

**Leveraging the Affordances of the Virtual World Environment to  
Assist Second Level Students in the Interpretation of Poetic Mood.**

Linda Morris, B.A (Hons) H.Dip.Ed (N.U.I)

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in partial fulfilment of the requirements for the degree of  
Master of Science in Technology and Learning

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## Declaration

I declare the work described in this dissertation is, except where otherwise stated, entirely my own work and has not been submitted as an exercise for a degree at this or any other university.

Signed: \_\_\_\_\_

Linda Morris, B.A.(Hons)H.Dip.Ed (N.U.I)

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## Abstract

This study examines the impact of multiple literacies and the changing social environment of the learner on the comprehension of traditional texts. Current research suggests that the modern learner has developed a range of new literacies (Lankshear & Knobel, 1997) in response to the technological environment that they inhabit. The linear, text-based traditional classroom (Gee, 2003; Savin-Baden et al., 2010) does little to support these needs, often divorcing the content being learned from the context of the learner.

This barrier to understanding has had a significant impact in the teaching and learning of poetry in the classroom, where the unimodal delivery of a multi-sensory message (Wainwright, 2004) has resulted in an increasing distance between the poem and the reader. Furthermore, the formalised testing of an artistic experience has reduced the study of poetry to an exercise in translation (Halpin, 2008), engendering a passivity in the learner that serves to further increase this distance.

Virtual world technology creates the opportunity to build bridges between the content being learned and the context of the learner. The first spans the gap between print-based literacy and multimedia literacy by leveraging the multimodality of the environment (Girvan & Savage, 2010) to support multiple literacies and reflect the multisensory nature of the poem. The second provides the opportunity for active learning, through the interactive and immersive nature of the platform (Warburton, 2009).

This exploratory case study constructed a learning experience that seeks to access the multiple literacies of the modern learner to generate a deeper understanding of the abstract poetic concept of mood. Ten Leaving Certificate students participated in the five week process that blended the use of traditional text-based content with a virtual world experience. Participants informally reflected on their understanding of the concept of mood at several points during the experience, individually in the form of a response report, and collectively in a Learning Conversation. These reflections, together with field notes and post-experience interviews, provided several datasets, which were then analysed using thematic coding. Findings point to a need to further explore the complex relationship between traditional and emerging literacies and the role that technology can play in resolving the 'disconnect' between the two.

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# **1. Introduction**

## **1.1 Context**

The evolving technological age has produced a corresponding change in the social environment, and thus the learning behaviour, of the modern student. The modern student inhabits a multimodal world saturated by sound, visuals and interactivity (Serafini, 2011). Making meaning in this social environment requires the modern student to develop a wide range of literacies, digital, aural, gestural and visual, which are increasingly supplanting the traditional text-based literacies of the industrial age. Furthermore, the interactivity afforded by ubiquitous technology has changed the manner in which students engage with new content, generating a desire for active exploration rather than passive reception.

While institutional education is beginning to acknowledge these changes within its broader architecture, the curricular content and formalised assessment procedures remain firmly rooted in the past (Prensky, 2001). This is particularly true in the English literature classroom where the vast majority of curricular content is, by definition, textual. Thus, a 'disconnect' has emerged between literacies being used in the social and educational environments of the English literature student, one that is hampering engagement with, and enjoyment of traditional text.

## **1.2 Difficulties Created by the Poetic Form**

This study examines the impact of this disconnect with reference to the teaching of poetry in particular. Poetry is a complex construct, made more complicated by its personal, abstract and often arcane nature (Curwood & Cowell, 2011). Accessing its meaning requires the reader to translate words into pictures, feelings and sounds. This process is challenging for all who engage in it. For modern learners, however, the unimodality of the medium creates a further barrier that impedes the development of a personal relationship with the text.

This personal connection with the text is often further undermined by the manner in which poetry is taught. In order to resolve the 'disconnect' between the student and the text, the teacher often assumes the role of translator or instructor. In so doing,

they may impose 'correct meaning' on the students in a manner that will satisfy the demands of formalised testing. This only serves to further increase the distance between the student and the poem, as they are relegated to the role of passive observers rather than critical interpreters.

### **1.3 Framing Poetry as an Experience**

Establishing engagement with traditional texts in the modern classroom may be achieved by constructing poetry as an experience, using the mood or atmosphere of a poem to generate an emotional engagement that fosters a cognitive understanding. The advent of multimodal technology provides a platform on which to build such experiences (Hughes & Dymoke, 2011), providing a modern semiotic domain that uses representations of meaning that are more relevant to the modern student. It affords the opportunity to "lift poetry from the printed page" (Hughes & Dymoke, 2011, p. 55).

### **1.4 Using Virtual Worlds to Simulate Experience**

Existing research into 'digital poetry', a process that seeks to integrate digital tools into the teaching and learning of poetry, has demonstrated significant success in engaging the modern learner. However, virtual world technology offers affordances beyond the digital which may present a more experiential platform in which to present the multi-sensory nature of poetry in a multimodal fashion. The immersive qualities (Girvan & Savage, 2010; Savin-Baden et al., 2010; Warburton, 2009) of the virtual world provides the opportunity for the student to explore the environment of the poem, feeling, hearing and seeing the text, not simply reading it. Therefore, the virtual world does not simply allow for a simulation of the poem but enables a sense of 'lived experience' (Gillen, Staarman, Littleton, Mercer, & Twiner, 2007).

The flexibility of the virtual world environment also offers the opportunity to construct these experiences in accordance with a pedagogical framework that best supports the nature of the content and the context of the learner. Using the virtual world environment to simulate a cycle of experiences that encompasses the everyday experience of the modern student may assist in supporting learning and creating a

personal relationship with a poetic text. Furthermore, the interactive nature of the technology promotes active engagement and can be harnessed to encourage the learner to independently construct meaning. Thus, the virtual world platform supports both an experiential and constructivist approach to learning, which in turn may support the modern learner in the exploration of traditional texts.

### **1.5 Research Question**

This study seeks to harness the affordances of virtual world technology to design a virtual world installation that allows the student to explore the concept of mood in poetry. Given the exploratory nature of the study, the following question was defined to provide adequate scope for investigation.

- What role does the virtual world environment play in supporting modern learners in the interpretation of mood in traditional texts?

To answer this question, a process was designed that created a series of alignments between the unimodal semiotic domain of poetry and the multimodal semiotic domain of the virtual world platform. The purpose of this process was to allow students to use multiple literacies to interpret traditional text and to frame an active, experiential learning experience that encouraged learners to construct an independent relationship with a poem.

### **1.6 Participants and Procedure**

The ten participants in this exploratory case study were all Leaving Certificate students. They attend the researcher's school, a single-sex voluntary secondary girls' school in Dublin. The research was conducted over a 6 week period, on the school premises and outside school hours. The participants engaged in a four-stage learning experience (see Chapter 3) and then completed a semi-structured interview to discuss the experience.

Multiple datasets were generated during the course of the learning experience. The data that emerged from observation notes, participant response reports, participant-generated artefacts, learning conversation and semi-structured interview was

analysed using a combination of deductive and emergent analysis. Descriptive codes were generated, reduced and aggregated into six core themes. These themes were then used to generate findings and underpin discussion.

## **1.7 Findings**

Findings point to the successful use of the virtual world installation in supporting the participants' understanding of mood. The virtual world installation supported the participants in two distinct fashions. In the first instance, it supported the presentation of content in a manner more appropriate in the context of the modern learner. The multimodality of the platform supported the multiple literacies of the learner, while the immersive qualities of the virtual world allowed the learner to 'experience', and hence concretise, the abstract construct of mood.

Secondly, the virtual world environment supported learning by providing a platform for constructivist learning experiences. The simulative and immersive affordances supported an experiential learning framework, while the interactivity and ease of content creation allowed students to actively construct meaning. Emergent findings suggest that this translated into a personal ownership of the learning that promoted both emotional and cognitive engagement. This increased engagement, coupled with the familiarity of the virtual world environment significantly increased the confidence of the participants when engaging with the traditional text at the end of the learning experience.

While the scale and scope of this study do not allow for generalisations, it does provide some indicators for future research. The potential for aligning the virtual world environment with a variety of pedagogies that support engagement with traditional text is worthy of further investigation. Also, the opportunity for transduction provided by the virtual world environment may provide opportunities for the teaching and learning of other literary constructs. However, it must be acknowledged that while the use of the virtual world environment promoted the construction and representation of a personal understanding, this did not always achieve a commensurate transfer to traditional writing practices. Further research is required.

## **1.8 Roadmap**

The framework of the chapters outline the broad construct of this study from the evaluation of the literature to the discussion of findings. Chapter 2 examines the literature that frames the problem and investigates potential solutions. Chapter 3 documents the design of the process and, in particular, the virtual world installation. Chapter 4 details the methodology and procedures. Chapter 5 details the process of data analysis including a detailed account of findings from each dataset. Finally Chapter 6 presents overall findings in relation to the research question and discusses the implications of the findings.

## **2. Literature Review**

### **2.1 Introduction**

This section presents argument drawn from the literature in relation to three key areas. It identifies the difficulties that have arisen in the teaching and learning of poetry in the traditional manner, given the changing literacies of the modern students. It offers potential solutions to this difficulty, both through the creation of poetry as an experience and the harnessing of virtual world technology. Finally, it examines the theoretical frameworks that might best support the blending of the poetic experience with the virtual world environment. The conclusion points to the significance of this literature in framing this study.

Key word searches of the Trinity College database provided a significant number of journal papers and books in each of the above areas. The bibliography of these texts provided a rich resource for further reading.

### **2.2 Background and context**

Current research points to an emerging gap between the socio-cultural and educational environment of the modern student (Bennett & Maton, 2010; Prensky, 2001). The continuing curricular emphasis on a text-based literacy (Savin-Baden et al., 2010) is increasingly at odds with the everyday meaning-making practices of the modern student (Merchant, 2010). These students inhabit a social environment defined by the broad-based visual, digital and media literacies of the technological age (Lankshear & Knobel, 1997). This 'disconnect' between institutional education and the social world is paralleled by an attendant gap between 'in-school literacy' and 'out-of-school literacy' (Curwood & Cowell, 2011).

The conception of literacy, once exclusively termed as competence in reading and writing, has shifted considerably in recent years. Now literacy encompasses a range of expressive modalities (means of communication) that are associated with emerging technological environments (Calo, 2011; Curwood & Cowell, 2011; Merchant, 2009). These modalities are visual, aural, gestural and textual in nature (Hughes & Tolley, 2010) and exposure to them has fundamentally changed the

relationship with the written word. The modern student now tends to engage more successfully with language presented in electronic format (Hughes & Tolley, 2010), with some researchers concluding that their primary literacy is now visual (Burmark, 2008). This has considerable implications for teaching in general, and the teaching of poetry in particular.

This paper examines the literature in relation to the problems encountered in the teaching and learning of poetry in the modern classroom, the resulting efforts to bridge the gap between traditional and modern literacies and the potential solutions offered by the multimodal and immersive affordances of virtual world technology.

### **2.3 Increasing Resistance to the Poetic Form**

The complexity created by the changing modern literacies of the modern learner has resulted in a significant increase in resistance to the poetic form (Hughes & Dymoke, 2011). But the poetic form itself can create distance between the text and the reader. It is a highly complex, subjective and compressed form of expression (Mueller-Zetzelmann, 2002; Reeves, 1965), where almost every word is infused with both meaning and sensation (Wainwright, 2004). Thus, the reader often struggles to find the tools to unlock the meaning of a poem.

Institutional and curricular pressures further serve to create distance between the student and the poem. Curricular structures and formalised testing (Halpin, 2008) often mean that classroom contact with poetry is framed by expedience, rather than the desire to foster the creative impulse (Halpin, 2008). The inclination to identify the 'correct' meaning of a poem (Curwood & Cowell, 2011) alongside the teacher's authoritative position (Yandell, 2007), often results in the student being consigned to the role of a passive observer. Thus, the reading of poetry is reduced to an exercise in translation, as opposed to critical interpretation (Hughes & Tolley, 2010).

Current literature proposes significant changes in the way in which poetry is presented in the classroom. Viewing the poem as a 'vehicle' of feeling (Eliot, 1957) may create a personal relationship with the poem (Lockward, 1994). This, in turn, provides access to meaning, as it is the reaction of the reader that brings the thoughts and emotions of the poet alive (DeMott, 1988).

## **2.4 Mood as a Point of Access to Meaning in a Poem**

The examination of mood, also termed as feeling, emotion or atmosphere (Mandel, 1998; Webster, 1926), can provide a point of access into the complex language of poetry (DeMott, 1988; Lockward, 1994). Poetry often ‘suggests’ meaning (Mandel, 1998) by imbuing language with a gestural element that replaces the possibility of conveying mood through physical expression or tone of voice.

In the context of the poetic domain, these gestural elements are impressions created by the choice and order of words and ideas that compensate for the absence of visual or vocal representation. They are most often expressed using sound (Mandel, 1998; Wainwright, 2004; Webster, 1926), image (Mandel, 1998; Wainwright, 2004; Webster, 1926) and colour (Edwards, 2004). The interpretation of these elements is central to the understanding of a poem. However, the unimodal delivery of these gestural elements presents significant difficulties and teachers of poetry must consider finding meaningful ways to help the student connect with a poem (Hughes & Tolley, 2010).

## **2.5 Using Digital Technology to Present Poetry**

Initial technological interventions, such as LOGO’s poetry program, have concentrated on supporting writing technique (Sharples, 1985), but the digital poetry movement has harnessed new technologies to change the way we present poetry in the classroom. This approach endeavours to link the multi-sensory experience of the poem to the multimodal capabilities of modern technology, thereby accessing the multiple literacies of the modern student (Curwood & Cowell, 2011).

Programmes such as the iPoetry Project (Curwood & Cowell, 2011) seek to infuse new meaning into poetry by asking students to reconstruct poems through the use of a new medium, specifically iMovie. While the initial intervention resulted in students remaining inured in traditional literacy practices seeking only direct translations of words into texts, over time learners began deconstructing and reconstructing traditional texts using multiple literacies. These new literacies, accessed by the multimodality of the medium, enabled the student to explore and interpret abstract concepts such as context, imagery and mood (Curwood & Cowell, 2011; Linaberger,

2004) using a new medium that was more familiar than the poetic form (Curwood & Cowell, 2011).

