technical forms of media literacy. This is "Messing Around", which Ito defines as a sort of "tinkering" with software, and "Geeking Out", which involves taking a deeper dive into the practices. One way of contrasting these behaviours would be to describe the "Hanging Out" as being characterised mainly by acquisitive behaviour, and the "Messing Around" and

“Geeking Out” as participatory behaviours. I would suggest that this is seen as a sliding scale, rather than as three distinct types of behaviour.

Connected learning

Having looked in some detail at participatory culture, the next thing I need to explain is how all of this becomes a theory of learning. The theory that develops from the work of Jenkins and Ito is called connected learning. This is, of course, the theory of learning that underpins CLMOOC.

Connected learning is a work in progress that has developed considerably in the short time that I have been writing about it. It begins from an (intuitively plausible, I think) set of beliefs in the value of learning that is interest-driven, peer-supported and academically relevant, and harnesses the power of social media in order to make these types of learning better integrated into learners’ lives, while also attempting to make it accessible to anyone who wants to participate (equity is a core value). It is a flexible framework that can be used in an academic setting, for civic engagement, or less formally for lifelong learning and enjoyment (Penuel and DiGiacomo, 2017). Much of the literature about connected learning focusses on school children and adolescents, often in the context of informal learning spaces and extra-curricula activities, and with an emphasis on helping learners to translate their non-academic activities into academic ones (Gogia, 2016, p. 17). These interests do not have to be digital, but often are, given the nature of our modern world. When used in a digital context, connected learning draws on the power of today’s technology to fuse young people’s interests, friendships, and academic achievement through experiences laced with hands-on production, shared purpose and open networks. (Gogia 2016, p.25)

Connected learning is committed to three overarching educational values of equity, full participation and social connection (Connected Learning Alliance, n.d. a). What this means is that connected learning educators believe that everybody should have the opportunity to participate in interest-related activities, and connect to others who share those interests, and that these types of activity should not be limited only to those who can afford expensive schooling or technology such as expensive gaming platforms or devices (Penuel and DiGiacomo, 2017). This is particularly important because, as mentioned above, connected

learning often has an emphasis on digital engagement. Indeed, I would argue that in first world cultures such as the UK and the USA, access to modern technology is a basic human need/right. I think that the current pandemic, and the pivot to remote learning, has brought this into sharp focus.

I said earlier that Jenkins uses Williams' theory of culture. A consequence of this is that learning in a participatory culture is also ordinary, and this is also central to connected learning. The important insight behind connected learning, as I pointed out above in the discussion of participatory culture, is that it starts from what is already motivating learners and from where they are already interacting – which for adolescents would be from their particular (digital) interests and youth culture (social media and social gaming) – and makes connections between these interests and academic activities. In other words, it integrates academic activities into a learner's everyday practices. So, for example, Ito writes that successful connected learning is taking place when:

> A young person is able to pursue a personal interest or passion with the support of friends and caring adults, and is in turn able to link this learning and interest to academic achievement, career success or civic engagement. (Ito et al., 2013, p. 3-4, and see also Ito, 2019)

An example from the Connected Learning Alliance will help to explain this. In the figure below we see how a fictional girl called Abigail channels her personal interests and begins writing online in a supportive community. Having gained confidence and experience, she then enrols in an academic writing programme.

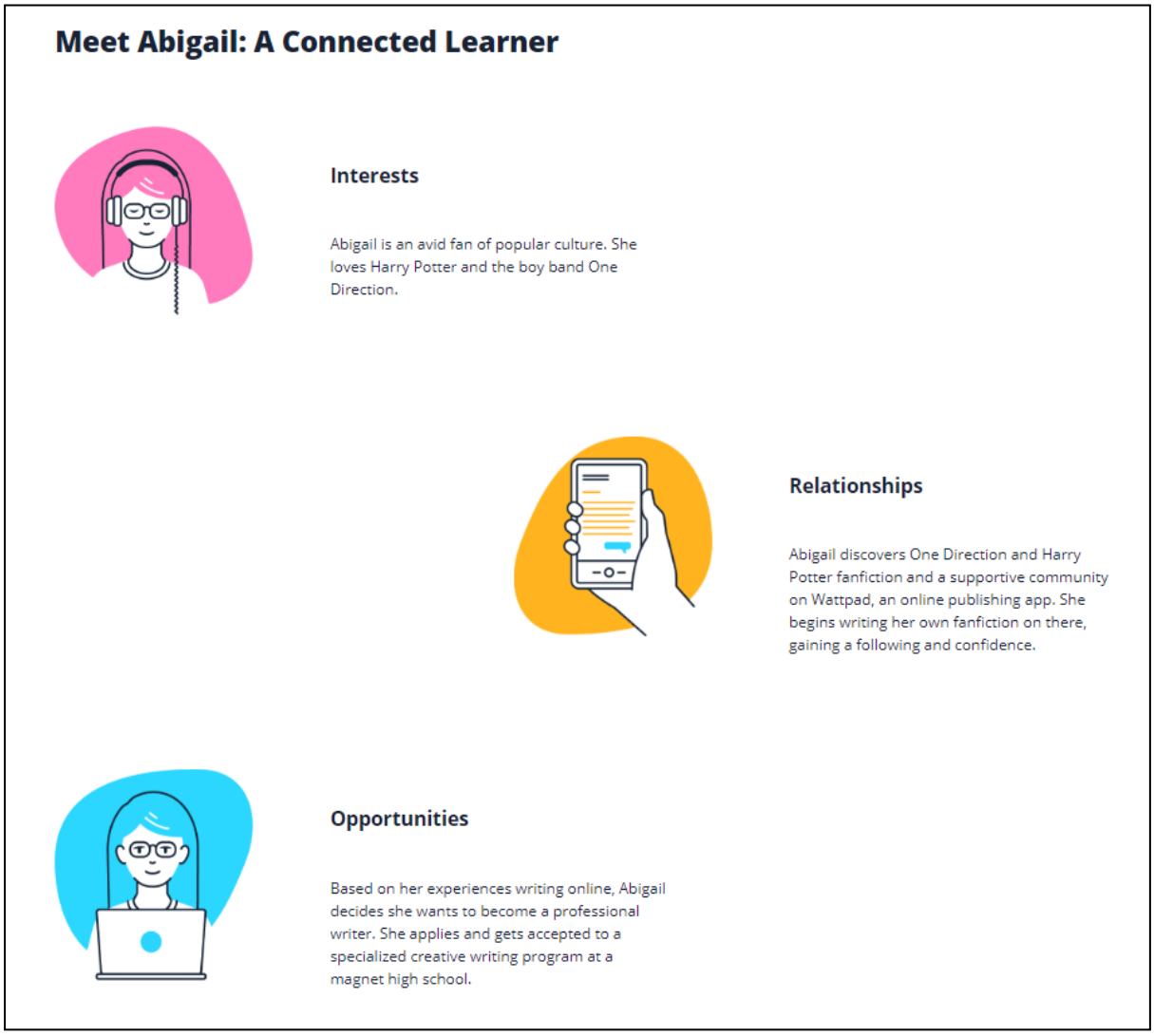


Figure 1: Example of a connected learner (Connected Learning Alliance, n.d.b)

Sometimes people take this to extremes. I began by signing up to do a cMOOC in 2014, found a tribe of likeminded people and followed them into CLMOOC in 2015, became a facilitator of CLMOOC in 2016 and started curating tweets in order to make pretty visualisations of social networks. The tweets that I had curated formed the basis of my data set. As time progressed, and being a connected learner became part of my practice, I found that I was interested in writing about it more deeply and I decided to make it the focus of my PhD so I began to look at the literature about connected learning and participatory culture. This led to me changing my methodology to make it more participatory and eventually to writing this thesis as an autoethnography. This process of iterative reflection is typical of learning in a participatory culture.

Principles of connected learning

As well as its overarching values, connected learning begins with three learning principles and three design principles. The three learning principles refer to the three areas where adolescents might learn and are phrased to remind educators how they might harness each domain in order to engage their learners (Gogia, 2016). These areas were originally defined as being of interest, peers and academic study, recently updated to be interests, relationships and opportunities (Connected Learning Alliance, n.d.a; Ito et al., 2020). I have set these principles out in the table below with a short explanation adapted from the Connected Learning Alliance to explain what each of them means.

Learning Principles

- **Interest powered**: learners will achieve more if they find what they are doing interesting and relevant to them. Connected learning sees interests that are developed socially as vital elements of learning.
- **Peer supported/relationships**: today's social media makes it easy for peers to connect with each other, sharing and giving feedback to each other. Connected learning recognises the powerful contributions that peer support and feedback make to learning.
- **Academically oriented/opportunities**: connected learning aims to take the fundamentals of peer culture and community-based knowledge and connect it to academic credentials. This helps young people to understand the importance of academic success for economic and political opportunity.

Table 3 Learning principles of connected learning

These three areas are interconnected, as the image below shows: it is when they all intersect to some extent that connected learning can occur.

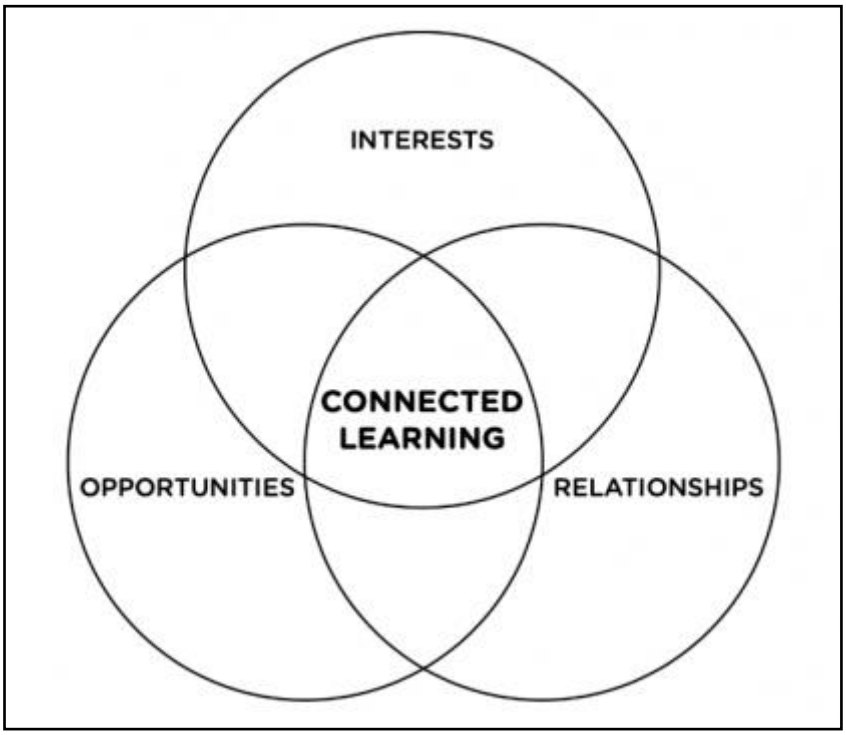


Figure 2 Three spheres of connected learning, renamed and explained

Design Principles

The three design principles describe the three relevant features of connected learning settings: which are that they are production centred, have a shared purpose, and are openly networked (Penuel and DiGiacomo, 2017). In other words, connected learning is experiential, networked and social. The design principles have recently been revised to become four new areas, which are sponsorship, shared practices, shared purpose, and connections across settings (Ito, 2020). However, as it was the original principles that were used to design CLMOOC, it is these that I will be referring to. I have set these out in the table below with a short explanation adapted from the Connected Learning Alliance to explain what each of them means.

- **Production centred:** connected learning emphasises the importance of learning by doing and focuses on processes rather than products. This helps learners to develop skills and dispositions that will equip them for a future which is rapidly changing.
- **Openly networked:** connected learning links learning across environments (and digital platforms) because it has been shown that people learn best when their learning is reinforced over a variety of scenarios.
- **Shared purpose:** learners do not need to be working on the same project, or share the same goals, but having a shared purpose in creating and designing helps to create a sense of community (Connected Learning Alliance, n.d. a).

Table 4 Design principles of connected learning

Although, as I mentioned above, much of the literature about connected learning focusses on children and adolescents learning, often in informal contexts, the theory can also extend to adult learners and to formal learning, such as higher education. For example, the behaviour that Jenkins identifies is also already practised by many adults in participatory communities (for example, fandom communities such as Trekkies and Whovians, and crafting communities such as quilters and knitters). The focus on non-formal learning and the bringing in of personal interests makes it an appropriate model of learning in the context of CLMOOC, because connected learning takes a holistic approach to learning. Rather than pigeonholing things into different categories such as formal learning and personal interests, it seeks to join up learners' interests and experiences and help them to understand how the skills they have in one context can be meaningfully used in another. This makes it particularly relevant for lifelong learners.

Learning in a participatory culture

Although connected learning is a relatively new theory, the idea of learning through social connections is not particularly novel or radical, and connected learning builds upon earlier socio-constructivist and socio-cultural theories of learning (Penuel and DiGiacomo, 2017; Honeychurch and Patrick, 2018). In this section and the next I will show how connected learning is grounded in the educational literature.

I said at the beginning of this chapter that I was not going to provide an overview of all of the literature about constructivism and social constructivism. However, there is one theory that is of particular relevance to a remix culture, and that is Seymour Papert's constructionism (Papert, 1980; 1993; Papert and Harel, 2002). This has been an inspiration for those working and researching in connected learning and participatory culture (for example Jenkins writes of Papert's influence on his thinking (Jenkins et al., 2016)). It particularly resonates with me because it helps me to understand why the seemingly trivial play that occurs during CLMOOC is actually fundamental to this type of learning. Papert's constructionism shares a lot with the constructivism of Piaget in that both build on the concept of learning as building knowledge structures. However, because constructionism puts more emphasis on the importance to learning of 'hands-on' making with and for other people, it is more situated and more pragmatic than Piaget's constructivism (Ackermann, 2001). The fundamental aspect of constructionism is that learners create an "object to think with" (Papert, 1993). This type of knowledge is concrete and situated: constructionism does not believe, as Piaget does, that reasoning needs to move from the concrete to the abstract in order for people to learn.[2] In fact, I would suggest that while Piaget's cognitivist approach leads to a theory of *knowledge*, Papert's constructionist approach is a *theory of learning* or a *theory of education*.

Constructionism has been described as being 'learning through social making', though Papert rejects this definition. He argues for a fuller definition of constructionist learning as being learning that occurs by creating personally meaningful, working artefacts with and for a community (Berland, 2017). There are three interlinked ideas contained in this sentence: the idea that learning happens when learners create a tangible artefact, the idea that learning happens when the object created is personally meaningful to the learner, and the idea that creating artefacts within a community is an important element of learning (rather than just being enjoyable). In a very short paragraph, Parmaxi and Zaphiris suggest that these are the identifying features of constructionist learning, labelling them as [knowledge] appropriation, knowledge construction, and learning cultures

[2] There is a difference between a metaphysical position such as Plato's here (his line) and a pragmatic one. I need not assert a metaphysical position in order to be a constructionist.

(which I would call learning communities) (Parmaxi and Zaphiris, 2014, p. 454). This categorisation mirrors my 3Cs model, and I think that these three features are worth teasing out.

Knowledge appropriation

This is a stronger conception of learning than (mere) acquisition. By knowledge acquisition I mean the theory that people learn just by being given knowledge: by picking it up, as the idiom says. I think that this is a way to learn, but it is not the only way to learn, and not the type of learning that is the focus of constructionism. In order to learn how to do something, we need to do more than just acquire new knowledge, we also need to "seize" this knowledge (Parmaxi and Zaphiris, 2014, p. 454). The intensity of the verb chosen here captures the spirit of constructionist learning – learners are not just given knowledge, they need to embrace knowledge and make it their own. There is a sense here that this is something exciting for learners – that they want to grab the knowledge and make sure it does not escape them. Constructionists believe that learners need to construct their own meaning, and that they achieve this by creating personally meaningful objects, and by recognising the knowledge that they learn as their own knowledge. This gives meaning to the slogan that learning is an active process. The next feature expands on this point.

Knowledge construction

According to constructionism, the artefacts that we create are an important part of the *process* of learning, they are not merely an end *product*. When constructionists assert that we create an "object to think with" they are referring to this process: as learners construct concrete artefacts, they also construct their own knowledge, or assimilate it into their current web of knowledge (Papert, 1993; Falbel, 1993; Parmaxi and Zaphiris, 2014). One reason that this happens is because as we express ideas by putting them into practice, we cannot avoid fully understanding them. What I mean by that is this: often an idea seems clear to us when we think about it, but when we try to express it, we realise that it is not as clear as we thought. Having to articulate these ideas sharpens them and brings them into focus (Ackerman, 2001, p. 4). This is one level of construction. A deeper level happens when we actually construct our ideas. An analogy with this

latter point might be with learning to swim: I can think through the actions and articulate them in words, but actually immersing myself in the water helps me to learn on a different level. Philosophers such as Gilbert Ryle might suggest that there are two types of knowledge: knowing that and knowing how (Ryle, 1949). Constructionism suggests that the distinction is not as clear cut as this. So Falbel suggests that there are two types of construction simultaneously occurring and leading to iterative skills building and knowledge making – building a tangible object leads to the construction or assimilation of theoretical knowledge, which leads to building a better artefact and gaining better practical knowledge, which then leads to more sophisticated theoretical knowledge, and so forth (Falbel, 1993). Although I have described this process in the context of creating an artefact, I want to emphasise that these artefacts can also be written. For example, this is the iterative process that I described myself as engaging in as I began to use CLMOOC as my research topic.

Learning communities

As with constructivist theories, constructionism emphasises the importance of learning in a social setting. I think that there are two reasons why it is especially important here.

1) Feedback opportunities

The importance to learning of giving and receiving feedback is well documented (Nicol et al., 2014; Topping, 2005). However, constructionist learning is structured so that opportunities for informal feedback are optimised. When learners share their artefacts with their community, they can receive immediate feedback from their peers about what does and does not work which they can use to develop the next iteration. Also of note here is the thought that feedback is something that learners can provide for themselves, and solicit from their peers, rather than needing to wait passively until the (expert) teacher has time to provide it (Nicol and Macfarlane-Dick, 2006). However, the model of feedback in constructionism is a very different conception of feedback from the traditional model of peer review as being written comments on written work.

2) Community as audience

We often talk about teaching as a performance. If we take this thought seriously, then I think that that learning can also be understood as a performance. What I mean is this: having a (potential) audience can make me more aware of how others are part of my learning process. This model treats the audience as part of the performance – much as audiences in Shakespeare's Globe intermingled with the actors, and modern theatres such as Sheffield's Crucible build stages with no back and front. Metaphors for social media participation such as the glass bedroom (Pearson, 2009) suggest that this is how we act out our online lives, and in this case I suggest that we need a theory of learning that can incorporate this open aspect of our modern lives. Helping learners to think through what they should/not share and to think about privacy and security issues should, in my opinion, be part of education nowadays.

Learning through failure

Although not specified by Parmaxi and Zaphiris as a feature of constructionism, implicit in constructionism is the thought that we can learn from failure. An important point to note is that, for constructionists, going wrong is not characterised as failing, but as a potential learning opportunity. Making a tangible artefact and sharing it with one's learning community can be particularly useful when things do not work because others can test it with you and help you to understand what is going wrong and why. Failure, according to this line of thought, can be productive in certain situations because it can provide information to learners about what not to do, and what to modify, and although not a constructionist, Kapur makes a similar point, suggesting that there is a "latent productivity" to failure (Kapur, 2008, p. 379). Attempts to create artefacts that do not initially work can provide information (called 'rapid feedback') to the maker that helps them to better understand the problem they are trying to solve, and to produce another version of the artefact. In constructionism this process of iteration is described as tinkering, or 'bricolage'.

Bricolage

Bricolage is a loan word that is derived from the French verb 'bricoler', which translates as "to tinker", or "improvise" (the term also means "jack of all trades" in French) (Baldick, 2008, n.p.). In CLMOOC this type of activity is often

referred to as “remix”, and is an integral part of the creative play that participants engage with (Smith et al., 2016; West-Puckett et al., 2018). Merriam Webster suggests translating bricoler as “to putter about”, and this captures the spirit of CLMOOC nicely (Merriam-Webster, n.d.).

Levi-Strauss first introduces the term “bricolage” in order to make a contrast between what he calls mythological and scientific thought. He compares the bricoleur, who has a “savage mind”, makes do with the materials that they already have and puts them together in a novel way; with the engineer, who creates new, holistic systems (Levi-Strauss, 2000). Turkle and Papert take this distinction in order to make a contrast between two types of scientific methodology: the analytical approach that they identify as the approach taken by Western science and which they depict reasoning as moving from the concrete to the abstract by moving from axioms to theorems to corollaries, and bricolage which they follow Levi-Strauss and call the “science of the concrete” because it does not make the final move from the concrete to the abstract (Turkle and Papert, 1991). Although, as Turkle and Papert note, this might be an unfair characterisation of Western science, much of which already incorporates elements of iteration and reiteration (as Lakatos (1976) writes, for example), if we consider these two models as ideals they can provide us with a useful way of understanding that there are two types of methodology, and one is not superior to the other. Deleuze talks about setting up dichotomies as useful contrasts, not as actual things. I think this is what Papert means by ideals.

Turkle and Papert use this distinction between two types of scientific methodology in order to make a contrast between two styles of solving problems: the analytical style of solving problems which proceeds by planning and proceeding logically step by step, and the more concrete approach of bricolage. In the latter approach learners solve problems by trying, testing, playing around. One way of comparing these might be to suggest that planning begins with a structure, or outline, while bricolage begins with an idea. I think that when we write or create we usually incorporate aspects of both approaches. My PhD has a plan and a structure, but I write, submit, revise it as an iterative process – that is how the model of academic supervision works. A student submits a draft, receives feedback and revises until an acceptable version emerges. When we focus on the product,

and only show that, this can be hidden. When we shift to looking at the process, this becomes clearer.

I think that there are two distinct models of iteration at play here: there is the model where a learner produces an original artefact, shares it at an early stage and then refines it (this is sometimes referred to as tinkering, for example Vossoughi and Bevan suggest that tinkering is rapidly iterating and reiterating through variations on a theme), and another model where a learner takes existing artefacts and materials that are lying around and modifies them or takes and artefact that someone else has shared and modifies it (Vossoughi and Bevan, 2014). Turkle and Papert write about this second sense of constructionism, suggesting that bricoleurs do not start with a clean slate, they take existing theories and rearrange them by a process of negotiation (Turkle and Papert, 1991). I think that much of the behaviour that Ito calls HOMAGO is one or other of these senses of bricolage. Another English translation of bricolage could be "DIY" (Do It Yourself), and this translation would explain why Jenkins refers to activities such as zine making as DIY (Jenkins, 2010). In CLMOOC this type of activity is often referred to as 'remix', and is an integral part of the creative play that participants engage with.

I considered separating these two models of constructionist learning and calling one 'tinkering' and the other 'bricolage', but after careful consideration I decided to include both under the umbrella of bricolage, and describe it all as the process of both "creative and recreative activity" (Parmaxi and Zaphiris, 2014, p. 453). One reason for this decision is that language matters: describing an activity as tinkering might make learners think that they are describing, or engaging in, a trivial activity but, as I have shown, it can have deep learning outcomes. Calling it bricolage has the advantage that people are more likely to believe that it is a serious educational concept.

Conclusion

In this chapter I have set out the literature on participatory culture and connected learning and shown how it can lead to authentic, holistic learning. Connected learning is an educational framework that emphasises a model of social learning where school children take personal interests and use them in an academic context. Connected learning educators take their pupils' personal

interests, for example fandom, and consider how to harness this passion in their classrooms. Most of the literature focusses on adolescent learners engaging in extra-curricular activities, but connected learning is a flexible framework that has the potential for application across a range of settings. For example, it can be adapted so that adult learners participate in remix culture for fun, for personal development, and out of intrinsic motivation. Of particular interest here is the conceptualisation of what adolescents are doing on the internet as HOMAGO and the extension of that to participants in online lifelong learning. As I will show in a later chapter, this behaviour might look trivial, and it often is, but this 'serious play' can also lead to serendipitous learning.

I have also looked at Seymour Papert's constructionism as a possible model for learning in CLMOOC and suggested that the model of bricolage that Turkle and Papert borrow from Levi-Strauss might be an appropriate framework to interpret the practices of remix in CLMOOC. In the next chapter I will focus more directly on the structure and design of CLMOOC, beginning by considering the socio-cultural literature about learning communities.

Chapter Three: Spaces and structures

We're tired of trees. We should stop believing in trees, roots, and radicles. They've made us suffer too much. All of arborescent culture is founded on them, from biology to linguistics. Nothing is beautiful or loving or political aside from underground stems and aerial roots, adventitious growths and rhizomes.

Deleuze and Guattari, A Thousand Plateaus

In order to understand how a community such as CLMOOC can be non-hierarchical and yet also have a structure, I want to talk you through the socio-cultural aspect – in other words, I want to explain what type of structure supports CLMOOC and understand how these structures allow emergent and iterative learning to flourish. Throughout this discussion I have been characterising CLMOOC as being a learning community, but I have not yet explained what I mean by this. I am going to do this via a discussion of two models: community of practice (CoP) and affinity space. Although both have their merits, neither are a perfect fit for CLMOOC. I think affinity space is a better option, for reasons that I will explain during this discussion. However, I begin here with CoP as it is both chronologically and theoretically prior to the concept of an affinity space.

Community of practice (CoP)

CoP is a very well-used term. It is very common (far too common in my opinion) to talk about communities as being communities of practice without due consideration of what makes a CoP – as Jenkins et al. say, the term has become a buzzword for managers (Jenkins et al., 2016, p. 6). However, because it is still so widely used in higher education, I think it is important to look at the term in the context of the original educational literature and see if the model is suitable to describe an online community and a participatory culture such as CLMOOC.

The term CoP was originally devised by Lave and Wenger to describe how situated learning happens in face-to-face communities such as butchers and tailors. They define a CoP as a group of people who come together because of common interests, goals, or knowledge, and who collaborate and interact with each other (Lave and Wenger, 1991). Wenger describes a CoP by separating it into three characteristics of community, domain, and practice, and the similarity with

the structure of a culture that I identified from Durkheim strikes me here (Wenger, 2006, pp 1-2):

- Community: a community is more than a collection of people, it is a group of members who engage in joint activities. Examples from Lave and Wenger include butchers and tailors – both trades that take a considerable amount of time to learn, and which have specific values. This is identical to the Community in my 3Cs model, in that it stipulates that members must do more than connect, they must also share values and enact common practices.
- Domain: by this is meant a shared domain of interest: that is what values its members think are important, what they believe in and what they identify with. Membership of the CoP implies that the participant is committed to this interest – it is not just a passing phase. This corresponds to the Creed in my 3Cs model.
- Practice: members of a CoP need to have more than just a shared interest, they also need a shared practice, and this is one feature that distinguishes a CoP from a network. In Jenkins' terms, they need to be producers and not (just) consumers. For example, just sharing an interest in watching films is not sufficient, members of a CoP would also need to be film makers (Wenger-Trayner and Wenger-Trayner, 2015, n.p.). This corresponds to the Cultus in my 3Cs model.

CoP as model for participatory culture

Initially it seems plausible to suggest that CoP is a suitable model for a participatory culture. Jenkins et al. acknowledge the influence of CoP on their thinking, and there are obvious similarities. In particular, both the literature about CoP and participatory culture recognise that the types of practice that they are investigating are common features of a member's everyday life (Jenkins et al., 2016). As I showed earlier, Jenkins makes it clear that participatory learning cultures are not new by giving examples of crafting communities and samba schools. Lave and Wenger give similar examples and also stress that CoPs are not new phenomena, noting that because they are usually very informal, we tend not to notice them (Lave and Wenger, 1991; Wenger, 1998; Wenger, 2006). They also all share the same view of participation, in that they view participation as actually

taking part in shared social practices, so for example Lave and Wenger talk about learning as consisting of participation in the social world and Jenkins et al. write that participation is "about being part of a shared social practice, not just engaging with an online platform or a piece of content" (Lave and Wenger 1991; Jenkins et al., 2016, pp. 10-11).

All of this might suggest that CoP is a suitable model for CLMOOC, and some people think that it is. For example, some of the original designers do refer in passing to CLMOOC as a CoP (Smith et al., 2016, p. 3). However, while it is superficially plausible, there are some features that make it a poor fit, in particular the hierarchical role structure it imposes on a community. A CoP has clearly defined roles: it is composed of core members (experts) and newcomers (apprentices) who watch from the margins. These apprentices, who are also called legitimate peripheral participants, watch the experts engage in their practice and copy those experts. They learn skills by practicing them, and move gradually from the periphery of the community to the middle as they become more and more proficient. In fact, Lave and Wenger's model is more complicated than this might seem because as well as masters and apprentices there are journeymen, who are members with intermediate levels of skill, and a lot of learning occurs between apprentices and journeymen. And, of course, this learning is also a transitive process: the more experienced practitioners can also learn from those with less experience than them (Lave & Wenger, 1991; Wenger, 1998; Wenger, 2006).

I think that the strict hierarchical roles in a CoP are not well suited to a community like CLMOOC. In a CoP, learners begin as apprentices and operate on the periphery of a CoP, and as they become gradually more competent, they engage more. Learners at the centre of a CoP have made the transition from apprentice to master, and participate fully in the collaborative activities (Lave & Wenger, 1991; Wenger, 2000). By contrast, members of a participatory culture can function as experts at one moment and novices at another, depending on the particular situation. In addition, many of those lurking on the periphery are not novices, but are experts who, for one reason and another, are not currently visibly engaging with CLMOOC (Honeychurch et al., 2017). As we've seen, in CLMOOC all the facilitators are also participants, so one week they might function as the 'expert' role in a CoP, the next they might act as a legitimate peripheral participant. Membership is also often much more fluid in CLMOOC than it is in a

CoP, with participants dropping in and out as they have time and energy to interact. Another issue with CoP is that it does not look to be well suited to deal with what we might call heterogeneous skill sets – that is the fact that participants in a participatory culture do not all have identical skill sets such as butchers and tailors do, but have a range of complementary practical skills (Gogia, 2016, p. 23). So, for all these reasons I prefer not to refer to CLMOOC as a CoP.

Affinity spaces

An alternative to CoP is a model called an affinity space, which is informed by the literature about CoP, and also by writings about participatory culture. Gee uses a game called Age of Mythology in order to describe his model of an affinity space, but as I will show this model can also be used in other participatory contexts beyond gaming. He specifically develops his concept of an affinity space in response to some of the issues he identifies as arising from Lave and Wenger's CoP (Gee, 2004). Instead of trying to describe a participatory culture in terms of membership of a community, which he thinks invokes images of belonging and membership, Gee suggests that we should begin with the idea of spaces within which such participation take place because this better captures the differing levels of involvement and participation by members. He describes an affinity space as a (physical or virtual) place where people are drawn together because of a shared interest or purpose but, unlike a CoP, where members belong, an affinity space is more fluid. They are usually, though not necessarily, online spaces that are often centred around informal learning and that support and encourage sharing of skills and knowledge. He also suggests that an affinity space is not different in kind from other types of space – rather, any space can have some of the features that he identifies and be more and less like a paradigmatic affinity space, which is defined by being a combination of eleven attributes (Gee, 2004).

1. Common endeavour, not race, class, gender, or disability, is primary

People first and foremost relate to each other in an affinity space because of common practices and interests, not because of characteristics such as race, class etc.. This is not to say that these characteristics are irrelevant, but they are not what draw participants to a space. People from all ages, ethnicities,

educational levels, and cultures play/create together – sometimes anonymously or by using an alternative identity.

2. Newcomers and masters and everyone else share a common space

Unlike a CoP, experts and newcomers are not segregated in an affinity space. Newcomers might lurk to learn from those with more experience, advanced practitioners might choose to spar with each other, but all is in the open for anyone to join in and there is no hierarchy of expertise. In fact, it will often be the more advanced practitioners who lurk and watch others play. They will be drawn in to participate when something piques their interest, or they are called upon by others.

3. Some portals are strong generators

Affinity spaces are places where creativity emerges. A "strong generator" is a portal that inspires participants to be particularly creative or productive by creating new artefacts and beginning new conversations and practices. For example, in CLMOOC a participant might post a digital picture that they have drawn, and others will riff off this and post similar, or remixed, versions, using different techniques and technologies to do this.

4. Content organisation is transformed by interactional organisation

Content is not static in an affinity space, it changes depending on the participants (so it might start out being about one thing and change). Participants can help create, shape, and reshape the site and its content so that it is relevant to those participating. If we are thinking of this as a learning space, the contrast might be with a VLE full of teacher-created/curated content and activities, versus a space where learners decide where their interests lie and co-create materials and activities. The practice of remix is typical of this because content will change depending on the current interests and practices of participants.

5. Both intensive and extensive knowledge are encouraged

Intensive knowledge is specialist knowledge, extensive knowledge is broader knowledge. Both types are encouraged in an affinity space. Another difference from a CoP is this: while each participant might have a particular area of speciality, they will not all have the same one, and there is no one area that is a definitive speciality. Participants will also have, or pick up, broader knowledge of other areas. In other words, they will be bricoleurs.

6. Individual and distributed knowledge are encouraged

Participants are encouraged to both pick up and consolidate their own knowledge, and also to connect to knowledge that other members of the affinity space possess. This is called "networked knowledge" and is one of the principles of connectivism (Downes, 2007, n.p.).

7. Dispersed knowledge is encouraged

This is closely connected to the previous point. In an affinity space, people are encouraged to use knowledge that is not shared within the site itself rather than recreating it. This means that there is no overall arbiter of knowledge and experts can be external to the space. Again, this is very different from a CoP, where experts are at the centre of the community, or a traditional course, where the educator uploads approved sources of knowledge to the VLE.

8. Tacit knowledge is encouraged and honoured

Tacit knowledge is knowledge that a learner knows how to do, but cannot articulate clearly. For example, a lot of people know how to play a musical instrument but do not know any musical theory. This type of knowledge is encouraged and passed on as participants engage in collaborative play. There are also opportunities for participants to articulate their tacit knowledge, if they want – for example by mentoring another participant. This model of informal mentoring is typical of a participatory culture (see for example Jenkins et al., 2016).

