

The phenomenology of on-screen reading: University students' lived experience of digitised text

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Abstract

As reading shifts from the page to the screen, research focuses primarily upon the nature and effects of hypertextual reading. However, many of the texts that university students read for academic purposes are digitised texts that begin life as paper-based books and papers and are read on-screen. Applying the principles and practices of hermeneutic phenomenology, this study sought to gain insight into university students' experiences of reading digitised texts such as e-books and Portable Document Format files. Open-ended interviews were conducted with 10 students. A thematic analysis of the interviews revealed six main themes: the disappearing page, to have but not to hold, the ever present screen, getting in focus, the disciplined body and finding what I need.

In 1979, Christopher Evans lamented that with the rise of electronic text, 'the 1980s will see the book as we know it, and as our ancestors created and cherished it, begin a slow but steady slide into oblivion' (p. 106). More recently, futurist Kevin Kelly (2006) claimed that the digital format is the book's 'next stage of evolution' (p. 42) and enthusiastically anticipated a time in the near future when '[a]ll new works will be born digital' (p. 43). Despite such predictions, both dire and hopeful, rumours about the death of the paper-based publication are probably greatly exaggerated. Nevertheless, it is true that more and more of what we read is digital text. This is particularly the case in universities, where—as libraries turn to e-books and online journals, as e-books make inroads into the textbook industry (Hanson, 2008) and as professors distribute course materials as Portable Document Format (PDF) files via learning management systems—the materials that university students are required to read are increasingly found online.

As a result of the societal shift from the page to the screen, a growing body of research addresses the nature and effects of online reading. Much of this research (eg, Landow, 1991; Rouet, Dillon, Levonen & Spiro, 1996; Shapiro & Niederhauser, 2004) focuses

specifically on how readers encounter the Web's hypertext. According to Carusi (2006), the gist of these studies is 'that the reading practices of hypertext readers become increasingly fragmentary, that they are easily distracted by surface features; their response to the text is more general, less specific and emotionally engaged than that of linear readers' (p. 171). Jakob Nielsen, who has been studying online reading habits for two decades, goes so far as to assert that '“Reading” is not even the right word' (quoted in Bauerlein, 2008, p. B7) to describe how we process online, hypertextual information.

Complementing this empirical research is what Rich (2008) describes as 'a passionate debate about just what it means to read in the digital age' (n.p.). The debate is largely fuelled by the seemingly irreconcilable differences of opinion between critics such as Sven Birkerts (1994) and Barry Sanders (1994), who believe that electronic text ultimately diminishes both the personal growth of individuals and the stability of our society, and advocates such as Rand Spiro, who believes that navigating online texts can build cognitive flexibility (eg. Spiro & Jehng, 1990). Parties in the former camp are at pains to emphasise the haphazard, unfocused nature of screen reading, which, they insist, simply 'doesn't translate into academic reading' (Bauerlein, 2008, p. B7). The proponents of digital text reply that the move from the page to the screen is evolutionary and inevitable. Moreover, according to Marc Prensky (2001), the changing propensities and cognitive abilities of young people, or 'digital natives', lend themselves to engagements with the screen rather than to lengthy perusals of static texts.

As a teacher attempting to make sound pedagogical decisions about the use of digital texts, I find two big pieces missing from both the research and the debate. First, there is little consideration of digital texts that are not necessarily hypertextual, such as PDF documents and e-books. In contrast to online hypertexts, which are written for the Web, many of the texts that university students peruse for academic purposes begin life as paper-based books and papers, are digitised and are then read on-screen. Second, both the research and the debate give little consideration to the experience of online or on-screen reading. The empirical research offers some insight, but because such studies tend to be highly focused investigations into, for example, how students read digital texts (eg. Burke & Rowsell, 2008; Monk, 2004) or the effects of digital texts on reading comprehension (eg. Rodrigues & Martins, 2008), they pre-empt a holistic understanding of the experience. As I and my colleagues increasingly provide our undergraduate and graduate students with digitised course materials, it becomes clear that in order to make appropriate, pedagogically sound decisions about the use of such materials, we need to move beyond making summary judgments to seek insight into what it is like for students to read digitised texts.