## **2.6 Considering Virtual World Technology to Present Poetry**

The virtual world platform also offers the opportunity for 'remediation', the convergence of differing media (Kuksa & Childs, 2010). Virtual worlds, or multi-user virtual environments (MUVEs) are immersive, three dimensional spaces that allow the user to engage in simulated experiences. While, the roots of this environment lie in gaming, many of the affordances of MUVEs may be harnessed for use in education, offering an alternative (Girvan & Savage, 2010), or supplement (Morris & Savage, 2013), to traditional classroom practice.

### **2.6.1 Leveraging Virtual World Affordances for Education**

Current literature in the area presents agreement in relation to the tools available within MUVE's that can be used to facilitate educational experiences, although specific discussion as to the manner in which these tools can be harnessed is often absent.

The visualisation tools (Warburton, 2009) support the visual literacy of the modern student and, together with the interactivity of the environment, may allow for the simulation of experience (Dickey, 2003; Gillen, Ferguson, Peachey, & Twining, 2012). The immersive nature of the environment (Dickey, 2003; Girvan & Savage, 2010), along with the use of the avatar, creates a sense of first person experience which actively engages the learner (Baker & Reis-Bergan, 2011; Dickey, 2003). Finally, the facility to build (not present in all MUVE's but available in Second Life, the platform being used in this study) allows the learner to interact with and manipulate the environment, creating learning objects and supporting knowledge construction (Cheal, 2007; Dickey, 2003).

The virtual world environment also presents an opportunity to bridge the gap between the educational and socio-cultural worlds of the modern student. The familiarity of platform through exposure to MUVEs such as Sims and Everquest (Ketelhut, Dede, Nelson, & Bowman, 2006) promotes an initial engagement that is

maintained by the immersive nature of the virtual world environment (Cheal, 2007; Girvan & Savage, 2010; Warburton, 2009). Furthermore, the use of the virtual world environment as a 'phenomenarium' (Perkins, 2009), where students can explore simulated experiences without 'real-world' consequences, has broadened the scope of the traditional classroom. This opportunity has been exploited within the field of science education (Ketelhut & Nelson, 2010), and to some extent the dramatic Arts, but its potential in the field of poetry is significantly under-explored.

## **2.6.2 Virtual World Affordances and the Teaching of Poetry**

When examining the manner in which virtual world environments can be used to represent the ideas and emotions contained in a poem, a number of parallels emerge.

### **2.6.2.1 *Establishing parallels between semiotic domains***

Semiotic domains are sets of signs and symbols that are created by the 'signmaker' (Bezemer & Kress, 2008) to communicate specific meaning to the user/learner through the use of one or more modes of communication (Gee, 2003). The virtual world is a multimodal semiotic domain, using a combination of images, colours, sound and text to communicate its message. Poetry too is a semiotic domain, using the written word to deliver a set of symbolic representations largely predicated on the interpretation of sound, image and colour, much like the virtual world environment. When these two semiotic domains are considered together, the potential for alignment becomes clear.

### **2.6.2.2 *The potential for transduction***

Bezemer and Kress (2008), when investigating the development of multimodal learning resources, discuss the potential for transduction - the transfer from one mode of communication to another. The process of transduction involves the movement of semiotic material (a set of signs and symbols from which the user makes meaning) from a textual format to a modern modality, or means of communication (Bezemer & Kress, 2008). While this process is problematic, as there

can be no direct translation from text to image (Bezemer & Kress, 2008), careful design may allow the multisensory, yet unimodal, nature of the poem, to be represented by the multimodality of the virtual world environment.

### **2.6.2.3      *Immersion and mood.***

The interpretation of mood is difficult as it is an abstract concept. This abstraction may be made more concrete through the combination of auditory, visual and kinaesthetic elements to create a perception of atmosphere (Ketelhut et al., 2006). This, when paired with the immersive nature of the virtual world environment, offers the learner the potential to experience the mood in more concrete terms, while simultaneously accessing the multiple literacies of the modern learner (Savin-Baden et al., 2010).

## **2.7      *Virtual worlds and Poetry- Framing a Theoretical Approach.***

Virtual world technology lends itself to the development of a learning environment where the traditional classroom environment can be enhanced by a more progressive educational approach (Perkins, 2009). This approach, however, must be underpinned by a design (Nelson & Erlandson, 2012) or comprehension (Calo, 2011) strategy where appropriate pedagogical constructs, that align with context of the learner and the nature of the content being taught, are carefully considered. The theoretical frameworks being offered in support of this study are ones that align both with the pedagogical application of the virtual world and the domain area of poetry.

### **2.7.1      *Constructivist Learning Theory***

Rooted in Jean Piaget's early work on the nature of child development, the constructivist movement has grown to encompass a wide range of pedagogical perspectives (Bednar, Cunningham, Duffy, & Perry, 1992). Broadly, this view of learning is predicated on the belief that knowledge is not transmitted, but constructed by the individual through a process of exploration and production (Dickey, 2003; Nelson & Erlandson, 2012).

The learner explores their environment, making meaning from experience (Brown, 1989; Duffy & Jonassen, 1992). These meanings are then internalised as a personal interpretation of that experience, but are subject to change as the learner accumulates experiences and discovers inconsistencies between previously held beliefs and new experiences (Dalgarno, 2001). Thus, knowledge here is a constantly changing entity, with the learner as an active agent of that change (Bednar et al., 1992; Duffy & Jonassen, 1992; Perkins, 2009).

### **2.7.1.1 *Constructivist learning theory and virtual worlds***

Current research suggests that the virtual world platform provides the opportunity to create learning experiences that support constructivist learning frameworks (Girvan & Savage, 2010; Savin-Baden et al., 2010). The virtual world as a 'construction kit' (Perkins, 2009) presents the opportunity to learn by doing. In particular, the contextualising, simulative and interactive affordances of the technology (Cheal, 2007; Warburton, 2009) provide visualisation and knowledge construction tools (Jonassen, Carr, & Yeuh, 1998) that allow the learner to actively consume, interact and produce (Nelson & Erlandson, 2012) within the virtual world environment. These interactions with virtual objects, if designed to fit with specific content, may lead to a better conceptual understanding of the content being taught (Dickey, 2003; Winn, 1993).

### **2.7.2 Experiential Learning Theory**

Experiential learning theory, like constructivist theories, is predicated on the concept that knowledge is not transmitted and received, but constructed and developed. It posits that learning is not simply a cognitive process, but also encompasses the perceptions and emotions of the learner (Kolb & Kolb, 2005). Furthermore, it identifies learning as a process which draws out students' beliefs so that they can be tested and reconstructed based on new experiences (Dewey, 1997; Kolb & Kolb, 2005). This process requires the learner to engage in a cycle of experiencing, reflecting, thinking and acting that relates to the context of the learning and the content being learned (Kolb & Kolb, 2005).

### **2.7.2.1      *Experiential learning theory and virtual world environments***

The content creation, visualisation and simulative affordances of the virtual world environment combine to allow for the creation of educational experiences that go beyond simulation and enable a sense of 'lived experience' (Gillen et al., 2012). These authentic experiences, alongside the sense of co-presence established through the use of an avatar (Baker & Reis-Bergan, 2011), enable the students to immerse themselves in the environment allowing them to feel as well as think. This may facilitate knowledge building through interaction and exploration (Cheal, 2007; Nelson & Erlandson, 2012) and prepare students for future learning by providing images and simulations that users reflect upon, store and use to address new situations (Dewey, 1997; Gee, 2003; Kolb & Kolb, 2005). Finally, the sensation of co-presence allows the learner to have first-hand experiences which go beyond information representation and support experiential learning (Winn, 1993).

### **2.7.3 Finding an Appropriate Pedagogy for Poetry**

The pedagogical frameworks of experiential learning theory and constructivism may also be used to support both the 'experience' of the multisensory nature of the poem and the generation of the personal connection required to interpret it. The complex unimodal semiotic system of poetry must be 'synthesised' with outside experiences in order to be understood (DeMott, 1988; Kryder, 2006; Vygotsky, 1971). Thus, the reader must learn to feel the poem and not just read the text (DeMott, 1988).

Furthermore, if the reader is to become an active, critical interpreter of the poem, they must establish a personal connection with the text (Lockward, 1994). This personal relationship may be best facilitated by the adoption of the constructivist conception of knowledge as a fluid entity based on personal interpretation (Cheal, 2007), achieved when the learner attempts to accommodate and assimilate new ideas in building understanding.. This independent knowledge construction (Jonassen et al., 1998) on the part of the learner may allow them to establish their own world view and reduce the role of the teacher to that of facilitator.

## **2.8 Conclusion**

Virtual worlds do not only offer the potential to blend pedagogical frameworks and technological affordances, but also provide a platform within which one can present traditional content in a more familiar form. This provides the opportunity to create the new while reconstructing the old (Kuksa & Childs, 2010). The multimodality of the platform (Girvan & Savage, 2010; Warburton, 2009) creates the potential for the images and sounds of a poetic text to be experienced, while the immersive (Girvan & Savage, 2010; Merchant, 2010) and atmospheric qualities (Kuksa & Childs, 2010) allow for abstract concepts, such as mood, to be felt (Perkins, 2009).

It is in this blending of the traditional and the modern that valuable traditional knowledge and skills can be imparted (Dewey, 1997) in a context that enables the learner to learn (Bednar et al., 1992; Perkins, 2009). However, this 'remediation' must be done with care. The potential of virtual world environments in education has been under-explored (Merchant, 2010) and the need for careful design which aligns the affordances of the technology with the specific nature of the content being learned can be key to its successful application (Nelson & Erlandson, 2012).

Despite these concerns, the existing literature supports the use of virtual worlds as an engaging and motivating tool that allows students to access educational content in a manner more appropriate to their social environment. Therefore, this study proposes to leverage the multimodal and immersive affordances of virtual world technology to blend with the multi-sensory and emotional output of traditional poetry, in an effort to bridge the gap between traditional and modern literacies and the educational and social environments of the new millennium learner.

### **3. Design**

#### **3.1 Introduction**

The purpose of this chapter is to outline the design of the process which seeks to address the issues identified in the literature review. The argument is presented in two distinct sections. The first section details the manner in which the issues explored in the literature review have been addressed in the broader design. The second section provides a walkthrough of the learning experience which includes a brief discussion of the rationale and learning goals underpinning each of the stages of the experience.

#### **3.2 Design Principles**

##### **3.2.1 Creating a 'Design Strategy'**

The increasing resistance of the modern learner to traditional texts delivered in a traditional fashion (Hughes & Dymoke, 2011), as identified in the literature review, creates a need for the development of a new approach. Calo (2011) advocates the use of a comprehension strategy that examines the manner in which poetic content can be best delivered in the context of the modern learner. Similarly, when developing a framework for designing virtual worlds for educational purposes, Ketelhut et al. (2012) argue that any design must be appropriate to the learner and the content, supported by a pedagogical framework and mindful of the manner in which virtual world affordances can be harnessed to support the content being taught.

The design strategy that underpins this study combines elements of both of these strategies to create a process that places a virtual world installation alongside traditional text. It is further informed by a framework established in a pilot study conducted by the researcher. This study examined the affordances of the virtual world environment in teaching a particular poem and was recently presented at the SITE Conference, New Orleans 2013 (Morris & Savage, 2013). The design of this study represents a development of the initial research in that its intention is to

harness the affordances of the virtual worlds to support modern learners in their understanding of the abstract poetic construct of mood, rather than the interpretation of a single text.

### **3.2.1.1      *Leveraging the affordances of the virtual world to present content***

- ***Transduction***

The multimodality and ease of content creation within the virtual world environment provides the opportunity to align the unimodal semiotic domain of poetry and the multimodal virtual world environment. While the translation cannot be absolute (Bezemer & Kress, 2008), the virtual world installation seeks to represent mood in a manner more familiar to the modern learner and to provide concrete experiences for abstract concepts.

- ***Representing mood***

The affordances of the virtual world platform may be harnessed to represent mood in a variety of ways. The use of sound, visuals and engaging transitions facilitate a cognitive engagement with the concept of mood (Calo, 2011). Furthermore, the three dimensional, immersive nature of the environment may encourage the participant to feel as well as think, creating an emotional engagement appropriate when attempting to represent the multisensory nature of the poem. This engagement may be furthered by the sense of co-presence, established through the use of an avatar, allowing the learner to 'inhabit' the poem (Gillen et al., 2012; Kurkjian, Livingston, Young, & Hopkins, 2004).

- ***Accessing multiple literacies***

The multimodality of the virtual world platform presents the opportunity to access the multiple literacies of the modern learner. Sound, colour, image and text may all be used to varying degrees to support meaning-making. In so doing, the virtual world platform may become a repository of a new literacy forms being used by the learner to make meaning (O'Byrne, Bailey, & Murrell, 2011).

### **3.2.1.2      *Leveraging the affordances of virtual worlds to support learning***

This design is predicated on a constructivist pedagogical framework, with specific reference to a subsection of constructivism- experiential learning theory. Therefore, the installation has developed three ‘buildings’ (Appendices 1-3) that seek to access the everyday experiences of the participant to generate a personal understanding of mood (Simulation building), create a cycle of experiences that align this personal understanding of mood with a series of traditional texts (Transduction Building) and facilitate the participant in constructing a representation of that understanding (Production Building).

To support this view of the active, reflective learner the design of this installation seeks to harness the interactive and content production affordances of the virtual world environment. The participant interacts with the environment on several levels. They navigate the installation independently through the use of an avatar. The avatar then prompts a series of reactions within the environment intended to contribute both to the atmosphere and immersive nature of the design. Finally, the participant interacts directly with the environment, by uploading and producing content that represents their understanding.

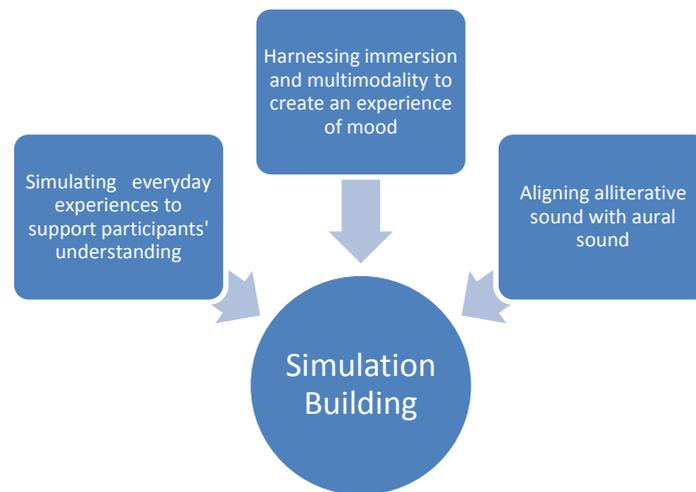
### **3.2.2    Applying the ‘Design Strategy’**

In order to support the interpretation mood in the traditional text placed at the beginning and end of this learning experience, a virtual world installation was developed by the teacher/researcher on the Second Life island of Insula Docta TCD. (For access, contact Timothy Savage, Trinity College Dublin).