9. There are many forms and routes to participation

There are many different ways to participate in an affinity space, and many different levels. One day I might spend five minutes doodling and sharing the

result, another day I might spend five hours photo editing a picture of Nessie into an image of Westminster. Someone who has never made a gif before and shares an imperfect one is applauded just as much as a master gif-maker, and both artefacts have just as much value to the community. Members do not have to lead or design, those who wish to 'just play' are valued as much as those who wish to contribute more substantially to the site. Peripheral participation (lurking) is also seen to be a valid type of behaviour. Different people will get different things from the space depending on what they are looking for – some will enjoy the collaborations; others will come to learn a specific skill or to ask for help. This makes affinity spaces ideal for the type of iterative play (bricolage) that take place in connected learning spaces such as CLMOOC.

10. There are lots of different routes to status

If people want status, there are many ways of attaining it. Different people can be good at different things – for example being an amateur artist is as valuable as being an expert flautist; being adept at photo-editing is as valued a skill as being able to make original artefacts; an encouraging cheer leader is just as important as a creator.

11. Leadership is porous and leaders are resources

There is no entrenched hierarchy in an affinity space: participants come into the space with a variety of knowledge and experiences and any leadership of learning which emerges is fluid. In other words, leaders and leadership will emerge depending upon particular aspects of the shared endeavour or the content production, and are likely to be temporary roles. I can also be a leader of one activity, a participant in another, and a lurker in many more. Leadership does not confer authority or power over the content or participants – they are merely informal guides who produce guidance for participants to follow if they wish.

When I read Gee's writings in 2016, I was reminded of Ito's work, and her recent book (Ito et al., 2019) talks about participation in affinity networks as definitive of a participatory culture. Given that it is Ito's model of HOMAGO that I use to explain participation in CLMOOC, it is unsurprising that it is a model of affinity participation, rather than community membership, that I suggest using for CLMOOC.

As I read and write about these eleven features, I realise how cleverly CLMOOC was designed, and how different the type of structure and support this is from traditional higher education courses. As we can see, these features of an affinity space map nicely onto the principles of connected learning and the properties of a participatory culture and this is no coincidence. Gee is explicitly taking the concept of a participatory culture and reframing it to talk in terms of space, rather than in terms of membership. This prompts me to wonder if there is a better word to describe CLMOOC.

Typology of forms

I have been purposefully avoiding this question so far. I have been calling CLMOOC a community, but this word never seems quite right to me, and neither does the 'collaboration' that the second C in CLMOOC stands for, because I think this implies that all participants are involved in making one thing together. CLMOOC is neither a collaborative or a co-operative, though it has aspects of both. I will often refer to it as an affinity space, or affinity network, but at other times that does not seem appropriate – especially when I am speaking about the people or a group of them.

The title of this section is taken from a chapter by Dron and Anderson called "A typology of social forms for learning" which looks at the distinguishing features of what they describe as some common online social forms (Dron and Anderson, 2014). In particular, they compare and contrast the defining features of groups and net(work)s, and compare both of these to the structure of a collective – which they describe as an emergent entity, rather than a social form, and this description piqued my interest initially. In a similar spirit Thomas and Seely Brown compare a collective with a community, and I think that this distinction is also useful here (Thomas and Seely Brown, 2011).

Groups and networks

According to Dron and Anderson, groups are structures that are set up intentionally by teachers for specific tasks or periods of time and contain specific members. Typically, they have hierarchies of control, leaders, and formal or informal processes that define how they operate. Groups exist independently of their members (for example, they can be set up first, and populated later). For

example, educators often set up groups in a VLE and ask students to sign up for one of them. By contrast net(work)s are not intentionally designed by an educator. They have no (entrenched) leaders, hierarchies or processes, and do not exist independently of their members - they are no more than “the connections between people” (Dron and Anderson, 2014, p. 4). Nets are the typical social form underpinning informal learning while groups are widely used in formal education (Dron and Anderson, 2014). A group, according to this model, is a container that people can be put into or put themselves into and can exist without members. A network is formed from the connections between people and does not exist without people.

In the table below I set out some of the features of groups and net(work)s as noted above to make clear how they compare to and contrast with each other.

Feature	**Group**	**Net(work)**
Leader	Yes	No
Hierarchy	Yes	No
[Teacher] Created	Yes	No
Designed (in)formal processes	Yes	No
Exist independently of members	Yes	No
Measurable size	Yes	No

Table 5 Defining features of groups and net(work)s

Communities and collectives

The other pair of social forms of relevance here are those of a community and a collective. Communities are a type of social form (an institution, for Thomas and Seely Brown, 2011) which construct a sense of identity for members, are exclusive to each other and have high barriers to entry and exit. Collectives are designed to support individual agency, typically have no barriers to entry or exit and are not exclusive. A community reinforces a sense of belonging, whereas a collective is held together by participation and has no raison d'être above this.

(Thomas and Seely Brown, 2011). I have summarised the defining features of each in the table below.

Community	**Collective**
Belong (learn to belong)	Participate (belong to learn)
Investment flows from individual to institution	Investment flows from institution to individual
Investment of resources to join	Few barriers to membership
Exclusive [not usual to be a member of multiple golf clubs]	Inclusive [can be part of many overlapping interest groups]
(Can be) passive	Active (cannot be passive)

Table 6 Defining features of communities and collectives

Ultimately none of these terms encapsulate the structure of and relationships in CLMOOC. I think that CLMOOC has elements of all of the above terms, depending on how it is being looked at. As Dron and Anderson note, these social forms overlap and blend into each other and so that means that CLMOOC will have features of each social form, depending on which aspect of it is being considered (Dron and Anderson, 2014, p. 6). However, much as I dislike having to decide on one term, I do often refer to CLMOOC as a community with members, and at times we also use affinity space or affinity network. Before I move on from the question of what to call CLMOOC, and the related issue of what structure will best support a participatory culture, I would like to return to the model of an affinity space and address a couple of concerns about its suitability.

One potential problem with affinity spaces is a feature that Gee explicitly chooses. As a response to CoP, which puts the emphasis on membership and belonging, Gee prioritises the affinity that participants feel to an activity that occurs in a participatory culture as the most important feature. In a maker space like CLMOOC, having an affinity with the activities is obviously important – this is one of the pillars of my 3Cs model of a participatory culture, and it is also a vital aspect of a CoP. However, when we return to an affinity space (a game in Gee's

original example, a maker space for CLMOOC), we would not return if the others there were not also congenial. As Bommarito notes, a sense of "belongingness" and the creation of ties to other participants are also important (Bommarito 2014). What Gee seems to be missing is the importance of meaningful connections to others – we might initially go to our affinity spaces because we are interested in the activities, but we stay at least partly because there are others that we like and respect. Here, again, I would like to return to my 3Cs model of a culture and emphasise that all three elements are as important as the others. Gee's model challenges the need for the strict hierarchy that we find in a CoP, and I think he correctly shows us that we need a model that encompasses heterogenous skill sets and levels of ability; but it goes too far if it ignores the importance of social ties.

Another issue that Bommarito notes is that affinity spaces might not be suitable for novices because they do not offer enough support – they assume that learners will be able to participate in open learning without help. For example, they tend to assume a "high level of interconnectivity, flexibility and complexity" from participant interactions (Bommarito, 2014). The assumption that learners will be able to participate in open learning without support is a similar fallacy to the "digital natives" assumption. At the turn of the century, Prensky wrote a paper (Prensky, 2001) based on the premise that modern students are digital natives, by which he meant that because they had grown up immersed in a digital world, they would intuitively know how to use complicated technology without the need to be taught. However, as Bennett et al. caution, we should be wary of making generalisations about the capability of a whole generation of students, not least because Prensky's original assertions were based on "anecdotes and appeals to common-sense beliefs" (Bennett, Mahon and Kervin, 2008, p. 777). What is apparent from the more recent literature is that while there are high levels of *ownership* of computers and mobile phones, only a minority of students are digital *creators* (Kcavik, Caruso and Morgaon, 2004, cited in Bennett et al., 2008, p. 778). This suggests that there could be as much variety of digital competency within the generation as digital natives as there is between this generation and any other,

The research that Bennett et al. cite has important similarities with the research from Ito and Jenkins that I wrote about in an earlier chapter. Ito's research into HOMAGO shows that while the majority of youths are happy to "hang out" (i.e. consume) online, only a minority have the digital skills needed to "mess

around" or "geek out", that is, to use social media in order to create and remix artefacts (Ito, 2010; 2019); Jenkins research into fandom starkly contrasts the majority of sci-fi fans who merely watch (consumed) sci-fi programmes with a minority of more active fans, who take the raw materials and remix them (Jenkins, 1992). All of these researchers show us that we and we should not make assumptions about the ability of modern students to use technology in a particular way. There are often similar suppositions about open learning: that because participants are used to using social media, they will find participation in open learning activities easy, and will not need any help, and we should draw a similar conclusion. I think that the design of CLMOOC can address these concerns.

And there is another tension for me. I was initially drawn to affinity spaces as they emphasise the heterogenous nature of participants and levels of participation, but I have come to realise that they, too, are homogenous in that they circle around one activity (a game, in Gee's example), and do not do justice to the richness of activity that occurs in a remix culture such as CLMOOC. One distinction that I did not mention earlier, and that might help us here, is the distinction between spaces and places. Downes talks about the difference between spaces, which are public, and places which are private; and of open spaces for learning, and closed learning places (this latter refers to the difference between the open web and the closed VLE; the cMOOC and the xMOOC) (Downes, 2000; Downes, 2015). Places evoke associations with communities, culture, belonging (McKee and Porter, 2012). Can we make sense of an open place? Is it possible to be open and welcoming to others while still retaining a sense of membership? I think that it is – in fact, I think that is exactly what CLMOOC does.

Design of CLMOOC

In an earlier chapter I set out some of the features of CLMOOC and emphasised how important it was to realise that CLMOOC was carefully designed. The previous sections on bricolage and affinity spaces have shown some of the possibilities for designing participatory learning spaces. In this section I am going to look at a series of papers written by some of the early designers and facilitators of CLMOOC. As I do this, I will tie all of this into the fundamentals of participatory culture (fandom, HOMAGO), and show how the CLMOOC design encouraged participatory learning to emerge and to surpass the expectations of the original

facilitators. A phrase that I am going to use to describe this is 'scaffolded autonomy'. This might sound like a contradiction in terms but it is not, as I will explain.

The first thing I want to emphasise is that CLMOOC was designed to be a collaboration, and not a course (Educator Innovator, 2013). Anna Smith and her co-writers emphasise that CLMOOC was designed in contrast with "for profit MOOCs" (i.e., xMOOCs) and that it was influenced by earlier cMOOCs (Smith et al., 2016). By this they mean that CLMOOC is production-centred and participant led, rather than being focussed on transferring knowledge by experts. CLMOOC was designed to be a set of themed activities that participants would both design and complete with each other, rather than a set of resources to consume: there was no curriculum predetermined by designers, there were no educators 'gate-keeping' knowledge, everything was allowed to emerge over time – it was a curriculum-in-the-making or "event-in-the-making" in Roth's sense (Roth, 2013, cited in Smith et al., 2016, p. 2). Activities would serendipitously emerge across the various social media platforms used by CLMOOC participants; participation with other people, not content, came first; and participation, not interaction with content, was the intended mode of engagement. The designers call this "an infrastructuring strategy that is intentionally fragmentary" to allow for the pursuit of possibility (West-Puckett et al., 2018). This might seem simple, but actually I think it requires a very clever balancing act by the designer-facilitators: if too much space is left for creativity then you run the risk that people will not know what to do, and nothing will happen; if too much is stipulated then potential creativity might be stifled.

As well as designing for different ways of participation there were also activities designed for differing levels– a metaphor that facilitators have used is that of dipping a toe into a quick activity or diving headfirst into a larger one (CLMOOC Admin, 2016a). Activities could be completed with no technical expertise, or with high levels of specialist knowledge, and participants could spend whatever time they had or needed on activities – a five-minute creation was just as welcome as an artefact that took hours, or even days, to create. This dip, swim, dive metaphor compares to the different levels of activity in HOMAGO.

The similarities with the features of Gee's affinity space are obvious here, and I note his original features in brackets. People participate in CLMOOC because of common interests, such as the theory and practices of connected learning (1).

The space is not segregated into experts and newcomers, all members of CLMOOC are first and foremost participants (2). CLMOOC is a space where creativity serendipitously emerges (3) and any participant can take the conversation and activities in any direction they choose (4). No one type of knowledge is thought best: both specialists and generalists are valued, with participants being encouraged both to consolidate their own knowledge and to reach out to others with expertise within CLMOOC and outwith it (5-7), and participants with tacit knowledge and practical skills are valued as much as theoretical experts (8). CLMOOC has a multitude of ways to participate – both by different modes of activity and different levels of engagement (9). No one is thought to be more important than anyone else – CLMOOC recognised the value of each different role (10). Most important, in my opinion, CLMOOC does not have an entrenched hierarchy (11).

The final attribute of an affinity space is also one of the features of a participatory culture: there is a mechanism for passing knowledge from expert to novice by a type of informal mentorship (Jenkins et al., 2016). This was given careful thought by the CLMOOC designers. Facilitation was carefully scoped out: in 2013, the educators from NWP who designed CLMOOC were also the first facilitators (they did not receive extra money for this) (Smith et al., 2016).[3] This practice has continued. In CLMOOC, everybody is first and foremost a participant, and facilitators take part in Make Cycle activities with as much excitement and enthusiasm as any other participant – they are not subject experts imparting knowledge; they are practitioners with some experience of, and love for, connected learning. Typically, at the planning stage, one or two facilitators would form a Make Cycle team and take responsibility for writing the blog posts etc. for a given week, but all of this would be a collaborative effort with others jumping in to help or take over as needed. In addition, all of the facilitators also participated in all of the activities, and took it in terms to lead on particular weeks/activities according to their skills and interests. The structure of leadership here, then, is fluid and open, not rigid and hierarchical. In 2014 and 2015, these original

[3] The NWP paid for one FT member of staff, Christina Cantrell, who is also one of the authors of two of the papers cited here. They also gave small grants to particular individuals for the creation of specific artefacts such as the Make Bank.

designers guided the project leads through the design process. In 2016, some of this original group mentored a new group of facilitators through the principles and practicalities of facilitation in a participatory culture.

A further reason for the success of CLMOOC was that the team thought very carefully about facilitation. Although they themselves were new to MOOC facilitation, some of them had participated in other cMOOCs and they knew how overwhelming the experience could be to new comers, so they thought carefully about how to support these learners. In 2014 and 2015, in order to help with this, as well as the facilitators, the role of supporter was added. These were NWP educators who had some experience of CLMOOC, and their role – as well as engaging as regular participants – was to encourage and support others to take a lead on a particular activity (West-Puckett et al., 2018). So, for example, a participant might suggest an activity, and the supporter would pick up this thought and suggest that this participant might like to take a lead in designing it. The supporter would then join in, encouraging and inviting others to also take part. This role turned out to be very important. I wrote earlier of the two issues that MOOCs face: xMOOCs of a lack of community but a highly structured course design; cMOOCs of a lack of structure but a highly connected community for some. These superficially small acts of reaching out to less connected members help to draw more participants into the centre of the community. In order to further help participants, they decided to explicitly affirm the many types of participation, including lurking, that they thought they might see. They drafted an "affirmation message" that was used throughout the MOOC:

> You're okay!…And so is your level of participation! Participants are welcome to join us only for Twitter chats on Friday. It is perfectly acceptable to simply read and write about Connected Learning. Even if you don't join in our suggested makes, you're making meaning! That's making, too.
>
> Are you lurking? WE LOVE LURKERS! Lurk over here. Lurk around. Lurk a little longer.
>
> While we hope to support and encourage group formation, group makes, and group leadership around common interests and themes, it is perfectly acceptable- celebrated even- to join in as a rugged individual who belongs

to no groups, only Tweets and runs. Makes and leaves. Or blogs and bolts. (Dillon, 2014, n.p.)

This friendly message, together with the more focussed interventions, helped to ensure that all types and levels of participation were seen to be valuable. I think that the structure of facilitation in CLMOOC, while not specifically designed as a response to Bommarito, helps to address his concerns about the lack of a feeling of belonging in an affinity space. It also helps to address some shortcomings with both x and cMOOCS: xMOOCs which suffer from high attrition rates because of the lack of a sense of community and an overly rigid structure so if people cannot keep up, they feel lost, and cMOOCs where some participants drop out because they feel overwhelmed by the volume of activity or conversation/ don't know where to start/ hate the lack of structure/ don't know who to turn to for help.

Another way of understanding the issues that open courses face is to look at them in terms of Moore's theory of transactional distance, which he defines as "a psychological and communication space to be crossed, a space of potential misunderstanding between the inputs of instructor and those of the learner" (Moore, 1997, p. 20). Moore describes this as being the relationship between three variables: dialogue, structure and learner autonomy. In CLMOOC I would talk similarly in terms of connection, content and self-determination. Usually, a course that is highly structured (such as an xMOOC) will need little dialogue between learner and education in order to explain the activities, so the transactional distance is high (low learner autonomy, high self-determination). By contrast, in a course with little structure, learners will need more dialogue with the educator in order to understand what is expected of them. The transactional distance will therefore be low, (low learner autonomy, low self-determination). The challenge is to make space for learner autonomy without allowing learners to inadvertently fall through the gaps, but without overloading the educator. The CLMOOC designers tried to address these issues with their "infrastructuring strategy" which I have outlined. This is, I think, a type of scaffolding, but it rests upon a different metaphorical imagery and language than the usual one. In CLMOOC there is a curriculum with 'gaps and holes', and a structure of facilitation and support so that learners do not fall through those holes, but use them as guidelines to grow into.

Usually, scaffolding is thought of as a set of supports that expert educators build and put in place so that novice learners do not fall over or fall through the gaps. For example, it is often understood as consisting in a set of activities provided by an educator to support the student (Wood, Bruner and Ross, 1976). In this model of scaffolding, the support is tapered off as it becomes unnecessary, much as a scaffold is removed from a building during construction, or as dissolvable stitches gradually fade away. If this is successful, the learner will then be able to complete the task again on his own. I often think of this type of scaffolding as being like the trainer wheels children have on their 'big' bikes. But I think there is another important type of support at play in CLMOOC. Another way to look at support for learners is to consider learning how to ice skate – where more experienced skaters glide across the ice watching those at the edge, ready to hold out a helping hand to steady those making their first ventures away from the edge, and to offer advice about how to stay upright. The scaffolding might be provided by a mentor who is on hand to provide a friendly face and encouragement when needed, and to provide help as needed. Participants are free to do what that want, but more experienced connected learners are on hand to help them to achieve it and to cheer them on as they do so. I think that this structure would provide a rich model of scaffolding where learners feel confident in showing creations and asking for help and advice as they need. Models like this are particularly valuable for remote, blended and online learning and teaching, but they are also of benefit in face-to-face situations.

Conclusion

In this chapter I asked what sort of structure best supported a participatory culture of learning. I considered CoP and affinity space, and concluded that both are problematic. The hierarchal structure of a CoP make it unsuitable for a maker space such as CLMOOC where members have heterogenous skills and interests. Affinity space is a better model that CoP in some ways because it begins with the space, not with the members. In addition, it does not have a rigid structure of hierarchical membership of CoP, and it can cope better with the thought that participants are likely to have a variety of heterogeneous skills and interests. However, it is still not well equipped to explain heterogenous interests, and it lacks an appreciation of the importance of social ties. I also looked at the design

and structure of CLMOOC and concluded that though it might have no rigid structure, it does still have a structure and we should not assume that it will evolve or endure without some support.

This concludes the theoretical phase of my research. I have talked you through the literature about connected learning, and shown how it might apply to CLMOOC, and I have looked at the educational theory of connectionism with its practice of bricolage and suggested that these make an appropriate model for the practices of remix that are typical of CLMOOC. The next stage of this research is to show you CLMOOC in action, and I will do that in the next section of this thesis.

Section Two: Investigation and Interpretation

Chapter Four: Ethics and data collection methods

Thoughts without content are empty, intuitions without concepts are blind.

Kant, Critique of Pure Reason

Working out an acceptable ethical practice for this research was unexpectedly hard, and writing it out to explain it in this thesis was even harder. As an academic philosopher with twenty years' experience of teaching undergraduate ethics I had assumed that I would already have all of the necessary theoretical apparatus at my fingertips and would find it easy to work out an appropriate ethical approach to researching open data and participatory culture. But I underestimated how much there would be to think about and how important it would be for me to find an appropriate ethical stance, and how my intuitions about what this would look like would change as my research methodology evolved.

I did not think it was important, though, at first. I submitted my ethics application back in 2016. At the time I thought of this as a bureaucratic exercise that had to be completed, and I just wanted to get it out of the way so that I could forget about it and get on with my research. I was probably also, if I am honest, a bit arrogant because of my philosophical background and assumed I knew more about all this than I actually did. However, my first draft was returned for revisions. As I looked at the feedback and started to think about how to address it, I realised that I had only been paying lip service to what I perceived to be annoying red tape, rather than approaching the issue as an ethical researcher, and I began to think properly about some of the issues that might arise from using my community as a subject of my research. As I rewrote my application, I found that I also had to show that I had thought through the issues, and to explicitly set out my ethical intuitions about using publicly available data. Ultimately, undertaking this exercise led me to a deeper understanding of my implicit feelings about the types of research I wanted to do and, more importantly, the types of research I did not want to do. It has also helped me to begin to articulate those thoughts and use them to help shape my research. Once I realised that, for me at least, ethical and methodological issues are interlinked, I started to think about which sorts of

method would be appropriate and which would not. In fact, the shape of my research was fundamentally changed as a result of thinking through these issues because I began to think about the consequences of using my community as *research data*, and when I framed it in these terms, I realised just what a complicated issue it was and how potentially damaging it could be to me and to my community. I then encountered another issue. Because CLMOOC is a community of creators who work out in the open, I wanted my research to be an authentic representation of that community that was also open to scrutiny, but I was not sure how to frame this so that the ethics committee would approve it. In fact, I am not sure how much I understood at the time about the nuances and how much has come later, but I do know that my appreciation has grown greatly over the years and that I now see ethical deliberation as an ongoing process, and not a hurdle to jump over.

I think that these issues are important enough to warrant a full discussion, which is why I have made the decision to have this as a separate chapter dedicated to ethical issues rather than incorporating a statement about having ethical approval into a discussion of methodological approaches. In this chapter I am going to walk you through my ethics application and my ongoing ethical deliberations. As I do this I will suggest some questions that any social media researcher should ask themselves, and explain my reasons for my particular answers. I will also sketch out a process for ethical decision making that has its roots in Aristotle and suggest how this might be updated as an ethics of care for participatory educators and researchers.

I began this PhD in 2013, but it was really in 2016 that I began to think about this research and that was when I submitted my ethics application. As I said, when I first submitted it, I did not think the process of getting ethical approval was going to be complicated. I had previously submitted staff applications for evaluations of undergraduate student data, where I had no relationship with the participants so issues of power were not relevant and the data collected (for example about which computer operating system they preferred) was impersonal and non-attributable. Questions about anonymity and authorship had not arisen in these projects. I had not considered the implications of conducting research about people that I knew and was friends with.

At the time of writing my ethics application it all seemed to be so urgent to submit the forms and get on with my research. The insistence that ethical approval will not be granted retrospectively, and that no research can commence before approval has been granted, is particularly problematic for anyone who wants to undertake reflective research on their own practice, and to those considering autoethnographic and participatory research. As Morse and Richards highlight, participatory research begins the minute a researcher engages with a community – how could it not? (Morse and Richards, 2002). I find that trying to separate out what I have found out about CLMOOC before and after receiving my ethical approval is just not possible – it is not neatly packaged blocks of data that I collected, it is a gradual process of acclimatisation into a community and familiarisation with its norms and practices. I want to emphasise that am not suggesting that there should be no need for ethical approval for participatory research – quite the opposite. I think that it is important to approach these types of research in a thoughtful way and to be expected to articulate one's ethical decisions. However, the forms used for institutional ethical approval are designed with one type of research in mind: a linear process where data is collected and then analysed. It is very difficult to shoe-horn more open, authentic types of research into boxes not designed with this in mind – the process does not encourage a holistic, deliberative approach to research. I am not alone in thinking this. Yvonna Lincoln talks about the methodological conservatism of Institutional Research Boards (ethics committees) and the potential of this attitude to constrain qualitative research, particularly what she calls "experience-near" types of research (Lincoln, 2005, p. 175). I read her paper as I was working on the resubmission of my ethics application and I was concerned to read her saying that some institutions would reject applications for doctoral researchers who wanted to undertake participatory types of research. This really worried me – I was keen to get on with my research and I felt upset that unknown, unfriendly gatekeepers might forbid me from doing anything meaningful.

The funny thing is that, once I got my approval and started to think about the shape of my research, I realised that a lot of the questions on the form could have prompted me to ask questions that I was now asking – it is just that they were not structured in such a way as to encourage that. What I am going to do in this chapter is to reconstruct the thought processes that I have gone through over the

last few years and set out the structured questions that I think should be asked by a reflective researcher.

Types of justification

The first questions I wanted to find answers to were about what sorts of justification there were for conducting social media research. In particular, I wondered whether researchers need to ask permission to analyse and interpret social media data - and if so, who from. When I first decided to use Twitter conversations for my research, I asked myself whether there was a need to seek ethical approval for my research from the university ethics committee. As Twitter data is publicly available by default, I thought that it was an open question whether I needed to seek explicit permission to use what is already freely available in the public domain. Ultimately, after considering the literature, I decided that I should seek ethical approval for my research, because of the type of research I wanted to do, but I think that other researchers/projects might justifiably come to a different conclusion, depending on what data they want to collect and what they want to use it for. In order to think all of this through, I found it helpful to think of this in terms of different types and level of justification for using Twitter data. At the base level are questions about what researchers actually are allowed to do, or not do. Then there is a higher level with questions about what researchers should be allowed to do, or not do and why this should be allowed for participatory research. The distinction I am highlighting here is between what is legally allowed and the question is what is morally acceptable, and what ethical reasons there might be for permitting or prohibiting specific types of research.

Permissible

As I am using Twitter data the first thing that I did was to consult the Twitter rules and regulations to see what they said. These made it clear that I was legally permitted to use Twitter data as I wanted without asking for any user's permission. The Twitter Terms of Service documentation states that when someone signs up for a Twitter account, they agree to the statement: "this license is you authorizing us to make your Tweets on the Twitter Services available to the rest of the world and to let others do the same" (Twitter, 2020, Section 5). Some

people think that this answer is sufficient to conduct research on Twitter data. For example, Skrypnyk et al. argue that there is no need for ethical clearance for Twitter research because all data is in the public domain (Skrypnyk et al., 2015). And maybe this is true, for some research projects. However, I think that this should depend on the type of research project one has in mind. If, for example, I was planning a quantitative study on a large, anonymous data set, with no identifiers being included in any graphs, images or text, then I might argue that there was no need to seek approval from the Twitter users involved, or even to gain ethical approval from my university. In fact, in some cases this will be the only way to conduct this type of research because it is time critical. For example, sometimes a hashtag emerges with no warning, at other times a hashtag will trend unexpectedly, and hence it is impossible to seek ethical approval for certain social media research projects in advance. Under certain circumstances, expecting social media researchers to wait until gatekeepers have deemed a project to be ethical seems unreasonable, to put it mildly. However, for the sort of research that I am proposing, with potentially identifiable participants, and time to think about it in advance, I did not think this answer was sufficient. To my mind, the mere fact of something being legal or not illegal (or allowed according to Terms of Service) is not sufficient to conclude that it is morally acceptable. I would suggest that this base level of permissibility is necessary, but it is not sufficient. The rules and Terms of Service of any service should always be consulted in order to ensure that the particular type of research is allowed and, if they do so allow, we should move to the next level, which is to think about what our ethical theories tell us should be allowed.

Codes of ethics

Having ascertained that I was not breaking any legal rules by doing this research, my next stage was to look at what I ought to be able to do with the Twitter conversations I was collecting: what should be ethically permitted or prohibited and why? In order to think this through I consulted several codes of ethics. Two in particular were useful for me to think all of this through: a set of guidelines published by Ipsos Mori, and the ethical guidance published by Association of Internet Researchers (AoIR) (Evans et al., 2015; AoIR, 2002; AoIR, 2012).

The set of guidelines published by Ipsos Mori were written primarily for market researchers, but they also included questions about academic research so seemed to be applicable to my questions. I also thought that these guidelines were particularly relevant because they surveyed non-academics and asked them what they thought researchers should be able to do with social media posts. The results of this survey were surprising: 60% of respondents thought that data should not be shared with university researchers. The survey also asked respondents questions about which sorts of research they would approve if they sat on an ethics committee, and found that 41% would not give approval for a research project that did not seek direct consent from users. One further statistic that stood out for me was that only 38% were aware that, according to the Twitter Terms of Service, research on users' data was permissible without explicit consent from them. This made me think that I should be open about my research, and I have attempted to let participants know that I am writing this PhD about CLMOOC by speaking about it openly, blogging about it and posting summaries to CLMOOC social media channels.

Based on the responses to their survey and focus groups, Ipsos Mori provided a set of recommendations for social media researchers (Evans et al., 2015, p7). One that stood out for me was that best practice should be continuously reviewed. That chimed with my desire for an iterative approach to research and practice, and it is a recommendation that I have adopted. The Ipsos Mori recommendations also helped to motivate my desire to conduct participatory research with CLMOOC, and not to hide the preliminary results from anyone who wished to see them.

I also found that the guidelines written by the Association of Internet Researchers were particularly useful (AoIR, 2002; 2012). These are not a set of rules, but a set of considerations for prospective researchers to keep in mind as they are designing and conducting their research. The main thrust of these guidelines is the idea that the ethics of online research is better seen as a deliberative approach rather than as a rigid code of practice because ethical issues are context dependent. This being so, the best way to approach any research is to have an approach that is adaptive and inductive, rather than a set of rigid rules - a deliberative approach is more likely to lead to "more ethically legitimate outcomes" than alternatives (AoIR 2012, p.5). This seemed, and still seems, right to me for at least two reasons – first that ethical rules need to be internalised by

an individual, they should not be imposed by others and second that, as AoIR also suggests, the process of being ethical should continue far beyond an initial application for ethical approval:

> We emphasize that ethical concepts … are not just regulatory hurdles to be jumped through at the beginning stages of research, but concepts that ground ethical inquiry. As such, they should be assessed and considered throughout each stage of the research. (AoIR 2012, p. 5)

I liked this very much – the recognition that there was more to getting ethical approval that just red tape rang true with me and I decided to adopt their suggestions. This has guided my ethical approach, meaning that I explicitly acknowledge that my ethical beliefs are evolving and something that I will keep reflecting on and refining beyond this PhD. Likewise, my research is an iterative process where I keep reflecting upon my feelings and checking my findings periodically with the CLMOOC community. This passage in particular is a underpins my research:

> At its most fundamental level, we recognize that ethical decision-making interweaves one's fundamental world view (ontology, epistemology, values, etc.), one's academic and political environment (purposes), one's defining disciplinary assumptions, and one's methodological stances. Decision making occurs at many junctures in the cycle of inquiry, including research design, research conduct, and research production and dissemination. (AoIR 2012, p. 3)

As I said above, the revelation for me was when I stopped thinking of ethical approval as something I had to get signed off, and started thinking of it as a deliberative process that I needed to think through. The way that I understand this process is to think of it as a process of practical judgement, called phronesis, which has its basis in Aristotle's Ethics and is a mode of ethical reasoning used by a branch of philosophy called virtue ethics. Aristotle describes an ethical judgement as one that requires a full and detailed knowledge of all of the relevant facts (Nichomachean Ethics, 1144b 14-17). What should be done by a moral agent on any given occasion, according to Aristotle, is context dependent, so there can be no simple rule book for ethics. Russell describes Aristotle's ethics as ethics which appeal to the "respectable middle-aged" - he meant this disparagingly, of course,

but I think there's a lot of truth in this (Russell, 1946, p. 185). An ethical position is one that is carefully considered, not one that can be quickly learnt. This becomes particularly important when we start to think about the values that should underpin participatory research.

Although I find Aristotle's broad approach appealing, I was not particularly keen to use his original writings. Thankfully there are more recent writings to use. One such writer is Nel Noddings, who bases her moral reasoning in an ethics of care. I suggest that this is the ethical theory to base participatory research around. We learn to be caring, and authentic, because that is an appropriate type of response, not because we are told by others that we should care. As Noddings says, we are not just justified, we are *obligated* to do what is required (Noddings, 2013, pp. 81-2).

Ethical Considerations

Having decided upon an ethical decision-making process, I needed to consider which values were relevant to me and my community and what other factors would be important. Care would underpin it all, but care about what? The ethics application asked for a consideration of risk, which was obviously important to think about, and this also prompted me to ask questions about potential hurt and harm. It also asked questions about privacy and anonymity, and consent. I thought that I should also look at the values that underpinned CLMOOC and see if my research could inadvertently undermine, or offend any of these. When I talk to participants about this, the words authenticity, trust and respect always crop up and so I knew I needed to consider these. Another issue that is important is that of how to deal with anonymity and attribution in a remix culture.

Risk

At the beginning of the University of Glasgow College of Social Sciences (CoSS) ethics application form (I am specifying this here, as other colleges have simpler forms), the researcher is asked to give a statement about the possible risks to participants. I have included my completed form as an appendix. However, in the case of PhD applications it is the supervisor, not the researcher, who completes this section. In the case of my application, we had a long conversation about the nature of my research, and agreed that it was low risk because CLMOOC

participants are adult educators, not from vulnerable groups, and any questions I asked would be non-intrusive. I still think this is correct, but what I think is missing from the forms is a consideration of the potential harm that could be done to the community as a result of my publishing my thesis. This did not concern me at the time of submitting my application, but it is a question that has occupied my mind during the years that I have been working towards my PhD, and if I was submitting my application now, I think that I would write it differently. I also feel very strongly that, as researcher, it should be me and not just the supervisor who writes the section on potential risks.

Hurt and Harm

The most important consideration for any researcher is, of course, the potential of hurt or harm any of the participants. Although it is important to think about this at the beginning of any research project, there also needs to be an ongoing consideration of what harm research might (advertently or inadvertently) do to participants. A real concern, and something that I know has happened elsewhere, is the issue of unintended hurt. This has been at the front of my mind throughout my research - how do I ensure that I do not misrepresent someone, or leave them out? In particular, the question of how I should represent my community is one that has occupied me more and more as my research has progressed. I do not have easy answers to any of this, just questions to remind myself not to be complacent.

