

# **Mobile Learning in an Age of Surveillance: The Subversive as Pedagogical Position**

**Michael Sean Gallagher**

Hankuk University of Foreign Studies, Republic of Korea

[gallagher.michaelsean@gmail.com](mailto:gallagher.michaelsean@gmail.com)

## **Abstract**

The inherent lag between the rapid development of mobile technology and 'the more gradual evolution of rules governing its use' (Castells et al., 2007) has generated uncertainty on how best to approach their use in learning. These challenges are exacerbated by recent revelations of government and corporate surveillance of mobile activity. Mobile learning is pedagogically rich enough to warrant grappling with these ethical issues involving surveillance, privacy, and security. We have seen parallel progressions in both the technology and the pedagogical applications made possible by the technology, as mobile learning emerges from the shadows of content delivery into collaboration and interaction (Kukulska-Hulme & Shields, 2008), and further afield into more learner-led (Kukulska-Hulme, 2009) and mobile-based field activities (Gallagher, 2013). However, much of this pedagogical advancement is at risk of regression as a result of unwanted or ambiguous surveillance; every CCTV camera and every mobile tower incessantly remind mobile learners of the persistence and ubiquity of observation.

This paper will argue that an additional positioning of the mobile learner, one responsive to an age of surveillance and the implications for learning that this surveillance implies, is now warranted: the subversive. This metaphorical position, and its related pedagogical applications, places great emphasis on mobile technology and the media practices circulated therein as tools of both discovery and power; as positions of both observation and being observed; and as acts of compliance and subversion. This playful subversive metaphor is adapted from the 'trickster', 'jester' and 'fool' metaphors (Macleod & Ross, 2011) advanced in online research and situates them firmly in the mobile space as a learner who is aware of being surveilled and, in turn, surveils.

## **Keywords**

mobile learning, open learning, pedagogy, subversion, surveillance, TEL

## **Introduction: Mobile Learning and Ethics**

This paper also acknowledges the ethics involved in such a positioning of mobile learning is contentious. This paper ascribes to the mobilities turn in the social sciences (most notably Urry, 2007) as a means of 'thinking through the character of economic, social, and political relationships' that have been loosened from their sedentarist positions (discussed in Bayne et al., 2014); it does through the juxtaposition of mobile learning, activity that suggests movement and

ephemeral constructions of interactional context (Dourish, 2004), and surveillance, an apparatus of control seemingly at odds with mobility itself. Yet, surveillance 'is deeply implicated in the multiple mobilities and communication technologies that characterise social life' and 'mobility itself is increasingly a target of surveillance activities' (Molz, 2006). It is permitted, even embedded, in the practices and social relations engendered as a result of mobile technology use. This mobile technology use, foregrounding as it does movement, is increasingly surveilled as 'movement is no longer a means of evading surveillance but has become the subject of surveillance' (Molz, 2006 drawn from Bennett & Regan, 2004, page 453).

While going to great lengths to avoid technological determinism, the research presented here positions mobile technology itself at the center of this movement between mobility and control. The mobile technology itself isn't a neutral element in this equation; beyond structuring and evidencing it structures the learning activity taking place, like a frame or laminate might be used to bind information in a particular context, it acts as both an agent of mobility and surveillance. As such, it presents an ethical quandary, particularly as applied to learning and particularly for educators looking to activate mobile learning for students. It warrants a discussion on what ethics in mobile learning is, or might become.

Ethics in response to surveillance, particularly in the field of education, has been slow to evolve with some notable exceptions. This paper extends the ethical discussion found in Dyson et al. (2013) in the formal educational context more broadly outside the formal environment, yet borrows from its assertion that a framework exists for ethical mobile learning that accounts for and seeks to mitigate the negative repercussions of surveillance on the mobile learner. This paper also adopts heavily from Lally et al. (2013) and their research on the ethical dimensions of mobile ubiquitous, and immersive technology (MUITEL); extending the technological landscape beyond merely the mobile technology that the learner has on their person freed this research to consider a broader surveillance apparatus that is situated well beyond the control of the mobile learner.