While this installation uses the environmental features of the platform to support the presentation of content through-out the virtual world experience, separate ‘buildings’ were created to facilitate specific elements of the pedagogical frameworks and learning goals being used to underpin this study. These buildings are identified and briefly explained here in the context of the broader design strategy and will be discussed in more detail in Section 3.3.

### 3.2.2.1 *Simulation Building*

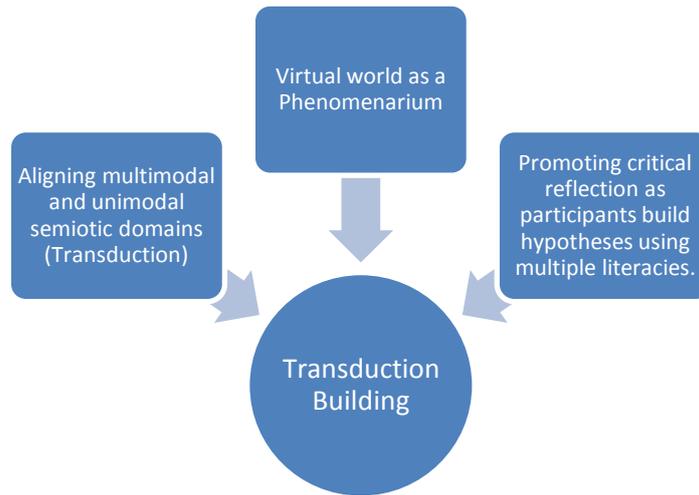
The simulation building was developed to bridge the gap between the social and educational worlds of the modern learner. It uses the virtual world as a 'phenomenarium' (Perkins, 2009) to allow the participant explore every-day experiences of mood, thereby supporting constructivist and experiential learning theory (Figure 1).



**Figure 1 - The Design Strategy underpinning the Simulation Building**

### 3.2.2.2 *Transduction Building*

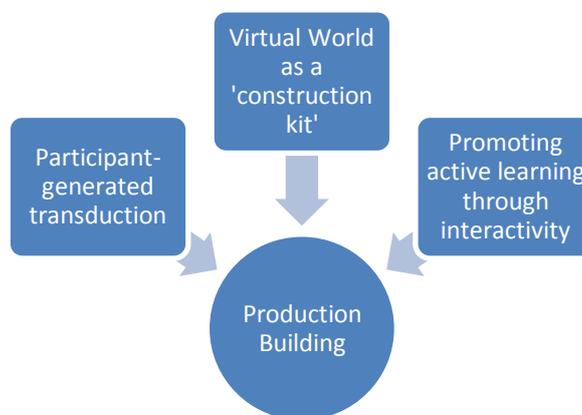
The Transduction Building was developed to facilitate the exploration of poetic mood. It offers the opportunity to explore the mood of a poem both in its traditional textual format, and through the exploration of a 'room' built within the virtual world environment and designed to reflect the mood of that text. In so doing, the design seeks to align the unimodal delivery of the poem with the multimodal virtual world platform and encourage the participant to explore poetic mood using a variety of literacies (Figure 2).



**Figure 2 - The Design Strategy underpinning the Transduction Building**

**3.2.2.3 Production Building**

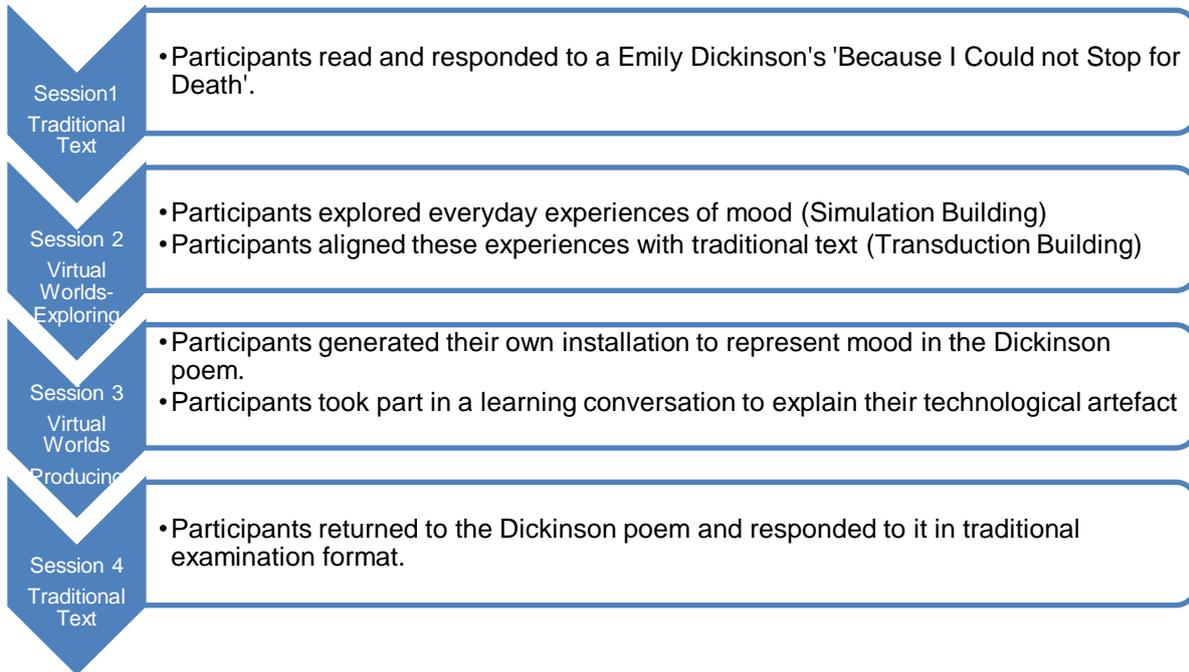
The Production Building was generated to allow the modern learner to actively represent their understanding of a traditional text in a more familiar format (Figure 3). The virtual world as a ‘construction kit’ (Perkins, 2009) facilitated participant-generated transduction. This was intended to stimulate active reflection and the construction of meaning, both within the virtual world environment and when working with traditional text.



**Figure 3 - The Design Strategy underpinning the Production Building**

### 3.3 A 'Walkthrough' of the Learning Experience

The following section provides a walkthrough of the learning experience, which details both the 'experience' constructed within each session (Figure 4) and the learning goals and rationale that informed the design of that experience (Figure 5), based on Gagne's Nine Stages of Instructional Design (Gagne, 2005).



**Figure 4 - A 'Walkthrough' of the Learning Experience**

Session	Instructional Design Principles
<b>Session 1</b>	Establishing clear learning goals
<b>Session 2</b>	
Simulation Building	Accessing prior knowledge Establishing relevance
Transduction Building	Effect a transfer of knowledge
<b>Session 3</b>	
Production Building	Elicit performance
<b>Session 4</b>	Enhance retention Encourage Transfer

**Figure 5 - The Rationale underpinning each of the Sessions**

### **3.3.1 Session 1- Traditional Text**

Participants were presented with a traditional text (Appendix 4) and asked to respond to a standard examination response question based on mood (Appendix 5).

#### **3.3.1.1 *Rationale underpinning Session 1***

This stage has a dual purpose. Firstly, it establishes an appropriate context for the learning (Bruner, 1977). Having a clear sense of the learning goals (Gagne, 2005) is central to creating a successful educational experience (Dewey, 1997) and even more important when using a virtual world environment which may distract from the learning objectives (Nelson & Erlandson, 2008).

Furthermore, this stage is also intended to act as a pre-test, allowing the researcher to obtain a sense of the extent of existing knowledge of each participant. The use of the pre-test, post-test framework for this study is justified when taking account of previous studies which have attempted to ascertain changes in knowledge and understanding, such as study examining the effectiveness of situated learning using the River City MUVE (Ketelhut et al., 2006).

### **3.3.2 Session 2- Virtual World as a Phenomenarium**

This session required the participants to explore two buildings, constructed to promote different experiences of mood. The first building (Simulation Building) was intended to reflect the everyday experienced of mood, while the second (Transduction Building) aligned those everyday experiences with mood as communicated through poetic text. Having completed their exploration of each room, participants filled out the appropriate section of the Response Report, formulated to capture their reaction each stage of Session 2 (Appendix 6a).

#### **3.3.2.1 *Simulation Building***

Participants were required to navigate four mood rooms constructed to evoke particular moods through the use of image, sound and colour .The images and sounds were selected by the researcher from the standard visual and auditory media

of advertising and film. The colours were selected based on the artistic interpretation of mood in colour developed by Betty Edwards (Edwards, 2004). Participants were then asked to document the moods evoked by each room and the manner in which they were conveyed. No time limit was imposed and participants exited the room when they felt that they had accurately identified the mood.

### **Room 1- The 'Cemetery' Room**

The purpose of this room was to evoke the moods generated by the everyday experience of the horror genre. Participants entered the Cemetery Room and were asked to explore their surroundings. A series of triggers variously prompted a fog to emerge, the walls to close in and sounds appropriate to the horror genre to play.



**Figure 6 - Mood in the Cemetery room**

- **Room 2- The Family Room**

This room was designed to evoke a sense of harmony and warmth. It used only image and colour to represent mood. The absence of sound and interactivity was intended to act in counterpoint to the Cemetery Room and to encourage the participants to see colour and image as sole supports of mood. Participants entered the room, explored the colours and images and exited when ready to write the response report.



**Figure 7 - Mood in the Family Room**

- **Room 3- The Maze**

The maze was situated on the second level of the Simulation Building. Participants had to 'fly' there. The intention was to promote further engagement through immersion and interactivity while simultaneously creating distance between each room experience. The purpose of the maze was to use a combination of sound, colour and image to generate a series of moods, demonstrating the fluidity of that emotion.

When participants entered the maze, a Welcome Notice presented instructions. The walls of the maze were coded to produce sounds that evoked changes in mood. For example, the participants were greeted with applause on entering the maze but derisory laughs when reaching a dead end. The walls of the maze changed colour and the distance between the walls varied, variously creating a sense of space or entrapment. On completing the maze, participants reached a 'relaxation room' where their avatar could wait while they recorded their experiences.



**Figure 8 - Exiting the Maze**

- **Room 4-The 'Alignment' Room**

The final room used sound and colour, but the sound here is generated for the first time using the alliterative qualities of language. This is the first room to introduce text and is intended as a bridge to the next stage, which attempts to affect a transfer of existing knowledge to the interpretation of poetic mood. Participants entered the room and were asked to identify mood based on colour alone. They were then directed by instructions 'inworld' to stand on a series of 'soundstones' which visually and aurally portrayed alliterative sequences of sound such as sibilance. Participants then decided if these sounds matched the mood that they had derived from colour alone, and either confirmed their choice or re-hypothesised based on the combination of factors.

### **3.3.2.2      *Transduction Building***

This building contained two rooms. These rooms were generated using the sounds, images and colour of specific poetic texts. Deliberate parallels were established between the design of this building and the Simulation Building, such as sliding walls, 'trigger mats' and the architecture of the rooms, in order to prompt associations and trigger a cycle of experiences. On completion of each room experience, participants completed a response report (Appendix 6b) that identified

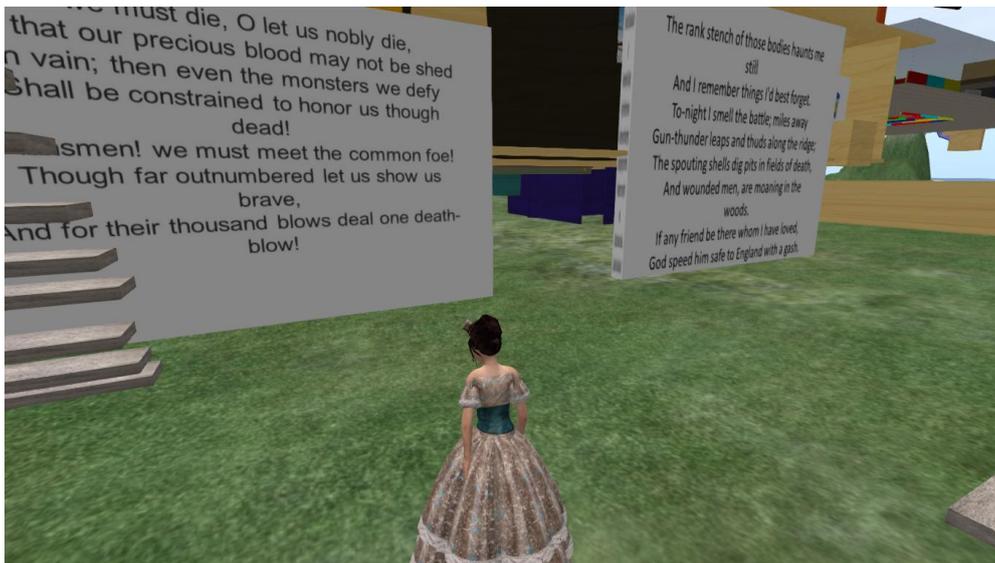
the parallels that they had drawn between the virtual and textual experiences of mood discussed below.

- **Room 1-War Room**

Participants entered the War Room through a sliding wall, triggered by their avatar. While exploring the room, the avatar triggered a series of interactions including the sounds of war and ‘pop-up’ images of war such as exploding bombs and rockets, all predicated on a Siegfried Sassoon text . When participants were satisfied that they had absorbed the mood, they left the room and typed the word ‘poem’ into the chat-box. Two slides descended containing excerpts from two war poems with differing moods (Appendices 7-8). The participants were then asked to match one of the excerpts to the room that they had just experienced, based on an understanding of mood.



**Figure 9 - A Virtual Experience of a War Poem**



**Figure 10 - Aligning Text with the Virtual World Experience**

- **Room2-The Funeral Room**

This room used a series of sounds, images and colours to represent a particular attitude to death, based on W. H Auden’s ‘Funeral Blues’. The room was divided into three sections. In the first section, images and sounds associated with the poem were triggered (in a particular sequence) by the avatar’s entrance into the room. The second section concentrated on a static image to represent the concept of death, while sound (triggered by the avatar’s presence) suggested mood. The final section of the room contained two excerpts of poems (Appendices 9-10) and participants were asked to select a poem that aligned with the mood that they had just experienced.