Power

When I first drafted this chapter, I did not include a discussion of power. However, as I reflected on the issues surrounding hurt and harm I realised that I needed to think explicitly about the power dynamics involved in participatory research. I am used to thinking about power in terms of the relationship between a teacher and students: to ensure that students are not, and do not, feel coerced into participating in a research project because they are concerned about the impact on their learning and grades if they refuse; and to put in place safeguards to avoid this (such as the teacher not assessing students, or only interviewing/surveying them after grades are returned). However, there are other dimensions of power that I needed to consider. One of these, I came to realise, is

the power that I hold over others just by conducting this research. I talked in the previous section about the inadvertent hurt that I worried about causing, and that led me to think about my relationship with others in the community. I have a lot of social capital in CLMOOC – I am known to be one of the core facilitators and to be well connected with other core members. What if someone really disagreed with what I was doing but did not feel able to speak up? I think that I am friendly and approachable – but I could be wrong.

There was also another dimension that I realised I needed to consider. I was keen to make my research participatory, and to ensure that anyone who wanted to contribute to be able to do so, but I realised that by doing this I might inadvertently make my friends feel that they had to contribute, although they did not really have the time. CLMOOC participants are a very generous bunch of people, who like to help others (that is part of our core values) so this was a real concern. This led me to think carefully about how often I asked for feedback.

Consent

Another issue that is obviously important is that of consent. As Knowles notes, consent is the "miracle ingredient" that transforms violations of rights into legitimate acts (Knowles, 2001, pp. 261-262). So when we think about setting up research projects, we usually assume that participants will be able to consent or to withhold their consent from participating in a project or having their data used. And on the whole I agree. The guidelines from Ispos Mori suggest that the standard approach to social media research should be to seek consent and the CoSS ethics form made it clear that seeking consent is the norm. However, as I have already discussed, getting consent for the posts that people make on social media is not always straightforward. This worried me – at one stage I wondered whether I would be able to get permission for my research without committing myself to obtaining explicit consent from any use whose posts I wanted to include. Since I submitted my forms in 2016, thinking about ethics for social media has progressed, and CoSS now has a separate application process for social media research, about these would not have helped me even had they been available at the time because they focus on quantitative research.

I did wonder whether I should limit my data analysis just to those who explicitly gave consent, but that raised other issues about the validity of my

research. If I limited that to only those I could ask to explicitly consent, then I ran the risk of excluding voices that I did not know, and who might have opinions that were at odds with those in my network. So I asked, and was given permission, to use data that was posted openly to Twitter without the need for explicit consent. However, as I said, I had not asked for permission to use people's real names and that raised another set of issues for me – around authorship and attribution versus privacy and anonymity.

Authorship and Anonymity

An issue that troubled me from the outset was the issue of anonymity. It is often assumed that participants should be anonymous, and some forms ask researchers to describe how the anonymity of participants will be maintained. This led me to a dilemma. At the time that I put together my ethics application I felt that if I submitted an application based on identifying participants by their given names it was likely to be rejected, but as I also thought that my actual thesis was going to be a closed piece of work read by very few people, I did not think it was important. However, as I have continued to talk about my research with the CLMOOC community, I realise that many participants want to read my research, and that, because we are an open community with a practice of sharing work, they ought to be able to do so if they wish. And this raised other issues in my mind: the need for me to be accountable to my community (which I hope I have addressed with my participatory methods) and the right of creative people to have their work acknowledged, including their words. This is at odds with the requirement of using pseudonyms that I was bound to use. At this late stage I did not want to return to the black box of ethical approval, so I was stuck. However, this is the consideration I should have gone through. As far as I can see, there are the following options:

Twitter handles

I could use Twitter names as pseudonyms. This might seem plausible at first glance. However, there are two issues: first people often use their given names as Twitter handles, or something that is very close to them; and second Twitter handles are often as identifiable as given names. For example, I think of many of my online friends by their given name and by their social media name(s). They are

also quite searchable – if you do an online search for mine it will take you quickly to my University web page, and my full contact details.

Pseudonyms

I could use a pseudonym for each person. This is, of course, a common method in educational research, and I had ethical permission to do this. However, as Bruckman notes, if I added verbatim quotations (for example, of tweets) then these quotations would be searchable and therefore identifiable (Bruckman, 2002).

Paraphrase

I could paraphrase any tweets etc., that I wanted to include (Bruckman, 2002). This would mean that they were less likely to be traced back to the author. However, I also ran the risk of poorly paraphrasing and changing the original intent. It also felt inauthentic to take this approach, not least because the tweets were so short (140 characters at the time of this analysis). In an open community such as CLMOOC, not attributing authorship seemed morally wrong.

All of the above led me to believe that anonymity was not really possible when working with open data, and Ipsos Mori agree, writing that "there can be no guarantee of full anonymity within social media research" (Evans et al., 2015, p47).

In fact, although this approach was not open to me, there is an argument for using people's given names just in the cases where they explicitly say that this is their preference. This is the approach taken by a research project undertaken by some other members of the CLMOOC community. Smith et al. asked for ethical approval (from the IRB at the University of Illinois) to look at CLMOOC and were told that it was not needed as data was in the public domain. Like me, they felt uncomfortable with that attitude to personal (though open) data (Smith et al., 2016). I talked to the first author, Anna Smith, via Facebook Messenger about all of this. They decided to ask participants whether they would prefer to be referred to by their first name or by a pseudonym. Where there was no response, the researchers did not assume consent, but used a pseudonym instead (Smith et al., 2016, p. 8).

Ultimately what I have decided to do is to anonymise the tweets I have used and refer to each participant by a number, and I will describe this process in the

next chapter. I have also gone beyond the requirements of the ethics committee and spoken to those whose words I want to use in order to ensure that they are happy to be included in this thesis.

Authenticity, trust and respect

Another consideration, possibly the most important of all, is the issue of authenticity. When asked what they think is the most important, CLMOOC core members often use this word. Online communities like CLMOOC are based on trust, and this places a burden of responsibility upon any researcher who wants to use such communities in their research. As well as the issues discussed above about anonymity and attribution, there is also the question of how to represent the interactions between community members authentically. This is made all the more important in the case of my research.

I think that the methods that I have chosen to investigate and represent CLMOOC achieve all of this, and allow me to show you an honest picture of my wonderful, vibrant community.

Data Collection

In the next chapters I will briefly introduce my methods, and take you through each set process in turn. This section is structured as follows: in Chapter Five I use Social Network Analysis (SNA) in order to visualise the shape of the community and the connections between participants. The data set that I use for this is a database of tweets containing the #CLMOOC hashtag. In Chapter Six I use a variety of textual analysis methods in order to capture the flavour of the conversations in CLMOOC. For this textual analysis I use the CLMOOC tweets and include responses to a survey of CLMOOC 2016 participants. In Chapter Seven I sketch for you a series of vignettes of CLMOOC activities in order to connect you to the process of learning in CLMOOC. In Chapter Eight I reflect on what I have learnt from this investigation. By the end of this section, I hope to have painted a picture for you of a lively, caring community where learning is joyful, and I will give answers to the questions I set out in the first chapter.

Social Network Analysis (SNA) is a method of understanding a community by mapping out the various relationships between individuals in a network, and using specialist tools in order to highlight key individuals and clusters and looking at links

and distinctions between individuals (Otte and Rousseau, 2002; Hansen, Shneiderman, and Smith, 2010; Scott, 1988). It does this by representing a network as a picture where each node in the network is shown as connected or unconnected to other nodes. There are usually three elements:

1. Data collection (usually spreadsheet software)
2. Data analysis (SNA software)
3. Data visualisation (SNA visualisation software)

I use a free, open-source, online programme called TAGS for CLMOOC data collection and SNA (Hawksey, n.d.). TAGS allows users to connect a Google Sheet (this is a type of online spreadsheet that can be downloaded in a variety of formats, including xls and csv) with a Twitter search term (a hash tag, in this case #CLMOOC), "scrape" tweets (this is a technical term meaning to take posts from a social network platform and download them) and use these in order to run visualisations of the social network and/or conversations. TAGS can be used for a single collection of tweets containing a term, or it can be set up so that it automatically searches Twitter for any tweets which contain that term and downloads them to the Google sheet regularly (every hour). TAGS is actually a set of connected Google Sheets. The front page is a summary page called "Read Me/Settings" that contains instructions about how to set up TAGS to scrape tweets. The second tabbed sheet is called "Archive". This is a spreadsheet which collects all scraped tweets and related metadata. The front page also has links to other tools. One link opens a new browser window and loads a visualisation of the tweets; another opens a new browser window with an archive of all the tweets searchable by a keyword search of the content of the archive or by screen name (Twitter handle).

The TAGS application provides a summary box on its front page which clearly sets out the time period during which data has been/is being collected, and the total number of tweets. The visualisation interface shows the number of nodes (Twitter accounts) that have either tweeted using the hashtag or been mentioned in a tweet containing the hashtag, and the number of edges (edges are connections between nodes). It also includes tabs for the list of "Top Tweeters" and "Top Conversationalists" in rank order from highest to lowest. A major limitation of TAGS and similar tools is that it is not possible to collect data retrospectively – the

decision to collect and archive needs to be made within seven days of the event one wishes to capture. So, for example, if one was to start scraping tweets today, one could potentially download all tweets posted within the seven days prior to today as well as today's tweets, but no further back than that. Another issue to be aware of when using these applications is that there is no guarantee that all tweets will be captured. There is an upper limit, set by the Twitter application programming interface (API), to how many tweets can be scraped during at one time (at the time of writing this is 18,000). Additionally, if there is a glitch, some tweets might be missed out. The TAGS Archive should therefore not be treated as a definitive record. However, the volume of #CLMOOC tweets in any given time period never reached the upper limit, so the method was sufficient for the purposes of my research – I wanted to capture the flavour of the CLMOOC community, rather than to produce a verbatim record of conversations.

I began curating CLMOOC tweets into a master copy of TAGS when I first participated in CLMOOC in 2015. Whenever I decide to look at a particular subset of these tweets, I first set up a new copy of TAGS and then copy and paste the relevant tweets and associated meta data into the new archive sheet. This means that I can preserve the original database while running visualisations of specific events. In the next chapter I describe how I used them to investigate and interpret CLMOOC. The following three chapters are structured so that I can investigate CLMOOC according to my 3Cs framework. First, I look at is as a community, second, I look at its beliefs and values, and finally I look at its practices. This will allow me to ascertain whether CLMOOC is a participatory culture of learning, rather than just being an affinity network or affinity space.

Chapter Five: Visualising the community

And the result of this examination is: we see a complicated network of similarities overlapping and criss-crossing: sometimes overall similarities, sometimes similarities of detail. Wittgenstein, Philosophical Investigations

My first research question asked about the structure of CLMOOC and, in order to answer this, I wanted to show that CLMOOC is a tightly connected non-hierarchical community. In order to demonstrate this, I am going to walk you through the various stages of this SNA and describe what it feels like to undertake an exercise like this. It is so hard to do this when I have to rely on screenshot and words. Ideally at this stage I would point you to the open, online visualisations and let you see it for yourself how connected this community is. You can do that if you would like - links to all of the visualisations and the dataset are available as an appendix (Appendix Five) if you would like a more interactive experience.

My data set for this part of my research begins on 7th June 2015, when I first set up TAGS to collect CLMOOC tweets (this was the year that I first participated in CLMOOC). Although the TAGS sheet is still collecting tweets, the end date for the purposes of this analysis is 5th March 2019, when I ran the visualisations. When I began my investigation into the Twitter data the first thing I did was to look at the size of the community. Between 7th June 2015 and 5th March 2019, there were 41,251 tweets using the CLMOOC hashtag. TAGS calls each Twitter account a 'node'. A total of 3,268 unique nodes were recorded by the TAGS software as having either tweeted using the CLMOOC hashtag, or being referred to in a tweet by another node which included the CLMOOC hashtag in their tweet. The software records 8410 edges (relationships, or connections) between these 3268 nodes.

Tweets	41,251
Nodes/Twitter accounts	3268
Edges	8410

Table 7 CLMOOC total number of tweets and accounts from 7th June 2015 to 5th March 2019

At this point, I refer to each individual as a 'node' or 'Twitter account' rather than as a 'participant' in CLMOOC, because you cannot tell whether a node is an active participant in CLMOOC just by looking at the TAGS interfaces. This is because all TAGS does is to scrape and collate data, it does not interpret that data. TAGS (as with all software of this type), cannot distinguish between an account that merely refers to CLMOOC in a tweet (for example, they mention that CLMOOC is something they are aware of); an account who is referred to (tagged) in a tweet or tweets by somebody else who includes the hashtag CLMOOC; and somebody who is tweeting, using the hashtag and replying to others because they want to be a part of the CLMOOC conversation, or who feels that they are a part of that conversation or community. It is also not possible to ascertain this by looking at the number of times that an account is included in the Archive Sheet. A Twitter account with very few tweets might actually be a CLMOOC participant who is not saying much but who is watching the conversation (a lurker), while accounts with higher numbers of tweets and/or mentions might not be or consider themselves to be participants in CLMOOC. For example, a popular educator might be tagged in a number of tweets by others but might never respond to any of the tweets. In fact, as I started to look over the data set I noticed that it included two educators who are considered to be the founders of cMOOCS and who I mentioned earlier: Dave Cormier and Stephen Downes. They are both mentioned 25-30 times in CLMOOC tweets, though they have never facilitated CLMOOC nor participated in it, and they do not use the hashtag themselves. In addition, having high volume of tweets using a hashtag does not necessarily show that there is a community behind the tweets. Often a hashtag trends on Twitter because a large number of unconnected individuals are using Twitter to broadcast their opinions, without talking to each other. So it was possible that there was no connection between any of the accounts using the CLMOOC hashtag, and that each account was merely broadcasting without interacting with any other account.

In summary, although the volume of tweets collated since June 2015 might seem impressive, this does not necessarily give evidence that CLMOOC is a large community, or indeed that it is a community at all.

All of my concerns vanished when I looked at the visualisations. It is hard to describe the experience of looking at a TAGS visualisation for the first time – it is not already sitting on the page as static image, it is dynamic. The page is initially

empty, and then individual nodes appear at the edges of the screen and fly into the centre, like iron filings to a magnet. It is totally mesmerising to watch this. The nodes seem to jostle with each other to find the best spaces, and the image jumps around the screen before eventually settling into a static image. Even then it is not entirely fixed – nodes can be clicked on to move them around, making the nodes connected to it also move around and the shape of the whole image change.

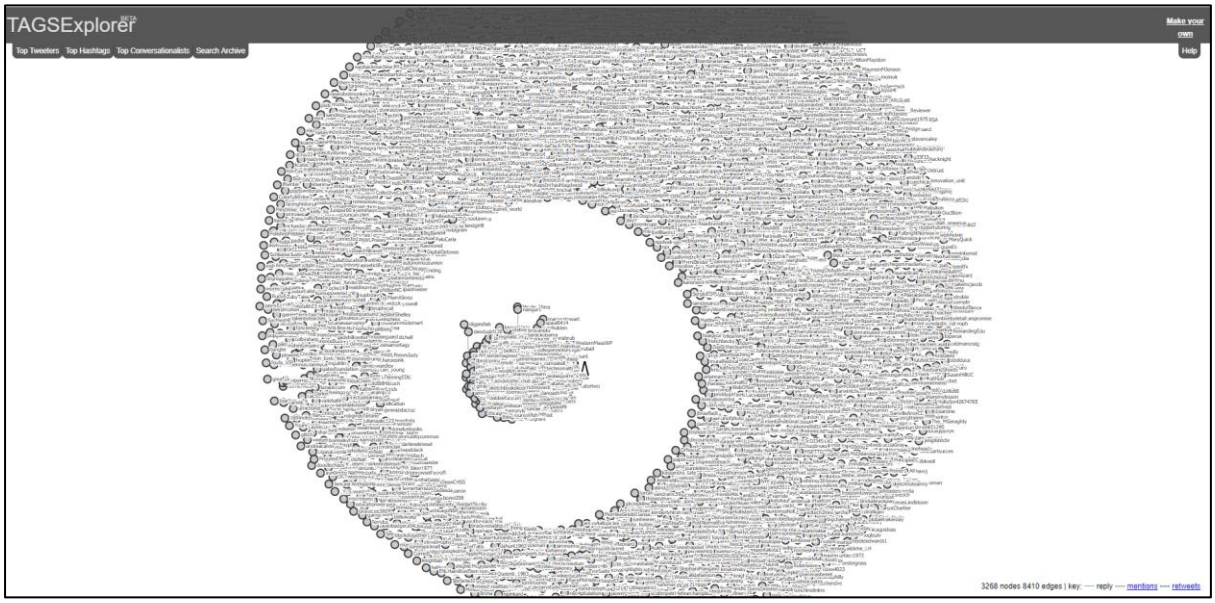


Figure 3 Screenshot of CLMOOC Twitter network from 7th June 2015 to 5th March 2019

As the image began to settle, which took several hours because of the sheer volume of data in the spreadsheet, I saw a cluster of connected accounts in the centre and numerous unconnected nodes circling around the edge. I could not zoom out enough to show all of the nodes on screen at the same time and the image is cut off at the top and at the bottom: I have zoomed out as much as possible to try to fit everything onto the screen because there are so many nodes and connections. However, I could see that that were a number of nodes at the centre of the image who are connected to each other, and who looked to be interacting with each other because these middle nodes of the image are represented with lines (edges) connecting them to each other, while the nodes around the periphery have no connections (edges) with each other. I captured this as best I could by taking a screenshot (see above).

Next I zoomed into the centre of the network so that I could look more clearly at the nodes and see how they were connected. As I did this, I could begin to see how closely connected the nodes at the centre really were.

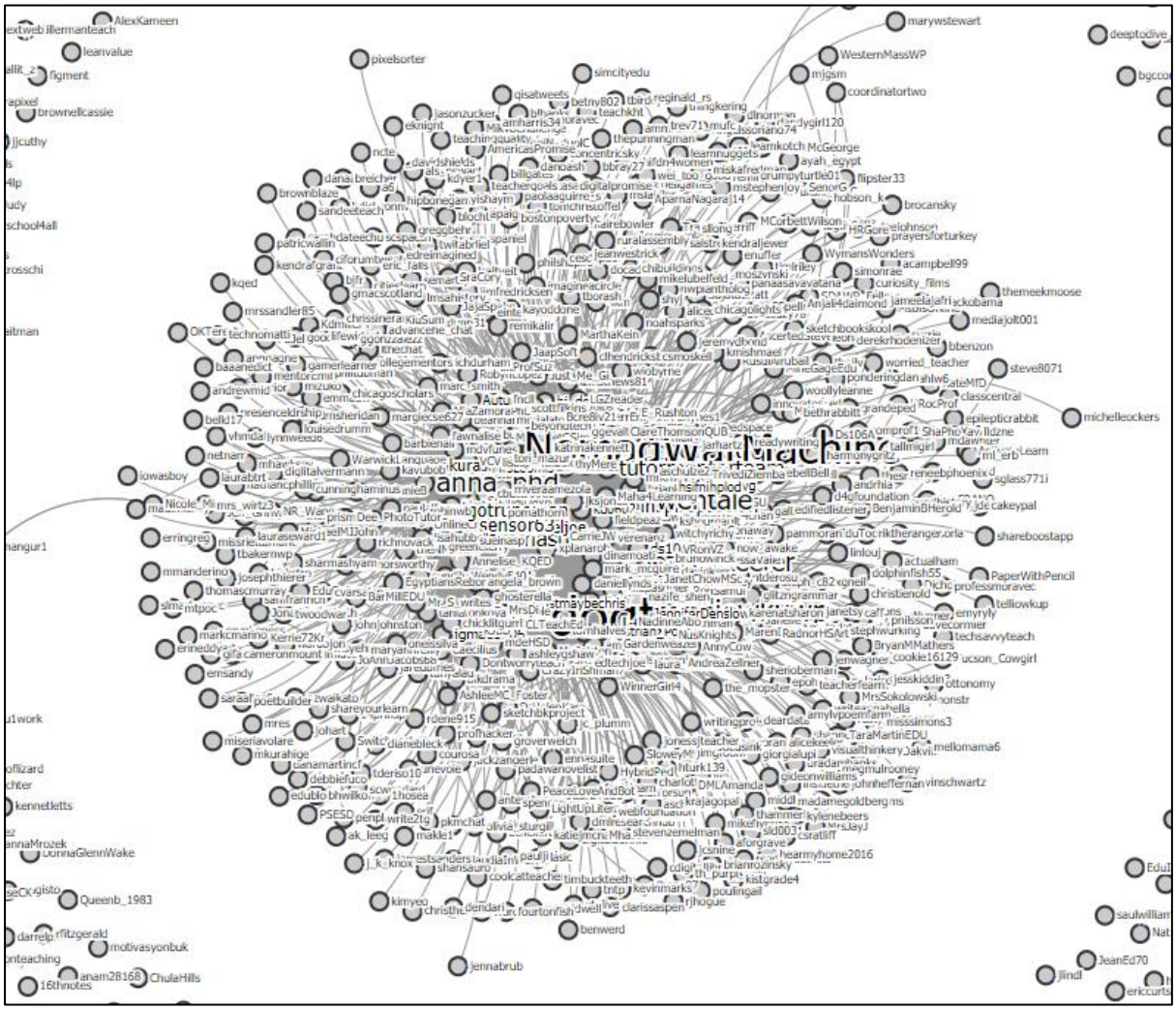


Figure 4 Centre cluster of CLMOOC Twitter network from 7th June 2015 to 5th March 2019

It is still hard for me to explain to you just how connected this nucleus is. As I said above, TAGS is designed to be an interactive tool. On screen I click to click particular nodes and pull the image apart to some extent, but because of the volume of tweets it is a slow, painful process. When I was first looking at it, if I clicked the wrong way the nucleus would vanish off the screen and every small manipulation I made seemed to take hours (and some really did take hours). In addition, because the archive of CLMOOC tweets is so large, I still could not look in any detail at linked nodes and look at the connections between them. I could enlarge the centre cluster slightly by zooming out in the browser (see above), and with this level of detail it is possible to see some of the connections between nodes, but the centre remains opaque because of the volume of connections being represented and most of the names are obscured. The centre of the image, though it looks as if it is a solid block of colour, is actually composed of a multitude of lines between the nodes. Even when I zoomed in further to focus on the core of

the visualisation (see below) the network is too dense for me to show the multiplicity of connections in a screen shot. However, because of the way that TAGS represents nodes, at this scale the key players in the community are beginning to emerge. The more times that an account has tweeted, or been mentioned, the larger its name is represented in the visualisation, and this can be seen to some extent in the image below where the names of nodes at the edge of the cluster are smaller than those in the centre.

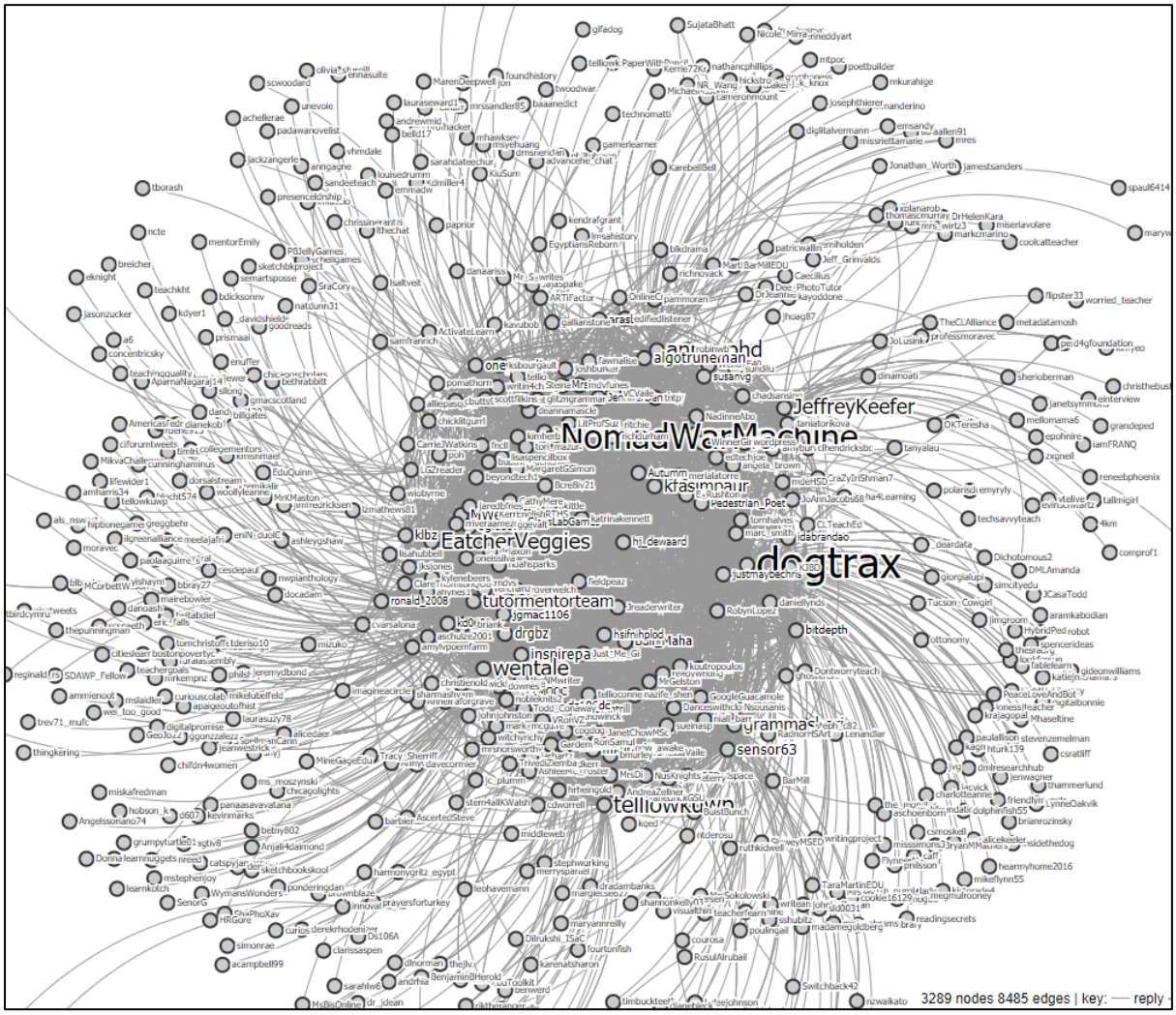


Figure 5 Enlarged image of centre cluster of CLMOOC Twitter network from 7th June 2015 to 5th March 2019

So, although I could see clearly from the visualisations that there were connections between many nodes, I was not able to manipulate the visualisations in a browser in order to represent it properly. I realised that I needed to sample a subset of the data and, in order to choose these, I decided to concentrate on a period in time when I knew that it was likely that there was a focussed activity happening. The last time that CLMOOC ran as a full facilitated course was during the summer of 2016 (CLMOOC16), from Sunday 10th July 00:00 UTC until Saturday

August 2016 23:59 UTC.[4] I therefore decided to look at this slice of data in more detail.

During this four-week period there were 4751 unique tweets. A total of 466 nodes either tweeted or were included in a tweet during this time period and there were 1638 edges (connections) between these nodes.

Tweets	4,731
Nodes/Twitter accounts	466
Edges	1,638

Table 8 CLMOOC 2016 total number of tweets and participants

When I ran the visualisation, the picture that emerged was a smaller version of the previous one: there was a core nucleus of connected nodes at the centre with unconnected nodes circling around them.

[4] As CLMOOC has international participants from many different time zones, UTC is used by facilitators as the official time.

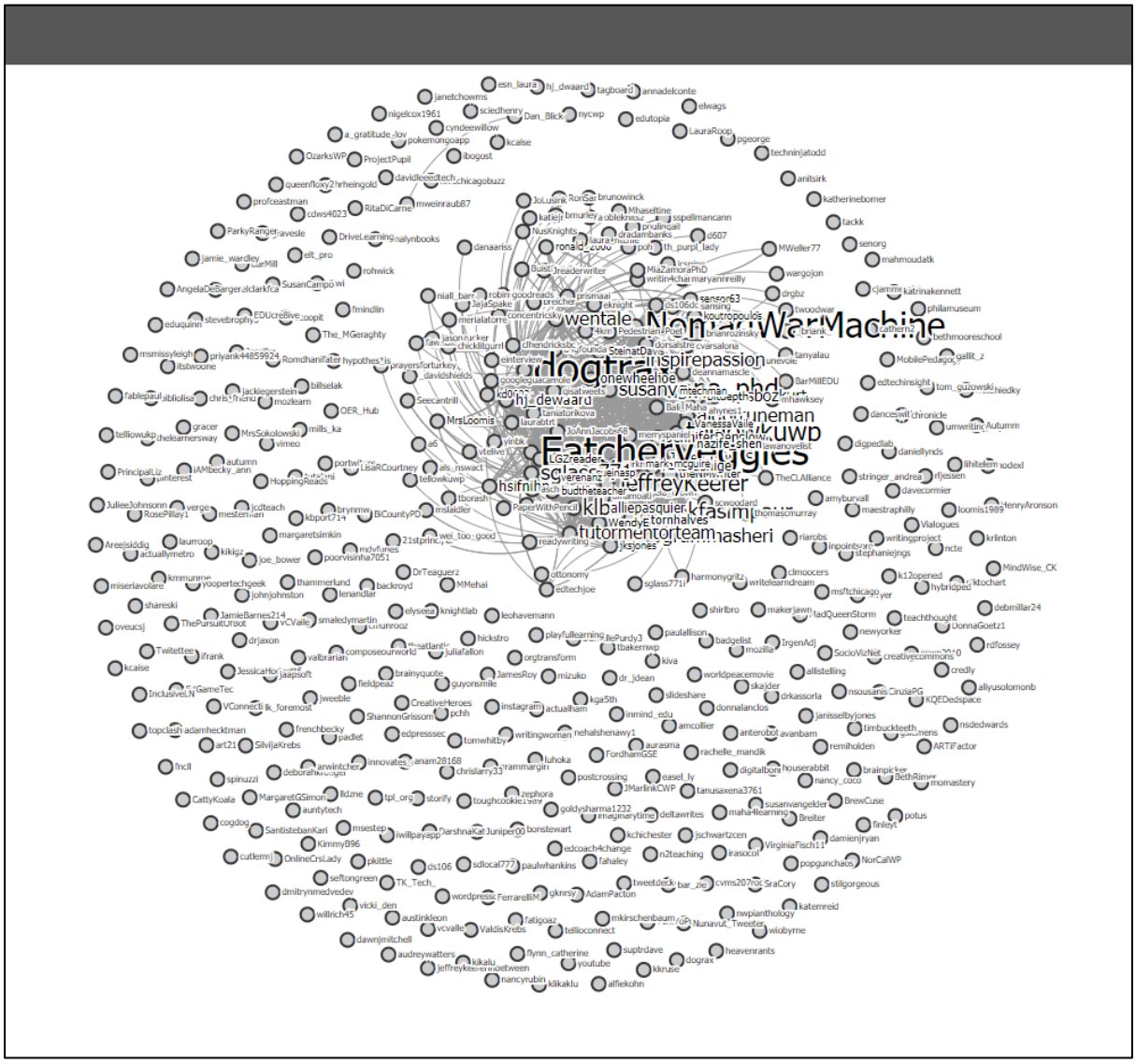


Figure 6 CLMOOC 2016 from 10th July 2016 00:00 UTC to 8th August 2016 23:59 UTC

With this smaller size data set I could to fit all of the nodes onto the screen. As you can see when I zoom into the centre of this visualisation (see below) some accounts are only connected by one line to one other node, meaning that they were fairly peripheral to the conversation, while others are connected by multiple lines to multiple nodes. The key players are clearly visible now.

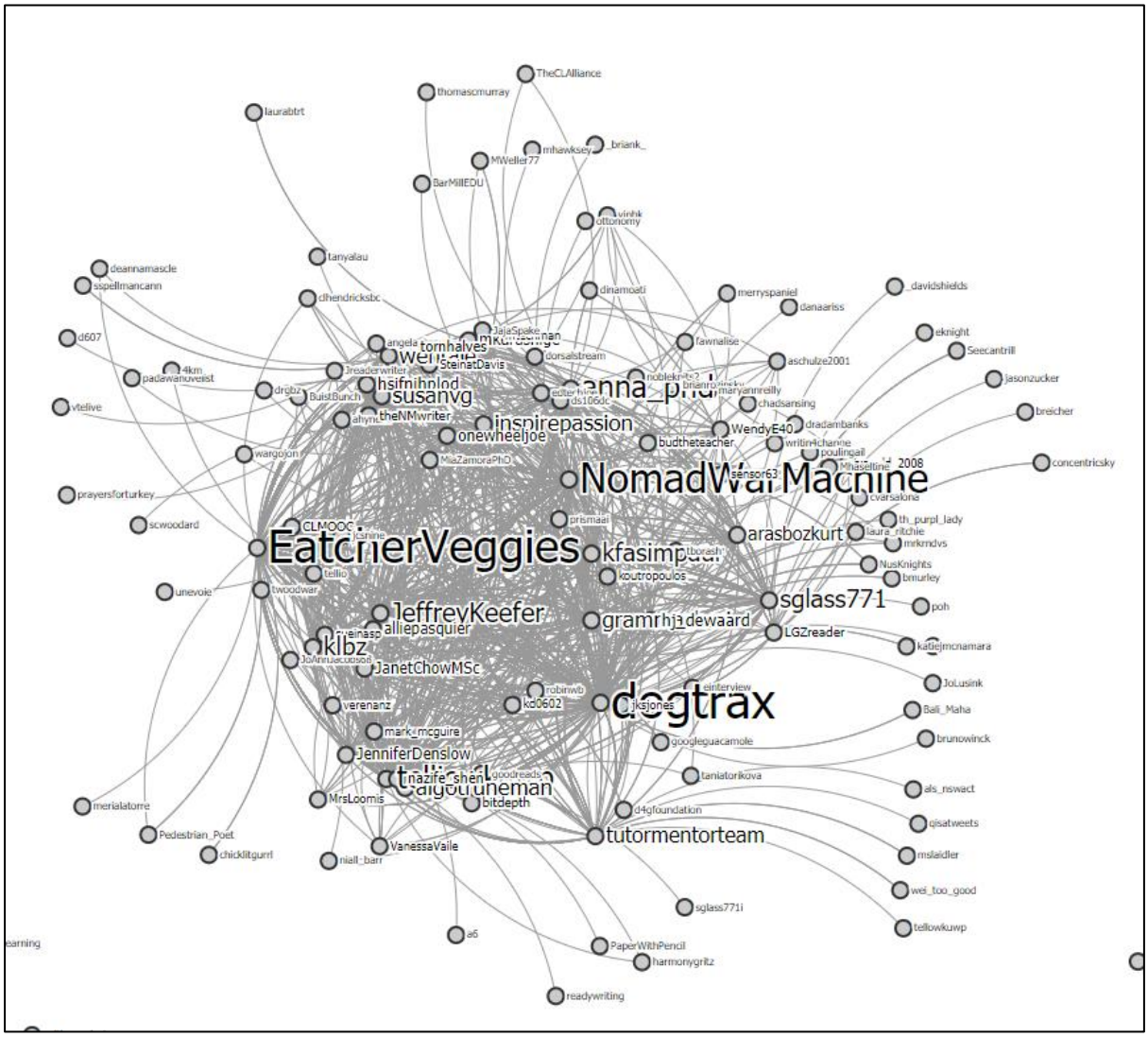


Figure 7 Centre cluster of CLMOOC 2016 from 10th July 2016 00:00 UTC to 8th August 2016 23:59 UTC

Here again we have reached the limits of the TAGS visualisation capabilities. I can zoom in a little more, as I have done in the screen shot below, but I cannot zoom in enough to look at particular clusters of nodes in any more detail. I needed to further sample the data to look at some conversations in detail.