In terms of codified ethics for learning and research, we draw on the ethics standards of national & regional bodies and professional organizations, such as the British Educational Research Association (BERA), the American Educational Research Association (AERA), the European Commission's Ethics for Researchers, the European Educational Research Association (EERA), and the International Association for Mobile Learning (IAMLearn). From these standards and case studies, we begin to cobble together a coherent ethical position for pedagogically activating learning with mobile technology amidst this surveilled state. Please note that the bolded passages in the following sections are by the author; please further note that the limited analysis that follows is designed solely to initiate or accelerate a consideration of how ethics and mobile learning intertwine.

The ethical standards presented by BERA (2011) in regards to privacy has particular relevance to the ethical complications posed by mobile learning in the following sections:

Section 25: Researchers must recognize the participants' entitlement to privacy and **must accord them their rights** to confidentiality and anonymity, unless they or their guardians or responsible others, specifically and willingly waive that right.

Section 28: Researchers must ensure that data is kept securely and that the form of any publication, including publication on the Internet, **does not directly or indirectly lead to a breach** of agreed confidentiality and anonymity.

The ethical standards posed by AERA (2011) position present this same ethical complication through a similar confidentiality provision as evidenced in the following:

Section 12:01B: Education researchers take **reasonable precautions** to protect the confidentiality of information related to research participants, students, employees, clients, and others when confidentiality has been provided or there is a reasonable expectation of confidentiality.

Section 12:01C: Confidential information provided by research participants, students, employees, clients, or others is treated as such by education researchers even if there is no legal protection or privilege requiring them to do so. Education researchers **protect confidential information and do not allow information gained in confidence to be used in ways that would unfairly compromise research participants, students, employees, clients, or others.**

These ethical standards present considerable complications for mobile learning, both in terms of research and pedagogy. Mobile learning, inherently as this paper argues, often foregoes complete confidentiality for partial obfuscation (using aliases online when possible, for example) and contained communication channels (teacher to student as opposed to student to students or larger group). Yet, this does not accord complete confidentiality to either the learner or the research participant. It merely provides a layer of misdirection towards those who might be looking to establish identity by not providing corroborating details (real name, photograph, location, etc.). The data generated by mobile technology is both automated (device specific GPS, etc.) and intentional (generated directly by the user); ethical research can make the learner aware of one (automated and device specific) and exhibit control over the other (intentional user-generated data). As such, we have only partial confidentiality as the default.

Building on this partial confidentiality, we as mobile learners and mobile learning researchers and educators must acknowledge that by generating a context for learning through mobile

technology we are co-creating risk for the participant. This risk needs to be identified, articulated, and evaluated for and by the mobile learner, but acknowledging how we are potentially unfairly compromising or failing to ensure 'a reasonable expectation of confidentiality' is a reasonable and ethically viable preliminary step.

The International Association of Mobile Learning (IAmLearn) provides a pragmatic, and highly relevant, approach to the ethical complications posed by mobile learning, drawn from the work of Wishart (2013). They provide a series of scenarios for potential mobile learning researchers, which act as case studies to stimulate critical thinking. These include scenarios involving boundary delineation (formal-informal, public-private, home-school, etc.), anonymity vs. identity (self-publishing), accessibility, ownership & authorship rights, risk analysis (complexity, iterative research design, etc.), and awareness of device functionality & data collection (informed consent). These scenarios present mobile learning amidst the interactional complexity in which it resides with data, boundaries, and identity as fluid states emerging from an interactional context (Dourish, 2004).

While these positions and scenarios prove most useful for articulating the complexity of ethics in mobile learning, we must broaden the interactional context to include larger technological structures and the surveillance apparatus of the urban space itself. In short, we must push beyond the delineation of mobile technology itself to fully consider the surveillance made possible through mobility. We must consider the CCTVs that dot the urban landscape, the cell towers, the scanned transit and credit cards, the census records, the cameras in public transportation. We must consider the lack of control we have over this data collection, the vast majority of which extends well beyond our personal mobile technology. We must consider the apparent inevitability of being 'on the grid', or being made visible and thereby foregoing anonymity (or confidentiality) as Foucault (1977) makes evident:

'He who is subjected to a field of visibility, and who knows it, assumes responsibility for the constraints of power; he makes them play spontaneously upon himself; he inscribes in himself the power relation in which he simultaneously plays both roles; he becomes the principle of his own subjection.'