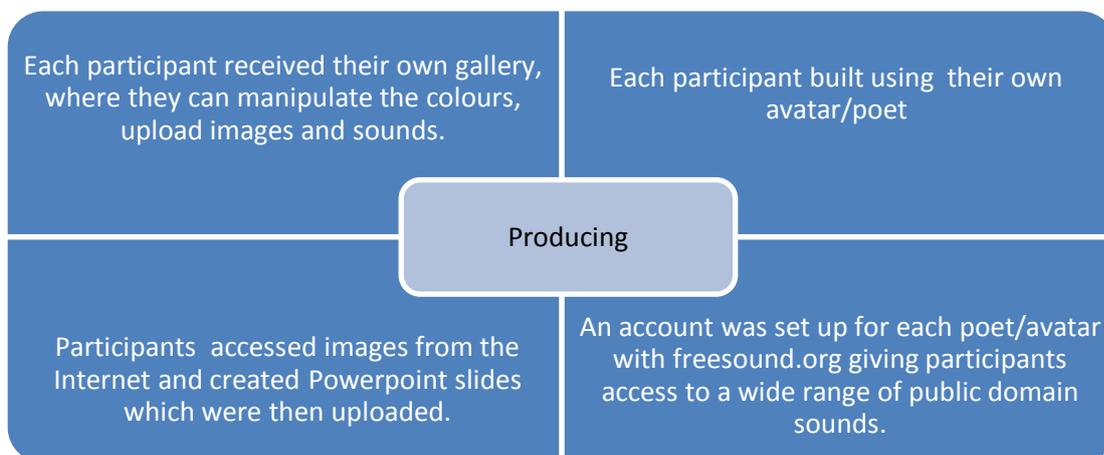
### **3.3.2.3 Rationale underpinning Session 2**

This stage was developed to leverage the affordances of the virtual world environment to access prior knowledge and establish relevance. This probing of existing knowledge (Gee, 2003) was designed to encourage the learner to reflect on the process through which they interpret mood in an everyday context, through the reading of a series of signs and symbols used to identify mood/atmosphere.

The purpose here is to affect a transfer of knowledge (Gagne, 2005) from the experiential, visual and aural to the traditional written text. By asking the participants to consider two texts and select the one that they felt was most appropriate, they were being encouraged to hypothesise using what they had learned in the previous stages.

### 3.3.3 Session 3- Production Building

This building contained ten empty galleries. Participants attended this session in groups of three or four. Each participant was asked to select four images, two sounds and manipulate the colours of the walls to represent their understanding of mood in the traditional text introduced at the beginning of the learning experience (Appendix 11). Participants were asked to create a personal understanding of the mood of the poem by using everyday images and sounds to represent their understanding of mood (Figure 11).



**Figure 11 - Outlining the Production Stage**

Participants were given a brief orientation session to assist them in manipulating the virtual world environment, but were also supported by the researcher/teacher during the session. Participants were then invited to explain their installation to each other in a learning conversation.

### **3.3.3.1 Rationale underpinning Session 3**

This stage asks the participant to recall the experiences they explored in Session 2, enhancing retention and eliciting performance (Gagne, 2005). It is also intended to encourage the student to reflect on the mood of the poem, by asking them to consider what strategies they will employ to demonstrate their personal understanding of the poem. This encourages the participant to 'reprobe' (Gee, 2003), or use their new knowledge, in their efforts to interpret the text introduced at the beginning of the experience.

Furthermore, through the learning conversation participants were asked to justify the choices (Hughes & Tolley, 2010) that they made and in so doing demonstrate the level of understanding of the poem that they have established. It also allowed the learner to place their learning in the broader context of other learners to test the viability of their learning (Ketelhut et al., 2006). In so doing, the participants were encouraged to rethink, or accept, their original understanding (Gee, 2003)

### **3.3.4 Session 4-Traditional Text**

Participants were asked to return to the traditional text and the traditional examination question that preceded their exploration of the virtual world installation and asked to respond to the text a second time (Appendix 12).

### **3.3.4.1 Rationale underpinning Session 4**

The post-test is intended to elicit performance (Gagne, 2005) within the more in the traditional framework of curricular education. The participants' responses may also indicate the level of retention and transfer (Gagne, 2005) that have occurred between the virtual experience of the poem and the traditional text-based version.

## **3.4 Conclusion**

This design seeks to create a learning experience intended to allow the learner to independently explore a poetic text in a more familiar environment. It attempts to do this by focusing on the newly emerging literacies of the modern learner, and blending

these with the traditional text-based literacy still employed by institutional education. The multimodal, immersive and interactive affordances of the virtual world have been harnessed to act as a support to the learner to allow them to make meaning through active exploration, reflection and the construction of a personal understanding. While the teacher/researcher was present at all stages of the learning experience, it was in the role of facilitator and no direct instruction took place. The intention here is to create an independent, active learner.

All stages of the learning experience provided several opportunities for data collection through researcher field notes, a variety of response reports, participant-generated content and the learning conversations. All participants were interviewed subsequent to the experience. The data collected is detailed and analysed in the following chapter.

## **4. Methodology**

### **4.1 Introduction and Research Questions**

Following on from the problems and potential solutions outlined in the previous chapters, the following research question was framed to support the research and inform the research design.

What role does the virtual world environment play in supporting modern learners in the interpretation of mood in traditional texts?

### **4.2 Methodology**

#### **4.2.1 Broad Perspective**

This research design is reflective of a subjectivist perspective. This perspective takes the view that the individual creates, changes and interprets the world creating sequences of meaning that make sense of the world in a specific context. Research design constructed within this framework searches for the presence of meaningful relationships, particularly through an analysis of language and meaning (Denzin & Lincoln, 2005). This overarching philosophy matches well with view of the learning and the artistic, abstract nature of the subject domain which are fundamental to this research.

To accommodate the subjectivist outlook outlined above, a qualitative approach has been adopted. There are several reasons for this. In the first instance, this study intends to develop an understanding of the relationship that the modern learner has with poetry and how this relationship may be enhanced through the use of virtual world technology. In order to examine the relationship between a particular phenomenon and the manner that in which people bring meaning to it, the researcher must situate themselves in the natural setting of those they wish to study and observe the actions of the people within it (Denzin & Lincoln, 2005). This examination, and detailed description, of a specific phenomenon by an observer in the world is best supported by a qualitative approach (Yin, 2009).

Secondly, there is a dearth of inquiry into the relationship between virtual world technology in an educational setting and the teaching and learning of poetry. Thus, the purpose here is to broadly explore how these two elements combine and develop generalised themes that provide a basis for further investigation. As such, a qualitative approach was deemed most appropriate (Cresswell, 2009; Yin, 2009)

Finally, this research is defined by an acceptance of the difficulties faced by students when learning poetry in the classroom and seeks to discover a solution to this difficulty through the use of a virtual world technology and the adoption of a constructivist approach to learning. Thus, the intention here is to investigate the possibilities for change or reform, a central aim of qualitative research (Cresswell, 2009).

#### **4.2.2 Developing a Strategy of Inquiry**

A strategy of inquiry is an interpretive framework adopted by the researcher to allow them to represent the world that they are analysing through a series of lenses (Denzin & Lincoln, 2005). While a quasi- scientific approach was considered, given that the research is predicated on the introduction of a single variable in order to affect change, this approach was dismissed as there was no attempt by the researcher to directly control the behaviour of events/participants (Yin, 2009) and the phenomenon was being examined in a real life context and not divorced from it. A survey design was also dismissed, as the central focus of this design is on outcomes and that would not support the construct of the research questions predicated on how, why and in what ways.

An exploratory case study was selected as an appropriate strategy of inquiry (Denzin & Lincoln, 2005) for this study. This study has been defined as exploratory as existing research has provided little data and no sound theoretical framework (Yin, 2009). Broadly, the research adopts a case study design because it examines a single, contemporary phenomenon and is bounded by specific frames including institutional and temporal factors. However, there are some specific features of the case study design which align it well with the research being undertaken here and these are worthy of brief discussion.

#### **4.2.2.1 *Exploring a process***

While this research will consider outcomes (did the students interpret mood better at the end of the learning experience?), the fundamental basis for investigation is the process through which these outcomes were achieved. An examination of the type of literacies used by the learner at different points in the process is central to interpreting the value of the virtual world installation. The case study construct supports this examination of process (Cresswell, 2009).

#### **4.2.2.2 *Observing interactions***

This study attempts to explore the complex and evolving interactions between the participants and technology and the participants and traditional text. Direct observation and researcher participation facilitates this process, both features of case study design.

#### **4.2.2.3 *In-depth analysis facilitated by small numbers***

Case studies are often criticised for their lack of statistical significance, given the relatively small amounts of participants used (Cresswell, 2009). However case studies are intended to produce analytic generalisations (Yin, 2009) to allow for the development of a theory upon which future research is based. To this end, smaller numbers facilitate the in depth analysis required to generate such theories and allow for the capture of unexpected or unique data that may be lost in larger scale studies. This is important in the context of educational research as it provides genuine opportunities to explore phenomena that may lead to new ways of understanding education (Morrison, Manion, & Cohen, 2007).

#### **4.2.3 *Establishing Validity***

Given the subjective nature of the research approaches adopted, the interpretation of the data may be subject to bias. To address this, the researcher has built in a variety of measures to establish validity. Internal validity is established through the generation of multiple datasets that seek to support triangulation. Participants were also invited to member check (Cresswell, 2009) the anonymised findings of the study

(Appendix 13) and, of the eight respondents, all were satisfied that the findings accurately represented their experience. Construct validity is established in that the data was collated with reference to the research question, and that data did match with the concepts being investigated (Trochim, 2006; Yin, 2009).

## **4.3 Method**

### **4.3.1 Data Collection**

The 4 stage learning experience undertaken by the students provided several opportunities for data collection using different instruments. These instruments- document analysis, observation and semi-structured interviews- are all appropriate to the use of a qualitative case study (Denzin & Lincoln, 2005). For the purposes of data collection, individual semi-structured interviews were also built into the process. The first set of interviews was held upon completion of Stage 2, and the second on completion of the learning experience. These interviews were semi-structured as they were intended to elicit specific detail in relation to the participants' experience of poetry in general and the effects of the virtual world environment. Questions were all open-ended to allow for the capture of emergent data (Appendix 14).

The variety of instruments being used is intended to produce corroborating data which will allow for triangulation across multiple datasets.

Session	Data Collection Method	Purpose
Session 1	Direct observation  Document Analysis (Response Report 1) (Pre-test)	Examine the participants' interaction with the traditional text.  Identify the level of understanding of mood.
Session 2	Direct Observation  Document Analysis (Response Report 2)	Examine the participants' interaction with technology. Identify the participants' ability to interpret mood in a more familiar context e.g. cinematic images. (Building 1)  Identify the manner in which the participant can interpret mood in the virtual world and align this interpretation with that in the traditional text (Building 1 and 2).  Examine the literacies being used by the participants.
Session 3	Direct Observation  Participant-generated artefact  Learning Conversation	Examine the process used by participants to produce an artefact based on a text.  Examine the manner in which the participants use virtual worlds to build, and represent, their understanding of the poem. Examine the personal nature of their learning  Identify the nature of participants' understanding and the manner in which they represent it.  Examine the literacies being accessed by the participants.
Session 4	Document Analysis (Response Report) (Post-test)	Identify any changes in the nature of understanding of mood.  Identify changes in the evidence used to support that understanding.
Session 5	Semi-structured Interview	Seek evidence of the problem identified in the literature review.  Investigate the support, if any, offered by the learning experience. Examine the nature of that support.

**Figure 12 - Data Collection Methods**

### **4.3.2 Measurement**

The learning experience and subsequent interviews provided multiple datasets. This information was organised to provide meaning using thematic coding. Each of the response reports, including the pre-test and post-test reports, was coded for understanding of the concept of mood and the sources of those understandings. The participant-generated artefacts were also analysed and coded for an understanding of how mood can be represented. Finally, the interviews were audio-coded. Examples of the coding framework (Appendix 15) and the coded interview transcripts (16) are included in the appendices of this dissertation.

## **4.4 Implementation**

### **4.4.1 Procedure**

The implementation of this research took place over a five week period in the secondary school attended by the participants. Participants attended five sessions each, ranging in duration from 10-90 minutes. Two of sessions were group sessions, the first involving all ten participants and the second involving groups of 3-4 participants. All sessions were held outside normal school hours. Once the learning experience had been completed, the teacher participants were asked to review the anonymised pre-test and post-test response reports.

### **4.4.2. Participants**

#### ***4.4.2.1 Student Participants***

This study required the participants to fulfil certain criteria. The subject domain being investigated required that the participants to be currently engaged in the process of learning poetry in the traditional educational setting. All participants had to be over 18, as per the terms of use of Second Life, the virtual world environment being used by the researcher. Finally, all participants needed to have reasonable technical competence to explore and manipulate the virtual world.

Therefore, the participants were recruited, using opportunistic sampling, from the Sixth Year student body in the researcher’s school. They were mixed ability learners, all currently engaged in the Leaving Certificate Programme and have received computer training at various stages of their school life. While some students were known to the researcher in other contexts, no members of the researcher’s English class were eligible for selection.

#### **4.4.2.2 Teacher Participants**

Two teacher participants known to the researcher were recruited using opportunistic sampling to assist in establishing external validity. Both teachers are recently retired English teachers with previous ties to the researcher’s school.

#### **4.4.3 Delivering the Learning Experience**

The learning experience was delivered over a period of five weeks (Figure 13).

	<b>Purpose</b>	<b>Duration</b>	<b>Participants</b>
<b>Session 1</b>	Stage 1- Pre Test, exam response to traditional text	30 minutes	10
<b>Session 2</b>	Stage 2 Virtual World - Exploring and Blending	1 hour 30 minutes	10
<b>Session 3</b>	Stage 3 Virtual World, Phase 2- Producing, Learning Conversation.	1 hour 30 minutes	10
<b>Session 4</b>	Stage 4 Post-test, exam response to traditional text.	20-30 minutes	10
<b>Session 5</b>	Semi-structured Interview	20 minutes	10

**Figure 13 - The Implementation of the Learning Experience**

#### **4.5 Ethical Considerations**

This study has received ethical approval from Trinity College, Dublin (Appendix 17). All participants were over 18 and prior to engaging in this study were provided with Participation Information Forms and Participation Consent Forms (Appendix 18a-d). The school's Board of Management also approved the study. Students were advised, and reminded, of their right to withdraw at any stage.