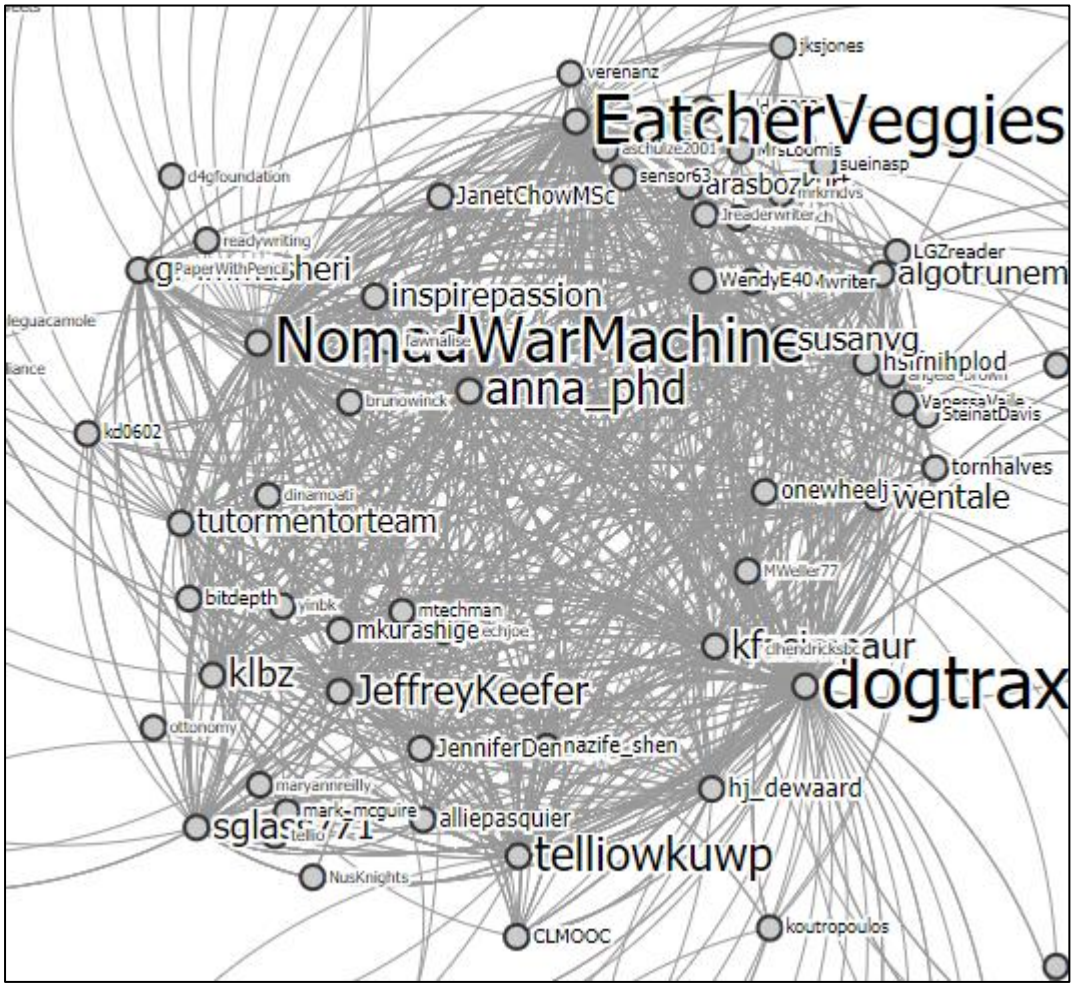


Figure 8 Enlarged image of entre cluster of CLMOOC 2016 from 10th July 2016 00:00 UTC to 8th August 2016 23:59 UTC.

Tweet chats

During CLMOOC16 there were four tweet chats, one on the Thursday of each week. These were times when we would all know that other participants would be online especially to talk with each other, so these looked to be a good place to start to look for conversations. Each of the tweet chats had a different facilitator or pair of facilitators who also joined in with the conversations, and I have included these facilitator accounts in the figures and visualisations below. The official @CLMOOC Twitter account broadcast each tweet chat question, but did not participate otherwise. This account appears in the visualisations, but I have not included it in the figures in the table below, or in any other part of the analysis. As you can see in the table below, there were 34 nodes identified in the first chat, 41 in the second, 20 in the third and 23 in the fourth.

	Week 1	Week 2	Week 3	Week 4	Total
Total Tweets	317	416	324	368	1425
Retweet	40	59	49	85	233
Unique Tweets	267	350	269	275	1161
Nodes	34	41	20	23	-
Edges	305	369	305	316	-

Table 9 CLMOOC 2016 Tweet Chats

The visualisation page of TAGS has tabs which show data about the top tweeters (a ranked list of accounts in order of who has tweeted the most individual tweets) and the top conversationalist tweeters (a ranked list of accounts in order of who is the most connected). As I looked at each of the four tweet chats, I also looked at these two tabs. I found it interesting to discover that the facilitator(s) for each week were not necessarily the top tweeter or the top conversationalist, although they often were, and this was another indication for me of potential conversations occurring between participants, rather than just broadcasting or responding to the official account. You can see all of this in the visualisations and analysis of each tweet chat below. In each image, the solid black lines represent tweets, the dotted lines represent mentions, and the blue lines represent retweets.

Tweet chat 1

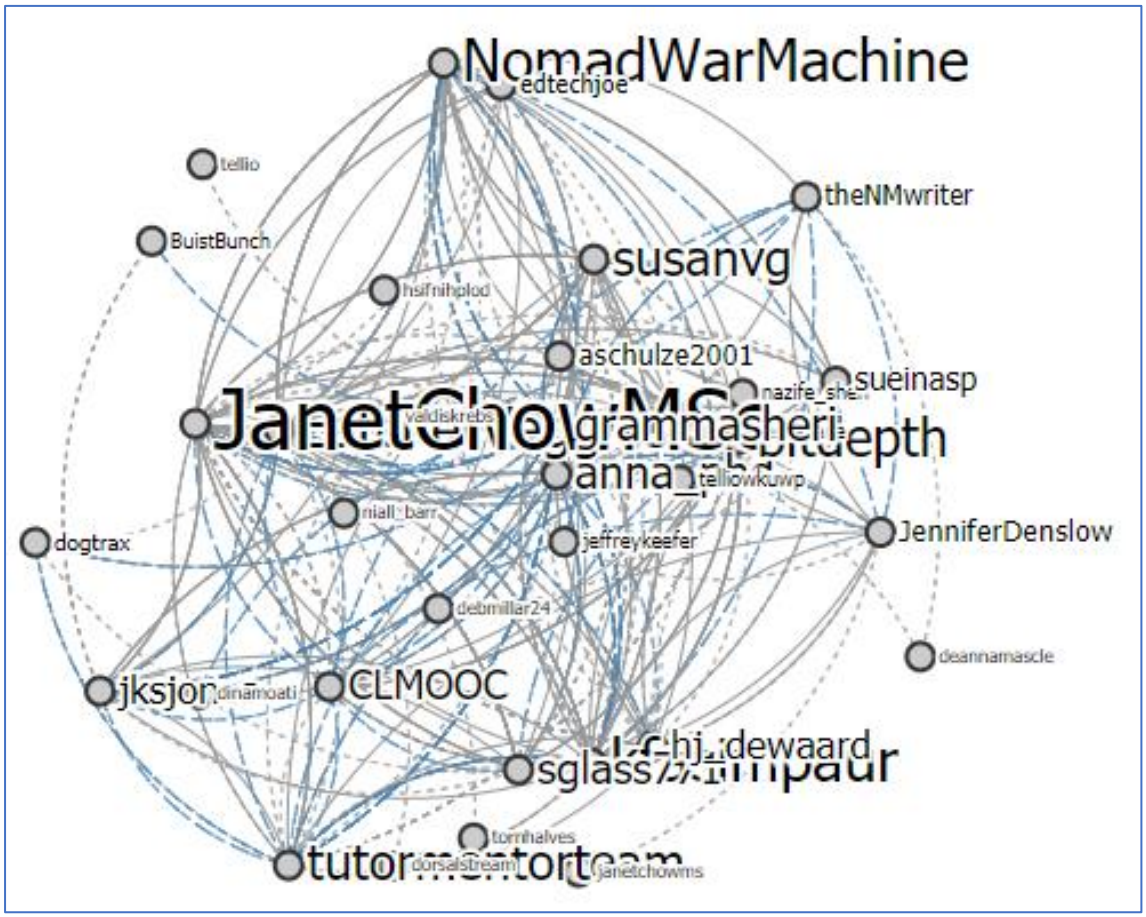


Figure 9 Tweet chat 1: July 14th 2016 UTC 23:00- 23.59

This was the first tweet chat of CLMOOC16 and I was the facilitator. It is amazing how vivid some memories are – I can still picture myself participating in the conversation. The week that CLMOOC16 started I was staying in a holiday cottage on Mull with my husband. It was lovely, but the internet access was pretty ropey and we had no phone signal in the house. Usually when I facilitate a tweet chat I have two screens so that I can look at two views of the conversation at the same time – I will either sit at my PC which has two monitors or use a laptop and my phone – so this chat felt very different because I only had one screen. Tweet chats are usually fast and furious, and this was no exception. I remember the sense of exhilaration during the chat followed by exhaustion when it ended, and I fell into bed as soon as it was over. When I looked at the SNA visualisation for the chat, I was surprised to see that I was neither the top tweeter nor the top conversationalist. The top tweeter, @EatcherVeggies, was another of the facilitators, but the top conversationalist, @JanetChowMSc, was a participant that I had not previously met.

Facilitator	@NomadWarMachine
Top Tweeter	@EatcherVeggies
Top Conversationalist	@JanetChowMSc
Nodes	34
Participants	22
Edges	305
Unique tweets	267
Average tweet/participant	12

Table 10 Tweet chat 1: July 14th 2016 UTC 23:00- 23.59

When I looked at the spreadsheet, I could see that TAGS had recorded 34 twitter accounts and 267 tweets not including retweets. However, not all of these were active participants in the chat - only 22 of the participants in the chat tweeted at least once, the others were just mentioned by active participants so I decided not to included them in my analysis. The 22 active participants tweeted a total of 267 times excluding retweets. The top tweeter, @EatcherVeggies, contributed 40 tweets. I think it is obvious from looking at the visualisations and the number of tweets that this was a lively conversation with participants connecting with each other.

Tweet chat 2

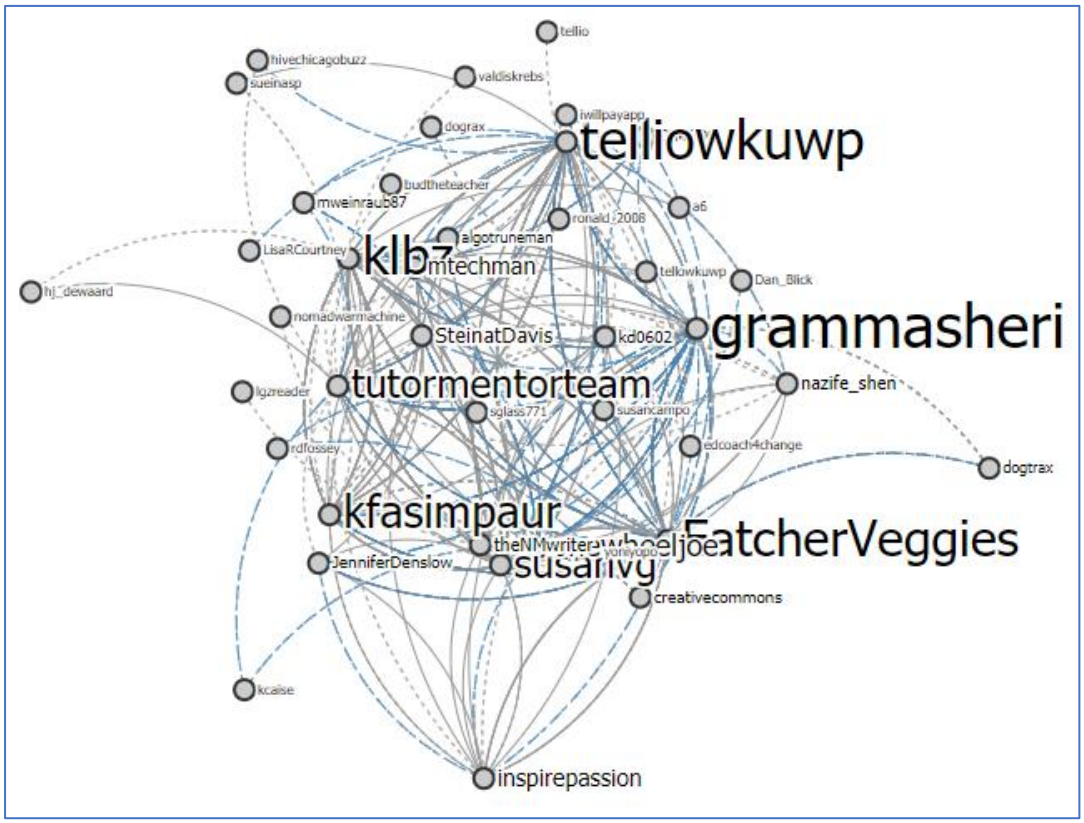


Figure 10 Tweet chat 2: July 21st 2016 UTC 23:00- 23.59

The second tweet chat was also lively. Here there are 28 active participants who between them sent 350 tweets, not including retweets. The facilitator for this chat was @EatcherVeggies, who was also the top tweeter. The top conversationalist was @grammasheri, who was another of the facilitators.

Facilitator	@EatcherVeggies
Top Tweeter	@EatcherVeggies
Top Conversationalist	@grammasheri
Nodes	41
Participants	28
Edges	369
Unique Tweets	350
Average tweet/participant	12.5

Table 11 Tweet chat 2: July 21st 2016 UTC 23:00- 23.59

Tweet chat 3

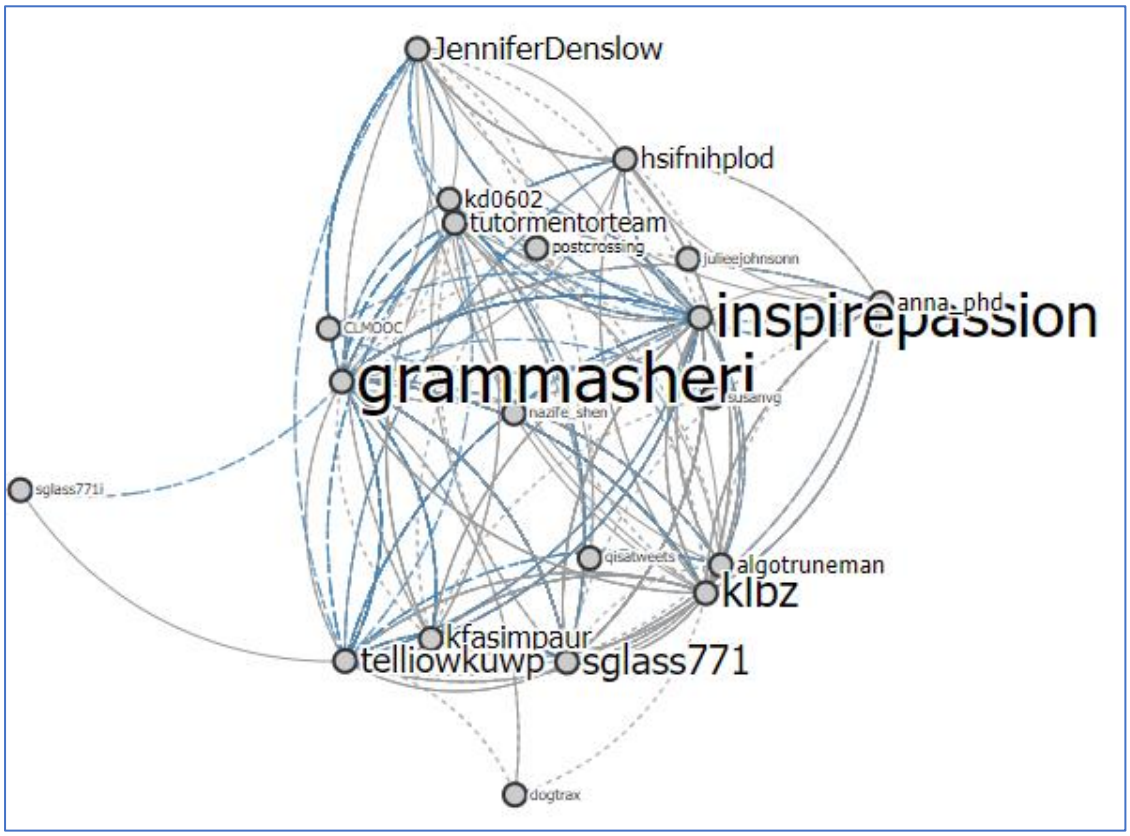


Figure 11 Tweet chat 3: July 28th 2016 UTC 23:00- 23.59

Week three of CLMOOC16 was a break week. Appreciative of the cognitive overload that can happen in cMOOCs, both for facilitators and for participants, we

had built in a “purposeful pause” so that everybody could take a breath and catch up with any activities that they had not had the opportunity to complete. Because of this, we wondered whether to offer any synchronous events during this week, but ultimately we decided to schedule them and see who turned up. As you can see, it was quieter that the two previous weeks, but there was still a meaningful, connected chat: TAGS identifies 14 active accounts and a total of 269 tweets. The facilitator for this chat was @inspirepassion, and the top tweeter and top conversationalist was @grammasheri.

Facilitator	@inspirepassion
Top Tweeter	@grammasheri
Top Conversationalist	@grammasheri
Nodes	20
Participants	14
Edges	305
Unique Tweets	269
Average tweet/participant	19

Table 12 Tweet chat 3: July 28th 2016 UTC 23:00- 23.59

Tweet chat 4

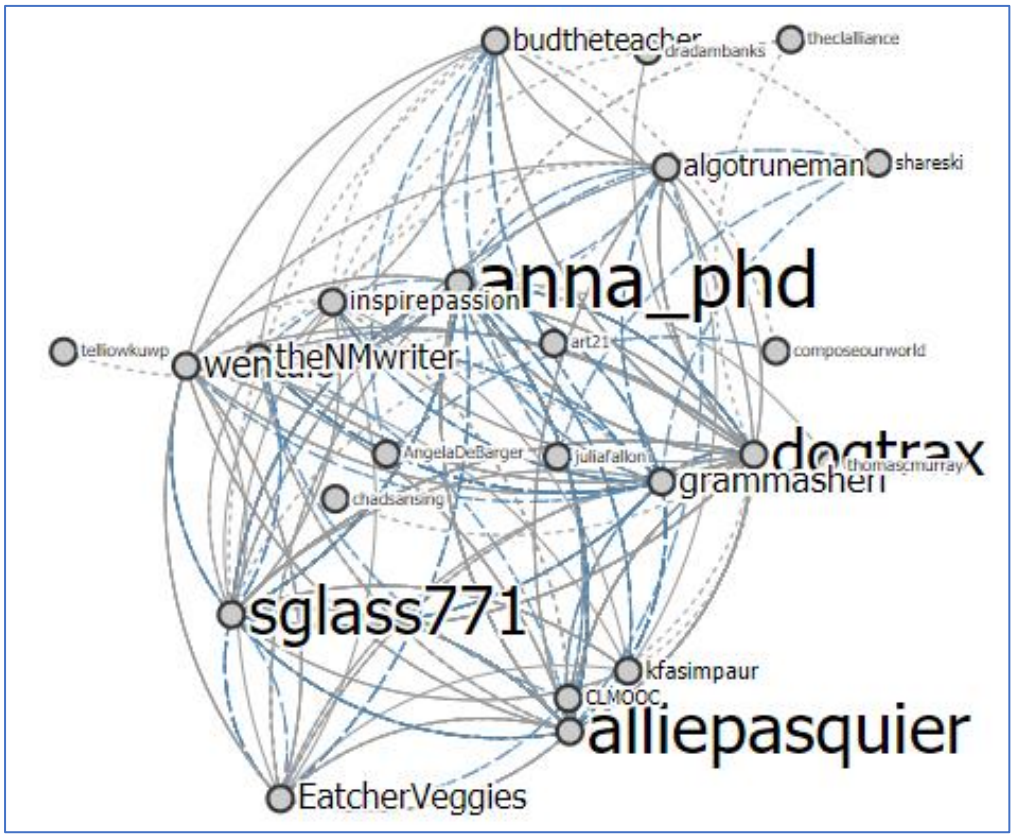


Figure 12 Tweet chat 4: August 4th 2016 UTC 23:00- 23.59

This was the final tweet chat of CLMOOC16 and yet again it was a lively discussion. The facilitators for this chat were @sglass771 and @alliepasquier. The top tweeter and top conversationalist was @AnnaPhD (this is one of the original CLMOOC designers and a facilitator for CLMOOC16). During the fourth tweet chat, TAGS identifies 16 active accounts and a total of 275 tweets excluding retweets, and you can clearly see from the visualisation participants are connected to each other.

Facilitator	@sglass771 and @alliepasquier
Top Tweeter	@AnnaPhD
Top Conversationalist	@AnnaPhD
Nodes	23
Participants	16
Edges	316
Unique Tweets	275
Average tweet/participant	17

Table 13 Tweet chat 4: August 4th 2016 UTC 23:00- 23.59

After the non-active nodes are removed from the analysis, you can see that each tweet chat had an active core of participants: 22 in week one, 28 in week 2, 14 in week three and 16 in week four. The numbers dip as time progresses, but I do not think that it is surprising: the third week of CLMOOC was technically a break week, with no Make Cycle activities scheduled, and it is also not unusual for participants to drop out before the end of any free, voluntary, online full course. However, the total numbers of unique tweets for the first, third and fourth week (when retweets are removed) are very similar (267, 269 and 275 respectively) with more tweets (350) in week two of the chat.

	Week 1	Week 2	Week 3	Week 4	Total
Total Tweets	317	416	324	368	1425
Retweet	40	59	49	85	233
Unique Tweets	267	350	269	275	1161
Nodes	34	41	20	23	-
Participants	22	28	14	16	-
Average tweets/person	12	12.5	19	17	
Edges	305	369	305	316	-

Table 14 CLMOOC 2016 Tweet Chats

I was pleased to find that the four visualisations above show that these tweet chats are conversations, with members talking to each other, rather than just being unconnected accounts shouting into the ether. In tweet chats one and two there are a few accounts that are not quite as well connected as the others, but the accounts in all four tweet chats are interconnected. Unsurprisingly, the core facilitators for CLMOOC16 are among the most active participants in each tweet chat, and were the lynchpins, or gatekeepers, who keep the community together and act as catalysts for activities. "Gatekeeper" might seem like an odd choice of word to use for a facilitator in an open learning environment. However, this is the word chosen by Gurzadal and Bozkurt to describe the most connected participants in CLMOOC16 (Gurzakal and Bozkurt, 2017, p. 85). The term comes from Lewin, who uses it to refer to the housewives after the second world war who controlled the flow of food to post-war dining tables (Lewin, 1947, cited in Gurzakal and Bozkurt, 2017, p. 77). Gurzakal and Bozkurt suggest that key facilitators in CLMOOC16 ensure that participants are connected to each other, and are not sitting in isolated silos. As they are specifically analysing CLMOOC16 interactions in the SNA I have used their term. It I were free to choose, I would prefer a word that emphasises more the connections – such as lynchpins. However, Gurzakal and Bozkurt are clear that gatekeepers can function as either catalysts or

inhibitors of connections and activities, and that in CLMOOC16 they are acting in the former capacity (Gurzakal and Bozkurt, 2017, p. 86). Rather than seeing them as standing at gates closing off pathways, the metaphor that comes to mind is of lock keepers opening the sluices and letting the water pour through, but not flood the terrain.

Conclusion

I began this investigation by looking at the total CLMOOC dataset of over 40,000 tweets, and used SNA visualisations in order to show you how tightly connected this community is, with a core nucleus of participants communicating with each other. I then looked at a representative sample of the data by isolating tweets from the CLMOOC 2016 summer event, which ran over four weeks and was facilitated by volunteers. Here again, I found that the visualisations were of a similar shape and pattern and showed a tightly connected community with members talking to each other over Twitter. When I zoomed in still further into the conversations and looked in detail at the four Tweet Chats that were held during CLMOOC16, I found that there were core members of CLMOOC who were acting as gatekeepers in a positive sense, by which I mean that they were ensuring that participants were connected to each other and keeping the conversation flowing. The next thing I would like to do is to let you peek into some of the conversations that took place during CLMOOC16 and give you a flavour of these, and I will do this in the following chapter.

Chapter Six: Listening to the Conversations

Emergence is the way complex systems and patterns arise out of a multiplicity of relatively simple interactions. Obolensky

Now that I have shown you that CLMOOC is a connected community, I want to give you a taster of the sorts of conversations that we have. As I do this, I will show you that participants share the beliefs and values of connected learning and a participatory culture, although we might not emphasise this terminology in our tweets.

The first step was to identify the active participants in CLMOOC16. I returned to the TAGS Google Sheet and identified a column called "for user" in the Google Sheet which contained the Twitter handles of Twitter accounts that had actually tweeted at least once. This allowed me to do two things: first it gave me a more realistic picture of the number of active participants in CLMOOC16, and second it allowed me to run a random number algorithm over the spreadsheet and assign a unique number to each of the active accounts in CLMOOC16. Although I am not pretending to be an objective researcher, I felt that it was important to replace these user names with participant numbers when I was coding the data. As well as standardising the format, the extra level of anonymity gave me more confidence in coding the data and choosing particular quotations to use in my write-up when I completed a textual analysis – I wanted to ensure that I was focussing on the content of the tweet rather than implicitly selecting tweets from participants that I knew better than others. I identified 255 Twitter accounts that had tweeted once or more using the CLMOOC hashtag during CLMOOC16. Next I needed to decide how to examine the conversations, and in order to do this I needed to find an appropriate framework.

Coding Frameworks

In selecting a coding framework for my analysis, I was looking for an approach that would first allow me to conduct a very basic quantitative analysis and quickly ascertain the size and shape of the community, and then to conduct a more detailed investigation of the actual conversations and look at the tone, as well as the types of topic that CLMOOC talked about. Before writing a framework from scratch I decided to look at the literature and see if there were any existing

coding frameworks that I could use 'off the shelf' or adapt for my requirements. In the end it was the data that dictated to me the approach that I took (Morse and Richards, 2012) and I used the framework that fitted the data best. However, it took some time to decide what this would be.

Bales' Interaction Process Analysis (IPA)

When I first put together my research proposal, I was a Graduate Teaching Assistant (GTA) in Philosophy at the University of Glasgow and taught level one tutorials. I envisaged that I would use these tutorials in order to collect data, so at least some of my data would be collected from small group, face-to-face, learner interactions. Because of this, the first framework I considered was Bales' Interaction Process Analysis (IPA), which is a type of Interaction Analysis. Bales writes that IPA begins by making observations about behaviour in small, face-to-face groups in order to attempt to discover empirical norms for small groups which could then be used to construct some plausible categories to analyse and compare communities (Bales, 1950a; Jordan & Henderson, 1995). Bales describes his method as "interaction *process* analysis" to distinguish his method from other types of interaction analysis - the word 'process' is added in order to emphasise that it is a process, rather than content, that is abstracted by this method (Bales, 1950a, p. 258). The small groups that Bales observed were groups of North American businessmen conducting face to face meetings with each other. It seemed likely to Bales that the behaviour he was observing would be universalisable to other social settings and groupings (1950a), and initially I thought this was plausible so I looked at his framework in more detail to see if it was appropriate to adapt or adopt. Bales twelve categories are comprised of positive and negative versions of his six "interlocking functional problems" (1950b) which he believed applied to all systems of what he called "concrete interaction" – by which he really just means that people are talking to each other. These areas are Orientation, Evaluation, Control, Decision, Tension-Management, and Integration. I've set these out in the table below using Bales' terminology. The first six rows are the positive versions, and the bottom six are the negative versions of his categories.

Area	Speech act	Examples
1. **Orientation**	Shows solidarity	Shows respect, gives help and support, praises
2. **Evaluation**	Reduces tension	Jokes, funny faces and images
3. **Control**	Agrees	Nods, approves, accepts
4. **Decision**	Gives suggestion	Gives ideas, indicates solutions
5. **Tension Management**	Gives opinion	Evaluates, judges, expresses desires and feelings
6. **Integration**	Gives orientation	Informs, repeats, confirms
7. **Integration**	Asks for orientation	Asks for information, explanations
8. **Tension Management**	Asks for opinion	Asks for evaluation and judgements
9. **Decision**	Asks for suggestion	Asks for directions
10. **Control**	Disagrees	Refuses help, doubts, gives up
11. **Evaluation**	Shows tension	Asks for help, negative images
12. **Orientation**	Shows antagonism	Argues, is discouraged, depressed and humiliated.

Table 15 Bales' categories

Bales suggests that these six problems represent steps or stages in group work, so usually a group would start at category 1 and progress through to 6 (in a similar fashion to Tuckman's (1965) four stages of forming, storming, norming and

performing) and he further suggests that these categories are “only catch-phrases” – by which he means that it is open to the reviewer to change the names of his categories or to refine them if required. It was this thought that led me to think his framework was worth spending time on.

When I made a decision to focus solely on online peer interaction, and to use CLMOOC to explore this, I revisited Bales’ IPA to see if it was appropriate or adaptable to analyse online interactions. In order not to compromise my approach to my core data, I took a Twitter chat that I had recently facilitated as part of another cMOOC called Digital Writing Month (#DigiWriMo), and coded it according to Bales’ IPA. Although on the face of it the categories looked promising, when I dug down into the way that Bales had carved out each category, I felt that I was having to shoe-horn my data into his schema, and that it was not suitable for analysing a tweet chat. For example, one of the first examples Bales lists of “showing solidarity” was saying hello, which he categorised as a status-raising action (he was thinking here of a businessman visibly crossing a room to shake a colleague’s hand). However, in a tweet chat, all participants are encouraged to introduce themselves, often as a pre-question, and the beginning of every tweet chat is a flurry of participants introducing themselves and saying hello to each other, so I felt these basic tweets should not be characterised as showing solidarity or status raising. An example of the second stage of Bales’ IPA is telling jokes, or sharing funny images – but again this is something that happens throughout CLMOOC where we often exchange memes and gifs with each other. At this point it seemed to me that Bales’ IPA, while possibly suitable for coding interactions between American business men in the 1950s who were sitting in face-to-face meetings with each other, was not a suitable framework for coding tweet chats by a diverse, global group of educators in the 21st century. However, of course, the option of adapting it was still a possibility. I did make an attempt to do this, and I spent far too long agonising over this at the insistence of one (previous) supervisor, but I really felt like I was stretching Bales too far. Thankfully I was eventually allowed to stop flogging the dead horse, and instead I looked at more recent coding schemes to see if there were any specifically designed for online interactions. I found two frameworks that seemed to be much more suitable.

Veldhuis-Diermanse

Veldhuis-Diermanse and her colleagues produced a framework in order to analyse an MSc course they taught which was based on a theory called networked learning. Networked learning is a pedagogical theory in which: “information and communication technology (ICT) is used to promote connections: between one learner and other learners, between learner and tutors, between a learning community and its learning resources” (Banks et al., 2003, quoted in Veldhuis-Diermanse et al., 2006). The similarities with connected learning were apparent to me, and I decided it was worth investigating. In order to analyse student learning in their course, they devised a coding scheme based on a detailed literature review (Veldhuis-Diermanse, 2002).

Their method was this. As they were working with student notes, the first stage of their analysis was to break these down into “meaningful units” – i.e. units of sense small enough to be analysed individually (a single idea, an argument or a single discussion). The second stage of this process was to manually assign each meaningful unit to one of four categories: cognitive learning activities, affective learning activities, metacognitive learning activities and other (rest) activities. I set these out in the table below.

Category	Typical behaviour
Cognitive learning activities	• Debating • Using external information/experiences • Linking or repeating internal information
Affective learning activities	• Irritation, giving compliments, thanking etc. • Asking for feedback, responses or opinions • Chatting
Metacognitive learning activities	• Planning • Preserving clarity • Monitoring
Rest	• Anything that does not fit into the other categories

Table 16 Veldhuis-Diermanse categories

In order to see if this scheme was going to be suitable, I had to think how this might apply to tweets. I took the four tweet chats from #CLMOOC16 to assess this framework. At the time of analysis, tweets were comprised of a maximum of 140 characters (it is now 280). Because they were so short, it seemed sensible to treat each single tweet as a meaningful unit and not to break them down further. I also made the decision only to count each tweet once (i.e. I would only assign a tweet to one code). I downloaded the tweets to a spreadsheet with tweets in time order, and coded them twice, with a gap of nearly a month in between, in order to check if my interpretation of the data had changed. In both cases I assigned identical codes to each tweet. Having coded the data twice, I assessed the results.