While we might very well be 'the principle of our subjection' through our participation broadly in the rhythms and interactions of urban landscape as well as narrowly through mobile learning itself, we can make use of this pedagogically. We can begin with awareness, helping our learners identify the machinations and structures of surveillance in the urban landscape, before adopting an appropriate pedagogical position to make use of said surveillance. The next section begins to discuss one such position.

## Mobile Learning and Pedagogically Reimagining Surveillance

If we ascribe to the positioning of mobile as an inherently surveilled state, and consequently the mobile learner as inherently a surveilled learner, then we are left with pedagogically reimagining the learning potentially generated from such a dynamic or discontinuing its use altogether. This research opts for the former approach. While continuing to emphasize the negative repercussions of perpetual surveillance and avoiding but entirely mitigating risk, we may begin to treat this admittedly problematic state pedagogically. We may continue to emphasize the fertile landscape that mobile learning in open urban spaces provides in terms of fieldwork, composition, and reflective practice (as discussed by the author in regard to open learning in Gallagher & Ihanainen, 2015; Garcia & Morrell, 2013 consider this fertile landscape through youth and participatory media). We merely need to turn our gaze towards the learning potential presented by surveillance itself.

The pedagogical response to said surveillance mirrors the pedagogical response adopted in response to all learning; we are merely repositioning our gaze on that which gazes at us. Please note that much of the following pedagogical response emerged from the author's research in various urban locales (London, Edinburgh, Helsinki, Seoul) employing a variety of pedagogical positions to activate mobile learning.

Pedagogically we begin with **making the ubiquitous visible**. We task our learners with identification activities enacted in the urban landscape in an attempt to visualize the extent of the surveillance apparatus itself. We task students to identify technologies of surveillance and to position these instances on a map of their own creation. Through an identification of the surveillance and its positioning geographically, we stimulate a cognitive shift (what Kress & Pachler, 2007 identified as a habitus transformation) in the mobile learner whereby the invisible (pervasive surveillance) is made visible. It is from this cognitive shift that all subsequent pedagogical exploration is based. Once seen (or cognitively shifted), this surveillance is difficult to 'unsee', suggesting an irrevocable shift in perception consistent with transformational learning (discussed in the context of subversive game design by Mitgutsch & Weise, 2011).



Figure 1: Surveillance as documented as part of multimodal ethnographic project in London by Gallagher, Knox, & Lamb, 2015.

Once this surveillance is made visible, **reflective practice** develops a critical perspective on the surveillance itself, its apparent inevitability, and its co-creation of the interactional context through which the individual learner composing their life experience. Reflective prompts can be delivered through mobile technology to stimulate such critical perspectives (building on the reflective triggers of Verpoorten, Westera, & Specht, 2012). Using reflection triggers while learning in an online course. *British Journal of Educational Technology*, 43(6), 1030-1040.; examples include prompts related to presentation of self through surveillance (what do I look like solely through the surveillance apparatus?), data as identity (who am I as far as data is concerned?), and potential inhibitions or adaptations caused as a result of this awareness of surveillance (what will I do differently, if anything at all?). Reflective practice, while firmly entrenched in professional practice in formal education (discussed broadly in Herrington et al., 2009), is undertheorized and underemployed in mobile learning that extends beyond formal education. It is important to note that identification of surveillance and reflection on its impact on the individual is an iterative process; each new identification of a previously unseen surveillance technology or data collection mechanism can, and should, stimulate a subsequent cycle of reflective practice as each instance of surveillance shifts the cognitive landscape of the learner.

Once identification and reflection have been embedded as a persistent activity, we look to **composition** as a means of analysing and identifying knowledge constructions amidst this surveillance. It is important to note, and to explicitly relate this to learners, that composition and the data collection that precedes it, involves exposure and risk. We subject learners to surveillance itself, we ask them to collect data through mobile technology that stimulates an additional layer of automated data generation (GPS coordinates for images, for example), we ask them to compose through this data collection and share any subsequent composition through applications, platforms, and third party services. All of this generates opportunities for breach of confidentiality and anonymity; all of this must be reflected upon in earnest. We as teachers and researchers might suggest forms or structures that these compositions might take: an ensemble, a montage, a collage, a video, a sound map, etc. All provide contextual triangulations of otherwise disparate media that might be used as an extension of surveillance. We must acknowledge this openly and critically throughout this process. Yet, despite these potential risks, we ask our learners to compose surveillance itself. We document the surveillance apparatus; we compose and critique it. We turn our and their gaze on those who gaze at us; we watch the watchers. It is through this composition that we begin to see our new pedagogical position emerge as well: the subversive.

