A BRIEF FORAY INTO THE FIELD OF LIGHT: POSSIBILITIES FOR GENERATING AFFECTIVE DATA

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ABSTRACT
The deliberate use of light to evoke an emotional response in artist Bruce Munro’s (2016) environmental installation Field of Light at Uluru entices visitors to join in an ephemeral experience that promotes a shared connection with the world at large. In this way, Field of Light can be seen as an example of a potentially affective learning environment, with the affective being a key component of the art installation; a component that invites emotive engagement with such things as the landscape, weather, and the transitions through sunset and sunrise. I argue that sites like Field of Light encompass a range of educational and pedagogic practices that contribute to pedagogic and curricula assemblages. As such, they provide unique and valuable learning experiences worthy of further investigation by educational researchers interested in how emotional affordances of particular learning environments may lead to affective pedagogic moments. This paper discusses a formative tool for generating data that will help us to better understand the affective pedagogic moment, with a view to applying it to a variety of heterogeneous learning contexts. At the heart of the tool is the development of an approach for identifying affective moments within the pedagogic assemblage and mapping their trajectories.

KEYWORDS: AFFECT, ASSEMBLAGE, LEARNING ENVIRONMENT, PEDAGOGY, EMOTION, DATA GENERATION.

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INTRODUCTION

According to online promotional material, artist Bruce Munro “is noted for his immersive site specific installations that employ light to evoke emotional response, often in an outdoor context and on a monumental scale” (Munro, 2016b, p. 4). Munro’s (2016a) installation Field of Light at Uluru has been said to move some people to tears, with the affective qualities of the artwork working in tandem with the affective resonance of Uluru itself. Affect, understood from a Deleuzian position as an intensity, force or flow, is a key component of the art installation – with the artist applying emotive qualities of light on a vast, environmental scale to entice visitors into an ephemeral experience that promotes a shared connection with the world at large, and can be engaged with as an affective learning environment.

The affective learning environment can in turn be conceptualised as a pedagogic assemblage, with affect becoming a key component of that assemblage. In this way we can begin to see Field of Light as an affective pedagogic assemblage that invites emotive engagement with such things as the landscape, astronomy, weather, transitions through sunset and sunrise, seasons, and cultural histories.

The purpose of this paper is to explore the possibilities of an affective method to be applied to research concerned with the affective pedagogies created by broadly conceived learning environments such as Field of Light. It discusses a formative toolkit for generating data that will lead to better understandings of the affective realm and how it contributes to pedagogic assemblages and pedagogic encounters. Field of Light is used as one richly situated example to explore how the toolkit works and the kinds of data it may produce.

RECONSIDERING BODIES, EMOTIONS, COGNITION AND THE AFFECTIVE

Zembylas (2007) argues a historical mind/body Cartesian split has led to bodies and affect in education being largely ignored. Yet, in what has been dubbed as ‘a turn to affect’ in social theory (Clough & Halley, 2007), there has recently been a marked increase in the recognition of the affective registers of learning environments and the bodies that inhabit them. Hickey-Moody (2013b) notes, “The lived experience of learning is always affective; whether learning how to conjugate a verb in a classroom (Watkins 2012) or how to dance in a nightclub (Henriques 2010), our bodies and their affective registers are the flesh of pedagogy” (p. 126). Interestingly, the field of affective and social neuroscience also reveals how the processes of learning and feeling are inextricably entangled, with the act of being ‘moved’ supporting learning because emotion and cognition are linked by interdependent neural processes – so much so that it is said deep learning is impossible unless the emotions are engaged (Immordino-Yang, 2016). Altogether, this points to the importance of accounting the role of affect and emotions in the learning environment and sets a premise for future research into how learning environments can work to foster particular affective intensities that lead to certain emotions – with emotions being understood as “the mindful expression of bodily affect” (Watkins, 2016, p. 73).

One possibility for working with affect in education is to follow Wetherell’s (2015) lead in adopting a socio-psychological account of affective practices. However, in the act of foregrounding “human energies, bodies, subjectivities, minds and meaning-making” (2015, p. 141), I would argue Wetherell’s approach is insufficient for those with a commitment to other-than-and-more-than-human entities at play in the affective domain. Instead this toolkit follows a Deleuzian philosophic legacy to working with affect that is rooted in Spinoza’s notion of affect “as both force (affectus) and capacity (affectio)” (Watkins, 2016, p. 72).
AFFECTIVE PEDAGOGIC ASSEMBLAGES