My purpose in this study was to gain such insight through the use of hermeneutic phenomenology, which 'aims to describe our prereflective experiences—here, with the technological things of our teaching and learning lifeworlds' (Adams, 2008, p. 167). The phenomenologist's goal is to reconnect with the lifeworld—'the world of our immediately lived experience, prior to all our thoughts about it' (Abram, 1996, p. 40)—in order to capture the pre-reflective essence of an experience. As James Heap (1977)

writes of his phenomenological explorations into the experience of reading, 'My interest is not in reading as a momentary event sliced from life and mounted on the slide of science. Instead, reading is understood as a course of sense making within daily life' (p. 104). It is important to emphasise that no researcher who undertakes a phenomenological inquiry expects or wishes to produce generalisable findings. Rather, the expectation is that we will gain rich insight into the essence of experiences that 'can develop as researchers build on each other's work' (Polkinghorne, 1983, p. 46).

There is no step-by-step procedure for doing hermeneutic phenomenology. In fact, Max van Manen (1990) insists that it 'is decidedly unmethodological in a purely prescriptive or technocratic sense' (p. 3), 'more a carefully cultivated thoughtfulness than a technique' (p. 131). Yet, he adds, it definitely has 'a certain *methodos*—a way' (p. 29). That way consists, in brief, of the following: collecting lived experience descriptions; conducting a thematic analysis of those descriptions in order to capture the essence, or *eidos*, of the experience—those distinctive qualities '*that make a phenomenon what it is and without which the phenomenon could not be what it is*' (van Manen, p. 106, emphasis in original); and finally, presenting that essence in a vibrant language that 'reawakens or shows us the lived quality and significance of the experience in a fuller, deeper manner' (p. 10).

I gathered lived experience descriptions of on-screen reading from 10 students, the only respondents to a request for volunteer participants that I placed in my university's daily e-news bulletin for students and in the graduate students' list serve for my faculty (Education). Table 1 shows who the participants in my study were, demographically and academically.

I conducted an open-ended interview with each participant, asking them to recall a particular, recent instance when they read something substantial online—the kind of text with which they typically engaged, whether an e-book, chapter, or scholarly paper—and then to tell me in detail what they remembered about the experience. To stimulate the students' recall at a detailed level, I offered a series of probes about the space in which they read, their mood, their posture, their approach to the text and so forth.

Thematic analysis consisted of a process of reading and rereading the interview transcripts until 'units of meaning' (Groenewald, 2004, p. 50) began to emerge, grouping those units into clusters and then identifying, for each cluster, a theme 'which expresses the essence of these clusters' (Hycner, 1999, p. 153). As I sought to extract from the interview transcripts, and the diversity of experiences that the students had shared with me, the essence of the experience of on-screen reading, six themes emerged. According to Donald Polkinghorne (1983), the validity of a phenomenological account owes much to how vividly and elegantly it represents an experience: 'If the insight is communicated well, then others will also recognize the description as a statement of the essence of the phenomenon for themselves' (p. 45). Therefore, in the following elaborations of the six emergent themes, I use a first person narrative to represent them

in a way that is both clear and evocative of the lived experience. Unless otherwise indicated, the quotations are drawn directly from the interviews.

Table 1: Demographic and Academic Breakdown of Research Participants

Who the participants were, by:	
Gender	
Male	2
Female	8
Age (ages range roughly from 20–55)	
<30	6
>30	4
Programme of study	
Undergraduate	3
Graduate	7 (3 Masters, 4 Doctoral)
Discipline	
Business Administration	1
Chemistry	1
Computer Science	1
Education	3
Engineering	1
Interdisciplinary	1
Kinesiology	1
Sociology	1

The disappearing page

Reading a scholarly paper on the printed page, I enter what Walter Ong (1982) calls 'typographic space' (p. 128), a realm as familiar and comfortable as a dog-eared book. Typographic space is composed less of words than of pages, 'visual surface[s]' that 'become charged with imposed meaning' (Ong, p. 128). I always turn a page with a frisson of anticipation, even when I am reading the driest of academic prose.