### **The Subversive as the Foil to the Flaneur: Positioning the Learner through Non-Compliance**

Positioning the learner amidst this complicated process of interactional context co-created by the individual, by the society, and through non-human agents (the urban sociomaterial assemblage discussed by McFarlane, 2011) presents its own complications. To begin are the learner's positions on the role of surveillance itself in society, their general predilections or apathy towards perceived security, privacy, and so forth. Further is the position of the learner as a rational, reflective actor in this larger context, their willingness to perpetually iterate and reflect on their relation to surveillance and their willingness to extend their understanding of that relation. As such, it is possible to assume that some learners will not move beyond the first few stages of the activity outlined in the previous section; as teachers, we can make them aware of surveillance, we can ask them to reflect on that awareness, yet the depth of their data collection and the sophistication and aptness of their subsequent compositions are driven largely by their own impetus. We cannot expect, nor demand, a cognitive transformation of the sort described in the previous section. What we can do is present alternatives to the learner model presented in much pedagogy: a perfectly rational, highly reflective, and highly adaptive individual. Surveillance presents us with an opportunity to explore learners as agents of partial resistance or subversion.

Much of this section is building on the discussion presented in Molz (2006) and the surveillance of mobility, particularly as it is seen as 'inherently risky' but also as the following:

Interpersonal surveillance can thus be seen as simultaneously productive and transformative as well as constraining and oppressive. As Green (2002, page 33) notes, technologies of surveillance are neither inherently 'good' nor 'bad'; however, this does not mean that they are neutral. Instead, as tools of surveillance, mobile communication technologies shape certain ways of seeing and, at the same time, are socially shaped by their use in everyday interactions. These technologies and the social uses to which they are put constitute a power/knowledge regime through which mobile social relations are ordered according to practices of watching, following, monitoring and tracking.' (2006)

As mobile surveillance is neither inherently good nor bad, it stands to reason that they be approached and systematically interacted with pedagogically as both, depending on the inquiry or activity driving the interaction. Most learners have complied with surveillance regimes through the non-visibility of sheer ubiquity; we don't know surveillance is there, so we comply with our contributed data accordingly. Hence, the need for both reflection on, partial resistance to, and subversion of the 'the power/knowledge regime' made possible, at least partly, as a result of mobile surveillance. It represents the missing perspective that our compliance has neglected; it is the trigger for transformational learning based on a contradictory position.

As such, we turn to models for subversion or resistance, as well as models that position learning askew from traditional learning approaches (such as Macleod & Ross's jester, trickster, and fool positions discussed further). Several models specific to the mobile learner in urban space have been advanced in recent years, including the flaneur, a wanderer through the urban landscape. Urban flaner, adapted from Benjamin (2009), Shields (2006, 1994), and Hollevoet (1992), is defined as a means of urban exploration towards understanding the contemporary individual's experience of urban space (Harvey, 2007). The flaneur is a participant observer, moving through urban space and exploring the semiotic exchanges, the socio-cultural structures, the processes, and materials that comprise urban life. According to Shields, he/she 'closes the gap between citizen and state, by re-imagining and mapping his newly expanded world' (1994); further, 'the flâneur becomes a rhetorical strategy for rethinking the digital network activities and digital cartographies enabled by mobile technologies' (Kalin, 2009).

Yet, the flaneur proves inconclusive, or incomplete, as a model for exploring and responding to surveillance. While it maintains an observational quality (the learning presented in this paper maintains an emphasis on observational awareness and reflective practice), the flaneur needs adaptation to make use of subversion and resistance. We need to adapt the playfulness of the flaneur away from mere participant observation and reflection towards partial compositions of resistance and surveillance. Beyond providing a counterpoint to the learning modeled as observation and analysis as detachment (i.e., crafted and presented outside the context of the urban space itself), this position explores compliance, or a lack thereof, as an agent in the larger



system of surveillance. It provides an ontological vantage point on which to explore the role of the individual (particularly their compliance) in shaping sociomaterial urban environments.

