CHAPTER SEVEN

Classroom digital literacies AS interactional accomplishments

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When you wish to discover the new unexpected actors that have more recently popped up and which are not yet bona fide members of "society," you have to travel somewhere else and with very different kinds of gear.

—LATOUR (2005, p. 22)

INTRODUCTION

Modern classrooms are sites where new technological dynamics are rapidly displacing classic pedagogies. With new literacies emerging from old, and information, knowledge, and meaning-making themselves being redefined for what they contribute to the efficacy of learning and teaching, the nature of what we investigate as researchers is as important, and uncertain, as the methods of investigation themselves. Take, for example, the study discussed in this chapter: the established and commonplace activity of writing a course assignment. Every day, and in classrooms everywhere, assignment tasks of many kinds are given to students by their teachers. These can be anything from dissertations and short essays, to digital and paper-based portfolios, and so on. These tasks can, on the one hand, be procedurally framed to acknowledge elements of new digital literacies; yet they also can remain grounded in an educational system that valorizes more traditional kinds of literacies. Added to this mix is the range of new textual practices with digital media that proliferate in students’ lives more generally (e.g., Ito, 2010). What therefore emerges in the writing of a course assignment is far from a predictable
set of practices. Within this problematic, this chapter provides an account of the research methods adopted to investigate the digital literacies of students’ own assignment tasks while situated within a classroom setting. Building on the ethnographic tradition of the New Literacy Studies (outlined below), the focus here is on the practicalities of data collection and, specifically, what was added by the incorporation of a detailed videography of the writing process.

Through investigating the literacies that were drawn into cases of assignment writing, this research study uncovers practices of digital literacy which otherwise would go unnoticed using traditional methods of ethnography dominating many current literacy inquiries. These include such techniques as field notes and observation accounts supported by still images. A step-by-step account of the data collection procedure is outlined in detail below, and illuminates the study of digital and new literacies in a manner that is currently lacking in literacy research. Importantly, the methods detailed below are meant to build on, rather than replace, more traditional and analogue interpretative methods. I argue that new classroom ecologies, as arenas where knowledge is transfused and produced, are contexts within which new and digital literacies proliferate. It follows, therefore, as Bruno Latour (2005) contends in the quote at the head of this chapter, that to research them properly we should employ “very different kinds of gear.” Proficiency with digital research tools is vital to this undertaking as but one aspect of the overall research process.

The chapter begins by discussing the context of the research, its theoretical influences, and how these influenced decisions regarding study design and directed data analysis. This is followed by a more extensive and step-by-step account of the videographic methodology adopted as part of a wider phased ethnographic approach to the research as a whole. The chapter ends by highlighting the need for such methods to augment the methodological repertoire of literacy research studies, thereby updating and refreshing the study of literacy in digital environments.

**RESEARCH CONTEXT**

Assessed assignment tasks are key moments in the lives of students as they navigate their way through a formal course, and for teachers and managers who also have a stake in an assignment’s successful completion. In this respect, the practices through which assignments are characterized and accomplished are bound up with different texts and a multitude of discourses such as economic imperatives, managerial efficiency, and quality assurance procedures (Tummons, 2010). These discourses and texts or “actors” can influence a particular and dominant conception of what an educational assignment task is, how it should be completed, and the valorized literacies that it is designed to assess. But this does not always play out as intended in the workings of classroom life. Writing an assignment is therefore
a practical controversy for producers and “overseers” alike, and what is required is a deep exploration of the constituent practices which give an assignment its character and enable successful achievement for student, teacher, line manager, head of department, parents, and all actors directly or indirectly involved in completing the written task.

With this in mind, the study of assignment writing detailed in this chapter, based on the work of Ibrar Bhatt (2014), posed a number of questions, including: What digital literacy practices of learners are emerging as they work on writing assignments in a classroom setting? How do these literacies relate to the learners’ everyday literacies and habits? Are there any discrepancies between the way learners carry out their work and the requirements and expectations of their course and, more broadly, the college?

The focus of any research inquiry becomes even more controversial and textually rich as more complex actors become involved in the practices of assignment design, completion, and assessment. This is because academic content is but one aspect of assignment completion; situational practices are shaped by wider enterprises such as policy goals, which, in turn, shape a certain order in the day-to-day practices of a classroom (Hamilton, 2009). It is within this framing that a focus on the literacies of assignment writing within the learning process, and their role within the regulatory frameworks of assessment and quality in education, is a fruitful basis of inquiry in the sociocultural study of new literacies. One of the primary reasons for this is that among the complex actors at play during assignment writing are those that emerge through the noncurricular, or “vernacular” literacies of learners and the role these practices can play in an educational process (Ivanič et al., 2009). These aspects form a key part of the rationale for this study’s methods, as outlined in the coming sections.