Although Veldhuis-Diermanse's categories had been devised for networked learners, it had been written to categorise student notes, rather than social media conversations. One big difference between the student notes they were using and

the Twitter data I had was that the whole of CLMOOC was an online conversation. This meant that the tone of the data I had was very different. As I coded the tweets I was confident in assigning them to the categories of "cognitive", "meta-cognitive" and "rest", but the descriptors for the "affective" category was not capturing the spirit of a large subset of tweets, which were social (that is, conversational) in nature rather than just affective. I wondered what to do about this. It was obviously a much closer fit for my data than Bales, but it was still not quite suitable as it stood. Before making any firm decisions I turned to the other framework that I had identified as a possibility.

Henri

France Henri devised a framework for categorising computer mediated conferencing (CMC) messages (Henri, 1992). In many ways CMC messages can be seen as a precursor of tweets, and the similarity to the structure of the tweet chats I am analysing is noteworthy: "CMC messages follow upon each other without intermediate continuity of meaning, issuing from several authors who do not usually consult with each other before transmitting" (Henri, 1992). What Henri means by this is that there is a disconnect between the post that people are responding to and the eventual place of their responses in the timeline. In a traditional conversation, speakers take turns to talk and so the resulting conversation (if recorded in some way) is easy to read and understand. In online conversations such as CMC and Twitter, people often respond to the last item they read. But, because it takes time to type and post a response, and as they are doing this other people are also responding and posting, the resulting timeline is not a neat, ordered conversation. This makes it a different challenge to analyse than that of Veldhuis-Diermanse's student notes: rather than breaking down large chunks of text into meaningful units, Henri (and I) had to find a way of tracking meaning across timelines.

Henri's framework consists of five dimensions. The first dimension she suggests is a purely quantitative one: "participation" is used to count the number of messages a user makes. The second dimension: "interactive" looks at chains of messages to find phrases marking replies. TAGS did not capture conversational chains of tweets, but I realised that I could adapt this category to look at interactivity in another way: i.e. by looking at the retweets in each chat, as TAGS

captured these for me. Two of the other three categories are similar to Veldhuis-Diermanse's second stage, namely they are cognitive and meta-cognitive. The third category she labels social, rather than Veldhuis-Diermanse's affective label.

Category	**Typical behaviour**
Social	Not related to formal course content • Self intro • Verbal support "I'm feeling great"
Cognitive	Statement exhibiting knowledge/skills related to the learning process • Questions • Inferences • Hypotheses
Metacognitive	Statement related to general knowledge and skills and showing awareness, self control and self regulation of learning • "I understand …" • "I wonder …"

Table 17 Henri categories

At this stage I decided that I had investigated sufficient different coding frameworks in order to put together a coherent approach for my own analysis. I rejected Bales' IPA as not being well suited to my data. It was devised for North American businessmen in the 1950s having face-to-face meetings and their conversations and conventions were very different from those of online educators in the 21st century. It seemed to be such a huge task to rewrite Bales for my purposes, especially as the other two frameworks were already much closer to what I needed.

I liked aspects of both Veldhuis-Diermanse and Henri's frameworks, and thought I could reasonably combine them in order to make a framework for my needs.

Veldhuis-Diermanse	**Henri**

Affective
• Irritation, giving compliments, thanking etc.
• Asking for feedback, responses or opinions
• Chatting
	Social
	• Not formal content
	  ○ Self intro
	  ○ Verbal support
	  ○ I'm feeling great

Cognitive
• Debating
• Using external information/experiences
• Linking or repeating internal information
	Cognitive
	• Statement exhibiting knowledge/skills related to the learning process
	  ○ Questions
	  ○ Inferences
	  ○ Hypotheses

Metacognitive learning activities
• Planning
• Preserving clarity
• Monitoring
	Metacognitive
	• Statement related to general knowledge and skills and showing awareness, self control and self regulation of learning
	  ○ "I understand …"
	  ○ "I wonder …"

Other/Rest • Anything not included in any other category	

Table 18 Comparison of coding schemes

I decided to use Veldhuis-Diermanse's first stage of analysis in order to decide what to treat as a meaningful unit. Henri's categories of participative and

interactive were used next in order to quantify the Twitter data. I would then combine Veldhuis-Diermanse and Henri's remaining categories (see table below) in order for me to get a coding schema to look at the broad tone of CLMOOC conversations. This gave me the following categories: affective/social, cognitive, meta-cognitive, other/rest. As a matter of personal preference I chose to use the word "other" rather than "rest" as the latter term reminded me of resting. This gave me the following workflow for my data coding:

1. Code all tweets as participative/interactive:
    a. How many tweets
    b. How many retweets?
    c. How many unique tweets?
    d. How many active accounts?
2. Code each tweet as social/affective, cognitive, metacognitive, other:
    a. How many in each category?
    b. Are these codes sufficient or do I need to subdivide further?
    c. Is the data set sufficient?

As I worked through my thematic analysis, I continued to refine my categories, ending with these.

Category	**Typical behaviour**
Social/Affective	Chatting, talking about emotions, praising others
Cognitive	Asking for feedback, talking about connected learning
Meta-cognitive	Talking about how they might use what they were learning
Other	Anything else

Table 19 My coding scheme

Coding the data

Now I was ready to look at the content of the tweet chats. I returned to the spreadsheets, isolated the rows containing tweets for each of the four tweet chats, and downloaded each these to Excel spreadsheets containing just the columns containing anonymised participant name and the content of the tweet. I then printed these spreadsheets out and coded the data by hand, because I wanted to immerse myself in the conversations. I could have used software such as NVivo, but I would not have got the rich experience of the conversations - it would have been quicker, but my experience and the results would have been thinner. In total I completed this coding activity four times: in December 2016, January 2017, December 2018 and January 2019. Each time I did this I printed the sheets again and recoded them by hand without looking at earlier results, and found when I compared my results to earlier ones that I had coded them identically each time.

Coding results

When I added up the results, I found that there were a total of 1425 tweets over the four Twitter chats, of which 233 were retweets and 31 were by the @CLMOOC Twitter account. When removed, I had a total of 1161 unique tweets. As I noted in the previous chapter, the number of tweet chat participants varied each week, with some members taking part every week and others only joining the conversation for one week. In total there were 40 different participants across all 4 weeks.

	Week 1	Week 2	Week 3	Week 4	Total
Participants	22	28	14	16	40
Total Tweets	317	416	324	368	1425
Retweet	40	59	49	85	233
Total Unique Tweets	267	350	269	275	1161
@CLMOOC	10	7	6	8	31
Coded Tweets	257	343	249	267	1130
Social/Affective	90	65	87	72	314
Cognitive	125	271	172	202	770
Metacognitive	41	0	5	1	47
Rest	11	4	5	0	20

Table 20 CLMOOC 2016 tweet chats

Most of the Twitter responses in the tweet chats were either social/ affective or cognitive. Week one had the most meta-cognitive responses, with fewer in weeks two to four. Social/affective tweets had a slightly more variable presence – higher in week one as might be expected given the start of the chat with more social and affective connections being made, but overall remaining in a similar range between weeks two to week four. The most striking aspect is in the amount of cognitive content: fewer tweets of a cognitive nature in week one might not be unexpected, as people were meeting and greeting each other, but the number of these rises markedly in week two, falls in week three, and rises again in four. Overall, 66% of the tweets were cognitive in nature, and 27% were social/affective. Typically, the social/affective tweets were at the beginning and end of the tweet chats, where participants said hello and goodbye to each other, and the majority of tweets during the main body of the tweet chats were cognitive in content. Because I was manually coding these tweets, I had immersed myself in

the data by the eld of the process, and I felt confident that the conversations in these four tweet chats would be sufficient for my investigation and I could see that there were rich comments and conversations happening throughout the four tweet chats that were worthy of further analysis. I considered what my next step should be: should I return to my coding categories and refine them in order to come up with a more subtle sorting than I already had, or was an alternative method of coding needed in order to augment my categorisation? After due consideration I decided that the current categorisation was sufficient in order to show the broad tone of the community, but I needed a method of analysis that would help me to flesh out the specific content of the conversations. I also needed something to analyse the survey responses, which were open text responses.

Thematic Analysis

I have chosen the term 'thematic analysis' to describe this stage of my research. However, I should note that this is an "umbrella term" that can be used to refer to different qualitative methods of pattern identification within data sets (Braun, Clarke, Hayfield and Terry, 2019). Here I am using the term in order to describe the method that I used in order to categorise CLMOOC tweets into categories of meaning. The first approach I used was a broad brush, top-down method, by contrast this approach is detailed and bottom up, and, according to Braun et al., would be called a "reflexive thematic analysis" because it foregrounds me as a researcher and looks at questions related to experiences, perceptions and understanding. My themes use a combination of what Braun et al. call "input" (patterns identified by an examination of the pre-existing connected learning principles and Make Cycle themes) and "outputs" (patterns identified by examining tweets and survey responses). These themes emerged as I examined all of the data and saw how things could be grouped together, and then took them back to the community for their endorsement.

The data set

The first thing that I did was to collate all of the data I wanted to use. As well as the CLMOOC16 tweet chat archive, I also included the results of a survey in my thematic analysis. I therefore had the following data available for a content analysis:

1. Content of individual tweets from four themed twitter chats (1161 tweets)
2. Survey responses: nine questions and 22 respondents (198 responses)

Themes

Rather than starting with pre-conceived themes and using these to categorise the data, I looked at the tweets from the four tweet chats in order to find common words and themes. As I coded the tweets, I grouped tweets containing cognate words together. I also noted tweets containing themes that did not fit into specific categories, but that seemed to fit with the ethos of connected learning and CLMOOC, into a category called 'other'. This was an iterative process, I began by highlighting words that interested me, and words that reoccurred, and began to notice patterns and to start to group words together so that themes began to emerge. One I had a clear sense of the broad groupings, I paused to decide what to call these themes. Although I had deliberately allowed these to emerge from the data, rather than imposing themes upon it, I wanted to see if it would match the themes used to frame CLMOOC16 – that is, the principles and values of connected learning and the specific themes for the CLMOOC16 weekly Make Cycles. I set these latter themes out in the table below:

Week	Make Cycle	Themes
1	1	introductions, connections, cultivations.
2	2	reciprocations, gratitude and generosity.
3	Break week	purposeful pause – a semi break week where participants were encouraged to reflect upon the previous two weeks and consolidate their connections with each other.
4	3	cultivating connections.

Table 21 CLMOOC16 Make Cycle Themes

These themes were a good start, but they were still too broad – I needed more detail, and an obvious place to look was the tweet chat questions. A full list of these questions can be found in Appendix 3.

This gave me the following sources for my themes:

1. CLMOOC16 Make Cycle (MC) themes
2. CLMOOC16 tweet chat (TC) questions
3. Learning and Design Principles (LP1-3; DP1-3) and Values (V1-3) of connected learning (CL)

I synthesised the key concepts from these three sources, ensuring each source was included at least once. The following tentative themes emerged:

Theme	**CLMOOC Source**	**CL principle**
Belonging/connectedness/community	MC/TC 1, 3, 4.	LP2, LP3, DP1, DP3, V1
Creativity and play	MC/TC 2, 4	LP1, DP2
Reciprocations and remix	MC/TC 2	DP2

Table 22 Tentative categories for thematic analysis of CLMOOC16 tweet chats

Results of thematic analysis

Having completed this mark-up, I looked over the groups of words that had emerged to see how they fitted into the broad groupings that I had identified. After consideration, I shortened the 'belonging/connectedness/community' category to 'community', the 'creativity and play' category as 'creative playfulness' and renamed the 'reciprocations and remix' to 'reciprocity'. I next looked at the tweets in the 'other' category to see if any obvious themes emerged. Two presented themselves – one set of tweets talked about issues connected to social responsibility and social justice, and the other cluster of tweets all contained words synonymous with positive emotions. Social responsibility and justice are fundamental values of connected learning, so this was obviously an important addition. Positive emotions are vital for community cohesion, so this category also seemed to be to be worthy of inclusion. Having completed the hand coding and thematic analysis of the tweet chats, I then opened up the master file of tweet chat tweets and using the 'search archive' option in order to search

through this digital archive and get a different sense of the rough number of tweets in each theme. I did not do this in order to ascertain the number of tweets in each theme, but in order to reassure myself that there were sufficient tweets with each set of cognate words to warrant the breakdown of themes I had identified. Having done this, I next opened up the master file of CLMOOC16 data and repeated this exercise. I also used a free, online application in order to produce some word clouds of the tweets from each tweet chat in order to see the frequency of the most popular words.

I next looked at the survey responses and marked these up according to the five themes above. Again, I also considered whether there were any themes missing and I found that there were none. I present the findings from each of these five themes in more detail below.

Figure 13 Word cloud of top 100 words used during tweet chats 1-4

Theme 1: Community

It is perhaps not surprising that, in a community formed around connected learning, there are many references to words describing connections, belonging and community. One possible reason for this, and one I hoped to discount, was that participants were engaging in theoretical discussions about the principles of connected learning. In fact, there was an element of that, but I could see that most tweets about community and cognate words are from participants referring to their own experiences and feelings, rather than talking about connected learning in the abstract. Typical words as well as belonging, connected and community are support, trust, like-minded, together, involved. Tweets mention participants feeling that they belong to CLMOOC, feel connected to other participants and describe themselves as being made welcome by others. For example, one participant quotes Walt Whitman, saying that: “"Every atom belonging to me as good belongs to you." We have same goals: be engaged, empathetic creators and be accepted” [Respondent 10, 14th July 2016]. Another emphasises the connections in CLMOOC which continue throughout the year, saying that: “the #clmooc community creates abiding #connections that abide far beyond the few formal weeks each summer” [Respondent 11, 28th July 2016]. One participant noted that the connections being made are the most important aspect of CLMOOC, writing that: “This is most valuable part of this group. Each year connections expand, many grow stronger. Think 5-10 years from now” [Respondent 7, 28th July 2016], while at the end of the final chat another participant reflects upon future connectedness, saying that they have made “stronger connections with some, new connections with others...many future options/opportunities. Thanks, all.” [Respondent 14, 28th July 2016].

The survey asked participants directly about their membership of the group, and so responses aligning with feelings of belonging are not unexpected. However, the strength of the feeling that belonging brings was apparent from the responses. Some members felt that CLMOOC was an important part of their everyday practice, with one participant responding that: “The CLMOOC Community is a MAJOR part of my life! I've been conducting biweekly face-to-face groups, year round, since the very first CLMOOC over three years ago. Love, love, love this community...” [Respondent 204, 23rd July 2016]. One respondent felt “very much at the center of the CLMOOC” [Respondent 3, 23rd July 2016], while others felt more peripheral,

but still felt that they were a part of the space. Even those who identified themselves as peripheral participants of CLMOOC still identified with its participatory culture, its values and practices. Four views that typified this were as follows:

- “I feel valued and included…” [Respondent 91, 23rd July 2016]
- "I think that I feel like an adopted child. Feel part, but not sure I am worthy…” [Respondent 48, 23rd July 2016]
- “I feel close to this community, although I don't know many of the participants, but I share their interests and values” [Respondent 43, 23rd July 2016]
- “I feel like I operate on the edge (my choice), but need to see and understand the creativity, academic thoughts, and interconnections” [Respondent 50, 23rd July 2016]

Theme 2: Creative Playfulness

There are many words in the tweets connected with play and creativity. Typical cognate words are about making, risk, trying new things and the opportunity to fail safely, exploring and discovering, innovating and experimenting, feeing a sense of wonder and having fun. For example, one participant was adamant about the importance of play to learning: “A tweet I got recently suggested that we were 'hyperactive'-that our play was...just play. And I said, "Get out of my sandbox”” [Respondent 8, 21st July 2016]. Another participant puts a similar point in different way, saying that: “Playing is a deeply serious thing that creates connections in ways other things don't. I believe in play!” [Respondent 24, 21st July 2016]. This person had remarked on the importance of play in a previous chat, saying that: “Yes! Play is a super important part of #clmooc for me. I find it reenergizing!” [Respondent 24, 14th July 2016]. One participant summed up the nature of CLMOOC, writing that they felt that they had “uncovered the seriousness of play in the remixes - the trust we have and the honor we give; & uncovered art and awe in our play” [Respondent 2, 21st July 2016], while another tweet noted the variety of types of creativity in CLMOOC, writing: “I saw so many creative people trying a variety of ways---print, music, visual media---to express themselves” [Respondent 24, 14th July 2016]. A sense of trust underpins many of these responses, and a sense that there is nobody judging

what participants are doing. As one participant said: “Play means I don't have to be 'right' or 'good' or 'better'. Just be” [Respondent 13, 4th August 2016]. Another participant suggested that the creative play that occurred during CLMOOC was a learning process, asking: “How about framing parallel play as part of the journey to being open to connected play? Just like toddlers” [Respondent 22, 4th August 2016].

The survey responses also give a strong sense of play and playfulness in learning. One participant highlighted the importance of the practices of CLMOOC to them, saying that: “… from the very first moment, I knew that CLMOOC was a wonderful opportunity which I was more excited about than I had been about anything since I discovered digital storytelling” [Respondent 204, 23rd July 2016]. Another highlighted the affinity that they felt to other members of CLMOOC, writing that: “I wanted to interact with people I liked in previous moocs. I was (then) interested in participating in some creative activities” [Respondent 259, 13th August 2016], and a further wrote that: “… it always seems like a fun party going on, and I just wish I had more time to participate” [Respondent 177, 23rd July 2016]. Another commented on the importance of creativity and playfulness, saying that: “I think that learning becomes something different when we make” [Respondent 48, 23rd July 2016].

One exchange from a tweet chat stands out here. In response to one participant’s questioning of the applicability of the concept of “play” to CLMOOC interactions: “The idea of this being "play" troubles me. I enjoy the lea[r]ning, networking, etc. But don't consider it "play"” [Respondent 7, 21st July 2016], another respondent gives the following answer: “that's because you love what you are doing and sharing--that is the infinite game of play in my book.” [Respondent 8, 21st July 2016]. This tension between play as something that is ‘merely’ fun and play as serious learning, is one that recurs, and I have already talked about the sense of bricolage as being ‘serious fun’.

Theme 3: Reciprocity

There were many tweets talking about reciprocity and cognate concepts. Participants talked about sharing and collaborating, remixing and acknowledging the work of others. Some described the process of remix: referring to building upon the work of others and layering it with their own and others' work. They also showed their appreciation of others' work. For example, one participant talked about the generosity of participants to each other, saying that: "Some people have an amazing capacity to produce and share creative ideas; many are eager to help others" [Respondent 8, 28th July 2016]. Another wrote: "Yes, I too loved how many reciprocations built off other's work + how things kept layering outward" [Respondent 12, 21st July 2016]. One participant invented their own word for this relationship, saying that: "Everyone is being incredibly supportive and reciprocative (made up a word?). Not surprised but pleased." [Respondent 1, 14th July 2016]. Another participant highlighted the need for reflection as part of the process of remix, saying that they learnt: "By not just making but reflecting on what works & what doesn't and why & seeing how it applies in work and wth [sic] others" [Respondent 15, 14th July 2016]. Yet another participant talked about how they used this process to effect outwith CLMOOC, writing that: "I've encouraged interns, others to 'hack and re-mix' work I've originated, so more people see it, understand it, use it." [Respondent 7, 21st July 016].

Survey respondents also noted the collaborative and reciprocal nature of CLMOOC. One respondent said that they had wanted to participate because: "I was intrigued by the idea of building knowledge collaboratively and fact that CLMOOC is based on principles of Connectivism" [Respondent 260, 13th August 2016]. Another commented on the ethos of CLMOOC, writing that: "You quickly learn about generosity and sharing, and the power of collaboration to take an idea and build, riff, remix off it in, turning the idea into a powerful collage created by many, not just one person" [Respondent 3, 23rd July 2016].

Theme 4: Social justice

Something that was not explicit in the CLMOOC Make Cycle themes or Tweet Chat questions, but that is fundamental to the principles and values of connected learning, is the value of equity, and this arose from some of the participants' tweets. For example, one participant replied to another to say: "I dig it! I always

learn so much from your making, particularly on issues of social justice. Just thanks. #clmooc" [Respondent 6, 14th July 2016], while another asked how participants in CLMOOC could use what they were learning for the greater good, asking: "How can we make our #clmooc making make a real difference in the world?" [Respondent 12, 14th July 2016]. Another participant noted that they were already using their CLMOOC practices in their everyday life, writing that: "I share what I learn from cMOOCs like this w[ith the] goal that people from youth development, philanthropy, etc. will duplicate." [Respondent 7, 14th July 2016], and yet another suggested that, for them, this was part of being a member of society: "citizenship is working together to build a better world; not just promote own" [Respondent 2, 4th August 2016]. Another participant explained how the principles of connected learning underpinned all that they did, saying that:

> Because Connected Learning is a big interest of mine, this list is long. I organize f2f learning about making and I participate in regular annotation flash mobs that pop up in my PLN. I have helped launch a research practice partnership between my school district and the University of Colorado at Denver to study #techquity, which is a hashtag developed by the #clmooc community. [Respondent 18, 25th July 2016].

Again, these responses show that connected learning is something that CLMOOC participants practice in their everyday lives – it is more than a set of abstract, external principles; these are values that participants have internalised.

Theme 5: Positive emotions

As I conducted the thematic analysis of the tweets and looked at the survey responses, I was struck by the amount of words used to describe positive emotions of participants. Words such as passion, love and interest were frequent, as were cognate words about uplift, excitement and encouragement. Respect is a word that reoccurs, in the context of respecting others, and references to the generosity of the CLMOOC community have already been noted above. The responses below are typical:

- "That's what I love about, I find ideas to come back year round #clmooc" [Respondent 54, 14th July 2016]

- “For the next h[ou]r, I'll be on the #clmooc tweet chat. Join us for some uplifting talk about reciprocating with generosity!” [Respondent 12, 21st August 2016]
- “reading the postcards are a break; I am waaaaaay behind in sharing, but they have uplifted me in difficult times this year #clmooc” [Respondent 2, 28th July 2016]
- “There are lovely people and I love collaborative learning” [Respondent 90, 23rd July 2016].

The emotional connection of participants to each other, their passionate commitment to the principles of connected learning and their joy at participating in the activities that take place during CLMOOC is fundamental to this type of community.

Conclusion

This was a data set of 1161 tweets from 40 participants across the 4 tweet chats analysed, and 198 responses from 22 respondents to the survey. The findings above provide ample evidence for my thesis and show that CLMOOC is participatory in its nature: with participants joining in with conversations and activities in a creative and playful manner because they identify with the collaborative, reciprocal nature of CLMOOC and see it as a space they have an affinity with. In addition, many participants noted that CLMOOC was more than a summer MOOC for them, it was a community with which they identified. Here are three typical responses, the first two from the survey, and the third from a tweet chat:

- It's unique. The change from "Course" to "Collaboration" for the final C was crucial. Everything that's good in CLMOOC flows from truly embodying the deep meaning of that change. There have been other attempts--DS106, for example--but none were truly open and egalitarian the way CLMOOC has always been... [Respondent 204, 23rd July 2016]
- This group gets my brain to connext [sic] in complex and creative ways. I can bring that to that classroom to help students be connected and creative. [Respondent 106, 25th August 2016]

- It's about building stronger bonds with a few. Building new connections to many more. Keeping @CLMOOC as go-to place through year. [Respondent 16, 14th July 2016]

When I first completed this analysis I thought that I would stop here and write something about the power of creative playfulness and the need for a community of learning, but as I continue to play and learn with my band of bricoleurs, I felt the need to return to the practices in CLMOOC and dig more deeply into them. In particular, I realised that I needed to investigate the practice of remix. I had originally decided to limit any of my discussion to CLMOOC16, but my lockdown experiences have made me appreciate the power of my collaborative spaces and I felt a need to refocus and include activities from the self-sustaining community. In the next chapter I attempt to do that.

Chapter Seven: Watching the practices

It should be noted that children at play are not playing about; their games should be seen as their most serious-minded activity. Montaigne

In this chapter I am going to introduce you to some examples of the activities that exemplify remix in CLMOOC. In so doing, I want to do two things: first to show you what remix looks like in practice and second to confirm that these activities are aligned with the beliefs and values that I identified in the last chapter as being particularly important to CLMOOCers. This will enable me to discuss all of my empirical findings in the next chapter.

I am going to begin this chapter by looking at what remix is. I have to admit that I find remix to be fascinating – I want to tumble down the rabbit hole, immerse myself in a full appreciation of all of its aspects and embark on a full categorisation of the concept. However, I need to remind myself of the focus of this thesis, and to use these examples of practices in CLMOOC to show how learning to occur and how remix contributes to the continued success of CLMOOC as a participatory culture of learning.

Remix is a common practice in pop music such as dub and hip hop and it is only recently that it has made the move to other areas (Navas, 2012). Navas suggests that remix is a sort of cultural glue, and Smith et al. follow this line of thought and further suggest that remix might be understood as being "the negotiation of meaning across modes, platforms, settings, tools, and media" (Smith et al., 2016, p.4). Here they are looking at remix as a transliterative, or transmedia, phenomenon or practice (as they also say, remix can be both a noun and a verb), but I would suggest that this is remix at its most extreme. Sometimes remix might manifest itself as trivial banter with participants casually throwing memes at each other (I refer to this as playing meme ping-pong). At other times it might be really transformative creations. The important thing is that it is not just a blind copying of others' creations – it is a mapping, and not a tracing, in Deleuzian terms (Deleuze and Guattari, 1987, pp. 12-13). I understand remix is a process of iteration or repetition of variations on a theme, which can occur within genres as well as across them – as Deleuzian lines of flight – as altered perspectives which can result in a change in unanticipated directions (Deleuze and Guattari, 1987). As

Smith et al. say, it can lead to a type of serendipitous learning that cannot be scripted (Smith et al., 2016, p. 11). The facilitator-participants in earlier years of CLMOOC suggested that the practice of remix made it particularly hard to anticipate how the Make Cycles would unfold (West-Puckett et al., 2016, p. 208).

The way that remix plays out in CLMOOC is something like this: an idea is suggested by one person or group of people, others pick up the thought and run off at tangents, and sometimes some brave soul stitches the results together into a coherent whole. Being a diverse community with many different talents, interests and expertise, there are many types of activity that could happen, including doodles, paintings, memes, gifs, photos, poetry, stories, music, collaborative annotation of books, websites and videos. Some of these are one-off, spontaneous activities suggested by a participant or group of participants, others are fully-fledged practices that participants engage in at regular times. Some of the activities are simple to participate in, taking little time or effort to complete; others are more complex and require considerable skill and/or time to achieve. Some can be either simple or complex, depending on the amount of time or skill a participant has or wishes to spend. The metaphors of dip, swim, dive are always on the tip of my tongue when I think of CLMOOC activities (CLMOOC, 2016a). The spontaneous nature of many interactions means that participants share their creations when they are good enough, rather than aspiring to perfection – often because it is so exciting that we cannot wait to join in with the fun (we are like young children in a school playground all raising our hands and squealing to be picked next).

Spontaneous activities

A lot of spontaneous activity happens in CLMOOC. Typically, these remixes begin with one person responding to a prompt, and others responding with their own versions of the make or with a remix of the original. One example of this, and which sadly it is hard to share examples of here because of the nature of the medium, is the gif sharing that participants sometimes engage in. One participant will post a gif in response to a comment from another participant. Others will reply with their own gifs, either that they have made or that they have found online (Twitter has an inbuilt gif search function that makes this easy to do). This activity is a multi-media version of the word association games that previous generations

played. Often it is a low-key, time filling activity, but nevertheless it is important, in many ways. As well as reaffirming our connections with each other these allow us to share our beliefs and reinforce our senses of social justice – we have shared many memes about Brexit, Boris and Trump in recent years.

Regular practices

Figure 14 Pin board with postcards from CLMOOC participants

One practice that participants engage in regularly is called Silent Sunday. This is a popular activity, because the bar for entry is so low. All that a participant needs to do to play along is to post a picture to one or more of the CLMOOC spaces and tag it with the hashtag (#SilentSunday). There are no rules about what the picture should be, no proscriptions given about what participants cannot do, it is up to each individual to decide what they want to share. Of course, because this is a creative community the majority of pictures shared are photos taken by participants, sometimes of art that they have created, but this is not a stipulation. The only convention is that no words are posted to accompany the image – hence the name – and even that convention can be broken if a participant chooses.

Although very simple, the lack of explicit instructions can be a challenge. When I first came across the activity I did not understand what the rules were, and this was a barrier to me participating. Was I meant to share an image that represented silence, or should it be something about Sunday? Did it have to be my

own image, or could I share one made by somebody else? Did it have to be a photo, or could I share a doodle? Since making this a Sunday ritual, I have had similar conversations with others who also did not understand how to participate. When asked, I find it hard to articulate what the rules are. It seems rude and unhelpful to tell others to do whatever they like, but that's really all there is to it. We share an image each Sunday that we have usually taken ourselves. Once I stopped worrying about the rules, I started enjoying selecting one image (only one!) to share in the CLMOOC spaces. As I write this paragraph in my garden on a sunny Scottish Sunday, I look up at the blossom on our cherry tree and take a quick picture on my phone. I know one member, in particular, will love it.

Although this activity is very simple in design and easy to participate in, it is a very powerful collaborative activity. Participants have a regular opportunity to share something that they have done or made – to show others something that has happened to them during the past few days. These windows into the lives of others help participants to bond with each other. Many people who do not post themselves also 'like' these posts and some also comment to say how much they enjoy them.

Often people talk about online relationships as being virtual, as if this makes them less real and relevant than face-to-face ones. I hope that by now you appreciate that my CLMOOC collaborators are more real to me than many of my colleagues at work and that, although I might never meet them 'in real life', I do have many physical interactions with them. One activity that has caused me joy for the last years is the postcard swapping activity that some of us participate in. A 2016 facilitator proposed the original activity – to send postcards out to other participants each month on an agreed theme. She set up a Google Form with fields for name, address, email, twitter handle and posted in in the CLMOOC social media channels. As soon as a participant filled out the form, they were given access to the private Google Form which contained information about other participants. After that, there were no rules. Participants were free to send one postcard to one person, postcards to all, whatever they liked. As the list grew in number (it currently sits at around 70 addresses), facilitators suggested that participants took a selective approach and did not try to send a card to everybody every month. In order to inspire and encourage others, the core facilitator group began by writing monthly prompts around crowdsourced themes. This aspect has

now stopped, but some of us still send and receive postcards to each other, and I recently used it to send my hand-made Christmas cards to my friends.

Collaborative activities

The most powerful of all our activities, in my opinion, are the collaborative projects that we have produced: over the years there have been several – some spontaneous, some carefully pre-planned. All have been fun to complete, and all have led to participants learning new skills as well as reinforcing our connections to each other. In particular, these help me to understand the importance of trust and respect to enable participants to engage in an authentic manner.

The search for chalkboard man

"The premise here for CLMOOC is the search for a missing toy — Chalkboard Man — from the first year of CLMOOC. This summer, we're sending a new character — Miss Direction — out to find Chalkboard Man, and your job, when your time comes, will be download Miss Direction, color her and send her off on the trail of the mystery. You will write a small story and share an image or short video in a secret story site (which will be shared publicly at the end of the adventure)."

Figure 15 Miss Direction

As part of the organised facilitated activities for CLMOOC16, the facilitator-participants devised an activity we called "Story Jumpers" (Hodgson, 2016). This was based on activities that some of us had participated in previously, and had found successful (this is a version of a game called 'exquisite corpse'). The aim of the activity was to get participants engaging in a collaborative exercise that was relatively easy to take part in, but that did involve co-ordination. The premise of the story was that a certain toy called

“chalkboard man” had gone missing, and that it was up to CLMOOC16, as a team, to see if they could find him with the help of a special detective called Miss Direction. There was a back-story to this. In an earlier iteration of CLMOOC, this toy had actually gone missing. However, this in joke was not emphasised publicly and therefore did not exclude those not part of the earlier experience. The way it worked was this: participants signed up via a Google Doc, and one facilitator took on the co-ordination of the activity. Each of us in turn printed out an image of the detective from the CLMOOC blog (the person who drew this person was the original owner of the toy), coloured it in as they liked, and took photos of her supposedly looking for the toy. When they had finished, they added their story to a shared pin board. As a nice extra twist, once we had completed this step, the co-ordinator shared with us the address of another participant (with their permission) and we posted our coloured in picture to them. This meant that, as well as being a lot of fun, we had a physical memento of the experience, and I still have mine on a pin board in my home study. This activity is, in some ways, like the chain letters that previous generations participated in.

Hope calendar

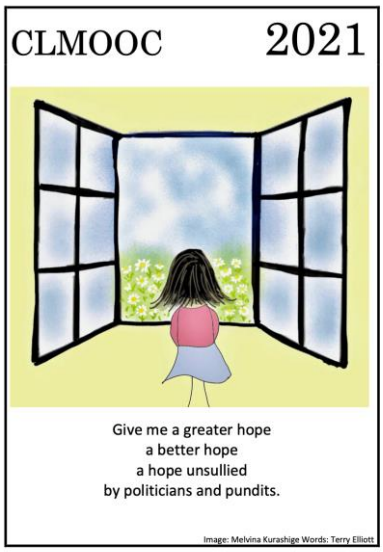


Figure 16 Hope Calendar

The collaborative spirit of CLMOOC continues to shine, and with the 2021 year on the horizon, we gathered together our creative spirits the last few weeks and produced this free downloadable calendar for anyone who wants it. Here, you can find artwork, music, poems and more. Just as important, we hope you find “HOPE” in these pages, a gift from all of us to all of us, and to all of you (Hodgson, 2020).