So we return to Macleod & Ross's (2011) positioning of the jester, trickster, and the fool. While these positions are advanced in relation to digital education, they serve mobile learning well by repositioning playfulness as a pedagogical principle, much like the flaneur does. In regards the subversive and their relationship with surveillance, the jester, trickster, and fool also provide a means of questioning compliance in a surveillance regime without intensifying, or severely augmenting, risk for the learner. The subversive as jester, trickster, or fool (while discrete, non-interchangeable entities in Macleod & Ross, they are being partially conflated here to foreground the playfulness involved in all three) might materialize compositionally through montages and maps of urban surveillance shared online and potentially crowdsourced, or art pieces created from CCTV footage and related surveillance artifacts; the work of William Betts (2013) provides an example of such a genre. We see a literal playfulness in mobile games involving surveillance data including WeAreData (Watch\_Dogs, 2015) which provides ongoing surveillance data mapped publicly in London, Berlin, and Paris. According to the site:

'Watch\_Dogs WeareData gathers available geolocated data in a non-exhaustive way: we only display the information for which we have been given the authorization by the sources. Yet, it is already a huge amount of data. You may even watch what other users are looking at on the website through Facebook connect.'

The language employed ('non-exhaustive', 'we only display the information', 'already a huge amount of data') suggests more data to be unearthed and explored, an implicit invitation for further exploration and playfulness. We see subversion being intentionally embedded in game design itself as a means of stimulating transformational learning (Mitgutsch & Weise, 2011). Ingress, a mobile multiplayer online role-playing location-based game, involves capturing "portals" at places of cultural significance, such as public art, landmarks, monuments, etc., and linking them to create virtual triangular 'control fields' over geographical areas' (Ninantic Labs, 2015). It paradoxically both extends the surveillance regime (by collecting our contextual geolocated data) and subverts it (by revealing aggregations of control and making these visible online by encouraging a series of movements both 'on' and 'off the grid'). Our subversion in all these games is our willingness, or not, to play.



Figure 2: Watch\_Dogs WeAreData website offering a glimpse of East London and the data available therein. Retrieved September 1, 2015 from <http://wearedata.watchdogs.com/start.php?locale=en-EN&city=london>.

These projects invigorate both reflective practice (what data am I sharing publicly?) and pedagogical exploration (what data can I collect?) and do so, particularly in the case of WeAreData, do so playfully and subversively. The subversive in this respect explores learning amidst the context of playful interaction, a dalliance with noncompliance. Learners explore what data is being collected about them by collecting data made available to them; compositions repurpose and thwart surveillance intent by presenting alternative or even nonsensical renderings of data. Compositions collect imagery, for example, that disrupts the reliability of location by presenting evidence from multiple GPS signals from multiple technologies across multiple spaces.

Yet, there remains the pedagogical exploration of anonymity and confidentiality itself that can be stimulated through explorations of partially removing oneself from surveillance. Foregoing mobile technology, intentionally avoiding known CCTV cameras, and using cash for public transportation stimulate a critical reflection on the role of compliance in surveillance regimes. Electronically, several projects such as ToR (2015), an open source project dedicated to protecting internet traffic from unwanted surveillance, and SpiderOak (2015), a cloud hosting service that employs a zero knowledge policy (no plaintext data, keys, or file metadata is ever stored), stimulate reflection on how confidentiality can be constructed in mobile contexts.

We as educators can stimulate these explorations of noncompliance and subversion through critical reflection on the tools, services, and data generated as a result of both mobility and its

accompanying surveillance. While this paper has carefully avoided referring to this as literacy so as not to be conflated with digital literacies, it does acknowledge that the knowledge potentially gleaned from these activities would generate an interactional literacy of sorts, one attuned to the social and by extension surveillance regimes in place in urban environments. Yet, literacy suggests skill, as opposed to iterative, reflective and compositional practices that this paper is suggesting is the result of the pedagogical position described in this paper. Subversion and resistance is not literacy as such, but a means of pedagogically exploring and deconstructing what has been construed monolithically: the surveillance regime as a pervasive, faceless enterprise of control. This pedagogical position of subversive challenges that monolithic interpretation and provides a contrasting viewpoint that stimulates critical reflection and initiates cognitive transformation.