THEORETICAL BACKGROUND

Any exploration of how an entity is made in the world—such as the writing of an assignment—needs to be an investigation of the practices and sociomaterial relations (the entanglements of people and things) that constitute it, and give the entity its features and characteristics (Fenwick, Edwards, & Sawchuk, 2011). Understanding how practices of digital literacy can emerge from worlds far removed from the classroom and be mobilized to create something new, is to focus on the ecology of literacy practices (Barton 2007) and their performativity (Law, 2012; Mol, 2002). That is, how a student’s digital literacy practices, and the enactment of these practices, perform the “new” world of any assignment as a product of writing. The locus of this investigation therefore lies at the intersection of two empirical and conceptual traditions: those fields are New Literacy Studies and sociomaterial theory.
What follows is a brief discussion of these theoretical traditions and how, through them, I have developed and applied methodologies used in videography and workplace studies to research digital literacies. Given the emphasis here on the methods of the research and data management, the below discussion provides only a foundational basis to the methodological decisions as part of a broader commitment to ethnographic studies of literacy.

(a) The New Literacy Studies

In any foundational discussion of literacy research, it is important to highlight the work of Silvia Scribner and Michael Cole (1981), whose research on the Vai in Liberia aimed to uncover the roles of formal learning versus cultural knowledge acquisition in relation to cognitive ability. Scribner and Cole came to the conclusion that literacy is associated with, and realized through, “social practices.” Among other important findings, this seminal work reported that formal schooling leads to rather specific abilities that are valued and rewarded in institutional contexts but which, in fact, constitute only one form of literacy among other possible “literacies” that people in a given society may be socialized into. Following this vein of thought and later works (cited below) brought a paradigm shift in the literacy studies field from a singularly conceived and autonomous notion of *Literacy*, to a broader view of multiple and interrelated literate activities, or *literacies* (plural).

Subsequent investigations into the social construction of literacies (e.g., Street, 1984; Barton & Hamilton, 2012; Baynham, 1995) drew attention to the social practices at play, including power relations and sociocultural histories embedded within literacy activities. The autonomous and singular model of literacy as a “uniform set of technical skills” (Street, 2001, p. 2) to be applied in the same way everywhere was subsumed by a new, multiple, and ideological view (ibid.). As a result of this conceptual view of literacies as primarily social, New Literacy Studies perspectives came to take context as their starting point, and main focus of enquiry. The “new” here refers to this branch of research and theory as a new way to study literacies at the time of its emergence in the 1980s. It is, of course, now no longer new but has retained this name (see Gee, 2008).

Arising from this ideological shift in the notion of literacy came a new framework of ethnographic study which made a distinction between “literacy events” and “literacy practices” (Barton and Hamilton 2000). “Events” refer to observable and empirical moments that are integral to literacy activities. The configuration of “practices” is what makes up the sociocultural construct of a typical literacy event. What becomes central, then, in the exploration and analysis of literacy events is the “configuration of action, talk and text” (Prinsloo & Baynham, 2008, p. 8) and the network of actors (social, material, political, etc.) implicated in ensuing practices.
The New Literacy Studies, through its decidedly ethnographic approach, argues that literacies are a matter of social, institutional, and historical practices within particular contexts. Added to this, with the new and multitudinous ways of meaning-making by means of digital media, a related field of study has emerged that focuses its attention on the study of “new literacies” (see Coiro et al., 2008; Lankshear & Knobel, 2011). Like the “New Literacy Studies,” the study of new literacies applies ethnographic approaches to studying and conceptualizing literacy, and seeks to go beyond the competencies of the individual in understanding the new, emergent literacies of digital media environments and their cultural logics. This orientation focuses on the myriad ways of making meaning in digital environments, how these shape and give rise to new ways of being and knowing, and new kinds of social relations and communities, and so on (for more on this, see the section on Digital and new literacies).

This aspect is salient, especially when it comes to the literacies drawn into assignment work and other assessed tasks in education. Were it that the evaluation of literacy were singular, then “new literacies” might have remained solely a theoretical matter of social science inquiry, leaving out the complexities of wider student experience and learning environments. But the assessment of literacy is not a singular matter of pass/fail or literate/illiterate any more than literacy is a matter of text void of meaning. And assignment tasks, as outlined earlier, are bound up within different discourses and interests (economic, managerial, etc.). It is not only learners who are concerned with their results. Understanding the literacies of assignment tasks against the new literacies of a dynamic and multifaceted learning environment (with its new digital actors) becomes essential. The problem is that the interrelationships are complex and the literacy practices are difficult to detect with traditional research methods alone. This requires a need to engage and critique research methods when investigating new literacies, and a commitment to identifying “new unexpected actors” (Latour, 2005, p. 22) that have emerged through pervasive Web connectivity and a new, widespread digital sociality.

In short, digital literacy activities which emerge through prolific Internet use and other digital media tools in the classroom bring new research challenges and subsequently necessitate relevant research techniques to overcome them (de Roock, Bhatt, & Adams, 2015). This is largely due to the unique character of digital literacies and the kinds of practices that go into student work, practices which Chris Bigum and colleagues (2014) dub the “secret learner business”; that is, the practices beneath what is commonly made visible in a learning situation. They argue that an exploration of secret learner business can expose “the fuzzy, pragmatic and messy business” of all the practices leading up to a moment of learning (Bigum et al., 2014, p. 1).