At some point during late 2020, we started to think about how to lift ourselves out of the gloom of the pandemic, Brexit and Trump. We decided that we needed a project that was creative, not too serious, and that would connect the CLMOOC community in a positive way. We felt that we needed an ongoing

activity, but one that was specifically a response to the pessimism around us. As ever, as we mulled it over, a theme emerged. Some of us had been sharing images and poems on the theme of Hope, and this seemed to fit the bill. We chose a calendar as a format to highlight contributions from the community and little other guidance was given to participants. Here is a semi-fictionalised and very much abbreviated version of the conversation that took place over several days and several platforms:

A	*sigh*, I need a diversion – something creative that has nothing to do with this coronavirus.
CLMOOC	*sits up and takes note*
B	How about a video project – we've not done one of those?
A	What about a comic? Something really fun to take our minds of it all. How about an ebook?
C	I can't. I have to fight the horrors of our political system. I can't cope with anything trivial. Please help me fight.
D	OK, I can understand that – I think we all can. It's so hard to keep pushing back, isn't it? What about using hope as a topic to frame it all around? I've seen you posting about the need for hope. Can we do something that pushes back at all the horror and gives us hope?
E	What about a "Where's Wally" book about hope? Where can we find hope?
D	How about asking the question of "what does hope mean to you?"?
A	We could call it windows into hope. Maybe we could make a grid of window panes that open onto hope? There's lots of fancy tech we could use …
C	Tech is pretty, but what about those of us with poor connectivity? It needs to be something for all of us.
B	A self-print book? An ebook as well? A calendar?
D	A calendar sounds lovely.
E	Yes, a calendar. Windows of hope. A year of hope.

A	A pdf, downloadable from our blog. People can print it or bookmark it.
CLMOOC	Perfect.

And so our collaborative calendar was born. We posted invites on social media, we mocked up a template. People submitted drawings or photos, some of us also wrote poems. We fitted the images to the months and the words to the images. We tweaked it till it was just right, and we posted it to the CLMOOC blog so anyone who liked could have a copy (Hodgson, 2020). As a type this, I look at my copy and see that the image for this month is one of brightly coloured poppies, representing hope for spring.

Lines of thought

A couple of weeks ago I write a short poem in response to a DS106 creative prompt, and asked, as a joke, why I should limit my poem for four lines, as the prompt suggested, and not five, or nine, or one hundred and six. The images and poems here represent some of the remixes made in response to my provocation in the image below (submitted as a "daily create"). First we have the original poem, which I added to the image of swan, staring at the audience and asking a question (itself remixed from Shakespeare).

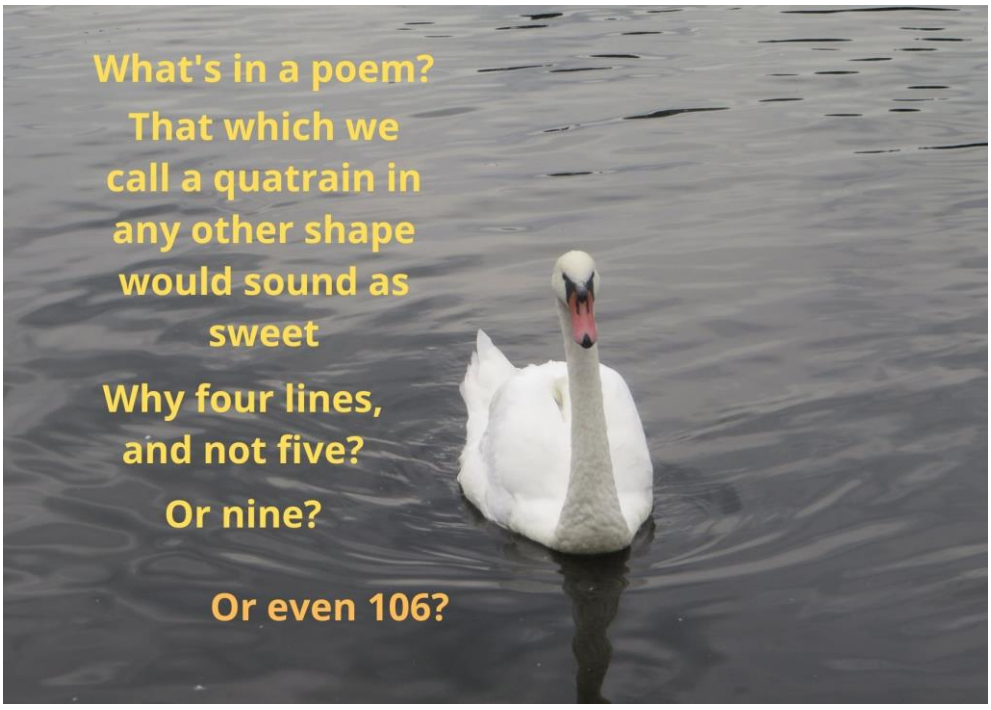


Figure 17 Lines of thought original poem

A fellow CLMOOC bricoleur picked up this thought and ran with it, submitting a follow up prompt asking participants to contribute to an open Google Doc and to collaboratively write a poem with one hundred and six lines. The results exceeded all of our expectations. Friends and colleagues from outwith CLMOOC joined in, and forty-four different people produced a finished poem in forty-eight hours. People who had never participated in CLMOOC expressed their gratitude for the fun that we all had. Others, who did not contribute but watched, told us that we had inspired them to set up similar activities in staff meetings and student classes. I cannot express how happy that makes me. Here are some of the remixes from that poem that are relatively easy to share here. It is worth mentioning that these remixes exemplify the stages suggested by Navas as being typical of the stages of remix, which are reinterpretative, where the original is significantly changed in some way; selective, where the original is either added to or parts are removed; subtraction) and reflective, which is a mirroring of the original in some way (Navas, 2012).

The full collaborative poem

1 A bird, flying though the sky
2 Cuts through dark clouds
3 Circle on wind drifts
4 Your mind shifts to stars
5 Whose silver wings shimmer and shiver. And fade.
6 Cutting into thin air, exhilarating, hard to breath,
7 as you swim through the sun flooded blue
8 ignoring the green duckweed trying to get into your nostrils.
9 focusing on turquoise skies: the other side
10 until, until, there. You break through and for a moment,
11 you forget. (Go to line 106 option)
12The dark clouds that touched your wings yesterday. Now replaced by light.
13 Invisibly lifted, you soar higher.
14 Higher and higher until you fear Icarus' fate.
15 Looking down, you notice gratitude growing within you,
16 warming your bones just like the Sun's rays.
17 wrapping wings of hope around the earth
18 observing the moment pass.
19 You glide, introspective,

Into a brighter light,
illuminating from deep within,
sparking something deep inside of you,
that reaches out to others
even animal friends, companions
share your brilliance
alive, living in the moment.
noticing the small things
celebrating the small things, because these give us all hope.
a child's smile, a cat's paw, a snowdrop peeking through the snow
a carousel of animated memories that light up receptors of gratitude
and trigger fond memories
captured, like snapshots, to browse through
a force keeping the dark clouds at bay
and allowing our inner strength to shine through
Wings rhythm beat is one of an ancient song
The sound of wings https://youtu.be/AzEZUofreU0
beats like hearts thumping in rhythm
like tribes gathering
on the plateau in late spring
reflecting on the past yet looking to the future
and still remaining warriors in the present
armed with love and compassion
To see ourselves as others see us!
It wad frae monie a blunder free us,
An' foolish notion.
Of snowflakes drifting on the winds
Snowflakes?
the only flakes I see are dust
different zones, different moans
Crisscrossing echoes linger
from far away. While closer, chattering birds
with young in tow, peaceful sounds, rise in stark contrast
with sirens, ever circling. Human and nature collide
something of our song still songs, inside
wonder rises, can we still hear?

have we salvaged our hope to listen for joy?
Hope springs eternal, so we are told. Joy
cometh from the sounds of birds, the breath of wind, the tangible sense of nature
of hope
Where poems are seeds and stories are leaves
the Earth grows stronger, and the sunlight
shadows these trees, firm-rooted in ancient soil
and we, the people, we are always digging deep
thinking and feeling , listening as though we may be
on the ancient bows of trees rooting stories through and through,
reaching at once deep into the earth and high into the sky
these
clouds
speak
of
forever
these
roots
burrow
down
past the places where we share words
that tumble past my lips, like a blessing
or a curse
far beneath, where stone melts and churns
then returns with smoke and fire
through cracks and crevices
new land cools and forms
greens, flourishes,
only to have the Poet surface, to ponder:
And what will we make of this place
where poems and voice and culture collide?
what digital fossils left embedded in stone?
Take this hammer, take this chisel
Take some time to work alone
Shatter the surface of intentions
Surface this collaborative poem

92 Grab it by the scruff
93 Wield the woven words
94 a weapon against hate
95 a tapestry of many colors
96 a harmony of many notes
97 will you knit our thoughts together?
98 will you help us fly?
99 I can fly beside you, soar with you
100 Share in the life of these words
101 Sit still in silence with you
102 What will it be?
103 When we come to these last lines
104 Who will we be? Will we
105 Remember to breathe and
106 To flap. The End.

I see this as being the first stage of remix from my original poem, so I would categorise this as being representative, in Navas' framework.

A shortened version

Several people remixed the original poem into other media by taking a sample of the poem, one was done during the writing of the 106 line poem, as a joke over Twitter. One participant noted that on reading line 11 they had been tempted to add "to flap. The end". This was immediately added as line 106 and a shortened version of the poem also offered, which I copy below. I think that this is the second stage of remix, and I would characterise this as being selective, in Navas' terms.

1. A bird, flying though the sky
2 Cuts through dark clouds
3 Circle on wind drifts
4 Your mind shifts to stars
5 Whose silver wings shimmer and shiver. And fade.
6 Cutting into thin air, exhilarating, hard to breath,
7 as you swim through the sun flooded blue
8 ignoring the green duckweed trying to get into your nostrils.

9 focusing on turquoise skies: the other side
10 until, until, there. You break through and for a moment,
11 you forget.
106. To flap. The End.

A stanza, repurposed

The poem contains many stanzas which can be lifted out to become poems in their own right. Here is one of those. I would also characterise this as being the second stage of remix, as selective, in Navas' terms.

88 Take this hammer, take this chisel
89 Take some time to work alone
90 Shatter the surface of intentions
91 Surface this collaborative poem

A word cloud of the poem

Another participant remixed the poem by taking all of the key words and putting them into a word cloud generator so that the image below is created. I would characterise this as being the third stage or remix, as reflective, in Navas' terms.

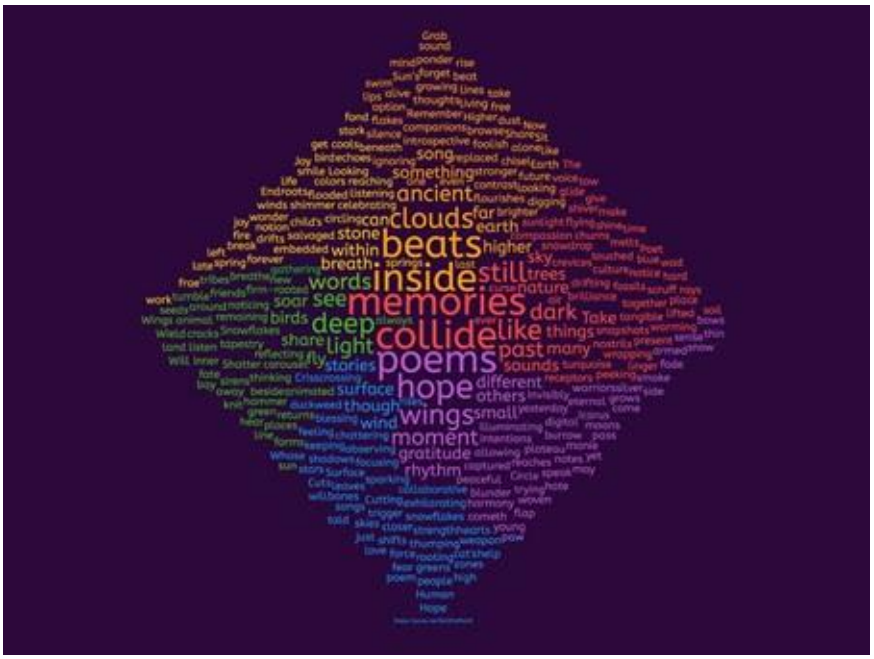


Figure 18 Lines of thought word cloud remix

And it did not end there, although the more reflective remixes are harder to share here. Participants remixed the poem by taking particular lines and adding them to images; one participant took the whole poem and remixed it into a song. Three of us co-ordinated a collaborative reading of the poem by 20 of the authors: we assigned them a few lines each and asked them to upload their recordings to a Google Form, and one of us stitched it all together and uploaded it to Soundcloud. I have made a papier-mâché plate version of the poem, I have had a sneak peek of a version being created from yarn, and there is a full musical interpretation of the poem All of these would count as reflective, in Navas' framework. Who knows what will happen with it next?

In all of the above I have made it sound as if these activities happened flawlessly, without any hitches. However, of course I am only telling you about the ones that were successful – I am not showing you the false starts, half attempts and misfires. The passage below is a reflection from Terry Elliott, the grand wizard of CLMOOC, who shares his experience of designing for the very first CLMOOC Make Cycle.

> I remember before the beginning of the first week of the CLMOOC, Kevin Hodgson and I were meeting regularly in pre-dawn Google Hangout and Twitter spaces to lay out plans for the first week. As a group we had decided on a leader/helper relationship to share each week's goals and each week we addressed a different connected learning principle or value. Kevin and I were Ratty and Mole on the river simply messing about. That first week we had this elaborate scaffolding for our participants. We were expecting everyone to introduce themselves and we hoped that they might use podcasting as a tool for doing so. "Good" teachers that we were, we modelled the work that we wanted to see, shared tools, you know, the whole catastrophe. Result? I think Kevin and I were the only ones who used sound tools like Vocaroo and iPadio to do introductions. To our credit, I think we both laughed at how foresight might be vain and "[t]he best-laid schemes o' mice an' men/ Gang aft agley,/ An' lea'e us nought but grief an' pain,/For promis'd joy!'
>
> Only now, do I realize that everyone picked up on a deeper, simpler melody lurking beneath. And that melody was the idea of play. What Kevin and I modeled was that it was perfectly alright, even expected, to make your own

> way with your own play. This idea of serious play did not rise solely from us, it rose from hanging out and geeking out on those mornings together. It came from messing about on the river with everyone in our Hangouts-on-Air else before we pushed off from the bank into the current. Like the river, our CLMOOC may have had headwaters, but its source is, like the zeitgeist, everywhere and nowhere. (Elliott, 2013)

This gets right to the heart of why CLMOOC is so successful and fulfilling for those who participate in it – it is because we play together and we learn as we play. Terry here calls this serious play, I have called it serious fun, and my thematic analysis identified creative playfulness as being important. Both Terry and I emphasise the importance of HOMAGO: it is not (merely) what we produce that matters, it is the act of collaborating with other bricoleurs that is important – of collectively messing around like Ratty and Mole in our digital boats. What all of these collaborative makes do is to reaffirm our sense of ourselves as a creative, connected community, and in our beliefs in equity and social justice, and this confirms for me that the practices and values in CLMOOC are, indeed, aligned meaning that it is a participatory culture of learning. In addition, these examples show how we are able to use new tools, techniques and genres in a low-risk environment, and they emphasise that being good enough does not mean being second rate.

Conclusion

The examples that I have shared here have all been examples of digital artefacts, and this might give you the impression that I am talking about remix as solely a development of digital literacies. It is true to say that I think that these skills are really important, but that is not the focus here. What I am interested in is a meta-analysis of remix – to tease out from the above examples what is important as an educational theory, and to show how they might be applied in other subjects. I hope that the above examples serve to give you a flavour of what it is like to be a part of a vibrant, participatory community. As a participant researcher as well as a participant facilitator, I am intimately connected to all of this, but I do not think that I am unique, and neither is my group, net(work), community or collective. Rather, I think that there are lessons that can be extracted for others to apply to their own teaching and learning situations. This

will be the focus of the final chapter (Chapter Ten) of this thesis. Before I write that, I need tie together my empirical finding with the literature that I discussed in my theoretical investigation, and that will be the focus of the next chapter.

Chapter Eight: What I have learnt

Believe me, my young friend, there is nothing - absolutely nothing - half so much worth doing as simply messing about in boats.

Kenneth Grahame, The Wind in the Willows

So here we have it. I have painted for you a picture of my community, and given a flavour of the sorts of things we do and care about. My interest, throughout this thesis, has been to investigate and understand how meaningful learning can occur in a participatory culture, to appreciate what sort of structures are needed to support this type of learning, and to consider how this can become self-sustaining (both in terms of individual motivation and learning and for a collaborative community). I am now in a position to answer my research questions, which are:

1. How can meaningful learning occur in a participatory culture?
2. How does a participatory culture emerge and how is it sustained?

I hope by now that my answers to these questions are obvious to you – participants learn because they are intrinsically motivated to do so, because it is enjoyable, and because they can find feedback and support from like-minded people if needed. Meaningful learning occurs because the practices are aligned with the personal values of the learners, and they are able to choose which activities they participate in and how they can bring in other aspects of their lives if they want. In CLMOOC, for example, participants have a sounding board in order to help solve challenges they have in other areas of their lives, and they can use CLMOOC techniques to help them outwith CLMOOC. A participatory culture emerges and is sustained because the intrinsic beliefs and values of the community are aligned with its activities – in other words, it is a culture of learning in the sense that Durkheim, Williams, and Jenkins et al. understand the term. The culture does not depend on any particular individual or group to organise it, there is a flexible structure without an entrenched hierarchy which allows leaders to emerge and subside as they choose. It is a DIY culture in Jenkins' sense of the concept, and in deleuzian terms it is more like a rhizome than an arborescent monolith: "[t]here are no points or positions in a rhizome, such as those found in a structure, tree, or root. There are only lines". (Deleuze and Guattari, 1987)

RQ1: How does meaningful learning occur in a participatory culture?

In order to answer my first research question, I am going to focus on particular instances of meaningful learning and ask how they can occur in a participatory culture. I will do this by returning to the literature I outlined earlier and tying it together with my findings, showing as I do how my research advances the theoretical space that I am working in. The literature on connected learning that I discussed earlier gives a clear model for designing learning activities for children and adolescents that they can make personally meaningful because they are able to connect up their formal learning with their personal interests (Gogia, 2016; Ito, 2010; 2019; 2020). The papers by the CLMOOC participant-researchers suggested that this model would successfully transfer to adult learners (Smith et al., 2016; West-Puckett et al., 2018), and the results of my thematic analysis confirmed this. However, though the original literature about connected learning was in the context of formal learning, both the writings by the CLMOOC researcher-participants and my research have looked at voluntary, informal types of activity because that is the model used in CLMOOC. I was sure that it would also be a suitable model for learning in higher education, though, and so I looked for literature to support my belief. As my focus here is on meaningful learning, I began with the literature about authentic learning in formal education.

'Authentic' is one of those buzz words used in education, often in the context of assessment. All it usually means is that the learning activity is the sort of task that learners might encounter in the 'real' world. This definition is typical:

> An assessment requiring students to use the same competencies, or combinations of knowledge, skills, and attitudes that they need to apply in the criterion situation in professional life. (Gulikers, Bastiaens, and Kirschner, 2004)

Unfortunately, what is often meant by this is that assignments should mirror the types of tasks that industry will expect of graduates – as this recent article in THE shows:

> Other examples of our authentic assessments are reviewing documents, identifying shortcoming in reports, writing method statements and preparing

> advice for clients in response to scenarios. Where possible, practitioners are invited to present work they have done, which can then be used as the basis for an assessed task. (Bartlett, 2020)

This is all very worthy, but it is based on a very narrow view of authenticity. What I mean by authentic is that it is meaningful to students, not that it replicates the type of soul-destroying report I might have to produce as part of paid employment. McArthur agrees, writing that for assessment to be authentic, it must be meaningful for the student, and that it is a mistake to conflate the "real world" with the "world of work" (McArthur, 2021). However, I think we can go still further. When asked how to design learning activities that are authentic in the sense of being meaningful for a student, typical suggestions are to let students decide for themselves what they want to learn or to give them a list of the intended learning outcomes and ask them to design tasks that will help them learn the skills they need to evidence them. And that is part of what authentic learning means – that the activities learners engage in are practical and meaningful to them; that as well as being fun, they are useful skills. However, I think that this is still a fairly superficial, or thin, understanding of what authentic learning might look like. I am looking for a richer concept of authentic learning: a thick description of authenticity.

I have alluded to thick descriptions several times during this thesis, and here it is time to explain what I mean by this and why I think that they are so important. The term "thick descriptions" is first used by Ryle, and although it is better known in social sciences by Geertz's writings, it is Ryle's definition that I am drawn to because of my philosophical background. Ryle describes a thick description as one that adds context to surface level descriptions of behaviour – in other words, it gives a concrete example, rather than just a theoretical one (Ryle, 2009).

Authenticity comes from the Greek 'authentikos' and means genuine, original, trustworthy (Chambers Online Dictionary, n.d.). Williams describes authenticity as: "the idea that some things are in some sense really you, or express what you are, and others aren't" (Williams, 2002, quoted in Guignon 2004, p. viii). This fits well with the alignment between beliefs and practices that I have identified as being part of a participatory culture like CLMOOC: people are being authentic when they act in accordance with their beliefs and values. Taylor adds

another dimension, defining authenticity as being able to decide for myself what concerns me (Taylor, 2018, p. 27). I think this captures the sense of personal meaning and intrinsic motivation that is important to creative maker spaces such as CLMOOC, and is moving towards being a thick description. However, both of these definitions are still fairly abstract, and so my next step is to connect this up with the educational literature and find a concrete example. As I do this, I note that I am intuitively moving towards a constructionist definition of authenticity – I am making for myself an object to think with (Papert, 1993).

Shaffer and Resnick share my concern about the abuse of the concept of authenticity in education. They also note that 'authenticity' is a problematic term in education (and I am amused to note that they were writing about this over 25 years ago), and identify four ways in the educational literature in which learning can be authentic. They suggest that for learning to be authentic in a thick sense, it needs to align with all four types, which they call real-world authenticity, authentic assessment, personal authenticity and disciplinary authenticity (Shaffer and Resnick, 1999, p. 197). I particularly like this framework as it allows me to move beyond the narrow context of assessment and to look at holistic conceptions of authentic learning.

- Real world authenticity: by this is meant that the learning activities relate to the 'real world', not in the narrow sense of mimicking the 'world of work' but by ensuring that learning activities are aligned with interesting and important issues outwith the classroom.
- Authentic assessment: by this is meant that the method or type of assessment reflects the learning process, rather than just being something that is easy to assess. Assessment should be part of the learning process, not something that is tacked on at the end to check that learning has taken place. Assessment as, or for, learning.
- Personal authenticity: By this is meant that the learning is something that learners will find interesting, and take ownership of.
- Disciplinary authenticity: by this is meant that the learner has opportunities to think in the mode of the discipline as they complete learning activities and assessments. Learners should be given the chance to look at problems and issues that experts in their subject have tackled.

I would agree that all four of these senses of authenticity are important, and I would further augment these in the light of my experiences of and research into participatory culture. Another important aspect of a participatory culture of learning that I think relates to this discussion is that for learning to be authentic, learners must feel confident about sharing their creations: they must feel safe to do so, and know that they will not be ridiculed for what they share. If they do not feel safe, they are likely to pull back and produce things that are 'safer' and less open to criticism. I want to be clear what I mean by this. I am not fond of the rhetoric surrounding so-called safe spaces in left-wing activism, and I want to sharply distinguish the open trust that exists in CLMOOC from the rule-bound culture of the far left. The culture of trust and mutual respect that exists in CLMOOC does not reply on lists of acceptable and prohibited behaviours, it is deeper than that. CLMOOCers have their own, internalised moral code and, as reflective practitioners, they consider the impact of their practices on others. This means that participants feel confident in experimenting with new tools and techniques and sharing the results without fear of ridicule or censure, and can therefore benefit from early feedback on their thoughts and artefacts. The importance of this should not be underestimated – trust is vital for authentic learning.

Having ascertained that authenticity and trust are vital for participatory learning, the next thing that to do is to return to my thematic analysis and look at the attributes that I identified there as being important to CLMOOCers. The first of these is creative playfulness, and this is something that I also believe from my own participation to be fundamentally important. I have been suggesting throughout this thesis that this is a serious educational concept. There is often a perception that if something is enjoyable, then it is not serious, but I have been suggesting the ideas of serious play and serious fun, and of course these have a philosophical grounding. In *Utilitarianism* John Stuart Mill distinguishes between higher and lower pleasures, and that distinction is useful here (Mill, 1991). By lower pleasures Mill means things that are of transitory or superficial amusement – he gives the example of pushpin, we might think of mindless games like Candy Crush. By higher pleasures Mill means things that are enjoyable, but they also have intellectual weight, and learning is one of his examples. I want to suggest that something similar is going on in CLMOOC. Although the activities are enjoyable, and they

might appear trivial, in fact they can be based on or lead to deep learning. This is not to say that all activities in CLMOOC are higher pleasures – but they have the potential to be.

I identified the main practice in CLMOOC as being remix (Smith et al., 2016), and suggested that remix is an extreme form of bricolage, and now I want to return to that discussion. Bricolage is normally discussed in the context of computing; remix is usually discussed in the creative arts, but I suggest that both apply more widely elsewhere, and that the practice of iteration (creation and recreation) is of relevance in higher education (Turkle and Papert, 1991; Navas, 2012). Bricolage, as I understand it, is a practice where a learner creates an artefact and shares it at an early stage for peer feedback, and uses this feedback in order to make improvements (Vossoughi and Bevan, 2014). Rather than waiting until an artefact is perfect, learners share it when it is good enough. Although participants can, and do, take pride in creating complicated, time-consuming artefacts, they can also share things that are quickly put together as a proof of concept, or as a suggestion for future development. There is a saying that we are fond of using, that 'there's no wrong way to CLMOOC'. This means that going 'wrong' is not seen as failing, it is part of the learning process (Kapur, 2008). This shows that bricolage, as well as being fun, can lead to learning (Turkle and Papert, 1991).

I think that the idea that things do not need to be perfect, that being good enough is sufficient, is of fundamental importance in higher education. In order to explain this, I am going to introduce a concept that I know from utilitarian ethics, and which comes originally from economics – that of satisficing. Satisficing is a composite word made up by Herbert Simon from the verbs 'to satisfy' and 'to suffice' (Simon, 1956). Originally it was a pragmatic decision-making strategy formed in recognition of the impossibility of reaching an ideal solution in complex situations because of the number of variables to be calculated. Instead, satisficing aims for a satisfactory, adequate, or sufficient, result. 'Satisfactory' and 'adequate' here are not viewed as negative terms, that is as the minimum possible effort needed to scrape through, but in a positive light as recognising what is needed and ensuring that happens. This will mean that there are no strict definitions of what will satisfice on any given occasion – many different solutions will be acceptable. Satisficing is something we are all used to doing – if you ask me

what my ideal fountain pen is, I will point you to a hand-made pen costing thousands, but if you take me to a shop and offer me a choice of any that are there, I will find something that I am very happy to use. This is the sense that I ask you to understand something being good enough, and this is a sense that I think we should be emphasising in higher education and helping students to practise so that they become confident in creating and recreating processes and artefacts in their subject specialisms.

Another important aspect of remix, as of bricolage, is that it is a shared social practice, by which I mean that learning does not take place in a vacuum. It is assumed that other people will respond in kind to any act of sharing - either with their own creation, with a remix of the original, or with a response of some kind. This aspect was identified in my thematic analysis as being important, and there I called it reciprocity, by which I mean a practice of sharing things for mutual benefit - in social psychology this is defined as being a social norm where people respond to one action with a similar action (Fehr and Gächter, 2000). This brings me back again to the importance of trust, which I identified in my chapter on ethical considerations – learners in a participatory culture need to trust each other when they share their creations with each other. They also need to know that there will be a friendly audience who will respond.

This brings me back again to authenticity. As well as authenticity of learning and trust in one's fellow learners, there is a third sense of authenticity at play here. Here I am talking about a mode of being where participants share their whole selves: where they do not compartmentalise their lives. The way that I understand this is to think about it in terms of eudaimonia. This is a concept that I learnt about from Aristotle in his *Nicomachean Ethics* and which he describes as being a full and happy life in accordance with the Logos [reason] (Aristotle, Nichomachean Ethics Book 1, Chapter VII). Eudaimonia is an ongoing state of mind, rather than a momentary emotion: it is a good life, and this includes living in accordance with one's moral code. One way of understanding this is to think about it as being human 'flourishing': which is to say, it is a whole life experience of a life that has a purpose. That, I think, is vital and explains what I mean by creative playfulness: if we do things without a reason, or a purpose, they might be amusing, but in general humans seek more than aimless fun from their lives and need reasons to continue particular practices. Another way of understanding

eudaimonia would be to think about it as living a life with a conscience. Earlier I spoke about the values of connected learning: of the commitment to equity, full participation and social connection. CLMOOCers have a strong sense of social justice, and a concern that their actions are inclusive and add value. The practices we participate in reflect and endorse those values.

So here is my answer to my first research question. The reason that meaningful learning occurs in CLMOOC is because all of the activities are authentic, in the thick sense that Shaffer and Resnick mean. The ethos of creative playfulness, the practice of remix and the support from other learners mean that being good enough is … good enough.

RQ2: how does a participatory culture emerge and how is it embedded?

Having explained how meaningful learning can occur in a participatory culture at the level of individual learning, I now want to look at CLMOOC as an entity and ask how it emerged from being a time-bound, formally facilitated CPD programme into a self-sustaining affinity space, place or network. My answer, of course, is that it is a culture in the sense that Durkheim, Williams, and Jenkins understand the term: that it emerges because the beliefs, values and practices of members of the community are appropriately connected. Jenkins talks about culture as being *ordinary*, Durkheim talks about it as *emerging* when a community engage in practices which reinforce their beliefs and values, connected learning looks to *connect* different aspects of learners' lives, such as their formal and informal learning (Durkheim, 1995; Williams, 2014; Jenkins et al., 2016). All of these are different ways of saying that learning in a participatory culture is *holistic*, that motivation is *intrinsic*, that the practices are *authentic*. In the case of CLMOOC, the culture is based on the practices and values of connected learning, which as members we believe in and practice. And I think that here it is important that that members are also connected learning practitioners. Although earlier I said that participants in the original summer MOOCs did not need to know anything about connected learning, I think that in order to be a self-sustaining community, members do need to believe in its values – in the sense that although they might not be able to articulate them, they would recognise and agree with them if asked.

In order to confirm that CLMOOC was a participatory culture, I first of all used a series of SNA techniques to map out the community and to see if it was a connected community. I found that it was, and that I had clear pictures of participants being closely connected to each other. My thematic analysis looked at the conversations between members, and found they displayed the values of the community and showed that participants were strongly committed to them, confirming that the second aspect necessary for a culture: that the community members believe in its values. I then turned to the third aspect of a culture and looked at its practices. I found that these demonstrated the values of connected learning, and that the practices allowed members to reaffirm the commitment to social justice through participating in connected learning activities. This confirms that CLMOOC is a participatory culture based on the principles, values and practices of connected learning.

Earlier I described remix as being the glue that holds a remix culture together, and here I want to return to the idea of cultural glue and ask what other supports are needed for a self-sustaining community. I also suggested earlier that the structure of facilitation in CLMOOC was vital for the success of the endeavours, and this is where I will begin. One of the "infrastructuring strategies" emphasised by the original designers was something they called "coaching towards imperfection" (West-Puckett et al., 2018), by which I understand something similar to the concept of satisficing: participants are encouraged to share their creations when they are good enough, rather than aspiring to an impossible ideal of perfection, and to get feedback on them if they wish. This was not the only infrastructuring strategy. As I have emphasised throughout this thesis, in open learning, being open is not enough on its own to ensure participation, there also needs to be support for learners. Some people are natural extroverts, but most of us need some encouragement – how many of us would burst into a seemingly empty room and start dancing in the silence? The original CLMOOC designers were very aware of all of this, and knew how unsettling and scary it could be to share personal creations, because they had all participated in earlier cMOOCs. They appreciated that the types of learning that can occur in CLMOOC can be liberating, but they can also be disorienting, even downright terrifying. In order to help to create a space where participants felt happy and confident in sharing their creations, they ensured that at least one facilitator was online at any time and

they devised an “affirmation strategy” so that when a participant shared something out to the CLMOOC spaces, it was recognised and appreciated (Dillon, 2014). This strategy meant that one of the facilitation team was always on hand to show their appreciation for what participants were doing. In order to support that, a facilitator or supporter was always on hand to respond to posts on any of the social media platforms (Fasimpaur, 2013). Of course, because CLMOOC is a community of bricoleurs, this affirmation went far beyond a mere ‘liking’ of the creations (although this is important, of course). Often, the appreciation would also be shown by a facilitator remixing the original creation and sharing it back to the participant and the wider community. I think that this affirmation strategy is a part of what I categorised earlier as being reciprocity and it includes:

- A willingness to appreciate what has been made
- A tendency to honour other people’s work
- A willingness to join in with others

I would characterise these attitudes of the facilitators as being comprised of two strategies, which I am going to call “yes-and …” and “what-if …?”, which I will try to explain.

One of the worst things that can happen in a remix culture is that a remix is met with shock and surprise. We might appear confident, but we are still in need of affirmation for our creations. Participants often veer off at a tangent, and sometimes take an activity or conversation into a totally unexpected area – they take an unexpected line of flight, in deleuzian terms. When this happens, it is important that other participants respond by indicating interest in the new direction and a willingness to take this new track. In order to think about how to understand this, we might think about the techniques that make good improvisation (improv) so successful. In improv there is no script. While there might be a broad agreement about the opening scenario, typically actors twist the action by throwing in unlikely characters and plot-twists. Actors have no option but to accept whatever unlikely scenario is thrown at them and build on it. This is known as a “yes, and …” strategy (Flinchbaugh, 2014, cited in Smith et al., 2016, p. 15). And this is the same in a remix culture. In particular, the response of facilitators is vital: they need to affirm participation by recognising it as valuable and they also need to ensure that they do not shut down enthusiastic others who

are moving in an unexpected direction. They need to learn to respond with a "yes, and…" and either continue with the new direction or, if they think the participant is up for the challenge, they might add a new plot twist of their own. This also means that participants need to listen to each other. In everyday conversation people formulate their responses before an interlocuter has finished speaking. "Yes, and …" reminds us to wait until others have finished before responding. As well as the affirmation strategy, there is another attitude that characterises bricoleurs. We might think of this as having an open mind, but there's more to it than this. A lot of the attitude of the bricoleur is about exploring tangents and being open to possibilities - to asking "what if …". What if I put this poem to music, what if I used a different tool, what if I knitted that picture? Actually, this might often be chronologically prior to the "yes-and" and affirmation: - a bricoleur will move the action into a new direction with a remix that says "what if…?" and others affirm this action by responding with "yes-and…".