## **Conclusion**

We as educators can stimulate these explorations of noncompliance and subversion through critical reflection on the tools, services, and data generated as a result of both mobility and its accompanying surveillance. Yet, it is important to consider the ethical implications of positioning learning as subversion, resistance, or noncompliance. The activities described in this paper should not be undertaken as a required piece of a larger formal educational enterprise as that is inherently an act of coercion, of the educator increasing risk unnecessarily for the learner. Rather, these should be independent, voluntary explorations of surveillance in the urban environment conducted by learners with full knowledge of their activity, the surveillance regime in place, and the legality of the urban environment. Laws should be respected, even while the intent of surveillance is carefully subverted; the purpose of these exercises is not destruction, nor subversion as criminality, but rather noncompliance as a pedagogical position. How much of how urban environments operate is based on our tacit compliance in larger power regimes? This research question is implicitly at the heart of all the activities described in this paper. Great care is needed to ensure that pedagogically activating subversion maintains a strong emphasis on learner safety and legality, whenever possible.

The learner as subversive should also be balanced with other learning positions including, but not exclusive to, the flaneur described earlier in this paper. Further research needs to be conducted to explore how this subversive position complements and ideally extends critical inquiry in learners emerging from traditional learning approaches fostered through formal education. This extends to the established model of fieldwork drawn from the sciences and social sciences and applied to mobile learning (explored in Gallagher, 2013); further research is needed to determine the extent to which subversion, particularly as applied to surveillance, challenges the observational, ethnographic qualities of fieldwork.

Further research, additionally, is needed to explore the sociocultural dimensions of compliance and subversion, with localized learning practices developed as a result. Subversion and noncompliance might conceivably render differently in Seoul, Cape Town, and London, for

example. As each surveillance regime would emerge from unique measures of openness and control, these different renderings would presumably bring with them a set of risks specific to the local context that the mobile learner and teacher would need to address. Each location would employ specific sets of sociocultural practices to navigate and communicate subversion, suggesting that mobile learning derived from such specificity would optimally emerge from the location itself, rather than being transplanted on it.

Subversion as pedagogical principle presents a contrast to educational practices of critical, yet compliant, modes of inquiry. As such, it has educational merit if only to explore our individual contributions to the surveillance regimes at work in our urban environments (and beyond). While opposition to these regimes is not the conclusive nor expected outcome to such activity, critical reflection brought about by exploring contrasting modes of inquiry certainly is.

## **Bibliography**

American Educational Research Association. Code of Ethics. Last accessed May 20, 2015.

[http://www.aera.net/Portals/38/docs/About\\_AERA/CodeOfEthics\(1\).pdf](http://www.aera.net/Portals/38/docs/About_AERA/CodeOfEthics(1).pdf)

Bennett, Colin J., and Priscilla M. Regan. "Surveillance and Mobilities." *Surveillance & Society* 1, no. 4 (2002).

Benjamin, Walter. *One-way street and other writings*. Penguin UK, 2009.

Betts, William. About. Last accessed September 1, 2015. <http://www.williambetts.com/>.

British Educational Research Association. Ethical Guidelines. Last updated August 1, 2015 from <https://www.bera.ac.uk/wp-content/uploads/2014/02/BERA-Ethical-Guidelines-2011.pdf?noredirect=1>

Castells, Manuel, Mireia Fernandez-Ardevol, Jack Linchuan Qiu, and Araba Sey. *Mobile communication and society: A global perspective*. MIT Press, 2009.

Dourish, Paul. "What we talk about when we talk about context." *Personal and ubiquitous computing* 8, no. 1 (2004): 19-30.

Dyson, Laurel E., Trish Andrews, Robyn Smyth, and Ruth Wallace. "Towards a holistic framework for ethical mobile learning." (2013): 405-416.

European Commission. Ethics for Researchers. Last accessed September 1, 2015.