There are parallels here with work in the field of Science, Technology, and Society. For example, studies on the doing of science and the processes of knowledge
construction (e.g., Latour & Woolgar, 1986; Latour, 1987) show how much of the messy business and non-coherence of the workings of a laboratory are excluded from the final stages of “fact production” and glossed over in scientists’ final reports. Similarly, accounting for new and unexpected actors that now emerge in practices of student assignment writing requires us to expand both the theoretical tools of the New Literacy Studies, and the ways in which literacy ethnographies are done. In the sections below, I outline my approach to digital literacies and sociomaterial theory, drawing on work done in the field of Science, Technology, and Society.

(b) Digital and new literacies

Following the shift from Literacy to literacies, outlined above, accounts of “digital literacy” are also many and comprise different conceptualizations of what digital literacy means and what it portends in educational contexts. Colin Lankshear and Michele Knobel (2008), in their formulation of a sociocultural understanding of literacy, draw attention to the pluralized form of “digital literacies” and use it to relate to myriad meaning-making practices evoked across different settings, communities, and identities in digital environments. Digital literacy practices can therefore relate to multiple aspects of learners’ lives (friendship groups, collegial networks, family, etc.) and can take many forms (blogs, social media posts, tweets, gaming activities, etc.). This multitude of practices have at their core a set of “enculturations” (Lankshear & Knobel, 2008, p. 7), exploration of which is the genesis of a sociocultural approach to digital literacy.

The conception of digital literacy as a singular skill set denies not only its influences, but also its impact. Since all text-mediated interaction cannot be reduced simply to transmitting and receiving information (Knobel & Lankshear, 2006, p. 15), a conception of digital literacies that is useful within and beyond the classroom must not ignore surrounding social practice, materiality, and how these impact meaning-making. The enculturations are a story that needs to be told, especially when we look at them in the context of students’ assignment writing. The convergence and multiplicity of competencies in being digitally “literate” become not so easy to define, especially in light of college policy discourses which often describe a need to “upskill” and “train” staff and students in developing an autonomous form of digital literacy.

In any study of student assignment writing, meaning-making is also significant. Students’ digital literacy practices, which when taken together formulate a finished piece of work, can encompass a plethora of social practices. These include processing and drawing on multiple textual sources, navigating links, evaluating content suitability, and mobilizing actors (friends, teachers, texts, algorithms, etc.) for aid. These practices are part and parcel of meaning-making and often are enacted beyond the sight of teachers and researchers, and typically emerge via
a variety of static and portable devices being used in a typical classroom setting: desktop computers, laptops, tablets, smartphones, etc. As many of these digital literacy practices occur below the radar of traditional ethnographic observation and recording, a researcher’s province of interest and analytic lens must expand to include wider contexts and interactions than is typically the case in classroom ethnographies. This, in turn, stimulates new avenues of research inquiry, and highlights the need for new methodological approaches to exploring precisely how digital literacies saturate new and developing classroom ecologies.

(c) A sociomaterial understanding

The “social” is not a monolithic construct (Latour, 2005); the material world and humans meet in every interaction (Orlikowski, 2007). This means that any entity, and any practice, is built upon an entanglement of people and things. The current digital age has only served to make these entanglements even more complex, nuanced, and, according to some, more embodied than previously was the case (Hayles, 2012). A sociomaterial perspective on practice, therefore, is one in which the human is not the sole agent of anything “social.” This speaks directly to classroom environments where a student is not the sole generator of a completed assignment, nor is a researcher the sole creator of anything scholarly. Rather there are networks of actors, epistemic and pedagogical underpinnings, and negotiations with the physical world, which are also at play in any act of knowledge creation. In this way, and drawing from the field of Science, Technology, and Society, my perspective on digital literacy is deeply informed by sociomaterial approaches to literacy (Bhatt & de Roock, 2013; Gourlay & Oliver, 2013). This then leads me to understand the term “social” as also incorporating material artifacts (such as laptops, desks, paper) as actors in how literacy practices are done, rather than these things being merely mediating tools.

There are a number of ways that sociomaterial theory provides a useful basis from which to approach the study of digital literacies. Here I highlight one particular affordance of this theory: that of performativity. From this orientation, an investigation of a student sitting at their classroom desk writing an assignment begins with the view that entities such as the teacher, the student, the class, the assignment, etc. are all performed through an assemblage of practices which make them who or what they are. It thus begs to be asked of the product that emerges from those practices: “How does it come to be as it is?” and “Could it be done differently?”

Thus, in my own examination of written assignment work, what eventually came to be known and recognized by all those involved as an “assignment” was assembled by a choreography of practices and performances of these practices. These practices, as my research revealed, originated from different worlds (friendship groups, family chats, work-based reports, etc.), yet they were mobilized into
the assignment-writing event in the classroom and collectively assembled the somewhat precarious entity of the “assignment.”

Practices appear to hold the assignment together, but a close examination of them shows that they do so only through precarious interactions with each other. For example, in a typical and very brief moment in one of the cases of assignment writing in this study, a student discusses the contents of her assignment with the teacher, her friend sitting next to her, and another friend on Facebook via her own device (which contravenes college policies on classroom ICT use). While doing this she also scrolls through reports from her previous employer’s website, and dips into a previous assignment on a related topic, among other things. The relations between these actors is not stable in this brief period; they rely on various elements working together collectively to hold the moment together, such as personal devices used beneath the table to avoid being noticed by the teacher, friends who are online and available, chat applications and Internet connections effectively working, etc. The composite result of all of these practices is content for a student’s assignment in that particular moment.