When I read a scholarly paper on-screen, however, the familiar turning of pages from left to right gives way to the march of text from the top of the screen to the bottom. Here, in 'screen space', the advancement from page to page becomes immaterial, almost unnoticeable, and the page as a content structure tends to disappear. Sometimes, it is merely represented by a fraction (eg. 2/21), in which case, it becomes a temporal rather than a spatial construct, indicating how long I can expect to take perusing the text. However, generally, I ignore page numbers—especially when there are two discrepant numbers, those printed on the page and those assigned by the software—and watch the scroll bar. Using it as a visual gauge of my progress through a document is similar, in its imprecision, to holding up a book in progress to assess the thickness of the unread pages.

Sometimes, the page, or rather, the windowed page, appears to me foremost as a source of frustration, an irritation that inhibits my reading of the digitised text. This is chiefly because pages rarely fit neatly on screens, given their different aspect ratios—and especially when I ‘zoom in’ or increase the font size in order to read more easily. In screen space, the transition from one page to the next, the dependable rhythm of typographic space, becomes a disruption in the continuity of my reading:

You have to scroll down, okay. I can’t see the whole thing and find the flow of the sentence if I haven’t scrolled to the end of the sentence, you know. I get confused because then I’m scrolling down. Or sometimes if I scroll too far and then I’ve got to scroll back up to find what I was reading.

One of the conventions of typographic space that is particularly troublesome is the two-column display. While I tend to read the two columns on a printed page almost simultaneously, my eyes darting between them, this casual, taken-for-granted practice becomes problematic on-screen:

I have to roll the screen, especially if I’ve increased the font size or the size of the page to make it easier to read, so then I have to leave the line here and quite often when I get to the bottom of the left column it will automatically take me to the next page which means I’ve got to back up a whole page and then go to the top of the right column.

You know, it’s like what did I just read? And I have to go back down and read it again and go back up.

My encounter with the digitised text is impeded by the fact that it was designed to be read on the printed page.

The page is sensuous—I can touch it, smell it and hear it rustling when I turn it. Without the materiality of the page, I am left with only the text *qua* text. Printing documents is one way to regain that sensuous page, but in the interests of saving money and trees, I usually resist the temptation to do so. In fact, I am learning to appreciate the elegant simplicity of digital text, which is more absence than presence—the absence of pages that accumulate, in unruly drifts, upon my desk, bookcase and floor.

To have but not to hold

I am learning, but there are still times when I feel the need to physically possess the document. To comprehend something fully is to ‘take ownership’ of it, and in order to own a text, I must hold it in my hands, scribble notes in the margins, underline, highlight, and star important bits:

I find it’s just the tactile that I can’t, you know, touch it, and that’s the problem I find with online reading, is that I don’t physically have it. I can’t make notes on it, it doesn’t feel as here as, you know, it’s kind of there, it’s on the computer.

In the absence of the ability to make the text mine in this way, I make my own text by taking extensive notes as I read, sometimes copying and pasting important passages

into a Word document or even when the format of the file prevents copying, taking a screen shot of the lines I want. However, thorough as they are, my notes have only a provisional utility. Over time, their usefulness erodes:

So I'll find even sometimes the notes I've made, they made sense at the time, but now out of context I'm thinking, what was I talking about? But I can't go back to the document and easily find, like, with the hard copy, I'll see those yellow highlights, right, with maybe a little star ...

My need to have the text is only partially fulfilled by possession of the digital file, which has no material existence. True, PDF files are marvelously compact and easy to organise. I can easily slot them into my online filing system or carry them with me on my laptop or universal serial bus key. 'So I would have a copy, not necessarily a physical copy, but at least a copy, so I could read it anywhere'. However, these texts seem to wear protective shells that make them tamper-proof, preventing me from personalising or amending them in any way. I have them, but I cannot own them.

Still, having is good. When it comes to researching a topic, I am willing to settle for the convenience of having. In the contest between materiality and convenience, my wish to hold the text in my hands crumbles before my ability to call up what I need at any time, from any place:

I think my preference would still be to be able to actually hold the book in my hand ... Although the advantage is that you don't have to leave your house, you don't have to worry about the book being signed out, you don't have to worry about getting it back to the library, so the convenience is there.