The use of the Second Life virtual world environment posed some potential safety issues for the students and, as such, was carefully controlled. The researcher was present while the participants were in the virtual world environment. The installation was built within a secure and access-controlled section of the Second Life environment, regulated by Trinity College. The avatars that the participants used were specifically created for the purpose and were one of only five avatars allowed into the area. Students were advised of the risks of the Second Life environment when accessed privately.

#### **4.6 Researcher Bias**

The researcher is a teacher in the school which participated in the study and the participants are known to her, however they were not students in her English class. The study took place outside school hours and was not framed as any part of the curriculum. Furthermore, two teacher participants reviewed the participants' responses to the traditional text both before and after they had engaged in the learning experience. All independent reviews indicated a development in both the understanding and development of mood in a traditional text. Samples of the Teacher Evaluations are contained in the appendices (Appendix 19a and 19b).

#### **4.7 Summary**

This chapter has presented detail relating to the broad perspectives and resulting strategies of inquiry that have been used to frame this study. It has also provided detail relating to the implementation of the learning experience and the nature and number of the participants used. Finally, it has outlined the type and purpose of all the datasets generated by the study. These multiple datasets are intended to limit

the impact of a subjective bias that can constrain data analysis when adopting a qualitative approach, by facilitating triangulation and, thus, establishing validity.

The manner in which the data was analysed, and a detailed breakdown of the findings, will be presented in the next chapter.

## **5. Data Analysis**

This section describes the preparation of the data, the broad approach to analysis and details the analysis of each dataset. This is followed by a discussion of findings, structured according to the themes that emerged from the analysis of each dataset.

### **5.1 Preparation of the Data**

This study produced five datasets. Observation notes and participant-generated documents were collated according to participant number. Audio recordings of the interviews and learning conversations were reviewed to ensure that the data had been accurately captured. The participant-generated content generated in the virtual world environment was reviewed to ensure continued access.

### **5.2 Broad Approach to the Process**

While the overall approach here was inductive to allow for the capture of emerging data, many datasets were predicated upon particular requirements. In those cases, a deductive approach was applied initially, although multiple readings were required to capture emerging themes. Descriptive codes were generated to allow for deductive analysis and to capture emergent data (Cresswell, 2009). For example, the analysis of the traditional text required codes to indicate evidence of the understanding of the concept of mood and the source of that understanding. Therefore, codes such as 'image as evidence of mood' (IE) and 'understanding of mood' (Und) were generated. When analysing the data generated by the use of the virtual world platform, codes specific to the affordances being examined were used to form the basis for deductive analysis.

In some cases, codes generated to describe evidence contained in one dataset were extended to identify evidence in others. For example, 'sound as evidence' (of mood) [SE] generated in the initial analysis of the pre-learning experience response reports then became 'sound as evidence (of mood) in virtual worlds'[SEV] and 'sound as evidence (of mood) in text' [SET] to allow for distinctions when participants were discussing both the traditional text and the virtual world environment.

These descriptive codes were then applied to each dataset and triangulated across the datasets. Coding tables were generated for each dataset to facilitate triangulation (Silverman, 2011). Each of these tables were considered together, and through a process of memoing (Miles & Huberman, 1994), 'like' codes were brought together and consolidated into themes (Appendix 20). This resulted in a reduction in codes, after multiple readings, and final amalgamation of 'like' codes into central six themes which formed the basis of the discussion of the findings (Cresswell, 2009). The specific approach applied to each dataset is detailed below. Figure 14 presents a broad overview of the data analysis process. For a full list of codes pertaining to each dataset, see Appendix 15.

<b>Consolidated Themes</b>	<b>Original Themes</b>	<b>Examples of Codes</b>
<b>Barriers to Learning</b>	Multiple Literacies Classroom Correct answer Vocabulary	Teacher Authority Exam Pressure Unimodality Passivity Reluctance Uncertainty
<b>Evidence of Learning</b>	Sources of Evidence Understanding Reflection Development of Understanding Initial Understanding	Sound as Evidence in VW Image as Evidence in VW Colour as Evidence in VW Poem First Image as Evidence in Text Colour as Evidence in Text Sound as Evidence in Text Hypothesise Rehypothesise Fluidity
<b>Nature of Learning</b>	Active Learning Experiential Learning Personal Learning	Active Feel Cycle Interpretation
<b>Alignment</b>	Blending Parallel Cross-checking	Virtual World First Poem First Blended Answer Distraction Support
<b>Confidence</b>	Uncertainty Confidence	Hesitancy Question Marks Sentences Fluidity Development
<b>Virtual World Support</b>	Engagement Multimodal Immersion Interactive Independent Familiar	Immersion Co-Presence Relevance Familiar See Hear Feel Do Explore

**Figure 14 - Consolidation of Themes**

## **5.3 Methods of Analysis**

### **5.3.1 Document Analysis 1 (Response reports to traditional text)**

The pre-test and post-test responses were analysed together to identify any development in understanding. The initial approach was deductive, as the reports were constructed to elicit data relating to the understanding of mood and the manner in which it is communicated. The codes generated to identify these elements were based on the nature and sources of mood discussed in the literature review. However, these codes had not taken account of the varying abilities of the participants and the differing quality of response that this would generate. To accommodate this emergent data, new codes were generated on a second iteration. A third and final iteration consolidated the data into five central themes, one of which represented the emergent data (Appendix 15a ).

### **5.3.2 Observation Notes**

This data was analysed using an emergent approach. An initial sweep of the data generated descriptive codes that related to the experience of the students. Only one new theme was generated at this point, as the data was limited, but a second iteration revealed supportive evidence for the themes identified during document analysis. See Appendix 15b for a list of codes. New codes generated here were used across the other datasets in an effort to support triangulation.

### **5.3.3 Document Analysis 2 (Response Reports in Virtual World)**

The response reports from this session fall into two categories. The responses in the Simulation Building reflect the participants' ability to align 'everyday' experiences of mood with simulated experiences of mood within the virtual world environment. The reports from the Transduction Building reflect the manner in which participants aligned experienced mood in simulated experiences with an examination of mood in text. Therefore, the responses were analysed separately using a deductive approach that re-used the codes generated during the earlier document analysis and generated codes appropriate to the questions framing the response report. A second

iteration generated emergent codes which described the variances in the participants' approach and the manner in which they related to the text and the virtual world installation. These codes were then amalgamated into 9 core themes and a final iteration applied these themes to the analysis of both 'buildings'. See Appendix 15c for a full list of codes.

#### **5.3.4 Learning Conversation, Participant-generated Artefact and Observation Notes.**

All three datasets generated during Session 3 of the learning experience were analysed together as their focus related to one specific task. An initial sweep of the datasets identified the learning conversation as the richest source of data. A deductive approach was used to audio-code the recordings of the learning conversation. Many of the codes used were generated when analysing previous datasets. These codes were then used to analyse participant-generated artefacts and participant observation notes to facilitate triangulation. A third emergent sweep yielded data relating to the participants' use of the virtual world environment and the manner in which they related to the traditional text and each other. The data from all three sets was then analysed together under themes generated by consolidating the codes. See Appendix 15d for a list of codes and themes.

#### **5.3.5 Interviews**

Given the semi-structured nature of the questions, the initial approach here was deductive. Codes were developed in order to represent the responses elicited as direct answers to the questions. Some of these codes had been generated in the analysis of other datasets and were re-used to facilitate triangulation. However, the second iteration revealed emergent data that warranted investigation as participants offered relevant, unsolicited opinion and so new codes were generated at this point. These codes were then consolidated into broad themes that were triangulated across all datasets. See Appendix 15e for a full list of codes and themes.

## **5.4 Discussion of Findings**

To demonstrate triangulation and limit repetition, the individual findings of each dataset have been consolidated into six themes (Figure 14, above) and are discussed below.

### **5.4.1 Evidence of Learning**

In order to analyse the data in relation to the development, or otherwise, of learning the pre-learning experience responses to the traditional text were analysed for evidence of pre-existing knowledge. The remaining datasets were then analysed in conjunction with these initial reports in an effort to identify development. The brief discussion below mirrors this process.

#### **5.4.1.1 *Pre-existing ability***

The pre-learning experience report demonstrated a very narrow interpretation of mood. Nine participants defined it solely as an emotional construct with only one response demonstrating any understanding of how mood might be identified in a poem. Furthermore, there was significant variance in participants' ability to identify mood within the poem. Many responses variously identified only one mood, indicated significant uncertainty about the what mood and/or provided narrative or repetitive evidence for their conclusions. Four responses demonstrated clear ability in interpreting mood. However, of those, only two participants demonstrated an ability to track changes of mood within the text. All responses revealed an absence of specific evidence for arguments made. Where specific evidence was offered, it referred almost exclusively to image.

#### **5.4.1.2 Development of Understanding**

The datasets generated both during and after the learning experience demonstrated a development of understanding in most areas identified in the initial report.

- **Defining and interpreting mood**

The post-experience responses revealed a noticeable broadening of the understanding of mood to include atmosphere with 5 participants specifically referring to the importance of sound and image in communicating mood. The ability to interpret mood improved at all stages of the learning experience. Participants identified the everyday experiences of mood in the Simulation Building with ease. In the Transduction Building, participants transferred this ability to interpret mood in virtual simulations to a more accurate interpretation of traditional text than had previously been offered. While some of the responses were brief, in 90% of the cases the participants accurately matched the virtual representation of the poem with the appropriate excerpt of text.

- **Use of evidence**

The manner in which participants produced evidence to support analysis improved, to varying degrees, across all datasets. While image continued to be the most popular point of access to the mood of the poem the response reports, learning conversation, interview data and participant generated artefacts all reflect an ability to interpret or represent mood using sound and colour. Despite this ability, participants often had to be prompted to talk about colour, as the habitual reliance on image as an indicator of mood re-emerged.

This dependency became even more pronounced when the virtual world installation was removed and participants returned to the traditional text. Despite the importance placed by the participants on sound evident from the interview data, learning conversation and the response reports from Session 2 this did not translate to the final response reports. While five of the participants defined mood as being found in sound and image in final response report, only three used sound as evidence within their responses and in two of those cases the reference was ill-defined and unstructured. All participants continued to rely heavily on image as the central, or sole, source of understanding when they returned to the traditional text.

- **Evidence of a deeper understanding**

Despite this concern, the final response reports offered strong evidence of a deepening understanding represented in a number of ways. Almost all participants submitted longer, more detailed responses. Nine participants now accurately identified more than one mood. In some cases the one or two moods identified in the first report increased to five or six in the final response report. This translated into more fluid writing, with the amount of repetition reducing significantly. Three participants offered a substantially different interpretation to their initial reports. In these cases, the change provided a more accurate and better evidenced interpretation of text.

Furthermore, interview data suggests that the development of learning extended beyond the learning experience. Several participants suggested that they would use visuals representations to aid the study of poetry in the future and/or had a clearer understanding of mood that would now translate to their future study of poetry. One participant claimed to have offered an analysis of mood in class for the first time, subsequent to the learning experience, while two others suggested that they were going to use visual stimuli as a means of studying poetry in the future. All participants claimed to have a clearer understanding of mood, which they felt would benefit them in future.

#### **5.4.2 Barriers to Learning**

Data generated during the interviews, through direct observation and also from the analysis of the response reports provides evidence of two significant barriers to learning. The first, identified solely from the interview data, reflects a unanimous resistance to the manner in which poetry is presented in the classroom. Institutional barriers to learning such as the authoritative position of the teacher “they (the teachers) get annoyed coz u don’t understand it and they keep going” and the pressures generated by the curriculum were a source of frustration for all participants.

Difficulties with the poetic form were also widely referenced. These ranged from a specific difficulty with the poetic construct of mood “I don’t really know exactly what mood is” to indications that the unimodal nature of the text created difficulties in

understanding the multisensory nature of the poem. Multiple datasets support this contention. Observation reports from all three sessions suggest a lack of confidence when faced with reading, or writing about, a poem. Several students expressed dismay when faced with the traditional text in Session 1 while all three groups in the Session 3 demonstrated varying of degrees of reluctance when asked to return from the virtual world environment to the traditional written responses to text.

Furthermore, while participants identified mood with ease from the audio sounds in the Simulation Building, interview data and observation notes suggest that they found the alliterative representation of sound in the final room of the Simulation Building difficult to interpret. Here, alliterative sound was presented in a textual format but also represented through audio prompted by the avatar stepping on a 'soundstone'. All participants struggled with the identification of mood from the textual alliterative construct and observation notes record the manner in which they used and re-used the sound support in order to ascertain mood. While, in almost all cases, the participants successfully identified mood interview data corroborates the fact that the audio support of the virtual world was central to that understanding.

Emergent data from multiple data sources suggest that an absence of appropriate vocabulary proved to be a barrier to learning, as participants often struggled to find the words to describe the mood or emotion that they had identified. This was evident both in the responses to the traditional text and within the virtual world environment. The learning conversation in particular demonstrated a deep understanding of mood, but significant difficulties in expressing it.

#### **5.4.3 Nature of the Learning**

Data generated during the interview and the learning conversation triangulated with the observation reports and participant-generated artefacts to provide a clear picture of the participants' learning. Three sub-themes were identified and are briefly discussed here.

- **Active Learning**

When interviewed, all participants referred to the active nature of the learning experience. Whether it was the active exploration of the learning experience during Session 2, or the production of their own content in Session 3, they felt that activity promoted confidence, engagement and a construction of knowledge. This was further evidenced in the observation reports pertaining to the production session and in the audio-recorded learning conversations where participants used their artefacts as learning objects through which they both constructed and represented their understanding of the poem.

- **Experiential Learning**

The experiential nature of the learning was also clearly referenced by the participants during the interview process. Both the cycle of experiences within the learning experience and the alignment of everyday experiences with the content to be learned, were acknowledged by the participants as being central to their learning. All participants referred to the ease with which they interpreted mood in the 'everyday setting' of the Simulation Building, opinions supported by the accuracy of their analysis in their response reports. Where participants discussed the transfer of those experiences to the mood rooms centred on a poem, all said that the interpretation of the mood in poetry was made easier by the alignment of the everyday and new content "you can take parts [of the experience] and put it in to something else". This cycle of experiences was also evident when analysing participant-generated content as participants re-used sounds and images experienced in the previous session, when creating their own learning objects.

- **Personal Learning**

The learning conversations, interviews and observation reports from Session 3 capture emergent data relating to the personal nature of the learning being achieved. During the producing stage, many participants spent a considerable time searching for images and sounds to represent their understanding. Where the images they chose were similar in content, there was considerable variance in the attitudes demonstrated by the images. For example, several participants chose the grim reaper as an image of death, but some chose a cartoon version to mitigate the traditional horror of the image, while others chose a menacing 'mood'.