To understand assignment writing, therefore, I needed to empirically examine the practices that students engaged in to produce them, and the ways in which these practices were organized and systematized as part of writing strategies, along with focusing on how they gain their meaning and function as dynamic elements of something else, hence their precarity (Law, 2012).

Importantly, some sociomaterial assemblages gain their stability from a perpetual performance of sets of practices. In a typical classroom scenario we need to look at how and why this is the case, and what holds an assemblage of practices together. For example, in the case of quality inspection reports, reactive directives are often issued to improve provision and make better use of digital media for learning. This also holds for things like learning technology “good practice” guides and digital literacy frameworks, which tend to idealize certain quintessential attributes of what good digital literacy and effective teaching ought to look like. These kinds of initiatives collectively attempt to exert a structuring agency upon what occurs in the day-to-day workings of classrooms. But the impositions of procedural practices do not always interact well with the emergent practices of a connected classroom, and we should ask: how and why do they get circumvented and opposed by students in the doing of their work? In this respect, echoing John Law (2012), ethnographers should “look for the gaps, the aporias and the tensions between the practices and their realities” (Law, 2012, p. 171).

Understanding any actor, therefore, requires following its influences and examining its relational work with other actors. Similarly, understanding digital literacies requires viewing the entirety of an interactional context—human and nonhuman, online and offline. Thus, not knowing what interactions I might capture, I nonetheless needed methods that would allow me to perform in situ
monitoring of students’ activities around their assignment writing. These methods needed to be broad enough in view to enable me to identify as many relevant actors as possible and to capture all technologies and interactions employed or performed by students, including those actors and practices commensurate with, and also subversive to, the teacher’s supervisory and evaluative role.

(d) Videographic methodologies

This study captured the entire procedure of students’ on-screen composition as a digital recording (screencast), alongside an embedded video recording of their movements and vocalizations around the writing of their course assignments. The video-based data collection method deployed in this study of digital literacies has its roots in the fields of ethnomethodology and workplace studies (e.g., Luff, Hindmarsh, & Heath, 2000), with some influences drawn from multimodal analysis (e.g., Bezemer & Mavers, 2011). The methodology adopted therefore aims to prioritize “the situated and interactional accomplishments of practical action” (Heath, Hindmarsh, & Luff 2010, p. 1). “Practical action” within the context of this assignment-writing study refers to the practices of digital literacy occurring as the students complete their assignment tasks in classrooms. Their “interactional accomplishments” are uncovered through parsing out the choreography of actors—social and material—which give specific literacy practices their qualities. This methodology thereby complements and builds on attempts to bring together ethnography and multimodality (e.g., Dicks, et al., 2011), connective ethnographies (e.g., Fields & Kafai, 2009), and new methods of literacy research (e.g., Albers, Holbrook, & Flint, 2014).

When it comes to capturing practices of digital literacy, in order to problematize how technologies mediate meanings and social lives, traditional methods can fall short (Snee et al., 2015). And when it comes to the writing of course assignments and completion of classroom tasks, some practices, such as the conflation of practices evident in the example discussed in the previous section, are virtually invisible, inaccessible, or unanalyzable using traditional and analogue research methods. But new digital research and data collection methods also pose new practical and theoretical challenges, some of which I address in the following sections.

DATA COLLECTION AND ANALYSIS

(a) General approach

The kind of data collection and analysis that emerges from an ethnographic commitment to the New Literacy Studies and the sensibilities demanded by a
sociomaterial approach led me to take account of learners’ digital practices across time and place and in online/offline spaces during their assignment writing. In short, a composite picture of learners’ writing was required to capture the moment-by-moment digital literacies that were being drawn into class work and identify which actors were mobilized to make these happen. I have addressed some of the theoretical underpinnings of this methodology and what it affords literacy research in more detail in other work (e.g., Bhatt & de Roock, 2013; Bhatt, de Roock, & Adams, 2015). What follows here is a discussion that is oriented more toward the practicality of how data were collected in a number of ethnographic case studies in my investigation of student assignment writing, and how these data were managed and analyzed in light of the aims of the study.

Data for the study were collected in three overall phases, phase two of which is outlined in detail for this chapter (as a series of steps described below). The data collection discussion that is presented below is commingled with analysis in order to give insights into how my data analysis outcomes were interpreted at every stage in the methodological process, and how I was able to draw out conclusions to do with capturing the nuances of digital literacy practices. But first it is necessary to see how this fits within a broader ethnographic methodological framework.

(b) Overall procedure

The study was carried out within the context of U.K. Further Education colleges, where a mixture of academic, vocational, and school-level education takes place. The data were collected from three such research sites, each of which eventually led to a case study of assignment writing in progress for a particular college course. Key considerations in the selection of the college courses for this study were that they have embedded vocational elements (related to job training, such as childcare or teacher education), and that there were significant differences in the course-related activities of the learners across the sites, including in terms of assignment formats and processes. This variation and distinctiveness of the three sites was ascertained during an initial institutional observation phase. The vocational element was important in order to gain insight into the kinds of digital literacy practices influenced by, and drawn from, work spheres of participants’ lives, and how particular work practices may influence the outcome of an assignment. Importantly, these practices can emerge from, interact, or compete with other practices during assignment writing (to be recorded later in the research process during phase 2 of the study).