The ever present screen

In their phenomenological account of 'screenness', Introna and Ilharco (2006) assert that it is in the nature of a screen to recede beneath the content it presents:

[W]e never seem to look at a screen, as a 'screen.' We rather tend to look at screens in attending to that which appears on them. What seems most evident when looking at a screen is the content being presented on that screen—the text, images, colors, graphics, and so on—not the screen itself. (p. 62).

Perhaps this is true of television. However, when I read digitised texts, I am continually aware of the presence of the screen, its flat expanse imposing itself between me and the text. In fact, I tend to refer to on-screen reading as 'reading the screen' or even 'staring at the screen'.

My strong awareness of the screen might have something to do with the fact that it is a reflective surface, 'glaring in my face all day'. Unlike the page, the screen mirrors the world around it: 'It can reflect sometimes, depending on where the sun is, and you can't quite see very well, so I've got to manage with that ...'. Try as I might to look beyond the reflective surface, images of myself, nearby objects and the glare from windows and light sources are superimposed upon the words I want to read.

Even when I carefully set up my workspace and computer options to minimise such issues, I find it difficult to ignore the screen's presence: 'You're focused on the screen. And that's the only thing that's going on, really, in my mind is to be able to focus on the screen.'

Getting in focus

According to Heap (1977), 'The activity of reading (anything?) requires as an essential procedure a focal shift of attention, and the maintenance of that directed attention' (p. 105). When I read the printed page, that focus often simply happens without conscious effort: I slide quite naturally into another space, my physical surroundings becoming dimmed, less immediate. Not so, when I read on-screen:

I find reading online I get distracted quite easily. When I read a book I can zone in and I don't know what's going on around me. But when I'm reading online the littlest thing can sort of distract me

Here, before the flickering screen, it takes a deliberate act of will and a consciously enacted set of strategies to achieve the necessary level of concentration.

One reason for this is that the act of on-screen reading requires that I use not only my eyes but my hands to scroll through the text, a coordinated activity that takes some of my attention from the text itself as I grapple with the mouse. My focus is further diverted from the text when every few lines, I must search to relocate myself on the scrolling screen:

It's hard to either scroll or hit page down and get in the exact place that you were reading. So your eyes have to kind of find where you were. It's not a smooth transition between, you know, going from the one line to the next line on the screen. You need to page down and you get a whole chunk of new information or you do the scrolling and then you've gotta keep waiting, you know, hitting every time you want the line to go down, but then you still have to find out where you were before.

When you're scrolling at times what you do is, okay, I was here on this line, and then you try to remember this is the line and until this spot, if I scroll it all the way up to this screen then I'll be able to see a lot of or more part of the page. So it's kind of, you know, diverting you from what you were doing

Focus is also an issue because it is often difficult for me to retreat to a private space when my reading takes place on a computer. When I read in public places—libraries, computer labs, shared offices and living rooms, beside family televisions—'bracketing' the scenic environment' (Heap, 1977, p. 105) becomes a challenge, particularly because those around me are less hesitant to interrupt when I am reading on-screen than when I am reading a printed text:

Sometimes I need the printer so I use my desktop and there'll be another TV in front of me where my grandparents watch their TV. So I'll have two TVs in front of me and sometimes I'll have my laptop because the desktop's old and can't open stuff, so I'll have to switch everything over to my

laptop. So I'll have my laptop, desktop and a TV on, and it just gets—you know, you got twenty conversations going, you've got homework and news on the TV.

But the distractions in the room around me are nothing compared with those that reside on the screen itself. Ong (1982) observes that 'Print ... situates utterance and thought on a surface disengaged from everything else' (p. 132). In screen space, however, my reading takes place on a surface cluttered with endless fascinating distractions, giving rise to the phenomenon of continuous partial attention, a term popularised by Microsoft executive Linda Stone to describe minds always alert to the possibility of incoming email or instant messages:

The computer is right there, if I have MSN on and somebody goes dadoo there's a message. Sometimes I'll try to ignore it to get to the end of the paragraph, but often times even though I'm reading I'm still thinking in my head. I wonder what they want?