[http://ec.europa.eu/research/participants/data/ref/fp7/89888/ethics-for-researchers\\_en.pdf](http://ec.europa.eu/research/participants/data/ref/fp7/89888/ethics-for-researchers_en.pdf).

European Educational Research Association. Ethical Guidelines. Last accessed May 1, 2015. <http://www.eera-ecer.de/about/ethical-guidelines/>.

Foucault, Michel. "Discipline and punishment: The birth of the prison." *Trans A. Sheridan*. London: Allen Lane, Penguin (1977).

Gallagher, Michael. & Ihanainen, Pekka. Aesthetic literacy: observable phenomena and pedagogical applications for (mobile) lifelong learning. *European Journal of Open, Distance, and E-Learning*, 2014(1).

Gallagher, Michael. Incessant Motion through Space: Mobile Learning Field Activities in the Humanities, 2013. <http://michaelseangallagher.org/wp-content/uploads/2015/02/Incessant-Motion-Through-Space.pdf>.

Garcia, Antero, and Ernest Morrell. "City youth and the pedagogy of participatory media." *Learning, Media and Technology* 38, no. 2 (2013): 123-127.

Harvey, Benjamin. "The Twentieth Part: Virginia Woolf in the British Museum Reading Room." *Literature Compass* 4, no. 1 (2007): 218-234.

Herrington, Jan, Anthony Herrington, Jessica Mantei, I. W. Olney, and Brian Ferry. "New technologies, new pedagogies: Mobile learning in higher education." (2009).

Hollevoet, Christel. "Wandering in the city flanerier to dérive and after: the cognitive mapping of urban space." *The Power of the City/The City of Power*(1992).

International Association of Mobile Learning. Ethical Issues in Mobile Learning : scenarios to aid research planning. Last accessed September 1, 2015. <http://www.iamlearn.org/ethical-issues-mobile-learning/research-planning>.

Lally, Vic, Mike Sharples, Frances Tracy, Neil Bertram, and Sherriden Masters. "Researching the ethical dimensions of mobile, ubiquitous and immersive technology enhanced learning (MUITEL): a thematic review and dialogue." *Interactive Learning Environments* 20, no. 3 (2012): 217-238.

Kukulska-Hulme, A., & Shield, L. (2008). An overview of mobile assisted language learning: From content delivery to supported collaboration and interaction. *ReCALL*, 20(03), 271-289.

Kukulska-Hulme, A. (2009). Will mobile learning change language learning?. *ReCALL*, 21(02), 157-165.

Macleod, Hamish, and Jen Ross. "Structure, Authority and Other Noncepts1." In *Digital Difference*, pp. 15-27. SensePublishers, 2011.

McFarlane, Colin. "The city as assemblage: dwelling and urban space." *Environment and Planning-Part D* 29, no. 4 (2011): 649.

Mitgutsch, Konstantin, and Matthew Weise. "Subversive game design for recursive learning." In *Proceedings of DiGRA*. 2011.

Molz, Jennie Germann. "Watch us wander': mobile surveillance and the surveillance of mobility." *Environment and Planning A* 38, no. 2 (2006): 377.

Ninantic Labs. Initial Briefing - Ingress help. Last modified 2015. <https://www.ingress.com/>

Shields, R. (2006). Flanerie for cyborgs. *Theory, culture & society*, 23(7-8), 209-220.

Shields, Rob. "Fancy footwork: Walter Benjamin's notes on flânerie." (1994): 61-80.

SpiderOak. SpiderOak. Last modified 2015. <https://spideroak.com/>.

ToR. ToR. Last modified August 1, 2015. <https://www.torproject.org/>.

Verpoorten, Dominique, Wim Westera, and Marcus Specht. "Using reflection triggers while learning in an online course." *British Journal of Educational Technology* 43, no. 6 (2012): 1030-1040.

Watch\_Dogs. WeAreData. Last modified September 1, 2015. <http://wearedata.watchdogs.com/?html=true#/home>

Wishart, J. (2013). Why ethical issues in researching mobile learning are a concern and ways forward. *QScience Proceedings*, (12th World Conference on Mobile and Contextual Learning [mLearn 2013]).