In conjunction with ‘the affective’, I also utilised the Deleuzian concept of ‘assemblage’ as an analytic tool. I draw on it to conceptualise the pedagogic force of affect laden learning environments in terms of an affective pedagogic assemblage that is, to an extent, embedded within a broader curriculum assemblage. In a Deleuzian sense, assemblages “consist of multiple, heterogeneous parts linked together to form a whole” (Muller & Schurr, 2016, p. 28) and have relational, agentic, generative, heterogeneous, dynamic, open-ended and temporal characteristics (Bennett, 2009). I argue that learning environments can be understood as other-than-and-more-than-human pedagogic assemblages that are formed by the coming together of social, material, and discursive entities for a given period of time. Affect is said to be the pulse of such assemblages, becoming the source of their power; “the tertium quid of the social and the material, making the socio-material hold together or fall apart” (Muller & Schurr, 2016, p. 9). The intent of the toolkit presented here is to set the conditions for generating data that enables an analysis that attends to the relations within a pedagogic assemblage such as Field of Light. In so doing, I plan to map the affective ebbs and flows within it, while inviting “the (previously) inaudible voices of the non-human” to the table (Weaver & Snaza, 2016).

THE CHALLENGE OF RESEARCHING AFFECTIVE LEARNING ENVIRONMENTS

While affect in education and social theory has become a source of increasing attention, there are many issues associated with affective research. Methodological literature on affect is beginning to rise to the challenge of studying the ephemeral (Coleman & Ringrose, 2013; Timm Knudsen & Stage, 2015; Vannini, 2015; Zembylas & Schutz, 2016) however, there is still much work to be done in this sphere with affective methodologies and methods largely occupying an experimental and emergent space. Although this might seem problematic, it provides an opportunity to develop research strategies that have previously been obscured or overlooked, and presents new possibilities for researchers wishing to explore the intersection between theory-building, applied research and artistic concerns through a focus on the sensory, experiential and affective (Pink, 2015).

METHODOLOGICAL LITERATURE

Informing the development of this toolkit is recent methodological literature associated with non-representational methodologies (Vannini, 2015), affective methodologies (Timm Knudsen & Stage, 2015), and Deleuzian Methodologies (Coleman & Ringrose, 2013). In particular, I pick up on what Timm Knudsen & Stage (2015) acknowledge as the importance of attaching research to bodies in specific affect laden contexts in order to generate ‘embodied data’ that effectively “grasps the affective qualities” of a research context (Timm Knudsen & Stage, 2015, p. 5). Embodied data are important because they bring attention to the sensory, textured, moving, fleshy natures of the phenomena under investigation (Pink, 2015). Another trend in emerging affective methodologies is to take established qualitative techniques and adapt them specifically for generating data that is suitable “for tracing the presence of affective forces” (Timm Knudsen & Stage, 2015, p. 9). Examples include Waterton and Watson’s (2015) heritage study using photography (somewhat paradoxically) as a way of being in the world; Bissell’s (2012) auto-ethnographic study into the uncertain geographies of pain; Bohling’s (2015) use of field notes as an assemblage in an investigation into the bodily and affective dimensions of drinking and dancing; and Stewart’s (2007) ethnography attending to ordinary affects of the everyday. I use these as guides for how existing methods may be recruited in ways that are sympathetic to the affective realm.
THE PROCESS OF DEVELOPING A TOOLKIT FOR GENERATING AFFECTIVE DATA

This toolkit was developed through a highly auto-ethnographic process. Initially, I conducted a series of informal observations at Field of Light, immersing myself in the complete experience from hotel pick-up to drop-off. I attended the exhibition on three occasions over two days for approximately six hours in total. I went on all Field of Light experiences on offer (Sunrise, Sunset and Star Pass), attending as part of a public tour group on each occasion with my eight year-old son as ‘research assistant’. While there, my son and I took photographs, made sound recordings of the ambience, and collected marketing material. After each visit, I wrote a detailed reflexive account of my experiences, paying particular attention to the undulations in atmosphere and build-up to moments of affective intensity. Analysis of the immersive experiences of Field of Light along with observations, soundscapes, images, documentary evidence, and publicly available data from the Twittersphere and Facebook allowed the emergence of a toolkit for formal data collection at the site in the future. It also has given rise to a process that can be adapted to future research in other (diverse) affective learning contexts such as heritage sites, sports clubs and museums.

THE DATA GENERATION TOOLKIT

TOOLKIT OVERVIEW

The toolkit itself is a three-stage iterative process involving 1) the identification of the affective curriculum generated by the site; 2) the identification of the role of affect in the curriculum with a particular focus on pedagogy; and 3) mapping the affective trajectories that run through the affective pedagogic assemblage. Each stage informs the others and will, at times, operate simultaneously. While the toolkit is presented in a procedural manner, the data generation process is understood as iterative in nature and not linear. By invoking assemblage thinking, the research demands a non-methodocentric approach (Weaver & Snaza, 2016) and as such cannot be fully known at the outset of the project.