I'm wasting more time not reading than reading, you know, with e-mail and talking to other people. If it was a book I would read more than if it was online because there are more distractions, easier ways to, oh, I'm just going to check this, and totally forget that you're reading, and then an hour or two goes by and you're like, I guess I should go back.

Tempted as I am by Facebook, Twitter and the other online distractions that are just a mouse click away, I have not succumbed completely to the lures of this stimulating screen space. On the contrary, I have developed numerous creative strategies for finding focus. I turn off my email. I listen to music or the white noise of talk radio to block out the conversations of those around me. When the software allows it, I use the mouse to highlight the paragraph I am reading; I enlarge the page so that what I am reading becomes the centre of both the screen and my attention and when I am alone, I read aloud. On-screen reading is something I must plan for, in order to minimise ahead of time the likelihood of distractions:

When I decide that I am going to start and read online I know that I'm going to have a hard time with it so I try to make sure that everything is done and that I'm not going to have to interrupt myself and get up, because I would hate to do that and have to come back to it. So I find that I will try to sit down and have my coffee or tea with me or whatever and just be able to read straight through for two or three hours.

The disciplined body

When I read a novel, my body wants to recline and curl: that relaxed posture in a comfortable chair is integral to the immersive, leisurely moments of ludic, or pleasure, reading. That is why I never read fiction online. If my readings for courses and research were printed, I would likely gravitate to a comfortable chair or sofa because 'I feel much more comfortable when I'm just lying down and going through the book. It's kind of more a leisurely activity that really gives me a better mind set for reading.' However, when I read these texts on-screen, my body must be straightened up, fixed in its place before the computer:

I can't change my posture all that much because I'm at a desk and that's where it is.

You can't curl up on the couch with a blanket and a book. You can't sit in front of the fireplace, you can't be in the bathtub, you know. You can't enjoy a book and the surroundings because you're focused on the screen.

I do what I can to be comfortable. I set up my desk at home so that the relationship between my body and the computer is correct according to the disciplinary science of ergonomics, or defying the recommendations of ergonomics experts, I find ways to recline, by leaning back in my chair or putting my keyboard in my lap and my feet on the desk. Sometimes, I read from my laptop rather than my desktop computer:

With a laptop I do have more freedom but a smaller screen, so it's a trade-off there, too—if you want to use ... the bigger screen, then you're stationary. If you want to have more freedom in the positions that you can get into to read, then you have to use the laptop and a smaller screen.

However, even when I read from a laptop, comfort, the kind of comfort that I need for immersive, ludic reading is elusive, 'because as comfortable as I can be in my reading station it's maybe not as comfortable as snuggling up in the LazyBoy'. When I read on-screen, my shoulders tense, my neck and head sometimes ache, but I read on, disciplining my body, in the sense that Foucault (1979) uses the term—compelling my body to resist its natural inclinations and to sit in a strained posture of attention.

Finding what I need

When I read on-screen, focus is essential because I am on a quest for something very particular. The on-screen text is a pit stop in that quest; I am not interested in following mazy paths that take off in different directions, leading who knows where. Reading the printed page, I might be drawn by interesting tangents; I might linger to appreciate a thought-provoking insight or a striking turn of phrase, even one that bears no immediate relationship to my research. However, in screen space, my reading is very goal-directed and strategic. I know what I need, what I am looking for and 'if I don't have to read the whole thing, I tend not to'. Blinkered by the single purpose that brought me to this particular text, 'I just sort of get to the point. I'm always just stuck in the facts rather than the big picture.'

Because my purpose is not to reflect upon what I am reading but to find what I need, I have developed some efficient strategies for doing so. For example, I never read an e-book in its entirety but use the table of contents, index and keyword searches to locate the information I need as quickly as possible. My on-screen reading is efficient and strategic:

Manage it well, so know what you're going in to look at. Go right to that specific area. If there's something that you think would be of interest then read it, but just sort of game plan the book before you go in. Don't read the whole thing if you don't have to. It's not really worth the time and energy.