The flexible structure of facilitation/non-entrenched hierarchy is also vital. All facilitators are also participants and experience activities as other learners do and there are also supporter-participants so that participants have someone to reach out to/ watch out for people struggling (Smith et al., 2016). Temporary leaders can emerge. New facilitators can emerge. I often hear people saying that self-organising spaces have no structure or hierarchy, but that is just not true of successful ones. Anarchy is a political system without externally imposed rulers and rulers, but it is not disorganised chaos. Rules are agreed by all members of the group, leaders emerge or are appointed by consensus (Knowles, 2001). The difference is that roles and structures are not entrenched and rigid. In deleuzian terms, they are more like a rhizome than an arborescent structure in all of the senses that I identified in my discussion of this in the first pages of this thesis (Deleuze and Guattari, 1987). Earlier I introduced my extended metaphor for scaffolding, and here I would like to return to that. The metaphor for scaffolding in CLMOOC that I offered was of learning to skate and knowing that support was on hand if needed, and this extends to the development of facilitators that took place in CLMOOC. What really allowed the participatory culture to emerge and to be able to stand in its own two feet was the longitudinal onboarding of facilitation that took place – both formally during the transition in 2016 from NWP supported to volunteer-led activities, and during the years following as those of us who are

interested in facilitating, curating, or leading an activity have had a robust structure to allow this. This is also one of the aspects of CLMOOC that makes CoP a poor fit as a structure. In CLMOOC the 'expert' facilitators are often on the edges of the community, sometimes lurking, always ready to step in if needed - they are not always evident in the centre. This is the really clever bit - the CLMOOC designers put in place conditions for serendipitous emergence. While most communities fade when the leader dies, CLMOOC has a type of baton passing of leadership build into its structures so that leaders can walk in and out as they decide to, or as they are needed.

This is my answer to my second research question – a participatory culture of learning emerges when the beliefs, values and practices of its members are appropriately aligned. It will continue because the right types of structure and support are in place to allow learners to act authentically and to support each other as they do so. The reason that CLMOOC continues is because its participants have made it part of who they are and what they do, and I think that there are two facets to this: as well as being enjoyable, it is helpful for us in our everyday lives. Those of us who are seasoned practitioners of CLMOOC and its sister initiatives often quip that participation is #4life. I think that this deserves to be taken at face value, and that there are two interlinked ways of understanding this statement:

- The beliefs, attitudes and activities in connected learning experiences such as CLMOOC extend out into other areas of participants' lives (learning is not compartmentalised).
- Once learners begin participating in activities such as bricolage and remix, they do not want to stop – it becomes part of who they are, it becomes their way of life.

Without making a conscious decision, CLMOOC has become an integral part of who I am and what I do. In connected learning contexts there is no hard and fast distinction between academic and non-academic, formal and informal activities: in the original model adolescents are encouraged to use their extra-curricular interests as topics for school projects; in CLMOOC educators typically use the Make Cycles in order to design activities for their classrooms; more widely participants take any tasks they are given, turn them into ordinary activities and apply them in contexts outwith 'official' learning activities. Practices, we might say, become

embedded. The kind of learning that occurs in connected learning contexts is not incidental or accidental – it is a central part of every interaction and activity. On reflection, I realise that it would be odd if this did not happen – how could we compartmentalise *connected* learning?

There is one final point I would like to emphasise. The main focus of the literature about participatory cultures is hobbies and informal learning, and the main take away from this for me is the reminder that learners will engage with activities out of a love for learning and participation, and without the need for extrinsic awards such as grades, for example. This I know from my own experience, and I have written earlier in this chapter about how we CLMOOCers choose to participate because creative playfulness is fun, sometimes serious fun. There are no extrinsic reasons: although we might originally have signed up because we thought we would benefit from some CPD which would help us in our own teaching, there is no accreditation, nobody telling us that we have to participate. In other words, learners in CLMOOC are intrinsically motivated to continue. I was troubled, for a long time, by the nagging thought that because CLMOOC is voluntary, it would be of little relevance to those concerned with formal learning. And then I realised that it was exactly *because* it was voluntary that it was of incredible importance to all educators. There is an edumyth that learners will not engage in 'formative' learning tasks, and a temptation to address this by forcing students to complete activities by assigning marks to them, however small. And, of course, this might make learners complete the tasks, but it probably won't make then enjoy them or want to do them again without extrinsic reasons. CLMOOC shows how wrong-headed this approach is.

This completes this stage of my thesis. In this section I have walked you through the various methods that I have used to investigate CLMOOC and explained how each of these has helped me to conclude that CLMOOC is a participatory culture of learning based on the practices of remix and bricolage. These deeply collaborative practices help to create an ethos of creative playfulness underpinned by trust and this allows authentic learning to emerge. In the final section of this thesis I reflect on my researcher and learner journey before concluding with some considerations about the relevance of my research to mainstream higher education.

Section Three: Consolidation

Chapter Nine: Reflections

If I have exhausted the justifications, I have reached bedrock and my spade is turned. Then I am inclined to say: 'This is simply what I do'.

Wittgenstein, Philosophical Investigations

I found it incredibly hard to start this section. If it was hard to begin writing this thesis (and it was: it was incredibly, painfully hard to take those first steps), then it is an order of magnitude harder to end it. I put it off, spent time embellishing earlier parts (although, goodness knows, they are still far from perfect) and avoided the fact that I need to pull all of this together and tie in all of the loose ends. I am reminded, as I write this, of Elizabeth Zimmerman's ruminations on knitting a large, circular shawl. She reminds me of the delight I feel in casting on eight stitches to start, the dawning realisation of the huge amount of delicious knitting to occupy me as I start to knit further and the number of stitches per row increases, the feeling of the shawl never coming to an end as I reach a stitch count of 576 per row, and then the final reluctance, as I near the end, to finish my beautiful experience – so I embark instead on a pretty border to prolong the time when I must cast off the final stitch (Zimmerman, 1981). This is how I feel about this thesis – I am not yet ready to embark on the final stage and to prepare to cast it off.

Maybe, though, this feeling of mine does not stem from a desire to procrastinate – maybe it is because I sense that there is a space in this thesis for my personal reflection – that as well as mapping the development of my research I should also celebrate my growth from lapsed philosopher to educational researcher. I have been thinking, and talking, a lot recently about the need for educators to give ourselves the permission to reflect on our practice, and I realise that here I should make space to reflect on what I have learnt and appreciate how I have grown during this research. My experiences are relevant here – both as a learner, as a designer of learning and as a researcher, and this realisation led me to give myself permission to put myself at the centre of my thesis and to walk you through my world and see it through my eyes. So, before I embark on my final chapter, I am going to allow myself the indulgence of a reflection.

I embarked on my initial PhD research because of a need to prove myself. Working, as I did then, in a role downgraded by my institution from an academic support role to an amorphous 'management, professional and administrative' (MPA) one, I felt second-rate. My PhD in Philosophy had escaped me due to a life-threatening illness; I had retaliated by successfully applying for a grant from the HEA to conduct some research into Jigsaw Classrooms (Honeychurch, 2012), and recreated myself as a learning technologist, yet still I felt a failure. This was frequently reinforced by the attitude of some of the academics I supported in my role: they would be dismissive of my ability to provide more than technical support (a senior colleague in our Service referred to we learning technologists as 'printer-fixers'). However, as soon as these same academics discovered that I was also a GTA, they assumed that I either had a PhD or was in the process of getting one, and their attitude changed – they would recognise me as one of their 'elite' group. Not all academics, not even most academics, but it still hurt. I began this journey, then, with a desire for the end – to be able to call myself Dr Honeychurch, and some might say my motives were flawed. But somewhere, along the way, I fell back in love with learning for the sake of learning. If I allow myself a little latitude, I might suggest that this initial focus made my project a good candidate for doctoral research and a particularly good fit for the type of qualitative research I found myself drawn to – because it was an adventure without a fixed destination in mind (Muncey, 2010). I have been able to use writing as a mode of enquiry and make this journey personally meaningful (Richardson, 2000).

So now I am proud to say that I have researched and written this PhD while also working full time in academia. I remain grateful to my university for granting me the fee waiver to undertake this PhD, but this permission was given on condition that I kept it very separate from my paid employment, and that I made up any time I spent on it during work hours. I am not resentful of this – the individuals who made this decision are long gone, and the upside is that I have had the autonomy to make this research my own, and have not felt constrained by any duty to make it directly relevant to my paid employment. However, this separation between work and research, work and play, has not been a natural one for me, as you will appreciate – being a connected practitioner has made it hard for me to create artificial boundaries between the different aspects of my life. These boundaries have been harder and harder to maintain as I have gained confidence in

myself. Along the way, due to a set of circumstances that were not always positive, I have made the transition from learning technologist, through good practice adviser, to teaching fellow; from a service role to an academic one.

There were unexpected advantages of being in a MPA role. Nobody expected me to do any research, and so it did not occur to anyone to forbid it. This has allowed me significant leeway in what I do, and that allowed me to experiment and find out what I enjoy researching. It also allowed me to build a research portfolio that is personally meaningful. One thing I cannot emphasise enough is how much I have gained in confidence and ability as a digital bricoleur. Those who know me well know that my digital literacies are not innate – I am not, I insist, a digital native. As well as being far too old, as a boomer, I have already indicated my disdain for this edumyth. If you only see my outputs, then you might assume that I have a natural talent. I do not – but what I do have is an open mind and an open network of fellow bricoleurs (including a very patient husband who is willing to help me when I need). Back when I thought that I should try to measure the effects of connected learning, I worried about how to do this - as learning is not often something that is extrinsically visible. A revelation for me was that though I could not point to examples of learning taking place, I had many examples of things that I had learnt. A trivial example comes to mind: the other day a colleague told me that I was only allowed to contribute moving gifs to a twitter conversation if these gifs were ones I had made myself. He said this in an attempt to shut me up, but I blithely navigated to a file of gifs I had made myself, and replied telling him how easy that was to do. Unsurprisingly, he fell silent. I realised then that at some point during my participation in CLMOOC I have evolved from not knowing how to make a gif to being able to use my own photos and drawings and knowing exactly which software packages work best for my needs.

This PhD has also evolved. My initial aim was vague (to find out something about the importance of collaboration or peer interaction), and I struggled to formulate meaningful research questions because I doubted the significance of my research. In fact, I think I was correct to doubt my early research. I began my journey with a title imposed on me by my bumptious first supervisor who used her power over me to impose her personal agenda into my research title – a title and topic I vehemently disliked and disagreed with but was told I would come to love. I did not, because it was written for me by somebody who did not share my vision or

understand my world. My second title and topic were better, and they were mine, but here I was still only looking at thin concepts of learning - I still had not appreciated the intrinsically reciprocal nature of the type of learning that I wanted to research.

My epiphany occurred when I discovered Jenkins and Ito's work, and realised that play could be serious – I found my sense of creative playfulness and gave myself permission to explore it. Yet even then it took me a long time to fully immerse myself in the world of HOMAGO and appreciate that I was conducting research as I played online. Another epiphany happened when I realised that remix can be understood as a type of bricolage, and that CLMOOC is more than a community, or course, or collaboration – it is a culture with all that entails. That led me down a rich seam, and I have already summarised my interpretation of that. And now, as I pause to take a breath, I ask myself: is this of any interest to anyone outwith my circle of bricoleurs? Before I begin to take stock of my researcher journey and reflect on the messages I might wish to highlight, I wonder about the significance of this research. Writing in a pre-pandemic world, I knew that the impact of my research was likely to be limited - a smallish group of already-converted open, connected educators might enjoy reading my interpretation of their theory and practices, and a few others might be inspired by my writings and make changes to their programmes or courses, but for the most part the possibility of changing the existing structures of society's institutions to allow for the necessary support for connected learners was slim, to say the least. However, in 2020 our world changed, and what once seemed implausible has now become the norm: students are now being taught remotely because there is no safe alternative. I do not want to make light of this pandemic, or appear happy that it has happened – I have seen how students and colleagues have struggled to adapt to the 'new normal' and, like others, I am mentally and physically drained from it all. However, it also means that this research takes on a new relevance for mainstream education, and it would be strange if I did not wonder how the ideas and practices that I have talked about might help others. The world *has* changed, and this does – indeed this should – allow us an opportunity to reflect upon what we would like learning and teaching to look like in a post-pandemic world. In fact, I think that we *must* reflect on what we wish to keep and what we need to jettison when life begins to return to a world where physically co-located teaching is

possible. As Noddings reminds me, if we care then we are not merely justified in reflecting and making changes that will benefit others, we are obligated to do so (Noddings, 2013, pp. 81-2). I will think about how we might do this in the next chapter.

Chapter Ten: What if?

A picture held us captive. And we could not get outside it, for it lay in our language and language seemed to repeat it to us inexorably.

Wittgenstein, Philosophical Investigations

What if we trusted students? You might think this is a tame way to begin this chapter; you might not think my suggestion is radical – but I think it is. It sounds like such a simple thing to suggest, yet so many of the practices in higher education are built on, or lead to, a lack of trust between staff and students. Indeed, as I thought about how to frame this final chapter, I doubted whether the model of learning that I have painted for you here - which is based on authenticity and trust - has much relevance in the world of formal education in which I work. But I wonder - can we imagine putting in place an atmosphere of mutual trust and respect between staff and students? What if we could wave a magic wand and fix the entire educational system? What if we could start all over again – what would we build? The pandemic has given us a chance to make changes, and now we need to decide what it is that we want to change. This past year has been such a struggle for many of us – staff and students alike – and I know that there is a real appetite to change.

This first thing that I think we should do is to look at the language that we use in order to discuss learning, teaching and assessment with ourselves and with our learners. This might sound trivial, it might sound like mere semantics, but it is not. Language matters, and metaphors are powerful - the tone we set is really important (Lakoff and Johnson, 2003). I think that we need to consider both the explicit and subliminal messages we send to students when we talk about their learning and assessment (and please, let's not ever think in terms of delivering learning to consumers). We need to stop talking of collusion and cheating – if the language we use is in terms of students gaming the system, and we talk about penalties for late submissions and checks for plagiarism, we encourage students into these types of behaviour. As Wittgenstein shows us in the aphorism above, the pictures we use to represent our world define the way that we can think about that domain – so if we set up higher education as a competitive arena in which students must battle with each other and the system in order to win the best

marks, and if we see teachers as gatekeepers of grades and knowledge, then this is how students will understand it and respond to it, and that is how we will begin to think about it. And if the tasks that students are set are not authentic, then they will have scant intrinsic motivation to engage. But if we've got authenticity right, then accountability will follow through.

In this thesis I have tried to avoid words that evoke images of argument, combat and pain, and the picture of learning that I have painted for you in these pages is not one of fights and war. I have not set educators up as experts who dispense knowledge, or as gatekeepers who decide when they will allow learners to progress. The educators I have shown you are friendly enthusiasts who help ensure that channels of information remain open and that learners are connected to the places and people that can allow them to flourish: I have tried to paint a picture of fruitful, creative learning. What if we could bring this learning into our lives, and our students' lives? What would it be like to work in an atmosphere of creative playfulness? What if we could move beyond the buzz words we have fallen into, and start all over again? Throughout this thesis I have been describing for you a model of learning that is deeply authentic, and that is built on trust. I have shown you how learning can happen when people are having fun, both as educators and as learners: I have shown you a model of learning and teaching that is holistic, where learners and teachers alike are intrinsically motivated, where the activities are authentic. What if we made this happen in higher education?

In order for this to work, we need to stop seeing learning as something that can be compartmentalised. We need to start teaching connected learning right from the very beginning and run it throughout education from kindergarten to postgraduate learning and beyond into life-long learning. We need to stop seeing higher education as something only available for those who can pass inauthentic tests set by political agendas; we need to stop seeing higher education as a training ground for the neo-capitalist machine. Is all of this so far removed from our reality for us to imagine? When I started thinking about what to write in this chapter, I thought it would be easy to produce a list of attributes for my perfect university, but it was not. I am not sure if this is a failing in my ability to see how to apply the theories and practices that I have learnt by writing this thesis, a lack of confidence to follow through what I believe, or if I have been so worn down by the neo-liberal structures of our modern education system that I have lost my

ability to dream. Deleuze and Guattari would not be surprised to hear me ask that last question. They warn would-be anarchists and reformers like me of the dangers of having our vision dulled by the institutions in which we work – they caution that we start out keen to make changes, but we become so entrenched in our institutional practices that we can no longer imagine that things could be configured in any other way. Have I become, in their words, striated by the apparatus of the state (Deleuze and Guattari, 1987)? Have I become so ground down by the bureaucratic machine that I have lost my ability to see beyond the current situation? I hope not. I think that I have all of the materials that I need – I just need the confidence to set them out. Let me try to sketch a model of authentic learning in higher education.

One reason that participants in CLMOOC experience authentic learning is because the ethos of creative playfulness allows them to be themselves and take risks, and to get help and support from others with more expertise when they need. I have explained how the structure of CLMOOC helped this to happen, and now I want to ask how we might help this to emerge in a formal setting in higher education. In order to do this properly, we would need to stop seeing learning as parcelled up into separate silos – we would need to start looking at learning as happening across different levels and subjects (so senior students would learn alongside juniors; engineers would collaborate with philosophers, and so forth). Learning would happen out in the open, not behind the walls of the VLE or in lecture theatres only accessible to authorised people; learners would be able to propose activities and find others to collaborate with.

This might be the ideal, it might be implausible to fully implement, but I think that we can bring in aspects of it into existing practices without too radical a shift. As Gee says in his discussion of affinity spaces, these are not 'all or nothing' concepts, a space can be more or less like an affinity space, and this opens up the possibility of gradual, incremental change to move from where we are to where we would like to be. In order to think this through, I suggest we revisit my discussion of affinity spaces in Chapter Three of this thesis and consider which of the set of attributes Gee identifies might help us here.

I think that the most important attribute of CLMOOC is that everyone, experts and novices alike, shares a common space (Gee's first attribute of an affinity space). How might we do this in higher education? In my school we have

common areas of the VLE which are shared across year groups and programmes to share handbooks and support materials – what if we opened up learning spaces like this for students to share learning activities with each other - a space they students could play with the concepts they were learning in their courses and practice the skills that they needed in a low-risk environment? An aspect that is typical of participation in CLMOOC is that people will do things just for fun – not for grades, prestige or any external rewards. What if learning in higher education was this much fun? As we put these structures in place, we need to ensure that students are properly supported in what they do – particularly with learners who are less familiar with this type of learning, or who are less able learners – it will be important not to just leave them to it, but to scaffold this learning, and to have a clear affirmation strategy so that learners feel valued. In fact, I previously implemented something similar to this at my university in the College of Science and Engineering. Colleagues and I developed a model that we called virtual peer assisted learning (VPAL) where we set up subject-specific groups on Facebook for each subject in the College. We started modestly, with just a couple of groups, and by the end of the initiative we had groups for each year of each subject as well as more generic groups where all levels of learners in all subjects could talk to each other. Senior students joined the junior groups and answered their questions without pay or extrinsic reward, in a similar model to more traditional models of peer assisted learning (Honeychurch and Ahmed, 2016).

What if we took this further? Remix and bricolage are fundamentally important because they allow learners opportunities to experiment and get feedback in safe spaces. What if we put in place a structure so that all students, senior and junior, felt confident in sharing their early drafts and prototypes in shared spaces and asked for feedback, and where students were able to practice talking and working in the language and style of their subject (to reinforce what Shaffer and Resnick call “disciplinary authenticity”)? As we design all of this we will need to think about how to help students to form relationships with each other and build a culture of trust – we will be looking for mentors to emerge and encouraging them to take an active role in supporting their peers. We will also need to think about how to encourage affirmation strategies so that learners do not feel ignored or forgotten. I would also suggest that we think about how to seed these with activities that will allow different types of participation. I have spoken

about the meme ping-pong and photo sharing (Silent Sunday) that are regular practices in CLMOOC, and these are easy to adapt. We might also think about starting conversations about song titles on subject specific themes, building study play lists – anything that helps learners to form connections with other learners and with their academic subjects. I would not suggest using Facebook nowadays, for various reasons, but the structure could be adapted by using university approved platforms so that affinity spaces in Gee's sense emerge and become self-sustaining.

A second feature of an affinity space that I identified as being important is the lack of an entrenched hierarchical structure (Gee's eleventh attribute of an affinity space), and I showed how that was a major contributor to the success of CLMOOC. It is less easy to see how this might work in formal education, where the educator is responsible for assigning grades and so forth, but if we make students responsible for their own learning then we can set up an environment where leaders can emerge to propose and facilitate collaborative and co-operative learning activities. I think that the model of VPAL that I sketched above would allow this to happen, and there is more that we can do. What if we also designed collaborative projects that could be undertaken across year groups in a programme, and across subjects in an institution? In order to do all of this, I would be looking at models of collaborative learning that are familiar in higher education such as the Jigsaw Classroom and asking how we can harness all of this to make learning authentic in all of the senses I have outlined above. The Jigsaw Classroom is a co-operative learning technique designed in order to build trust between students by creating a dynamic whereby students are motivated take control of their own learning, and then to teach others what they have learned. It is a powerful model to use as it helps learners to build trusting relationships with each other, and it turns learners into teachers – it removes some of the power from the educator and puts it in the realm of the learners (Aronson, 1978; Honeychurch, 2012).

Another feature of affinity spaces that is relevant is that there are many different ways of participating (Gee's ninth attribute of an affinity space), and this can have different forms – it might concern the level of participation, the type or the intensity. I think that what we need to do is to find tasks that learners can use to make their learning authentic, so that they see it as both creative and playful,

rather than as an enjoyable waste of time. We will also need to think about how to bring in formal assessment. What I am interested in here is not the content of the activity, but the mode of assessment – the types of way that we think it is appropriate to assess these authentic activities. I would suggest, I think uncontroversially, that an invigilated, closed book, timed exam is very rarely going to be the appropriate method to assess authentic learning. What we need are models that look at assessment of, or for, learning: assessments that are designed so that they reflect the learning process, rather than just being something that is easy to assess. As you will appreciate, all of the models of learning that I am advocating are deeply collaborative, and that will be a challenge for traditional models of assessment such as individual essays and invigilated exams. If we expect students to work together all semester, and then ask them to produce pieces of assessed work that make them ignore all of the collaborative learning, it will not only be inauthentic, but also deeply unfair. If we ask students to work together and then assess them individually, we should not be surprised when there are similarities between their work. But rather than making this as issue of 'plagiarism' or 'academic integrity', we will need to think about authentic models of assessment that celebrate the ability of students to work together collaboratively, co-operatively and collegiately. This means that we are going to need models of assessment that allow students to collaborate, and make a virtue of this collaboration. And this will also allow us to bring in what Shaffer and Resnick call "real-world authenticity". A graduate attribute that employers say they value in employees is the ability to be a good team player, and while I have already indicated my dislike of relying on employers to tell us what they want, in this case, I think it is a good skill for anyone to have, in or out of work.

I think that we already have models of assessment to hand. Peer review is a well-known model in higher education, though it often takes the form of students providing written feedback anonymously on artefacts submitted to strict deadlines, so this model gives a place to start that is not too far away from current practices (Nicol et al., 2014; Topping, 2005). Models of assessment such as Patchwork Text would also be easily adaptable here, as I have previously suggested (Honeychurch and Patrick, 2018). In this learning design students are given small pieces of work to produce - often in different formats, making it a perfect model to assess learning built on bricolage and remix. These pieces are given formative feedback

by peers, and optionally by the educator as well. At the end of the year, course or module, students select a pre-agreed number of these formative assignments (patches) and submit them for formal assessment (reworking them if they wish) with a reflective piece which stitches the patches together and explains why each patch has been chosen.

> A Patchwork Text is basically a composite piece of writing created from several shorter, separate pieces written beforehand, the 'patches'. It … [is] an innovative kind of assessment in which the character of the main or only assignment of a module is modified by being produced cumulatively and by containing different components. (Ovens, 2003, p. 109)

This will give learners the space to explain their method of remix – to justify what they have borrowed and how they have personalised it. As I said earlier, if we get authenticity right, then accountability will follow and we will be able to trust our students. Learning built on collaboration and remix is a far cry from collusion and cheating. Patchwork Text is traditionally used in the context of individual assessment, but I think this could be easily extended to assess group work and to turn the process into a creative and playful one – both for educators and for learners.

I think that we can think further about ways of making learning truly authentic. The idea that learning activities should be personally meaningful to learners has been one of the central themes of my thesis because one of the principles of connected learning is that learning should be interest powered and allow learners to connect up their academic activities with their personal interests, and this is what Shaffer and Resnick call "personal authenticity" (Shaffer and Resnick. 1999, p. 199). You will realise by now that I am not thinking about trivial ways of personalisation such as students being allowed to choose their own essay titles, I am thinking about how we help learners to make their personal interests academically relevant, and to make their academic studies personally relevant. In order to help with this, we need to make spaces in the curriculum for students to bring in their personal interests, or provide opportunities for them to take what they are learning out of the classroom and use it in their personal projects, and to have the learning they do there count as formal learning. In looking in terms of personal interests, I do not mean to imply that these are trivial. They might be light hearted – if students are passionate Harry Potter fans and find

a way of bringing that into their formal learning, then that is of course allowed, and should be supported. But personal passions can also be for big 'real world' subjects such as global warming, Scottish independence and world peace. The vital thing is that students are able to make their formal learning personally relevant and that they are supported to do this, and not just permitted to do so.

Another sense of authenticity that Shaffer and Resnick identify, and that I have already mentioned, is what they call "real-world" authenticity (Shaffer and Resnick. 1999, p. 198). This means that learning and teaching is designed so that it relates to the 'real world', and not just the world of work. I have already expressed my dislike (in Chapter Eight) of shallow interpretations of this in the context of assessment, so you will realise that this is not the sense that I am interested in looking at; I am interested in activities that are "connected to important and interesting aspects of the world beyond the classroom" (Shaffer and Resnick, 1999, p. 203). This means that we need to think about how we can teach students to use the knowledge and skills that they are learning and apply them in external contexts. So, for example, we might take an issue that is topical – such as sustainability – and use this to design learning activities. My commitment to the values of connected learning, and my background in moral and political philosophy, lead me to think about social justice issues; other subject specialists will look at this through a different, equally relevant, lens in order to think about how to do it. I would also suggest that it is absolutely fine to start with something small – the metaphors of dip, swim and dive apply to educators just as much as they do to learners.

As well as all of the above, I have a final suggestion to make about authenticity. This is something that has been brought home to me during this year of pandemic teaching, as well as through my participation in CLMOOC. As well as designing authentic learning opportunities for students, or helping them to design it, another aspect of authenticity is also important, and that is our own authenticity, as educators. I would suggest that you allow your students to see you as a whole person – as researcher, as educator, as learner. At the moment, I would suggest that you tell your students how you are feeling and how you are finding this 'new normal' anything but normal. I am not suggesting you overshare, and after all there do need to be professional boundaries – but it is absolutely fine to tell students when you are trying something for the first time because you think it

will work, or (particularly) when you have tried something and it has bombed it is fine to pull the plug on an activity and rethink, and to tell your learners why you are making changes. I would hope that we can keep this sense of honesty and experimentation in any future configurations of learning and teaching. What we need to do is to build a culture of learning where learners and educators are all free to experiment and take risks without it being characterised as failure when things do not go according to plan.

This last point is fundamental. I have emphasised throughout this thesis the importance of trust. It underpins the practices of remix and bricolage, and allow all of us – as educators and learners alike – to participate in an atmosphere of creative playfulness which, in its turn, leads to deep, meaningful learning experiences. As well as being a noun and a verb, I think that remix is an attitude, and that authentic learning is addictive – the more of it we experience, the more of it we want to do. This is why we bricoleurs describe our involvement as being #4life - because it is part of who we are, and now we cannot imagine our lives being any other way. I suggested earlier that we might characterise authenticity as being eudaimonia – as being a full and happy life in accordance with the Logos. Is it too much to hope that we might be able to bring this back into higher education?

Final Thoughts

My propositions serve as elucidations in the following way: anyone who understands me eventually recognizes them as nonsensical, when he has used them—as steps—to climb up beyond them. (He must, so to speak, throw away the ladder after he has climbed up it.) Wittgenstein, Tractatus

Throughout this thesis I have described the process of my research as a journey of understanding. I explained in my introduction that I chose to write this thesis as an autoethnography because that fitted with my desire for openness and authenticity – to write in a style that would be recognisable to members of my community and to represent them as honestly as I could. I made deliberate decisions about the style and format of this final version – choices that took me off the usual path and left me to find my own way through the tangle of mixed methods that I had made for myself. The biggest shift in my understanding was the realisation that I needed to include myself in this narrative, as learner and as researcher, and that led me to explore various participatory methods before finding one that felt authentic. Autoethnography has been described as being a journey of understanding that begins without a destination in mind (Muncey, 2010, p. 63) and at times I have felt lost, like the voyagers hunting the Snark:

"Other maps are such shapes, with their islands and capes!

But we've got our brave Captain to thank"

(So the crew would protest) "that he's bought us the best—

A perfect and absolute blank!" (Carroll, 2006).

However, I persisted, believing that there was a map to be made, although I could not always see it. As I have progressed and found my feet as a researcher, Deleuze and Guattari's concepts have grown to be more and more relevant to my thinking. One piece of advice, more than any other, epitomises my approach to this process:

> Make a map, not a tracing … A map has multiple entryways, as opposed to the tracing, which always comes back 'to the same'. (Deleuze and Guattari, 1987, pp 12-13)

This is what I have tried to do – to show you a picture of my learning community from my perspective – not to pretend to set it out in every tiny detail, but to give you a flavour of it that I hope will inspire you to make your own map.

As I have progressed through my journey I have come to appreciate, thanks in no small part to the community who are the inspiration for this thesis, the power of collaboration, and have noticed the strength of the invisible ties that hold together a participatory culture of learning. Remix is a deeply original and creative practice – it reminds me that we never work in a vacuum, but that we build on, and learn from, those who came before us or who are around us. It reminds me of the need to trust– in myself and in others – and in the power of authentic learning.

Throughout this research I have been developing themes and theories, not stating facts - I have been tentatively feeling my way and finding my feet. I began this journey with a vague desire to understand why peer interaction led to learning, and I have ended with a rich picture of learning as life-long, as authentic, as holistic. Now it is time for me to get out and further test these theories, and to find more collaborators to try them out with me. It is not uncommon, at this stage in doctoral research, to say that this marks not an ending, but a beginning (Gogia, 2016; Moffat, 2018). However, this research marks neither a beginning nor an end, rather it is a continuation of my journey as learner and researcher. I began this writing with words from Deleuze and Guattari, and it seems fitting to allow them the final words. My learning, teaching and research are intertwined like the concept of the rhizome that has intrigued and motivated me throughout all of this:

> A rhizome has no beginning or end; it is always in the middle, between things, interbeing, intermezzo. (Deleuze and Guattari, 1987, p.25)

Section Four: Addendum

Appendix 1: Principles of Connected Learning

These principles and values of connected learning are taken from a short paper published by the Connected Learning Alliance. These were originally comprised of three core values, three learning principles and three design principles and it is these that I used for my thematic analysis (Connected Learning Alliance, n.d.).

Three Values of Connected Learning (V)
1. Equity 2. Full participation 3. Social connection

Table 23 Values of connected learning

Three Learning Principles (LP)	**Three Design Principles (DP)**
1. Interest-powered 2. Peer-supported 3. Academically oriented	1. Shared purpose 2. Production-centered 3. Openly networked

Table 24 Principles of connected learning

Both sets of these principles were updated by Ito et al. (2020) in their final report for the Connected Learning Alliance.

Three Learning Principles (LP) 2020	**Three Design Principles (DP) 2020**
1. Interests 2. Relationships 3. Opportunities	4. Sponsorship 5. Shared practices 6. Shared purpose 7. Connections across settings

Table 25 Principles of connected learning 2020

Appendix 2: CLMOOC16 Make Cycle Themes and Prompts

In 2016, CLMOOC was framed around the overall theme of Cultivating Connections and Community. As this was the first year that CLMOOC was running a summer of make cycles without the formal support of NWP, we felt it was important to focus on the CLMOOC community: to consolidate existing connections and to form new ones. The facilitated activities ran for four weeks on these themes. Blog posts for each week can be found in the bibliography.

Week	**Topic**
Week 1	Cultivate (CLMOOCa, 2016)
Week 2	Reciprocate & Iterate (CLMOOCb, 2016)
Week 3	Purposeful Pause (Break week) (CLMOOCc, 2016)
Week 4	Celebrate (CLMOOCd, 2016)

Table 26 CLMOOC16 Make Cycle themes

Appendix 3: Tweet Chat Questions

CLMOOC organised four tweet chats, one each Thursday of each week. Topics were chosen by the facilitating team as part of the planning process for CLMOOC 16, and each of the four tweet chats had a list of questions written to draw out the Make Cycle themes for that week. Each week had at least two core facilitators who ensured that questions were scheduled/ ready to tweet on the night at regular intervals.

Tweet chat week 1: Cultivate (July 14th 2016)

Q1: What surprised you in Make Cycle 1?

Q2: What discoveries about each other did you find?

Q3: What's the most meaningful comment you've read?

Q4: What RemIx caused an “aha” moment?

Q5: What would help us be more connected?

Q6: What quote inspires you?

Q7: What’s your hope for connecting in Make Cycle 2?

Tweet Chat week 2: Reciprocate & Iterate (July 21st 2016)

Q1: What reciprocations have impacted you the most?

Q2: In the context of remixing, how important are the intentions of the remixer?

Q3: What does it mean to “own” something we’ve composed, in light of our remixing theme?

Q4: How has the geography/diversity of #CLMOOC participants impacted your meaning-making?

Q5: What has been your “puddle”?

Q6: What role does “Playing” have in Connected Learning?

Q7: What have you uncovered in this Make Cycle?

Tweet chat week 3: Purposeful Pause (July 28th 2016)

Q1. Where do you go when you want to take a break?

Q2 What are you focusing on this week?

Q3. What do you think about having this intentional Purposeful Pause week in

Q4. Can you share one or two things you have learned or experienced so far in

Q5. How do you feel your Connections (as in CONNECTED Learning MOOC) have developed?