For the purpose of the toolkit, I conceptualise pedagogic affect as operating in two ways. The first uses the notion of the affective pedagogic moment in time and space (Watkins, 2016, p. 71). This occurs where affect demands attention creating an affective peak or crest on a wave of affective intensity. The second accounts for the less obvious affective hum, the underlying atmosphere or ambience that on occasions becomes palpable. The evidence of the experience of significant affect (and, just as notably, when affect is significant in its insignificance) can be found in the effects of the affects. Important effects of affect are the affective residues that are commonly felt as emotions (Watkins, 2016, p. 73). Therefore, indications of affective residues, or lack thereof, are sought after in the generated data. Particular attention is given to the evidence of affective pedagogic moments and the hum of the affective atmosphere of a given research context. The remainder of this paper engages with Field of Light to demonstrate how the toolkit works across the three-stage process.

STAGE 1.

Identify the affective curriculum (body) generated by the site. Is it affect laden or, in other words, could it be described as a ‘felt’ curriculum?

Schubert (2010) contends that developing notions of ‘outside curricula’ run parallel with developing understandings of the pedagogies that broadly conceived spaces of learning outside the institution of schooling produce (p. 10). Following this relationship between outside curricula and their pedagogies further, I argue that sites like Field of Light generate their own curricula assemblages and encompass a range of educational and pedagogic practices. As an affect laden space, Field of Light affords affective...
pedagogies that can be framed by the curriculum body it generates – with the curriculum being broadly defined as what is taught and how (Alexander, 2001, p. 549). This broad definition is used as a starting point from which to analyse data generated by informal observations, Twitter feeds, Facebook pages and publicly available documents to identify the body of *Field of Light*’s ‘felt’ curriculum. By thinking in assemblage terms, it becomes clear that the ‘what’ and ‘how’ of the curriculum can be understood as being entangled and are borne out of the interplay of social, material and discursive entities in the curriculum assemblage. For example, *Field of Light* simultaneously teaches about shared connection with other bodies and teaches through shared connection with other bodies – human and non-human, social, material, discursive and ephemeral. *Field of Light* can also be understood to teach about and through the:

- Relation between self, others (human and not so), past, present and future becoming part of something greater than the individual, the land, the stars in the night sky, and thought itself
- Transitions (dawn and dusk, colour to colour, emergence of the rock, the blooming of *Field of Light*) and how those transitions alter perspective – creating conditions to see things ‘in a new light’
- Interactions between art, the natural environment, the human visitors and non-human inhabitants to create something greater than the sum of the parts
- Aesthetics used to convey and magnify affect (Hickey-Moody, 2013a). This applies not only to light but also experiences of scale, colour, movement, composition, pace of rhythm, modulation through colour range, and constant change
- Atmospheres such as those created by the time of day, the mood of the group, the climate, and even the persistence of the flies
- Astronomy – the removal of light pollution, constellations, Venus, movement of sky, and astrological narratives
- Photographic techniques – mediating experience, becoming experimental
- Logistics – *Field of Light* in awe inspiring numbers and statistics
- The dynamic immersion in nature and the affective rhythms of being in the desert – constantly changing light, temperature, weather, vegetation, isolation and connection
- Geography – location, affective resonance of the land
- Reflective space
- The discursive affects of marketing, media and program guides – building expectations and preliminary understanding
- Interactions between all of the above – mediation of one thing through another.

**STAGE 2.**

*Identifying the role of affect – how is the curriculum being taught with and through affect?*

It is ‘the how’ that this research is most concerned with. This concern works in tandem with the assumption that affect plays a key role in how the curriculum is conveyed or taught albeit implicit, explicit, intended or otherwise creating a context where affect becomes a pedagogy in and of itself. This can be conceptualised using Baker’s (2008) notions of didactic and delirious affect, whereby the didactic is the intended and the delirious is the wildcard of an affective experience. The questions at the forefront of this second stage of data generation are: How do we know an encounter was affective? Why focus on a particular encounter or moment? What kind of ‘moments’ are we looking for? How do we ‘bracket’ moments in time (Watkins, 2016)? And how do these work in relation to the underlying affective hum? Bearing these in mind, I seek evidence of the likes of moving moments, connecting moments, memorable moments, ‘aha’ moments, surprising moments, shifting moments, chaotic moments, and contemplative
moments. The evidence of these moments include: spontaneous responses (in the moment) such as
observations, Twittersphere, Facebook, sound bites, and photography; and reflective responses (after the
fact) such as focus groups, interviews, reflexive researcher accounts, and publicly available documentary
data.