Each site was investigated in three phases, the first of which involved weekly visits across a period of three to five months. Phase 1 involved ethnographic observations of institutional culture and classroom activities. From this phase of data collection, I selected a learner in each of the three sites whose assignment writing I
planned to record and trace during class time, as part of phase 2 of the data collection process. This entailed using the videographic recording technique discussed earlier in this chapter and outlined in more detail in the step-by-step procedure below. In the methodology outlined below, I have drawn examples from two of the three case studies from the original study. Participants for these two cases were Sara and Paulo (pseudonyms are used for all participants and the colleges in this study). At the time of undertaking the research, Sara was in her early 20s and studying Childcare at a pre-University level (i.e., UK QCF level 3), and Paulo was in his late teens and enrolled in an English for Speakers of Other Languages (ESOL) and Information, Communication, and Technology course at level 1.

After the video recordings of assignment writing events as part of phase 2 were completed, I interviewed each student about their digital literacies across home, work, and college lives. This represented phase 3 of the data collection process for this study. In keeping with a participatory ethnographic research approach (cf. Emmel, 2008), this part of my study design was enhanced by incorporating a Venn diagram task and a postassignment interview as data collection methods. The Venn diagram task aimed at having participants identify and map practices of digital literacy and tools for personal, classroom, and work use, and the “boundary crossings” (Ivanič & Satchwell, 2007) among them. In the three student interviews I conducted, discussion centered around where and how, within the video recording of their assignment work, practices “flowed” across different spheres of life activity (work, home, etc.) and how practices initiated in one sphere of life became mobilized by them as resources within their classroom-based assignment writing.

In addition to field notes made during initial observations, photographs taken of the college environment, and transcribed discussions with the three student participants, video data became central to the “thick description” (Geertz, 1973) required by the classroom literacy practices emerging in the research. Indeed, each data mode and each step of data collection illuminated the other. For example, by means of the video recordings, I was able to draw attention to the moment-by-moment literacy practices of assignment work, and uncover how these practices emerged from established networks of actors during assignment work (learners doing what they should be) and sometimes how other practices broke down networks of institutional culture (learners not doing what they should be).

(c) Videography

Step 1: Data set up

This first step in collecting videographic data had a multimodal nature and was a methodological choice well justified by current researchers in the New Literacy Studies tradition. According to Bella Dicks et al. (2011), for example, a multimodal
approach can constitute anything from research using video recorders, observation of bodily movements, or analysis of material objects and environments. Thus, data collection instruments—screen capture software, cameras—were set up in the manner shown in Figure 7.1. The teacher is visible in this screen shot, and the larger image in Figure 7.1 shows Sara’s screen. This is dubbed a “screen-in-screen” image (see below). All three of them (i.e., Sara, her classmate, and her teacher) are interacting with each other during the writing of the assignment, and all of their vocalizations are recorded alongside the iterative process of on-screen composition.

The webcam used was not the built-in webcam of Sara’s classroom laptop. Rather, through attaching a better quality webcam to the side of her I was able to achieve an angled view and more coverage of her movements. This webcam also had a more sensitive and omni-directional microphone, and effectively captured the interactions between Sara, Lauren, and the teacher. I was able to observe this lesson in person and note how the whiteboard instructions, texts from previous lessons, and departmental documents (on digital media policies and quality) all played an important role in the practices of Sara’s assignment and within this particular lesson.

Step 2: Screen-in-screen recording

The software chosen for this multidimensional type of recording was Blueberry Flashback recorder. This software captures the entire process of on-screen
composition with an embedded webcam recording of the learners’ movements together with an audio recording of verbalizations around the tasks at the time of writing. This data collection setup resulted in an ongoing screen recording with an embedded video recording integrated as a “screen-in-screen” format, as shown in Figure 7.1. Once recorded, the films were converted from Blueberry Flashback’s standard file format to mpeg.

The recording provided a rich, multimodal rendition and in situ monitoring of the assignment writing event during classroom time, on- and off-screen, and simultaneously captured Sara and Lauren’s interactions with each other (including discussions and gestures) and real-time interactions with the computer (typing, copy-pasting, browsing, etc.). I collected three videos to view, one for each case being explored, and meticulously transcribed segments as part of the analysis. This is outlined in the next steps below.

Step 3: Analytic video logging

The data recordings were rendered into accessible video logs (see Table 7.1 for an extract) chronicling, at short intervals, learners’ activities and interactions during in-class assignment writing. Following this work salient moments during the recordings which related directly to, and addressed, the research questions were then selected and considered for further analysis. This made the data more accessible and allowed for ease of categorization and breakdown of participants’ interactions and practices in a manner that allowed me to address the research questions methodically.