Q6: How do you plan on maintaining these connections after #CLMOOC?

Tweet chat week 4 Celebrate (August 4th 2016)

Q1: What is the role of **PLAY** in your making?

Q2: What are your favorite tools and materials for production- centered learning?

Q3: How would you frame your ideal creative space? What/who gets included & excluded?

Q4: What have you learned about risk-taking from your (& others') participation in openly networked spaces?

Q5: What role c/should connecting/celebrating have in our discussions about citizenship, both offline & on?

Slow Chat: How do you plan on staying "connected" as a learner & teacher through the year?

Q7: "I celebrate myself and sing myself": How does connected learning help you do that?

Appendix 4: Survey Questions

These are the survey questions sent out in a Google Form in July 2016 to the CLMOOC hashtag, all of which were set to accept open text responses.

1. How much do you feel part of the CLMOOC learning community?

2. How much do/did you want to be a part of the CLMOOC community?

3A. There were different spaces to engage in the CLMOOC community (e.g. Twitter, Facebook, Google+)? What was your level of engagement in each of these spaces?

3B. There were different spaces to engage in the CLMOOC community (e.g. Twitter, Facebook, Google+)? What were your reasons for your level of engagement in each of these spaces?

4. What motivated your level of participation in CLMOOC?

5. What would motivate you to participate more in CLMOOC?

6. What do you feel that you learn when you are an active or a less active participant?

7. What other online or offline activities do you do that are related to CLMOOC?

8. Further comments.

Appendix 5: Designing CLMOOC

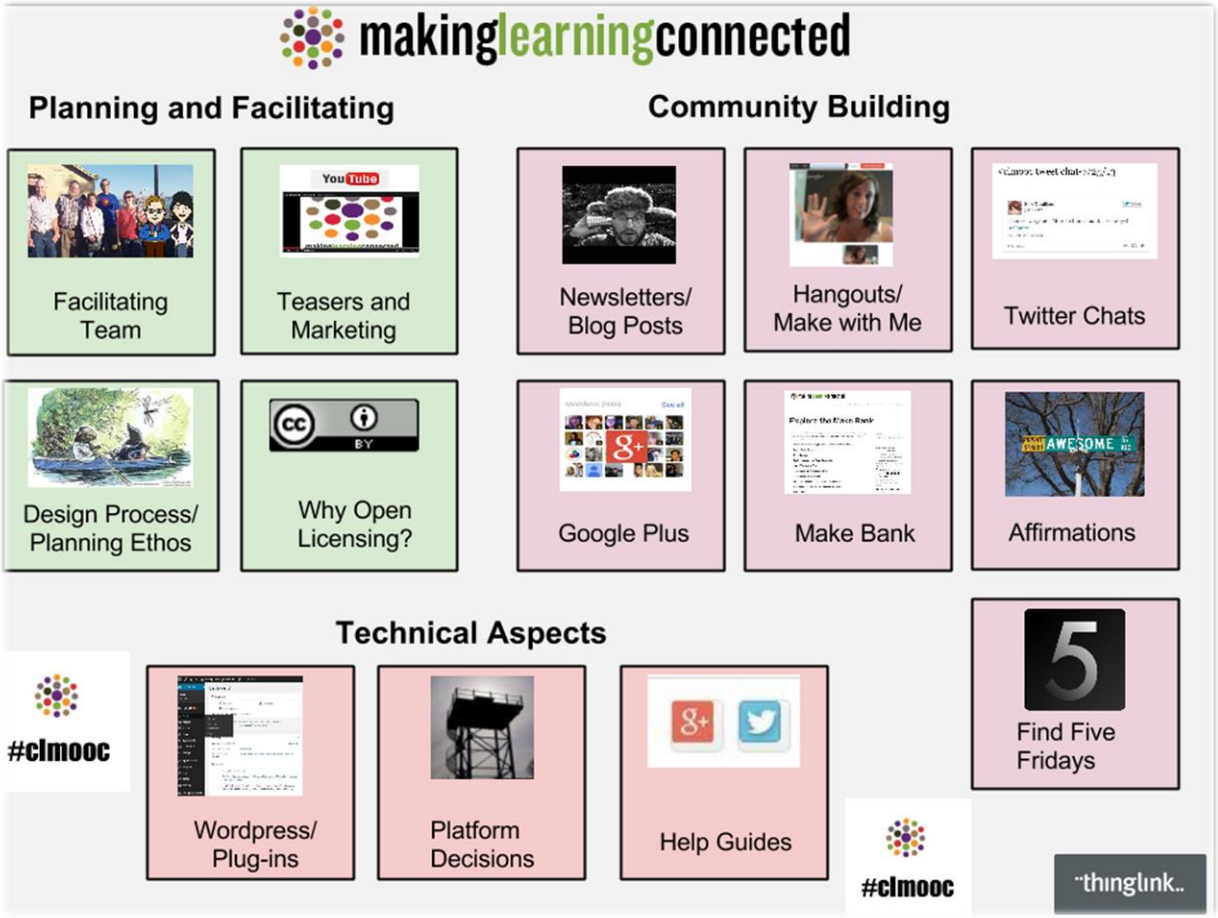


Figure 19 Making a MOOC: What We Learned in #CLMOOC

In this appendix I want to signpost for you some of the resources developed by the original CLMOOC design and facilitation team. At the end of 2013, the facilitators collaboratively produced an interactive guide called *Making a MOOC: What We Learned in #CLMOOC*. This gives instructions about how to design each of the elements in the MOOC: from putting together the facilitation team, choosing and setting up appropriate software and platforms, designing and delivering the activities, and deciding which regular supplementary activities to include. The image above is also available as an interactive image which contains direct links to these resources.[5]

This guide makes it clear that behind CLMOOC was a lot of careful thought and design. In order to plan for the MOOC, the facilitation team organised weekly

[5] https://www.thinglink.com/scene/478703868385951744?buttonSource=viewLimits

audio-conferencing meetings to plan CLMOOC and used collaborative Google Docs in order to record decisions about the guiding principles they wanted to subscribe to (the principles of connected learning) and the type of ecosystem they hoped to create (HOMAGO – see the page “how it all began”) and to draft all of the Make Cycle newsletters and activities. Although there was a lot of preparatory work involved, the facilitation team thought that this was time well spent and led to the CLMOOC being so successful. The outcome of all of this was something that the original designers called a “living curriculum” (Smith et al, 2016; West-Puckett et al, 2018). By this they meant that the discussion and production in CLMOOC far surpassed anything that the original designers could have imagined.

Appendix 6: SNA and Datasets

The software that I use for my Social Network Analysis is TAGS. This is a free Google Sheet template which lets you setup and run automated collection of search results from Twitter and perform basic Social Network Analysis (Hawksey, n.d.). It is written and maintained by Martin Hawksey, formerly Chief Innovation, Community and Technology Officer at ALT, who has made many refinements to the software since I began using it. It is available from his web pages, and the link to these can be found in my bibliography. Below you can find links to each of the TAGS sheets that I have used in this research.

Master CLMOOC TAGS dataset
https://docs.google.com/spreadsheets/d/1Ga3hD5rA7vQwmxZVKyATrqtMTQv0ElQry6TeYYT2oG8/edit?usp=sharing

CLMOOC16 TAGS dataset
https://docs.google.com/spreadsheets/d/1Uh3nGCTuwwU0b9MD5uGjnFwxvwRGW9yQMl7BimAs3ME/edit?usp=sharing

Tweet Chat 1
https://docs.google.com/spreadsheets/d/1yIdTKVx21fmvTvrRqeNBbsBIAAGlzo8NGbRA6Z6i_NA/edit?usp=sharing

Tweet Chat 2 https://docs.google.com/spreadsheets/d/1GrfJey-5F-JrhMJDVkc4bZS2g4S2Gjr2_xILT1N7yys/edit?usp=sharing

Tweet Chat 3 https://docs.google.com/spreadsheets/d/18DKo-hV-BE-ql_ELG2IrLprYa9vTaVwPjbJHtA8QQSc/edit?usp=sharing

Tweet Chat 4
https://docs.google.com/spreadsheets/d/1tHxJPo8Ww4O160ODi8yOh6Axsqxi80lJhOM3g0yr9dg/edit?usp=sharing

Appendix 7: Ethics form

Staff and Postgraduate Research Application Form

College Ethics Committee for Non-Clinical Research Involving Human Subjects

Before completing this form, you should refer to the guidance notes available at:
http://www.gla.ac.uk/colleges/socialsciences/students/ethics/forms/#d.en.191149

This application form should be typed and submitted electronically via the Research Ethics System:
https://frontdoor.spa.gla.ac.uk/login/

Applications should be submitted **at least 6 weeks in advance** of the intended start date for data collection to allow time for review and completion of any amendments that may be required.

Please note that applications that require PVG Clearance or permissions to access participants will not be considered until the applicant can provide evidence of this.

1 Applicant Details

Staff Research Project ☐ Postgraduate Research Project ☒
Project Title Under-explored issues determining the effectiveness for learning of peer interaction
Name of Applicant Sarah Honeychurch
School/Subject/Cluster/RKT Group School of Education
Student ID/Staff Number 0111110h
Programme Title (PGR Applications only) PhD Education

2 Ethical Risks

This section should be completed and signed by the appropriate parties, commenting on the research ethics risks involved in this project.

PGR Applications – Supervisors should complete and sign this section, approving submission for ethical review.

Staff Applications – Applicant should complete and sign this section, confirming submission for ethical review.

It should be clear from the comments provided that the potential risks have been considered and information provided on what they are, with evidence of what is to be implemented to mitigate these. You are advised to refer to the Risk Guidance at: http://www.gla.ac.uk/colleges/socialsciences/students/ethics/forms/staffandpostgraduateresearchstudents/

This is a low risk application – participants are adults, and as far as is known none are from vulnerable groups. No intrusive questions will be asked of MOOC participants, the focus being on the extent to which peer interactions facilitate their learning. No discomfort should be involved, and no forms of deception are being suggested as part of the data collection methods.

Signed: 

Dated: 13/01/2016

3 All Researcher(s) including research assistants and transcribers (where appropriate)

Title	First and Surname	Telephone	Email *(usually UoG)*
Ms	Sarah Honeychurch	0141 3303026	Sarah.Honeychurch@Glasgow.ac.uk

All Supervisors, Principal first *(where applicable)*

Title	First and Surname	Telephone	Email *(usually UoG)*
Dr	Fiona Patrick	01413304429	Fiona.Patrick@glasgow.ac.uk
Dr	Steve Draper	0141 330 4961	Steve.Draper@glasgow.ac.uk

4 External Funding Details

(NB: If this project is externally funded, please provide the name of the sponsor or funding body.)

5 Project Details

Start Date for Data Collection:	01/03/2016

(NB: This refers to data collection for the research covered in this application. This should be at least 6 weeks from the date of application submission.)

Proposed End Date of Research Project: 31/01/2022

(NB: This date should be when you expect to have completed the full project and published the results e.g. date of award of PhD, journal article publication, end of funding period.)

6 Justification for the Research

Why is this research significant to the wider community? What might be the impact on your practice or on the practice of others? *Please outline the reasons which lead you to be satisfied that the possible benefits to researchers, participants and others to be gained from the project justify any risks or discomfort involved.*

My research is looking at the effectiveness of peer interaction. One challenge with investigating how and when peer interaction does lead to learning is that often the learning (or the recognition that learning has happened) does not occur during peer interaction or directly after peer interaction has taken place. In addition, there might not be one discrete event that leads to learning, or any specific bit of knowledge that can be identified.

For the past 2 years I have been participating in online "courses" which could be loosely described as cMOOCS (connectivist massive open online courses). These cMOOCs (open events primarily aimed at educators around the world who are interested in connected learning) provide a unique opportunity for me to look at how participants interact with each other and how this influences their learning, because as well as being able to observe peers interacting with each other and learning together I will be able to ask (through methods outlined later in this proposal) participants about their perceptions of their own learning.

Insights into how peers interact in open courses such as this, where there is no formal accreditation, could be used to inform how more formal MOOCs (xMOOCS) are structured as well as being applicable to formal online and blended learning courses and face-to-face teaching. This is of potential benefit to the academic community as a whole and of particular interest to me in my day to day work in the Learning Technology Unit.

7 Research Methodology and Data Collection

a. Method of data collection *(Tick as many as apply)*

Face to face or telephone interview (Skype/Google Hangout) *(Please provide a copy of interview themes. This does not need to be an exact list of questions but does need to provide sufficient detail to enable reviewers to form a clear view of the project and its ethical implications.)*	☒
Focus group *(Please provide details: themes or questions. This does not need to be an exact list of questions but does need to provide sufficient detail to enable reviewers to form a clear view of the project and its ethical implications.)*	☐
Audio or video-recording interviewees, focus groups or events **(of Skype. Google Hangouts above)** *(Please ensure that permission is evidenced on the consent form. Details should be provided, either in theme/question information or separately.)*	☒
Questionnaire *(Please provide a copy of at least indicative questions, final questions must be submitted as an amendment if not provided in initial application)*	☒
Online questionnaire *(Please provide the web address/ or electronic copy if not yet available online)*	☒
Participant observation *(Please provide an observation proforma)*	☐
Other methodology *Use of third party tools to "scrape" data from social media (see below)*	☒

b. Research Methods

Please explain the reason for the particular chosen method(s), the estimated time commitment required of participants and how the data will be analysed. Ensure that you include reference to methods of providing confidentiality as you indicate below in section 8.a

Data will be "scraped" from Twitter by using tools such as Martin Hawksey's TAGS Explorer and NodeXL. In order to do this, the relevant hashtag (e.g. #CLMooc) will be entered into a Google Sheet (TAGS) or Excel spreadsheet (NodeXL) and this will then download all of the tweets which included that hashtag in date order. Tweets can then be analysed and visualisations can be generated which can be anonymised. While this is a covert procedure, it is usual to tweet visualisations generated to the relevant hashtag during the event and thus make it overt. My usual practice is to do this. See https://docs.google.com/presentation/d/1_CzN97FHQZebWGMAfo6WySFcSHh4WHpBsopIGG1fud4/edit for an example by another researcher and here: http://hawksey.info/tagsexplorer/?key=1H1nixZT3mgWUXf9xPZ5isLBSUbaGmccnPKCiQT5ymNk&gid=400689247

for an example I have generated at the request of the Digital Pedagogy Lab Cairo organisers. Community formation will be identified by comparing Twitter visualisations as events progress (to see, for example, if clusters of participants have formed, or if people are just broadcasting without talking to each other). I will also look to see who is commenting on the participant blog posts in order to assess whether conversations are crossing over to other platforms.

Passages from blogs will be copied and pasted manually. If use of these could lead to identification of the participant, I will follow Bruckman (2002) http://www.nyu.edu/projects/nissenbaum/ethics_bru_full.html and use a "moderate disguise" approach by altering the wording of the quotations so that they will not be searchable by e.g. Google.

While it is possible to anonymise the data I will collect (from Twitter and blogs), part of the point of this research is to look at community formation at a deep level – it matters who is talking to each other – so names/Twitter handles will not be anonymised before I begin analysing the data. In addition, the need to match up conversations across different platforms (blogs and Twitter) where different names are used, means that total anonymity is not possible. However, I will preserve anonymity in my thesis chapter by assigning pseudonym to each participant and a number to each MOOC (e.g. MOOC1, MOOC2, etc.). There will be no time commitment by participants for this – this will be looking at conversations they have already had online.

As well as this I will ask participants (by posting on social media) if they are willing to fill out a questionnaire (either by email or online) and/or participate in audio or video interviews to reflect about their perceptions and experiences. I would estimate that completing a questionnaire would take no more than 30 minutes, and interviews would take a maximum of 1 hour.

Data will be stored electronically in password protected files, paper copies will be stored in a secure location in the Learning and Teaching Centre until one year after the completion of this research.

While putting together this application and thinking about my research methodology, I am guided by the Association of Internet Researchers (AoIR) recommendations for internet research. These are a set of guidelines rather than a code, and they advocate consultation with fellow researchers and participants, so I have done this.

Participants at the events that I propose researching are usually open educators themselves, and the community to which we all belong has a culture of participation. It is not unusual for participants to themselves be researchers – in #rhizo14 Frances Bell, Jenny Mackness and Mariana Funes were explicit about their proposed research; in #rhizo15 Ash Shaw was explicit about her research as part of her PhD thesis (participants were emailed by the course facilitator and told about this); Mariana Funes has presented at

conferences about #DS106; Anna Smith et al. have just published a paper about their research into #CLMooc; Aras Bozkurt scraped data from #rhizo15 with NodeXL which he is using in his PhD (personal email between me and Aras). All of these people were participants in the events they also researched. It is therefore reasonable to assume that participants in future events might themselves be researchers, including me. As I will also be participating in the events I propose researching, I will also be explicit about my research. I do not believe that this will cause any offence or discomfort to any participants, because we are a network of open researchers who have public conversations about the research that we are doing, and reflect on our practices in order to ensure (as best we can) that we do not design research that might be hurtful to participants.

I have attempted to find publications that use a similar approach to my research. Anna Smith et al. have published a paper with the results of their analysis of tweets from #CLMooc (one of the events I propose using). Anna submitted an ethics application to the University of Illinois' IRB, and were told that because the tweets they were analysing were already posted, their research was not "human research" (Facebook group conversation between me and Anna). Likewise Skrypnyk et al. have published the results of their analysis of tweets from another cMOOC (CCK11). They state that they did not require institutional clearance for their use of tweets because: "such data collection is exempt from institutional clearance since the information is publicly accessible and there is no reasonable expectation of privacy" (p16). However, Evans et al. (2015) recommend that ethical clearance is sought when there is no direct consent.

I do not believe that there are any legal issues with me using this data. Blog posts are published in the public domain. Tweets are also published publically and the Twitter ToS states that: "this license is you authorizing us to make your Tweets on the Twitter Services available to the rest of the world and to let others do the same". See Section 5:https://twitter.com/tos#basicterms

References

Association of Internet Researchers (AoIR) (2012) Ethical decision-making and Internet research 2.0: Recommendations from the AoIR ethics working committee Available at: http://aoir.org/ethics/

Bell, F. (2014) Rhizo14 Research (blog post) Available at: https://francesbell.wordpress.com/research/rhizo14-research/

Bruckman, A. (2002) Studying the Amateur Artist: A Perspective on Disguising Data Collected in Human Subjects Research on the Internet. Ethics Inf. Technol. 4, 217–231. http://www.nyu.edu/projects/nissenbaum/ethics_bru_full.html

Evans, E., Ginnis, S, & Bartlett, J. (2015) #SocialEthics a guide to embedding ethics in social media research. Ipsos Mori. Available from: https://www.ipsos-mori.com/ourexpertise/digitalresearch/sociallistening/wisdomofthecrowd/publications.aspx

McKee, H.; Porter, J. (2012) The ethics of conducting writing research on the Internet: How heuristics help. In Writing Studies Research in Practice: Methods and Methodologies; Nickoson, L., Sheridan, M., Eds.; Southern Illinois University Press: Carbondale, IL, USA, pp. 245–266.

Skrypnyk, O. et al. (2015) Roles of course facilitators, learners, and technology in the flow of information of a cMOOC. IRRODL 16, 3 Available at: http://www.irrodl.org/index.php/irrodl/article/view/2170/3347

Smith, A. et al. (2016) Remix as Professional Learning: Educators' Iterative Literacy Practice in CLMOOC. In Education Studies 6, 1 Available at: http://www.mdpi.com/2227-7102/6/1/12

8. Confidentiality & Data Handling

a. Will the Research Involve:

**You should select all options that apply to your (different) research methods (insert the name of the method in shaded box at top of each column, e.g. interview / questionnaire) and make clear in section 7b above how these will be applied.*

Degree of anonymity	**(insert method)** **Face to Face or telephone interviews/** **Audio/video interview and recording**	**(insert method)** **Email/online questionnaire**	**(insert method)** **Social media**
De-identified samples or data (i.e. **a reversible process** whereby identifiers are replaced by a code, to which the researcher retains the key, in a secure location?	☒	☒	☒
Anonymised samples or data (i.e. **an irreversible process** whereby identifiers are removed from data and replaced by a code, with no record retained of how the code relates to the identifiers. It is then impossible to identify the individual to whom the sample of information relates)?	☐	☐	☐
Complete anonymity of participants (i.e. researchers will not meet, or know the identity of participants, as participants are part of a random sample and are	☐	☐	☐

required to return responses with no form of personal identification)?			
Use of Names			
Subject being referred to by pseudonym in any publication arising from the research?	☒	☒	☒
Participants consent to being named?	☐	☐	☐
Any other methods of protecting the privacy of participants? (e.g. use of direct quotes with specific, written permission only; use of real name with specific, written permission only): *provide details here:*	☐	☐	☐
Participants being made aware that confidentiality may be impossible to guarantee; for example in the event of disclosure of harm or danger to participants or others; or due to size of sample, particular locations etc.?	☒	☒	☒
Participants being made aware that data may be shared/archived or re-used in accordance with Data Sharing Guidance provided on Participant Information Sheet?	☒	☒	☒

a. Which of the following methods of assuring confidentiality of data will be implemented

(NB: The more ethically sensitive the data, the more secure will the conditions of storage be expected to be.)

Location of Storage	

Storage at University of Glasgow Stored at another site *(Please provide details here, including address)*	☒ ☐
Paper Data to be kept secure in locked room/facility/cabinet Data and identifiers to be kept secure in locked room/facility/cabinet	☒ ☐
Electronic Access to computer files to be available by password only	☒
Other Any other method of securing confidentiality of data in storage: *(Please provide details here)*	☐

b. Access to Data

Access by named researchers and, where applicable, supervisors, examiners, research assistants, transcribers ☒

Access by people **other** than named researchers, supervisors, examiners, research assistants, transcribers ☐

Please provide details of others who will have access; and if relevant, of data management and sharing policy or protocol

c. Retention and Disposal of Personal Data *

Please explain and as appropriate justify your proposals for retention and disposal of any **personal** data to be collected.

The only personal data used will be Twitter handles and names, and handles/names used to write blog posts and comment on others' blogs. These will be stored along with the corresponding pseudonyms in password protected files on my university network drive.

Data will be scraped by setting up a TAGS Google Doc or by downloading it to Excel. Analysis will be done by downloading to a local computer and storing on the university network drives for the duration of the research, when all files will be deleted.

Any paper copies for all of the above will be put into secure bags and uplift arranged from the Learning and Teaching Centre.

* *"(personal data means data which relate to a living individual who can be identified –*

(a) From those data, or

(b) From those data and other information which is in the possession of, or is likely to come into the possession of, the data controller, and includes any expression of opinion about the individual and any indication of the intentions of the data controller or any other person in respect of the individual." Data Protection Act 1998 c.29 Part 1 Section 1

Further Information on the Data Protection Act (1998) is available on the webpages of the Data Protection and Freedom of Information Office:

http://www.gla.ac.uk/services/dpfoioffice/

e. Retention and Disposal of Research Data

Please explain and as appropriate justify your proposals for retention and disposal of **research** data to be collected.

All data will be stored in password protected files on my university network drive. This conforms to the UofG policy on retention of confidential data:
http://www.gla.ac.uk/services/it/informationsecurity/yourdata/#/confidentialdata

Data will be scraped by setting up a TAGS Google Doc, by downloading it to Excel or by using other available tools such as Storify. Analysis will be done by downloading to a local computer and storing on the university network drives until one year after the duration of the research, when all files will be deleted. Any paper copies will be put into secure bags and uplift arranged from the Learning and Teaching Centre.

For Postgraduate and Staff research University of Glasgow Research Guidelines expect data to be retained for 10 years after completion of the project.) Please see University Code of Good Practice in Research for guidance, http://www.gla.ac.uk/services/postgraduateresearch/pgrcodeofpractice/

8 Dissemination of Results

a. Results will be made available to participants as:

(NB: Intended method of dissemination ought normally to take account of the age, capacities and situation of participants.)

Written summary of results to all if requested	☒
Copy of final manuscript presented if requested (e.g. thesis, article)	☒
Verbal presentation to all (e.g. information session, debriefing)	☐
Presentation to representative participants (e.g. CEO, School Principal)	☐
Other or None of the Above *(please provide details here)*	☐

b. Results will be made available to peers and/or colleagues as:

Dissertation	☐
Thesis (e.g. PhD)	☒
Submission	☐
Journal Articles	☒
Book	☐
Conference Papers	☒
Written summary of results to all if requested	☐
Other or None of the Above *(please provide details here)*	☐

9 Participants

a. Explain how you intend to recruit participants. Provide as much detail as you can, including what age/type

of group will be used for each research activity involved (e.g. Interviews)

These cMOOCs use various forms of social media (such as hashtags and groups) to disseminate information and facilitate conversation. I will post in these to identify potential participants as well as reaching out to particular individuals via social media. The age range of participants varies a good deal, but because these participants are themselves educators, the youngest participants would be in their 20s and the

oldest maybe in their late 60s – early 70s. While it is possible that a participant might be as young as 13, as Twitter allows 13 year olds to register for an account, it is not likely. However, where these is doubt about the age of a participant, if it is not possible to ascertain this, then that participant's data will be excluded from any analysis.

b. Target Participant Group

Students or Staff of the University	☐
Adults (over 18 years old and competent to give consent)	☒
Adults (over 18 years old who may not be competent to give consent)	☐
Young people ages 16-17 years old	☐
Children under 16 years old	☐

If you require information on the age of legal capacity please refer to the Age of Legal Capacity (Scotland) Act 1991 available at: http://www.legislation.gov.uk/ukpga/1991/50/contents

c. Incentives

If payment or any other incentive (such as a gift or free services) will be made to any participants please specify the source and the amount of payment to be made and/or the source, nature and where applicable the approximate monetary value of the gift or free service to be used. Please explain the justification for offering payment or other incentive.

n/a

d. Number of Participants *(if relevant give details of different age groups/activities involved)*

My intention is to analyse data from cMOOCS which I am also participating in, and to scrape data for quantitative analysis in MOOCs where I identify potential for my research. I would hope to be able to send the questionnaire out 4-5 times during the course of the study, with about 20 responses per questionnaire, and to be able to interview 10-20 people over the course of the study. This gives a total of 120 as an upper limit.

e. Dependent Relationship

Are any of the participants in a dependent relationship with any of the investigators, particularly those involved in recruiting for or conducting the project?

(For example, a school pupil is in a dependent relationship with their teacher. Other examples of a dependent relationship include student/lecturer;

patient/doctor; employee/employer)

Yes ☐

No ☒

If yes, please explain the relationship and the steps to be taken by the investigators to ensure that the subject's participation is purely voluntary and not influenced by the relationship in any way.

f. Location of Research

University of Glasgow	☒
Outside Location *(Provide details here of outside locations, including as much information as possible.)*	☐

10. Permission to Access Participants

11. Permissions/Access

Permission is normally required to gain access to research participants within an organisation (e.g. Private Company; school; Local Authority; Voluntary Organisation; Overseas institution)

Is this type of permission **applicable to** this application?

Yes ☐

No ☒

If Yes: Is evidence of this permission **provided with** this application?

Yes ☐

No ☐

If No: Please explain any reason why you do not require permission to gain access to research participants.

I am not asking to gain access to research participants within an organisation.

12. Does this application involve contacting University of Glasgow students directly (either via email or within classes) for the purpose of your research?

Yes ☐

No ☒

If yes, separate permission to survey student's needs to be obtained prior to any such survey being undertaken. Normally this permission should be sought from the appropriate authority after ethical approval has been granted.

See http://www.gla.ac.uk/colleges/socialsciences/students/ethics/informationforapplicants/#d.en.191190 *for details*

(NB: Once obtained, a copy of this permission must be forwarded to the Ethics Administrator.)

Please list the participants that you intend to contact (e.g. 30 students from X course)

13. Is this application being submitted to another Ethics Committee, or has it been previously submitted to another Ethics Committee?

Yes ☐

No ☒

(If yes, please provide name and location of the ethics committee and the result of the application.)

f. Informed Consent

g. Have you attached your Participant Information Sheet (Plain Language Statement) for participants?

Yes ☒

No ☐

If no, please explain:

(You must consult the guidance at the Forms and Guidance Notes section of the College ethics website: http://www.gla.ac.uk/colleges/socialsciences/students/ethics/forms/#d.en.191149 for information that you are required to provide in this.)

The Participant Information Sheet is written information in plain language that you will provide to participants to explain the project and invite their participation.

b. **Please note that a copy of this information should be offered to the participant to keep unless there are**

specific reasons for not doing so. These must be clearly explained below.

c. **Are any participants likely to require special consideration in the preparation of the Participant Information Sheet/Plain Language Statement to ensure informed consent?**

(Eg. the use of child friendly language, English as second language)

Yes ☐

No ☒

If yes, please provide details here:

d. How will informed consent by individual participants or guardians be evidenced?

(NB: In normal circumstances, it will be expected that written evidence of informed consent will be obtained and retained, and that a formal consent form will be used: a copy of which should be provided.)

Signed Consent Form (this will be added to the beginning of the online/email questionnaires)	☒
Recorded Verbal Consent	☐
Implied by Return of Survey	☐
Other (please provide details here)	☐

Justification if written evidence of informed consent is <u>not</u> to be obtained and retained:

I will obtain and retain informed consent for interviews, recordings and questionnaires. I will not ask for informed consent to analyse data posted publicly on social media otherwise. As such events do not have formal sign up mechanisms it will not be possible to identify people in advance. However, anonymity will be preserved as described above, and every attempt will be made to inform participants of the possibility of their public data being used in my research.

10 Monitoring

Describe how the project will be monitored to ensure that the research is being carried out as approved *(e.g. give details of regular meetings/email contact).*

Regular meetings with supervisors

1. Health and Safety

What are the potential issues of personal safety for you, other researchers or participants involved in the project and how will you manage them? *(Other than lone field work – refer to Section 15 for this)*

No issues have been identified in the risk assessment

15 Risk

a. Does the activity involve lone field work, lone working or travel to unfamiliar places?
(E.g. Carrying out interviews alone and off-campus) (You should refer to the Risk Guidance at: http://www.gla.ac.uk/colleges/socialsciences/students/ethics/forms/#d.en.191149)

NB: This does not apply to working within an institution such as a school.

Yes ☐

No ☒

Please give details of arrangements to minimise risks pertaining to this.

b. How will you ensure that you minimise any possible distress caused to participants by the research process?

I will avoid directly quoting anything that could be defamatory of others or potentially embarrassing to the participant, and if I am in any doubt I will ask permission. If permission is not granted, then I will not use a direct quote.

c. What procedures are in place for the appropriate referral of a study participant who discloses an emotional, psychological, health, education or other issue during the course of the research or is identified by the researcher to have such a need?

n/a

d. Does this research involve any sensitive topics or vulnerable groups? You should refer to the Risk Guidance at: http://www.gla.ac.uk/colleges/socialsciences/students/ethics/forms/staffandpostgraduateresearchstudents/

Yes ☐

No ☒

Please give details of arrangements to minimise risks pertaining to this

16 Insurance

Does this research come under the exclusions to the University insurance cover for research?

Yes ☐

No ☒

If yes, please explain and detail how you intend to cover the insurance needs for this research

The University insurance cover is restricted in certain, specific circumstances, e.g. the use of hazardous materials, work overseas, research into pregnancy and conception and numbers of participants in excess of 5000. Please refer to the Insurance and Indemnity advice on the website given below. Advice or authorisation given must be included with this application.

Information may be available at this link:
http://www.gla.ac.uk/services/finance/staffsections/insuranceandrisk/

16 Protection of Vulnerable Groups and Disclosure

Does this project require Protection of Vulnerable Groups (PVG) clearance?

Yes ☐

No ☒

If Yes, evidence that this has been obtained **MUST** be provided with this application.

If PVG registration is held, please provide details here:

The Protection of Vulnerable Groups (Scotland) Act 2007 came into effect on 28 February 2011. This replaced the previous Disclosure Scotland checking system for individuals who work with children and/or protected adults. The University is a Registered Body under this legislation.

Please consult the University Protection of Vulnerable Groups Scheme webpages for guidance: http://www.gla.ac.uk/services/humanresources/mgrs-admin/mgr-guidance/pvgscheme/

Further guidance is available from: http://www.disclosurescotland.co.uk/ (Disclosure Scotland)

2. UK and Scottish Government Legislation

Have you made yourself familiar with the requirements of the:

Data Protection Act (1998) https://ico.org.uk/for-organisations/guide-to-data-protection/

Freedom of Information (Scotland) Act 2002
http://www.itspublicknowledge.info/Law/FOISA.aspx

Yes ☒

No ☐

If no, please explain here:

See Application Guidance Notes available from:
http://www.gla.ac.uk/colleges/socialsciences/students/ethics/forms/staffandpostgraduateresearchstudents/ *for further information.*

In addition visit: http://www.gla.ac.uk/services/dpfoioffice/ *for University guidance on Data Protection*

The **Freedom of Information Act 2002 (FOI)** provides a general right of access to most of the recorded information that is held by the University. The Act sets out a number of exemptions/exceptions to this right of access.

NB: Declaration over page must be signed/completed.

19 Declarations by Researcher(s) and Supervisor(s)

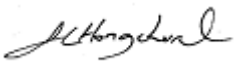
The application will not be processed if this section is blank or incomplete.

- The information contained herein is, to the best of my knowledge and belief, accurate.
- I have read the University's current human ethics guidelines, and accept responsibility for the conduct of the procedures set out in the attached application in accordance with the guidelines, the University's Code of Conduct for Research and any other condition laid down by the University of Glasgow Ethics Committee and the College of Social Sciences Ethics Committee.

  NB: Full details of the University's ethics guidelines are available at:
  http://www.gla.ac.uk/research/aims/ourpolicies/committeestructure/

- I and my co-researcher(s) or supporting staff have the appropriate qualifications, experience and facilities to conduct the research set out in the attached application and to deal effectively with any emergencies and contingencies related to the research that may arise.
- I understand that **no** research work involving human participants or data collection can commence until I have been granted full ethical approval by the College of Social Sciences Ethics Committee.

***This section MUST be completed** to confirm acceptance of Code of Conduct. If there is no scanned signature then please type the names (or use GUID) and date into the boxes below.*

	Signature	Date
Researcher (All applicants)		12/01/2016
Principal Supervisor (Where applicable)		

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