At this point, it is useful to discuss the types of data being generated and the purpose they will serve.
Timm Knudsen & Stage (2015) note that affective data may be etic or emic. Etic data, produced outside
the body by, for example, an observer, would include observations, photo-stories and soundscapes
produced by the researcher at Field of Light, along with reviews and other documentary data. It plays
a crucial role in establishing the affective atmosphere of a site and identifying affective rhythms,
transitions, voids, the building of affective intensities, its flows and even their sudden rupture. Etic data
is an excellent resource for presenting the affective components of a particular context and its associated
assemblages however, its weakness is that it only provides circumstantial (inferred, representational)
evidence that an affective pedagogic encounter has taken place for anybody other than the researcher-
body. This research aims to move beyond a primary attachment to the researcher-body and attach itself
to participant bodies also.

Hence, the additional need to generate emic data, data produced by affected bodies. This is particularly
important if we are to ‘capture’ a range of embodied responses to the affective. To achieve this focus
groups and interviews can be conducted in a way that connects the participants with residual effects of
affect (feelings). Affective moments and atmospheres from Field of Light can be presented at the focus
groups and interviews by using soundscapes and photography to create an affective charge, eliciting a
more embodied and ‘felt’ response from participant-bodies and researcher-body, while providing an
avenue connections with other-than-and-more-than-human bodies in the research such as the crickets,
flies and artwork. This embodied data can be augmented with data that is more characteristically
representational, such as tapping into social media such as Twitter feed comments. An excellent example
of this is the self-reported ‘aha moment’ experienced by Nobel Prize winner Frank Wilczek (2016)
who says his experience of the Field of Light installation (desert garden iteration) gave him the flash of
inspiration whereby he could finally envision what thought looks like. Wilczek was so taken with his
experience of the artwork that he was moved to create a video documenting this pedagogic moment and
the value of using the likes of Field of Light as totally immersive learning environments (http://www.wsj.
com/video/nobel-laureate-frank-wilczek-aha-moment-at-field-of-light/3404331D-ED39-41DC-8189-
D00C39B2361B.html).

Stage two of the data generation process would not be complete without asking how we know whether
an affective moment is pedagogic? Pedagogy could be inferred from the identification of pedagogic
intention, pedagogic design or discernable curriculum. It could also be indicated by an identifiable
pedagogic force or the presence of pedagogic vernacular. However, these types of indications are more
accurately positioned as pedagogic affordances or potentials rather than guaranteed outcomes. Evidence
of the pedagogic lies in the learning experience and what visitors to Field of Light do, say, think or write
that indicates some kind of learning has taken place. Wilczek’s self-proclaimed ‘aha’ moment is a good
example of the kind of evidence that may present itself on the Twittersphere, however, it is unlikely many
moments such as this will be uploaded onto the internet in such an accessible way. Thus, it is important
to be alert for more subtle pedagogic moments that risk remaining undisclosed; for example, connecting
moments, reflective moments, and surprising moments. It is the focus groups and interview that will be
used to identify in what ways and to what extent those pedagogic affordances of Field of Light actually
manifests through embodied data and how this interplays with the affective hum of the assemblage.
STAGE 3.

**Mapping the affective trajectories through the assemblage**

Stage three of the data generation process involves mapping affective trajectories of the pedagogic assemblage. These trajectories are temporal, multi-dimensional and multi-scalar. They can take shape as gradual building of intensities, ruptures, rhythms, patterns, transitions and cycles. For example, *Field of Light* demonstrates how the affective resonance of the land affected and continues to affect the artist’s career in a profound way over many years, coming full circle with the Uluru iteration of the art installation, which in turn triggers new affective trajectories – some of which are evident relatively soon and some of which we may not see evidence of for years, if ever. In this way affect and affective pedagogies become an integral part of the curriculum. In a type of double-back, it is thought that the process of mapping the affective trajectories will further inform understandings of the scale, rhythm, intensities, ruptures and flows of affect and how this produces the pedagogies at play within the self-generated curriculum of the site.

CONCLUSION

Sites like *Field of Light* provide unique and valuable learning experiences worthy of further investigation by educational researchers interested in how the emotional affordances of particular learning environments may lead to affective pedagogic encounters. While fields like neuroscience are making valuable contributions to understandings of emotion, learning and the brain, approaches to researching ephemeral phenomena like affect in naturally occurring educational contexts have proven to be challenging for (post) qualitative researchers with the field still occupying a largely experimental and emergent space. This paper presents a toolkit that proposes the adoption of existing qualitative methods and adapting them for use in an iterative three-stage process that aims to generate affective data within affect laden pedagogic contexts/assemblages. The pedagogy is defined by the curriculum the sites themselves produce and can be mapped in multiple ways by tracing the ebbs, flows, ruptures, rhythms and hum of affect in the pedagogic assemblage which in turn sits in dynamic relation to the curriculum assemblage.
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