This personal interpretation is also evidenced in the observation reports which indicate the care with which participants chose colour and sounds. Several participants experimented with different hues of the same colour. Furthermore, the limitations to uploading sound files in Second Life caused frustration as participants required a particular speed, or volume or 'mood' to accurately represent their understanding. Where the sound they wanted would not upload, they were reluctant to choose another and played the sound directly from the website.

This opportunity to represent their own understanding also translated into a sense of ownership and pride. As one participant stated "I did all the work without being told. It was my own effort..."

#### **5.4.4 Alignment**

The successful alignment of traditional text and the virtual world environment is evidenced by multiple datasets. Analysis of response reports, produced within the Transduction Building, illustrate the manner in which the participants used the virtual world installation to support their understanding of the traditional text. Where participants discussed the poetic texts it was most commonly aligned with sounds, images and/or colours from the virtual world, and not analysed in isolation.

Furthermore, when participants were producing their own artefact, observation notes suggest that participants continuously referred to the traditional text aligning it with their own understanding of the poem. Finally, the learning conversations demonstrated that the multimodality of the virtual world platform could be accurately used to represent an understanding of traditional text as participants continuously returned to the text to inform the choices they made and often drew parallels between their artefact and the text in order to explain their choice of mood.

Interview data further highlights the successful alignment of the virtual world environment with the traditional text, as participants often referred to the immersive qualities of the virtual world as a support to the experience of mood ("I felt the war was happening then").

However, in one case this alignment distracted from the learning as the participant concentrated on matching images in the text to those in the virtual world installation, rather than attempting to ascertain mood

#### **5.4.5 Confidence**

Analysis of emergent data highlights the important role confidence played in the participants' ability to engage with the poem. Observation reports from the first session, which used the traditional text only, suggest a lack of confidence when faced with reading or writing about a poem. This data is reinforced by the brief and repetitive answering in the pre-experience response reports and the interview data.

There was a marked change in the level of confidence both during and after the learning experience. During the producing phase of the learning experience, a few participants expressed uncertainty but this seemed to be caused by the pressure of presenting their artefact, or limitations in vocabulary. There were few references to uncertainty relating to the nature of the task and participants seemed confident in their ability to complete it.

A comparative analysis of the 'pre' and 'post' learning experience response reports suggests that confidence in interpreting the traditional text improved significantly at the end of the learning experience. One participant's initial report contained question marks at the end of several of their sentences, these were absent in the second report. Another participant wrote in bullet points initially, but the second response was structured into paragraphs with full sentences and clear use of evidence. A third participant changed the mode of expression being used to communicate, with the second response written in a more formal style.

Interview data also supports these findings. All participants expressed more confidence in the answer they had provided in the final response report. For some the concept of mood, or the manner in which it is communicated, was clearer and so they found it easier to identify it the traditional piece "I felt I knew what I was looking for". Others felt more confident having experienced the poem in a more accessible format and this translated into more confident opinions ("I could explain my ideas rather than just the words on the page").

## **5.4.6 Virtual World Support**

### **5.4.6.1 Familiarity**

The virtual world environment supported the participants on several levels. The familiarity of the environment was referenced by many participants. Interview data and observation notes record the participants drawing parallels between the virtual world environment and their social experience of technology, equating it variously with 'Sims', 'Slenderman' and 'Minecraft'.

### **5.4.6.2 Immersion/Co-presence**

The immersive nature of the virtual world was universally referenced by participants as important in supporting their understanding of mood. The impact of immersion was universally referenced as important in supporting understanding of mood ("I could use all my senses"). Observation notes from Session 2 also reveal significant evidence of immersion. Physical responses, particularly to the sounds generated in the virtual world environment were common, with one participant actively pulling away from the computer. Participants also verbalised the emotions that they were feeling, as opposed to ones that they simply identified within the environment ("Can I get out, I am terrified?").

Multiple datasets revealed evidence of co-presence. Observation notes from both virtual world sessions record participants talking to their avatar "no, we'll try the other way", or referring to their avatar in the first person "will you fly me?" Interview data supports this analysis as participants regularly referred to being 'in' the virtual world.

### **5.4.6.3 Multimodality**

The manner in which the multimodality of the platform supported multiple literacies was also deemed important by all participants when interviewed. All participants felt that evaluating mood was "easier" within the virtual environment. The response reports from the Transduction Building support this view, as all but one participant used the virtual world environment as their primary source of evidence, despite the fact that the question that they were responding to led with the poem (Appendix 6).

While some referenced the importance of aural literacy, most made specific reference to the importance of visual literacy in identifying meaning (“the pictures prompted associations”). Some participants specifically referred to the manner in which the multimodality of the platform offset the difficulties created by the unimodality of the poetic text.

## **5.5 Summary**

This chapter has outlined the manner in which the datasets were prepared and analysed and offered a broad discussion of findings, framed by the themes that emerged from the analysis. The following chapter will analyse the findings in relation to the research questions and discuss the broader implications of the findings.

## **6. Key Findings and Discussion**

### **6.1 Key Findings**

This section examines the data in relation to the research question framed at the outset of the study.

#### **6.1.1 Evidence of the Problem**

During the course of this study, participants identified many difficulties in connecting with poetry in general, and mood in particular. Difficulties with the poetic construct were exacerbated by curricular pressures and teacher authority. While some participants stated that they were given time to personally connect with the poem, almost all said that they would adopt the interpretation of others for the sake of expediency. The resulting demotivation created a passivity that undermined engagement and, in many cases, confidence. For some participants this translated as a reluctance to read, write on or talk about poetry. Others sought engagement through activities such as class discussions.

Defining, interpreting and writing about mood also caused difficulty. While many participants produced better answers initially than they themselves believed, the unimodality of the traditional text restricted their ability to interpret all the evidence available. This was clear from the analysis of the learning conversations that revealed an understanding of mood in the traditional text that did not always transfer into the post-test responses. While this did not necessarily prevent the participants from broadly interpreting mood, it often narrowed their analysis. Their discussions were also limited by their vocabulary as participants often struggled to find the appropriate terms to communicate the feelings that they had interpreted.

#### **6.1.2 Addressing the Research Question**

What role does the virtual world environment play in supporting modern learners in the interpretation of mood in traditional texts?

In order to accurately answer this question, the discussion here is divided into three units. The first examines how the virtual world environment supports the presentation of the content and the second speaks to the manner in which the platform supported the learning of the participants. This section concludes with a concise statement of the findings in relation to the research question.

#### **6.1.2.1      *Presentation of content***

Participants responded well to the alignment of the virtual world environment with the semiotic domain of poetry. Exploring the mood of a poem concretised within the virtual world environment allowed them to connect with and interpret mood when presented in its more abstract, textual format. Furthermore constructing a representation of meaning, using signs and symbols created within the virtual world environment, translated into a broader or deeper understanding of the traditional text that was almost universally represented in the poet-test response reports.

This alignment was supported by the affordances of the virtual world environment. The multimodality of the platform had a dual effect. The sounds, images and visualisation allowed both participants and researcher to represent the multisensory nature of the poem. This facilitated participants in accessing multiple literacies to construct a clearer conceptual understanding of mood and to communicate this understanding in a variety of literacies.

The immersion and sense of co-presence created by the virtual world environment had a significant impact on the interpretation of mood. Multiple datasets record the personal engagement of participants within the environment. Participants variously referred to their avatar in the first person, physically recoiled or verbally exclaimed in response to events 'inworld'. Demonstrations of real emotions were commonplace. The evocation of these emotions created a 'real' experience that allowed participants to examine the manner in which these feeling were prompted "I don't know if this is a mood, but this is what I am feeling". This translated into a better conceptual understanding of how mood is communicated in poetry.

### **6.1.2.2 Supporting Learning**

The virtual world environment also supported the manner in which the students learned about mood. As one participant put it “it was a good tool to show you what to be looking for”. This ‘tool’ operates on several levels, all of which fall within the constructivist theoretical framework.

The simulative affordances provided the opportunity for encouraging experiential learning. Several students reported using the everyday experiences of mood to allow them to build an understanding of mood “the first building is a little framework to bring you through all the other poems”. Multiple datasets suggest that experiences ‘inworld’ were internalised by the learner and re-used to construct meaning at later stages of the learning experience. Furthermore, all participants felt (to varying degrees) that the learning experience itself would “transfer” to other poems.

The interactivity and content production afforded by the virtual world environment provided the opportunity for “a kind of active learning that is much better”. This activity promoted an engagement evident across several datasets. Cognitive engagement was evident in the exploring phase as participants revisited ‘rooms’ to clarify understanding. However, it was particularly achieved in the production phase where “looking for the pictures and the colours makes you understand it more”. Emotional engagement was more strongly referenced however, as participants demonstrated and referenced a strong sense of ownership. This emotional engagement, supported by the sense of co-presence ‘in-world’, prompted personal connections with the poem evident in both in the production phase and contained in some of the personal reports.

Emergent data from multiple datasets suggest that using the virtual world environment promoted a confidence or sense of self-efficacy that translated into the writing of the post-test report. While some participants demonstrated reasonable skill in the initial report, all but one voiced concerns about the accuracy of their answers. However, participants were unanimous in the opinion that they wrote better in the final response.

### **6.1.2.3      *Responding to the research question***

In answer to the research question, the virtual world supports the modern learner in the interpretation of mood by providing a multimodal, immersive, concrete experience of a unimodal, abstract construct. By accessing the multiple literacies of the modern learner, it provides opportunities for meaning-making in a more relevant medium. Furthermore, it engages the learner by providing the opportunity for independent exploration, which generates a personal connection with the poem and increases learner confidence. This personal connection is reinforced by the immersive nature of the environment, which facilitates an experience of mood that goes beyond the affordances of digital technology. Finally, the flexibility of the environment allows the learner to create content and actively construct meaning. Thus, the learner becomes an active critical thinker, constructing and representing their own hypotheses relating to the concept of mood and how it is communicated.

## **6.2      Discussion**

Though the scale and scope of this study prevent generalisations, many of the findings are concurrent with existing research into the educational affordances of the virtual world environment. While it is clear that the affordances of the virtual world environment provide the opportunity for learning in the specific context defined by this study (as outlined in Section 6.1), the broader potential of the virtual world environment in creating a series of alignments that support the teaching and learning of traditional literature suggested by this research is worthy of some discussion.

### **6.2.1      The Broad potential of the Virtual World Environment in Teaching Traditional English Texts.**

#### **6.2.1.1      Alignment –the potential of transduction**

This study suggests that the alignment of the textual semiotics of a poem with the multimodal semiotics of the virtual world platform creates several supports for the modern learner. It offers the learner the opportunity to make meaning in a variety of literacies, independently explore the world of a poem and represent their

understanding poetic concepts in a multimodal fashion. While there can be no direct translation from unimodal to multimodal (Bezemer & Kress, 2008), it is in the consideration of this 'remediation' that the learner is forced to actively reflect on the meaning represented in both texts. It is in this process of alignment that knowledge is constructed.

However, this complexity may also hinder the learning as the attempt to parallel the virtual world domain with a text may result in misrepresentation on the part of the learner, or more importantly the designer. Furthermore, it is possible that the learner may use the visual affordances of the virtual world to image match, rather than represent or build understanding (Curwood & Cowell, 2011). Only one participant in this study showed any evidence of this, but it is an aspect of transduction that requires further exploration as it may distract from the learning goals.

#### **6.2.1.2      *Alignment - the virtual world environment and pedagogical frameworks.***

While current literature points to the lack of an overarching pedagogical framework to support the use of virtual worlds in the classroom (Savin-Baden et al., 2010), it is perhaps the flexibility of the platform that is one of its strengths. This flexibility allows the designer to identify a theoretical framework that is appropriate to the content being delivered and the context of the learners. The theoretical framework used in this study was intended to primarily support the learners in the exploration of a poetic concept, but the malleability of the environment allowed for the design of an installation that represented the content in a manner that harnessed the benefits of constructivist and experiential learning. This ensures that the learning experiences generated are content-led and not technologically driven.

#### **6.2.1.3      *Alignment - the social and educational worlds of the learner***

The findings of this study support existing research that suggests that the familiarity and relevance of the virtual world environment promotes engagement and motivation among modern learners (Ketelhut, Nelson, Clarke, & Dede, 2010). Broadly, this is important in bridging the gap that has emerged between the social and educational

world of the modern learner. More specifically, in the context of this study, it allows the learner to independently build a relationship with poetry – a process that has been inhibited by the current experience of poetry within the classroom (Lockward, 1994). However, all research must be cognisant of the Hawthorne effect and further studies must be conducted to establish the long-term effectiveness of the technological intervention.

### **6.2.2 Developing a Design Strategy**

Despite, or perhaps because of, the broad potential of the virtual world environment to support the learning of poetry, care must be taken to ensure that the use of the technological artefact acts as a support and not a distraction. The need for a comprehension (Calo, 2011) or design (Nelson & Erlandson, 2012) strategy is clearly identified by this research. Participants pointed to the “framework” created by the virtual world experience that allowed them to accumulate and re-use experiences to support their understanding of the concept of mood.

### **6.2.3 Transferring Understanding to Traditional Responses**

While all participants pointed to the success of the learning experience in supporting their understanding of mood and some reported the transfer of their learning to other contexts, the findings suggest that the transfer of their understanding from the virtual world environment to the exam-mandated response was not absolute. Limitations in vocabulary occasionally inhibited students in expressing their understanding of mood which, at times, undermined the quality of their answering.

Furthermore, the conceptual understanding of mood did not always translate into a concrete demonstration of the full extent of that understanding when answering within traditional constructs. The learning conversation and interview data provide clear evidence of an ability to interpret colour and sound, yet the final reports demonstrated a continuing reliance on image as evidence. This may be because students, when faced with the traditional question, returned to the techniques that they had traditionally relied on. A more likely cause, however, is that the unimodal

delivery, of sound in particular, within the text continued to be a barrier as participants displayed a strong reliance on visual literacy.

A return to traditional teaching methods may be the most efficient way to overcome these difficulties. Having allowed the student to explore and construct a personal understanding of the poem, the teacher can now address the individual difficulties faced by the students and facilitate the transfer of their understanding to a response more in line with current curricular demands. Thus, the teacher supports rather than frames the learning, in a manner that is tailored to the needs of individual students. More research is required in order to understand the manner in which this can be achieved.