Selection of what to include in the analytic video logs was based on a range of concerns influenced by the research questions, observational notes, collected documentation from the sites (obtained in phase 1 of data collection), and other relevant and supporting data. Close attention was paid to the practices and salient moments during in-class assignment writing. The most important feature of the analytic video logs entails providing a detailed account of “what happened.” At this stage, the event was broken down into segments, which were decided by salient moments during assignment writing. Moments in the recordings which revealed such things as information-hunting and copy-paste practices, social media interactions, circumventions and violations of college policy on digital media use, instances when things did not go to plan, and other mundane aspects of interaction were all represented as “segments” and part of this breakdown in the logs.

With video data, it is important to avoid the risk of oversaturation brought about by a potentially overwhelming amount of data. There is, after all, a lot to note in even a few minutes of video data. Consistent with Christian Heath, Jon Hindmarsh, and Paul Luff’s work (2010), I decided to divide the video logs into segments within identified events as described above. These were of varying
Table 7.1. Extract from the video log for Paulo’s assignment.

<table>
<thead>
<tr>
<th>Time and segment</th>
<th>Researcher notes</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>00:00–00:42</td>
<td>Waiting for the programme to upload. The lesson was delayed at the start as T couldn't find the key to the room. It was held by an ICT technician.</td>
<td>Paulo sits in front of the computer, takes a brief look of his notes on this assignment. Looks at the screen and at the notes one after the other. Pauses between glances, up and down.</td>
</tr>
<tr>
<td>00:42–01:52</td>
<td>Paulo is still mulling what is required of him. Seems a little confused, possibly due to the multiple forms of input.</td>
<td>He opens Microsoft Word. Responds to T’s instructions to him specifically regarding “the different sections of the report” which is a task drawn from the results of a survey. He asks her to clarify something for him. T then turns to address the entire class to offer the same clarification and instructions.</td>
</tr>
<tr>
<td>01:53–03:50</td>
<td>Use of the Moodle VLE is insisted on by T. This is based on a college managerial directive.</td>
<td>Starts typing “My Report” while T addresses the class, then stops and listens again to T. He opens a new tab (Google) and searches for “Northdale College—Virtual Learning Environment.” He logs in to his account and then clicks on “My Course: 15–18’s ESOL research” option.</td>
</tr>
<tr>
<td>04:14–05:02</td>
<td>He reaches the VLE interface to get his work. But now needs help.</td>
<td>Clicks on “Participants” under the “My Course: 15–18’s ESOL research” option and then he seems unsure for a while about what to do next, until he decides to go back to “15–18’s ESOL research.”</td>
</tr>
<tr>
<td>05:12–06:18</td>
<td>Other actors are on stand-by to be called in, and they are: an ICT technician enters the room and helps Paulo get to the right part of the VLE for his work.</td>
<td>Asks for help from T. She asks him if he's in the wrong course and approaches him to help but he's in the right one. He goes on the left top of the page and clicks on the “Course Overview: 16–18 ESOL Bridging Course.” One of ICT support staff, who was already in the room, comes over to help. He sees the “Topic Outline” of the course.</td>
</tr>
<tr>
<td>Time and segment</td>
<td>Researcher notes</td>
<td>Description</td>
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</tr>
<tr>
<td>06:19–07:16</td>
<td>Things are not cohering: VLE restrictions (enrolment key and password problems), an absent student’s lack of preassignment work makes him ill prepared.</td>
<td>Paulo goes to the Enrolment options. According to the support staff member an “enrolment key” for the course is required to get in to the relevant pages of the VLE which he needs access to. T is a little frustrated because of this delay and confusion. In the meantime, a student has to leave the class in order to find the person who can provide him with his password. While waiting for that T tells the rest to work on their reports. Paulo goes back to Microsoft Word and starts typing again “in my report.” Looks at the paper with his notes for a second that he now places in front of his keyboard, and goes on typing. T gently chastises a student who has no survey results to work from because he was absent yesterday.</td>
</tr>
<tr>
<td>07:16–08:00</td>
<td>The enrolment key is another type of key, which allows access to another kind of space. A network of actors holds the formal teaching procedure together.</td>
<td>The ICT technician, who had left the classroom, now has to come back in. Paulo is mid-sentence, but manages to enroll himself into the VLE to get the resources he needs. He and T both look frustrated.</td>
</tr>
</tbody>
</table>

Key: T = the teacher, VLE = Virtual Learning Environment.

lengths, which made for easy repeated viewing. Where necessary, I was able to decide which of these segments demanded further analytic scrutiny (as detailed in the next step). What becomes apparent in using this approach is that while the unit of analysis is the unfolding “literacy event,” when we “follow the actors” (cf. Latour, 2005) we see that each literacy event is instantiated by practices which point to other events beyond the “here and now.”

Step 4: Narrative vignettes

Textual data from the video logs, field notes, and other sources were then integrated and rendered into the form of narrative vignettes to “tell a story” of how the
assignments were written. Points highlighted as noteworthy were drawn together with the data from prior steps (as outlined above). Vignettes transform the data to gloss over some of the messiness and fuzziness, or the “secret business” (cf. Bigum et al., 2014), that is associated with the processes of data collection and research presentation. My story-like reconstruction of the events at this step allowed the data to be transformed into a manageable and easily accessible form for reading and further analysis, and enabled me to examine and reflect on the writing and digital practices of the learners as they unfolded.