Of course, if a text is a required reading for a course or very pertinent to my research, I will read it in its entirety. However, in the back of my mind, I am always wondering, 'how can I do this faster, and how much time do I have?'

Concluding thoughts

In conducting this research, I struggled with the need to be impartial—or, in van Manen's (1990) terms, 'presuppositionless' (p. 29). Since my instinct and inclination has always been to question rather than champion the educational use of computer technology, it was necessary for me to bracket my negative preconceptions. I consider it a sign of my success in doing so that some of those preconceptions have now been overturned. Contrary to what the critics suggest, on-screen reading is not necessarily a frenetic process of skimming and rushing from one thing to another. Students are consciously and conscientiously making an effort to adapt to the new reading conditions by developing strategies for maintaining focus, and they are successfully disciplining their minds and bodies to read digitised papers in their entirety, when necessary.

However, my research was also foregrounded by the participants' lack of impartiality on the subject of on-screen reading, such that a primary challenge in conducting this study was obtaining lived experience descriptions that were truly pre-reflective. Many of the students who responded to my call for participants admitted that they did so because they hoped to have the opportunity to describe some of their difficulties or successes with on-screen reading; all were inclined to make judgments for and against as they described their experiences. This evaluative stance may be understood as inherent to the experience of information technology in our society. The debate about online reading described earlier in this paper is characteristic: one may be either a cheerleader or a naysayer. Impartiality is not an option because the role of new technologies in our lives is rarely experienced as neutral.

However, Heidegger's (1962) notion of ready-to-hand and unready-to-hand entities suggests another possibility: that the students' awareness of their experiences reading e-books and PDF files may in fact be a reflection of the *obstinacy* of on-screen text. Most of the objects that we encounter in the world are ready-to-hand: as we seize them to perform a task, our attention is focused less upon the object itself than the activity we are performing with it. Printed texts clearly fall into this category: when we read them, we rarely give thought to the objects—the pages, the bound books—upon and in which the words are printed. The only time we concern ourselves with objects is when they are 'met as something unusable, not properly adapted for the use we have decided upon ... When its unusability is thus discovered, equipment becomes conspicuous' (p. 102), a hindrance in pursuing our work, and thus, in Heidegger's terms, obstinate. From this perspective, if students are conscious of their experiences with reading on-screen text, it is because its fundamental obstinacy breaks the momentum of their reading, allowing them to become somewhat disengaged from the reading itself as they focus on the unready-to-hand entity: the computer used to display on-screen text.

What I am talking about here is not the occasional glitch—although several of the students I interviewed did mention technical difficulties that sometimes impeded their on-screen reading experience. Rather, the possibility Heidegger's phenomenological perspective suggests is a lack of 'fit' that may prevent students from engaging fully with the content of the e-books and PDF files they read for courses and research.

Of course, this must remain pure conjecture until we have further phenomenological studies with larger, purposefully selected and perhaps less idiosyncratic, groups of students. Such studies might also begin to capture not only the essence of the on-screen reading experience but also some of the important points of difference—for example, how reading experiences vary according to the purpose and style of the text.

In the meantime, what are the implications of this research for university teachers? As new technologies enlarge the possibilities of human action, they also increase what Don Ihde (1990) calls, our 'decisional burden' (p. 177). Only a decade ago, higher education without printed books and papers would have been inconceivable. Today, both teachers and students may choose to circumvent them—and in doing so, alter not only their experience of reading but perhaps the nature of higher education itself. It is now possible to foresee a time when, having grown accustomed to accessing texts instantly and scanning them for keywords, we will regard the printed books and papers that defy such possibilities as obstinate, ill-suited to the task of academic research.

Of course, we may also choose to resist a trend that is accelerated by the proliferation of devices such as Amazon's Kindle and Sony's Reader, which promise to make digitised text even more accessible and ordinary. However, I prefer a third option that is grounded in the principles and practices of hermeneutic phenomenology: it involves continuing to encourage students to articulate and share their experiences of the on-screen reading of books and papers, in the conviction that remaining attuned to students' lived experience and fostering their sensitivity to the nature of that experience is essential in achieving a sound pedagogical response to emergent technologies.

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