### **6.3 Conclusion**

Preliminary findings suggest that the multisensory semiotic domain of the poem is well supported by the multimodality of the virtual world and this supports the modern learner in an independent exploration of traditional text. The virtual world environment is also a useful tool to support the independent construction of understanding and to achieve an active engagement with the content being learned. This active engagement, alongside the familiarity of the domain, generates a confidence in the hypotheses of the participants that was notably absent in the initial responses to traditional text, in the traditional format. However, a full transfer of the learning demonstrated in the course of the study did not manifest itself in the final responses. There is a need to facilitate a transfer of their personal understanding to the specific framework required by the curriculum. It is here that more traditional teaching methods may play a role. Further research is required.

### **6.4 Limitations**

The scale and scope of this study does not allow for generalisations. This preliminary investigation identified an increase in confidence and a development in the understanding of all the participants, however it did not examine the variances created by the differing skills of the mixed ability participants. This area, in particular, requires further investigation.

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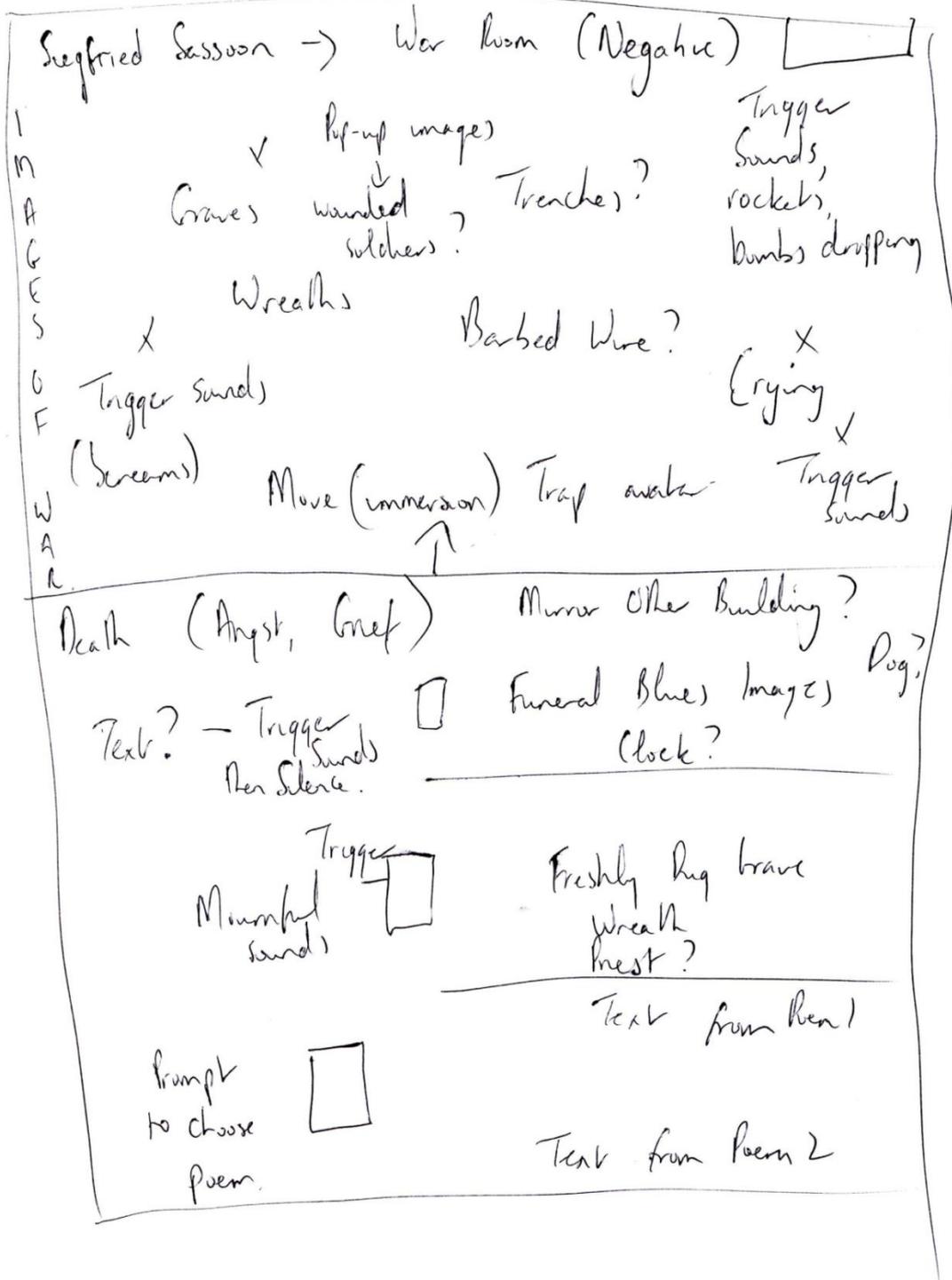
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**Appendix 2- Design of Transduction Building**

Building 2 (Poetry)

Poem Options Drop down on Exit

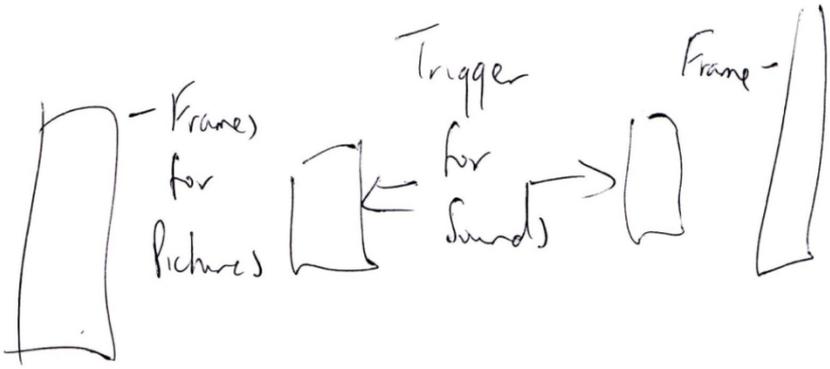


Appendix 3-Design of Production Building

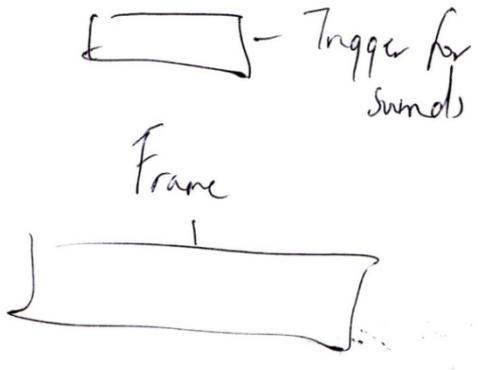
Building 3

(10) Empty gallery. - Use default Wood Texture.

(NB) Allow Students to Edit  
Create permissions



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## Appendix 4- Traditional text used at the beginning and end of the learning experience

### Because I Could Not Stop For Death

Because I could not stop for Death,  
He kindly stopped for me;  
The carriage held but just ourselves  
And Immortality.

We slowly drove, he knew no haste,  
And I had put away  
My labor, and my leisure too,  
For his civility.

We passed the school, where children strove  
At recess, in the ring;  
We passed the fields of gazing grain,  
We passed the setting sun.

Or rather, he passed us;  
The dews grew quivering and chill,  
For only gossamer my gown,  
My tippet only tulle.

We paused before a house that seemed  
A swelling of the ground;  
The roof was scarcely visible,  
The cornice but a mound.

Since then 'tis centuries, and yet each  
Feels shorter than the day  
I first surmised the horses' heads  
Were toward eternity.

Emily Dickinson

## Appendix 5-Traditional Text Response Report

Student number- 2

Read the attached poem carefully and write down what you believe to be the mood of the poem. Give reasons for your answer.

Calm, remeniscent mood, peaceful,  
fragile? ("quivering and chill")

Fluidity of the phrases – "gazing grain"  
"setting sun"  
"slowly drove"  
"we paused" not "we stopped"

There is a calm in which the speaker describes the journey, a relaxing and peaceful mood.

R

## Appendix 6a - Session 2 Response Report (Simulation Building)

5

Student Number-

Building 1- Mood Rooms

Room 1- Enter and explore

How did you feel when you were in the room?

Scared, anxious, suspicious, surprised.

EW  
M

What do you think caused those feelings?

EW

Sound - music when entering the room originally

Voices screaming - sudden change in volume and sound was frightening.

EW

Mist - shrouded the room in mystery, made me unsure of what to expect.

gravestones - seen as a 'scary' object and represent death.

What word or words would you use to sum up the atmosphere/mood of Room 1

Ominous

Scary

frightening

Surprising

Voices

Verdict  
Verdict

Room 2- Enter and Explore

How did you feel when you were in the room?

Calm, ~~relax~~ happy, overwhelmed, safe,  
at home, happy, peaceful, warm (Lm)

What do you think caused those feelings?

(LW) Colours - yellow represents happiness, purple and red are colours that are creative and welcoming. Red representing love also. Christmas tree reminded me of a family time together and has a sense of warmth with it. Fire was comforting and also holds a sense of warmth and coziness. Candles - associated with peace + tranquility. The pictures on the walls were all feel good pictures, most with connotations of love ~~eg~~ or romance eg, Rose, Flamingoes making heart shape. Also family related pictures showing a happy home eg family eating dinner, Bears being together.

What word or words would you use to sum up the atmosphere/mood of Room 2?

Calm creative Loving (LW)  
Inviting Happy

Do you think the absence of sound had any effect on the atmosphere?

Yes, it made it less surprising and made you focus particularly on the objects themselves with more attention. Didn't distract you, but it also didn't elevate the mood or make it more obvious. (LW)

Room 3- Read the instructions and solve the maze.

Emotions and mood can often change. List the three strongest emotions that you felt in the maze and what you think caused them.

(IM) <sup>EM</sup> Anxious - constant screaming voice that was ~~loud~~ loud and overbearing made me feel nervous, as did the black colour surrounding it. felt trapped with this.

(IM) <sup>EM</sup> Relieved - Having reached the end of the maze I felt the pressure lifting, due to there being no more surprises. The fact <sup>(IM)</sup> I was no longer encased by maze walls was very relieving and the peaceful room <sup>(IM)</sup> I entered let me forget any worries.

(IM) <sup>EM</sup> Amused - when I entered the areas with people applauding I felt amused by the idea and it made me smile. It <sup>was</sup> also accentuated by the fact I had just left one of the scary areas and I felt they were congratulating me which made me laugh.

## Appendix 6b- Session 2 Response Report (Transduction Building)

### Room 4- Enter and Explore

In each section, write down the mood that the colour evokes. Then, stand on the sound stones and see if that confirms your decision and/or changes your mind. Give your reasons in either case.

1. Initial mood- peaceful (M) Hypothese

Final mood- Cold (M) Rehypothese

Accommodation  
Changes my decision completely. Room is no longer peaceful with the change + the sound just made me think of someone shivering

2. Initial mood- violent (M) Hypothese

Final mood- unchanged Rehypothese

Contribution  
- R sounds gave me the feeling of a lion or other creature which is known for being fierce/violent.  
S sound always makes me think of something evil or suspicious

3. Initial mood- ~~scary~~ scary (M) Hypothese

Final mood- More anxious than scary Rehypothese

- The sounds were not frightening but were creepy and made me think of someone in pain / dying. Definitely more uneasy.

1) Shred

Building 2- Room 1

Room 1 was built based on a series of images from a poem.  
To enter the room, stand on the steps.  
Explore the room.  
When you exit the room, type the word poem in the chatbox.  
Excerpts from two poems will descend.  
Write down the common theme of the two poems  
Choose the excerpt that you think best fits with the atmosphere that you have just described and say why.

Common theme-

war

Which excerpt did you choose and why?

'The rank stench of those bodies haunt me still'. (EP) (XX)

(IM) The images that were seen in the room were similar to those images in the poem. (EV) (See) (EP) (T)

'woods' 'moaning' 'dig pits' 'gun-thunder'. (EP)

(PF) The atmosphere of the poem is one connected to the death of people, the moan and the pain is clearly heard in the sounds used in the room. (EP) (See)

'rank stench of those bodies,' describing the bodies that are dead. (TEXT) (EP)

(VWF) The redness of the walls representing the blood shed. There were bombs and missiles seen in the room. (See) (EP) (EV)

(VWF) In the room there is a wood that is also mentioned in the poem. (LET) (See)

(VWF) The large amounts of soldiers that died were also seen on the wall while alive. (LET) (EP)

Room 2-

Enter the room by standing on the steps.  
Explore each of the sections.  
In the final section, two excerpts of poems are placed on opposite walls.  
Read them carefully.  
Write down the common theme of the two poems  
Choose the excerpt that you think best fits with the atmosphere that you have just described and say why.

Common theme-

Death.

Which excerpt did you choose and why?

'When you awaken in the morning's hush:

The imagery used in the second section, of the person standing by the grave, in the poem the person who has died wants the mourner to know that he does not want him to stand by his grave because he is no longer there. The noises in the first section are made silent by the few words 'he is dead!' which is said in the poem, 'when you awaken in the morning's hush'. When the person dies everyone must be silenced including the piano, dog and clock.

## Appendix 7- Text underpinning the design of the war room in the Transduction Building

### “The rank stench of those bodies haunts me still”

The rank stench of those bodies haunts me still  
And I remember things I'd best forget.  
For now we've marched to a green, trenchless land  
Twelve miles from battering guns: along the grass  
Brown lines of tents are hives for snoring men;  
Wide, radiant water sways the floating sky  
Below dark, shivering trees. And living-clean  
Comes back with thoughts of home and hours of sleep.

To-night I smell the battle; miles away  
Gun-thunder leaps and thuds along the ridge;  
The spouting shells dig pits in fields of death,  
And wounded men, are moaning in the woods.  
If any friend be there whom I have loved,  
God speed him safe to England with a gash.