In the above video log, Paulo gets started with his assignment. How Paulo then goes on to cope with the multitude of instructions given by his teacher about his assignment emerges throughout his writing, and is evidenced in the following vignette extract, which also provides an example of how the data are transformed in this particular step:

Ten minutes of the class have now elapsed. Paulo switches windows from Moodle to Microsoft Word; the latter contains his report, and he alternately types and looks at his notes. He has to go back and forth across different web pages and his Word file which has received little attention thus far since he has spent the last few minutes merely getting organized and figuring out what to do. When he does get into the flow of writing, he is interrupted: he is asked to return to the web page of resources in the virtual learning environment. He scrolls down and clicks on “Homework Social Networking Report” to download the file (i.e., right click “Show in Folder”) and then drags the file onto his desktop. He opens the file, then goes back to his report and continues typing. The teacher directs everyone to look at the extra information on the board, which lays out the paragraphs for the report. This is worded as follows:

Paragraph 1: Introduction, what I will write about
Paragraph 2: The pros and cons, comparing 4 networking sites
Paragraph 3: Class survey on social networking results
Paragraph 4: How I use social networking
Paragraph 5: Conclusion

Paulo then focuses on the look of the page, tweaking its layout (margins, font etc.) as he types. This lasts into the twelfth minute. While writing his report, he looks at his notes, pauses momentarily, and then writes about how Facebook, Twitter, and YouTube are currently the most popular social networks. He does this continuously.

Meanwhile, the teacher is heard in the background giving instructions, reminding students of what is required. Paulo is looking at his notes the whole time while typing. Spell checker interrupts often, he acquiesces, but one of these corrections leads to another mistake, albeit not a spelling related one. (for more details, see Bhatt, 2014)

In the above vignette, Paulo faces another interruption: a reminder to write the assignment a certain way, in a certain format, and with certain protocols in mind. These interruptions, as detailed below, represent a crucial aspect in the practices
of his assignment writing: lots of small tasks nested within a greater task. These smaller tasks occur throughout his assignment writing and require a certain level of capability: scanning an online bookmark list for links to readings, addressing the language and grammar elements explicit in the rubric, the skills of navigating around the virtual learning environment, interpreting different types of assignment instructions, etc. Some of these “tasks within tasks” are less explicit, and part of what we could describe as belonging to the “dramaturgy of formal learning,” that is, an assemblage of practices held together through their regularity. The work for these other, nested, tasks is instantiated by different digital literacy practices. Importantly, college documentation collected as part of phase 1 of this study reveal that the teacher’s insistence on such things as using the Moodle learning environment for this task stems from institutional digital learning policy directives, which set the learning standards for and expectations regarding classroom technology use. These exert a structuring agency within the classroom, leading to the dramaturgy of formal learning and an imaginary of how this assignment, and other classroom activities, should be completed. Throughout the entire assignment writing process, and culminating in its final submission, we see Paulo either choosing to comply with these directives or circumvent them. Sometimes they are shaped by something “not going to plan” which necessitates the intervention of other actors (e.g., the ICT technician) to hold things in place or to move things along.

Whatever the case, the juggling of these and other elements while getting the assignment completed means that Paulo’s digital literacies are contested—they certainly are not monolithic or even college-centric—and emerge through the network of different actors at play in the assignment. His multitasking was remarkable, even though he felt as though he was floundering at the start.

Step 5: Digital transcription

Screen capture video proved to be the most revealing in terms of tracing the choreography of practices drawn into the assignment writing process. But, in some cases, scrutinizing these practices alongside the video logs required a further layer of analytic work. This additional work necessitated the use of a computer-assisted qualitative data analysis software program known as ELAN to manipulate the recordings (e.g., slowing down, transcribing). Computer-assisted qualitative data analysis has very much become standard practice in many forms of qualitative analysis, especially those involving video data. Its use in my own study emerged from a need to explore certain segments of the analytic video logs in much more detail, and to slow them down for a more granular analysis. In previous work, I have described this kind of analysis as “diving deep” into practices of digital literacy (Bhatt et al., 2015). By diving deep, literacy researchers can expose the
complex interplay of practices, including web-mediated intertextual work (Barthes & Heath, 1977), occurring as students work on their assignments.

An example of a salient moment in the recordings is an interaction when Sara is discussing her work with her peers and the teacher, and searching online for information. In the particular segment produced below (see Figure 7.2), I sought to better understand, and to slow down, the multitude of interactions at play in the performance of her digital literacy practices, and to understand how these related to her assignment goals. We see in Figure 7.2 that Sara is interacting with Lauren and the teacher, as well as with the Google search algorithm, an actor that is far removed from the classroom but core to Sara’s assignment writing strategies. In this interaction, Sara is misguided by a Google search result but is redirected by her teacher who tells her that her results are irrelevant for the task. How Sara dealt with this disjunction is interesting in terms of exploring her digital literacy workarounds and the moment itself warranted further scrutiny. By slowing this clip down and then transcribing the interaction to highlight pauses, I was able to consider Google’s algorithmic-based interventions as akin to a “turn” in interaction around the text (see Bhatt & de Roock, 2013). Google’s auto-complete action interrupts mid-word keying and, as they would with a human interactant, Sara and her teacher pause to consider its displayed responses. What is important here is that, as an actor that is apparently far removed from the classroom interaction (i.e., based largely on servers in California), the search engine is far from neutral in its suggestions and results (Baker & Potts, 2013).

When such moments arise in recorded literacy events, the qualitative data analysis program, ELAN, facilitates the organization, transcription, and analysis of multimodal data from multiple sources in a manageable interface. It uniquely allows for the syncing of videos files with a horizontally depicted transcription in tiers, giving methodological flexibility alongside the video data (Halverson, Bass, & Woods, 2012). Figure 7.2 is an example screen shot depicting the representational system created through this software.

Sara’s movements, her talk around the task, her interactions with others in the classroom and with digital interfaces are significant. The practices she engages in are not always evident in the final written assignment submission, but, as we see, they are essential to the final assignment and meaningful in its formulation. Using CAQDAS tools such as ELAN to manage key segments in the recording allowed for deeper insights into the character of Sara’s interactions. Such tools afford manipulability (slowing down, segmentation, etc.) and multimodal transcription (Bezemer & Mavers, 2011) to account for the complex interplay of the practices in which we see Sara engaging in. The representational system of ELAN allowed me to integrate the practices with other activities occurring simultaneously, yet also to parse them out for analytic attention, all within the context of assignment work being done.
These tools allowed for the further exploration of practices. Some of those which emerged were in contrast to the dominant institutional conception of what an “assignment” actually is and how it should be written by the students. This relates fundamentally to the valorized schooled literacies that college assignments are designed to assess and which are implemented by force of documents such as institutional “acceptable use” policies, mandatory courseware management systems like Moodle, digital learning guides, and the culture of classroom procedure.

What therefore begins as a general “forest-wise” (Erickson, 2006) account of what happened, aided by earlier layers of data management (e.g., video logging), then brought me to a “tree-wise” (ibid.) understanding of salient moments. Through careful and repeated viewing of the screen-in-screen recordings and video logging, and drawing on the call to “follow actors” (Latour, 2005), I observed that learners readily drew from other texts to complete their work, used algorithmically mediated practices (e.g., via search engines), and used noninstitutional technologies to perform social acts which in some cases supported their assignment writing (for more on this, see Bhatt, 2014). Tree-wise understandings in data analysis refer to paying analytic attention to the choreography of practices and their precise roles in the greater event being observed and recorded. This is not just about identifying practices such as text re-mixing, curating, Google searching, etc., but also about understanding where they came from and their role in meaning-making as part of the final products of writing. Tree-wise and forest-wise analyses sensitize researchers to the rich details of visually recorded data alongside the broader patterns within which those very details fit.
CONCLUSIONS

Although grounded in the ethnographic tradition of the New Literacy Studies, by exposing the complex digital literacy practices at play in the work of assignment writing, my research highlights the need for literacy researchers to adapt their methods to new learning environments and new forms of digital sociality. David Barton’s (2007) description of the ecological nature of literacy as being embedded in human activity, social life and thought, and its position in history draws attention to the sociocultural environment in which literacy events occur. This study, in recognizing the complex environments of new literacies in classrooms, makes the case that literacy research methodologies must adjust to changing environments in order to be insightful and contribute meaningfully to a developing discussion on digital literacy theory and digital learning policies.

Through my method’s attention to synchronizing a video view with screen capture, in order to capture interactions unfolding as learners wrote their assignments, I came to see how digital literacy practices are practically achieved and span multiple digital platforms, programs, devices, time/space parameters, and what would ordinarily be dubbed “formal” and “informal” domains. Yet these same practices were vital to successful completion of the assignment tasks. Key among the things this dynamic approach uncovered was the role of search engine algorithms in digital literacy practices, something underexplored in literacy research. I was also able to see how some digital literacy practices are privileged over others, and how these tensions are handled in specific moments within a literacy event. Disjunctures such as these have a lot to do with the control and agency of college procedures and protocols associated with teaching quality and what is deemed “good practice.”

While acknowledging the interconnectedness of in-class and outside-class literacy practices in student writing is not new in literacy research (e.g., Maybin, 2007), precisely capturing the complex nature of student practices with technologies in the moment-by-moment unfolding of classroom tasks has rarely been achieved. The methods presented here therefore supplement and extend the existing methodological repertoire of literacy research inquiries, refreshing the study of literacy, and thereby allow for new kinds of data to be collected or generated and new kinds of research questions to be asked.

NOTES

1. Further Education is a sector within the United Kingdom and Ireland, which refers to postcompulsory education and training. Further Education colleges can deliver vocational training, university-level degrees, and second-chance school education. It is similar to “continuing education” in the United States.
2. For a breakdown of the levels of the UK’s Qualifications & Credit framework (QCF) for the participants’ levels see http://www.accreditedqualifications.org.uk/qualifications-and-credit-framework-qcf.html

3. Consent to publish pictures was obtained at the time of the research.

REFERENCES