Excerpt shown to participants

It's sundown in the camp; some youngster laughs,  
Lifting his mug and drinking health to all  
Who come unscathed from that unpitying waste:  
(Terror and ruin lurk behind his gaze.)  
Another sits with tranquil, musing face,  
Puffing his pipe and dreaming of the girl  
Whose last scrawled letter lies upon his knee.  
The sunlight falls, low-ruddy from the west,  
Upon their heads. Last week they might have died  
And now they stretch their limbs in tired content.  
One says 'The bloody Bosche has got the knock;  
'And soon they'll crumple up and chuck their games.  
'We've got the beggars on the run at last!'  
Then I remembered someone that I'd seen  
Dead in a squalid, miserable ditch,  
Heedless of toiling feet that trod him down.  
He was a Prussian with a decent face,  
Young, fresh, and pleasant, so I dare to say.  
No doubt he loathed the war and longed for peace,  
And cursed our souls because we'd killed his friends.  
One night he yawned along a half-dug trench  
Midnight; and then the British guns began  
With heavy shrapnel bursting low, and 'hows'  
Whistling to cut the wire with blinding din.  
He didn't move; the digging still went on;  
Men stooped and shovelled; someone gave a grunt,  
And moaned and died with agony in the sludge.  
Then the long hiss of shells lifted and stopped.  
He stared into the gloom; a rocket curved,  
And rifles rattled angrily on the left  
Down by the wood, and there was noise of bombs.  
Then the damned English loomed in scrambling haste  
Out of the dark and struggled through the wire,  
And there were shouts and curses; someone screamed  
And men began to blunder down the trench  
Without their rifles. It was time to go:  
He grabbed his coat; stood up, gulping some bread;  
Then clutched his head and fell.  
I found him there  
In the gray morning when the place was held.  
His face was in the mud; one arm flung out  
As when he crumpled up; his sturdy legs  
Were bent beneath his trunk; heels to the skye.

Siegfried Sassoon

## Appendix 8- Alternative text in the war room of the Transduction Building

### If We Must Die

by Claude McKay

If we must die—let it not be like hogs  
Hunted and penned in an inglorious spot,  
While round us bark the mad and hungry dogs,  
Making their mock at our accursed lot.

If we must die—oh, let us nobly die,                      Excerpt shown to participants  
So that our precious blood may not be shed  
In vain; then even the monsters we defy  
Shall be constrained to honor us though dead!  
Oh, Kinsmen! We must meet the common foe;  
Though far outnumbered, let us show us brave,  
And for their thousand blows deal one deathblow!  
What though before us lies the open grave?  
Like men we'll face the murderous, cowardly pack,  
Pressed to the wall, dying, but fighting back!

## Appendix 9- Text upon which the Funeral Room in the Transduction Building was based.

### Funeral Blues-W.H.Auden

Stop all the clocks, cut off the telephone,  
Prevent the dog from barking with a juicy bone,  
Silence the pianos and with muffled drum  
Bring out the coffin, let the mourners come.

Let aeroplanes circle moaning overhead  
Scribbling on the sky the message 'He is Dead'.  
Put crepe bows round the white necks of the public doves,  
Let the traffic policemen wear black cotton gloves.

He was my North, my South, my East and West,  
My working week and my Sunday rest,  
My noon, my midnight, my talk, my song;  
I thought that love would last forever: I was wrong.

The stars are not wanted now; put out every one,  
Pack up the moon and dismantle the sun,  
Pour away the ocean and sweep up the wood;  
For nothing now can ever come to any good.

Excerpt shown to participants

## Appendix 10 - The alternative text in the Funeral Room in the Transduction Building

Do not stand at my grave and weep

Do not stand at my grave and weep

I am not there. I do not sleep.

I am a thousand winds that blow.

I am the diamond glints on snow.

I am the sunlight on ripened grain.

I am the gentle autumn rain.

When you awaken in the morning's hush

I am the swift uplifting rush

Of quiet birds in circled flight.

I am the soft stars that shine at night.

Do not stand at my grave and cry;

I am not there. I did not die.

Excerpt shown to participants

Mary Elizabeth Frye

## Appendix 11- Samples of Participant-generated artefacts

Participant 3



Participant 5



Participant 8



Participant 10





# Appendix 13- Anonimised Findings provided for Member Checking

15/04/2013

Member Checking  
Findings

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Most participants felt that connecting with poetry in the classroom was difficult.

The reasons for this varied-

- Difficulties with understanding
- Teacher defining the correct answer for the exam
- Lack of confidence with answering in class
- Uncertainty as to how to mood can be interpreted.

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The virtual world was a useful support

- It allows you to experience mood
- It allows you to 'see' images
- The sound supports the learning
- It allows you to be active while you are learning
- Experiencing mood in the virtual world helped to identify mood in an actual poem.
- Feeling like you were in the virtual world helped keep the participants interested. All that were asked felt that the virtual world was more powerful than digital technology (a film) in conveying a sense of mood.

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### Building in the Virtual World

- Building a representation of the poem was difficult and sometimes frustrating because you could not always find the sound or image that suited the idea that you had in your head.
- However, the act of building made you look more closely at the poem and helped you understand it more.
- Listening to others talking about their building helped in understanding mood.

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### Development of Understanding

- Despite the fact that at no point was the poem taught in the traditional sense, all participants felt more confident in answering on the poem at the end of the experience.

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## Appendix 14-Semi-structured Interview Questions

What is your experience of poetry in the classroom?

How did you feel you responded to the traditional text at the beginning of the experience?

How did you feel about Session 2 in the virtual worlds? Could you easily identify mood in the Simulation Building? Why, is that?

How did you feel about the Transduction Building, when the poems and the virtual world room were together?

Did you find it easy to identify the mood? Which helped more, the virtual world or the text? Why?

How did you feel about the Production phase? Was it helpful to build your own representation of the poem?

How did you feel about the whole experience? Was it helpful?

What, if anything, do you think you learned?

Do you feel it was worth the time it took?

Would you like to learn that again? Why? Why not?

## Appendix 15- Coding Tables for each dataset

### Appendix 15a- Document Analysis 1

<b>Pre and Post Response Reports</b>	
<b>Deductive Codes</b>	<b>Emergent Codes</b>
Emotion (Initial Understanding) Atmosphere (Initial Understanding) Valid Interpretation (Initial Understanding) Conceptual Understanding (Initial, Development) Sound as Evidence (SE) (Sources) Colour as Evidence (CE)(Sources) Image as Evidence(IE)(Sources) Development (Development of Understanding) Understanding of Mood (Initial Understanding, Development)	Unclear Sound (US) (Uncertainty) Tracking Mood (Initial/Development of Understanding, Confidence) Change Interpretation (Confidence, Development?) Repetition (Uncertainty) Narrative Evidence (Uncertainty) Fluidity (Development of Learning) Contradiction (Uncertainty) Uncertainty (Uncertainty) Sentences (Confidence) Question Marks (Uncertainty) Formal (Confidence) Stylised (Confidence, Development) Extension (Development) Emotional Connection (Initial, Development) Barrier to Understanding (Initial Understanding) Vocabulary (Uncertainty)
<b>Themes</b> Confidence (Emergent), Development of Learning, Sources of Evidence, Initial Understanding, Uncertainty	

### Appendix 15b- Coding Table for Observation Reports

Traditional Text	Virtual World
Uncertainty (Barriers to Learning, Confidence) Disinterest (Engagement) Hesitancy (Confidence) Engagement (Engagement) Reluctance (Confidence) Attitude to text (Confidence)	Focus (Engagement) Relevance (Familiarity) Familiarity (Familiarity) Immersion ( <i>Physical response</i> ) Immersion ( <i>Verbal Response</i> ) Immersion ( <i>Emotional Response</i> ) Avatar (Immersion, Personal) Alignment (Alignment) Engagement (Engagement) Sound (Multiple Literacies, Sources) Visual (Multiple Literacies, Sources) Colour (Multiple Literacies, Sources) Independence (Personal Learning) Problem solving (Personal Learning) Uncertainty (Barriers to learning)
<b>Themes</b> Barriers to learning, Engagement, Personal Learning, Sources of Evidence, Multiple Literacies (New), Affordances, Immersion, Familiarity, Alignment, Confidence	

### Appendix 15c- Coding Tables for Session 2 Response Reports

Document Analysis 2- Response Reports in the Virtual World	
Existing Codes+	
Deductive Codes	Emergent Codes

See	Hypothesise
Hear	Rehypothesise
Feel	Probe
Read	Confidence
Immersion	Image Matching
Co-Presence	Design
Evidence of Learning	Doing
Everyday Experience	Transfer
Align	Virtual world first
Active	Poem first
Explore	Sound as Evidence in Virtual World(SEV)
Absence of Sound	Colour as Evidence in Virtual World(CEV)
Absence of Image	Image as Evidence in Virtual World(IEV)
	Image in Text
	Colour in Text
	Sound in Text
	Blended Answer
<b>Themes</b>	
Understanding, Development of Understanding, Sources of Evidence, Nature of Learning, Multiple Literacies, Affordances of Virtual World, Reflection, Alignment	

### Appendix 15d- Coding Table for Session 3

Learning Conversation, Participant-generated Artefact and Observation Notes	
<b>Existing Codes +</b>	
<b>Deductive Codes (Related Themes in Brackets)</b>	<b>Emergent Codes (Related Themes in Brackets)</b>
Feel (Sources, Engagement)	Cross-check (Alignment)
See (Sources, Engagement)	Concentration(Engagement)

Hear (Sources, Engagement) Do (Sources, Engagement) Focus (Engagement) Re-use (New) (Cycle) Colour as Evidence (Sources) Sound as Evidence (Sources) Image as Evidence (Sources) Understanding of Mood (Understanding)	Silence (Engagement) Repositioning (Engagement) Adoption (of Vocabulary) (Development of Learning) Similar (Alignment) Gestural (Sources, Development, Personal) Variation on Theme (Personal Learning) Frustration (Personal Learning)
<b>Themes</b> Alignment, Cycle, Understanding, Engagement, Sources of Evidence, Confidence, Uncertainty, Personal Learning, Development of Learning	

### Appendix 15e- Coding Table for Semi-structured Interviews

<b>Interview</b>	
<b>Deductive Codes (Related Themes in brackets)</b>	<b>Emergent Codes (Related Themes in brackets)</b>
Visual (Affordances, Literacies) Audio (Affordances, Literacies) Feel (Affordances, Engagement) Immersion (Affordances, Engagement)	Teacher Authority (Barrier) Distance (Barrier) Lack of ownership (Barrier) Personal (Nature of Learning)

<p>Co-presence (Affordances, Engagement)          Poetry in Classroom (Barrier)          Attitude to text(Barrier)          Improvement (Development of Learning)          New Understanding-sources (Development of Understanding)          New Understanding-conceptual (Development of Understanding)          Confidence (Development of Learning)          Active (Nature of Learning)          Experience (Nature of Learning)          Explore (Nature of Learning)</p>	<p>Control (Nature of Learning)          Concrete (Affordances)          Gestural (Affordances)          Unimodal (Problem)          Fun (Engagement)          Surprise (Engagement)          Tool (Nature of Learning)          Interest (Engagement)          Subjective poetry (Barrier)          Exams (Barrier)          Pointless learning (Barrier)          Passivity (Barrier)          Rote learning (Barrier)          Cycle of experiences(Development of Learning)          Personal Connection (Affordances)          Definitive Images (Affordances of VW)          Powerful Sounds (Affordances of VW)          Searching (Nature of learning, engagement)          Interactivity (Nature of learning, engagement)          Play (Familiar)          Independence (Personal Learning)          Reinfore</p>
<p><b>Themes</b>          Barriers to Learning (emergent), Classroom, Affordances of the Virtual World, Development of Learning, Nature of Learning, Personal Learning, Confidence, Engagement, Familiar, Multiple Literacies</p>	

## Appendix 16- Coded Interview Transcript

**Poetry generally, irrespective of the learning experience, poetry in the classroom-how do you feel about it?**

Eh I hate it *Distance*

**You hate it?**

*classroom* I just find it too difficult. I will like the poem.... as in I'll enjoy reading it.. but when they try to ask me to analyse it. I'll just like, 'I don't know what's happening'. I don't where you got that from or, that part's hard. I'll get some of it but other parts, I won't have a clue. *Uncertainty*

**Ok. And what makes you so sure that you are not getting other parts...in a classroom is there a correct meaning that is being interpreted?**

Yeah, well it's just that I would interpret it completely differently to what a teacher might say it is and then a lot of it is kind of 'well if you write this this is what you will get in the exam' .... Oh ok... so you just push aside what you thought you saw in it. *Personal* *JA* *Exam* *Distance*

**So does that mean that there is a distance there?**

Yea *Distance*

**That's really interesting coz that's one of the reasons that I am trying to do this.**

**We have already talked about the exploring bit. How did you feel about the producing stage? Was it hard, was it easy, was it annoying..what is your general feeling?**

It was kind of hard coz you have an idea of what general images you saw in it and coz you are searching for images that match up with. It was a bit difficult in that regard *KT* *Active*

**So it was frustrating to not find exactly what it was that you were looking for. What made you so sure of what exactly you were looking for?**

As you were going through the poem you were visualising things in your own head but it's trying to get an image onto that that was difficult. *Exploring* *Personal* *Visualisation*

Ok. Coz I was watching peoples' frustration with that and I was really surprised at how important that was to people. I thought it would just be ah sadness..someone crying.. grand..... but it wasn't. It was more than that.

Yea. *Personal*

Did you think you were more particular about the images, or the colours or the sounds, or all three equally?

All three equally. Coz you wanted to get across what you felt from the poem and what you felt it was. So every bit of those details mattered

Ok *Emotion (bad)* *Personal* *Personal* *Engagement*  
That was helpful *support* in the fact that it kinda made you think about it more in that you kept looking at the poem and thought ok, this is what I think about it. And you would have to double check to make sure that the image went with what you wanted to say.....or the colour and the sounds. *Se Image* *Personal*  
*algebra* *cross-check*

Alright. I guess the big question is-you had to talk about the poem in the traditional format of answering on it at the very beginning before we did any of the experience and then you had to do exactly the same thing at the end (the poet-test). Was there a difference, was it the same? If there was a difference, what was it?

It was a lot easier the second time *Confidence*

Ok. Why do you think that was?

*constructing* I think that there was more thought put into it, in terms of, like you had read it to try *hypothesis* and make up the room and when you were doing that it was kind of, you got to see other bits that you had not seen before and then hearing from other people and seeing their room and their interpretation of it, it solidified what you thought at certain points. *Personal* *reinforced* *re-hypothesis*

Ok

*Confidence* Parts of the mood that you were uncertain of, that you thought that you were the only one getting it, you had seen that they saw the same thing and it was like oh, I can emphasise that more.

Do you think talking to other people or listening to other people talk about it, could that have shaken you from your original theory, you know in the same way that you suggested in the classroom that you think something and generally it is just 'no, no that's not what it is' and you just let it go .Could that

**conversation have done that or were you confident enough in your own ideas that they wouldn't have changed your mind?**

*Development* (Pause).... I don't think it would have changed it too much. You might have looked at it again and thought 'oh where did they get that from?' but I think because everyone was so close in the group to the same kind of mood that it made you feel better about it, that yea you definitely thought you got it. *Confidence* *Engagement* *Transfer*

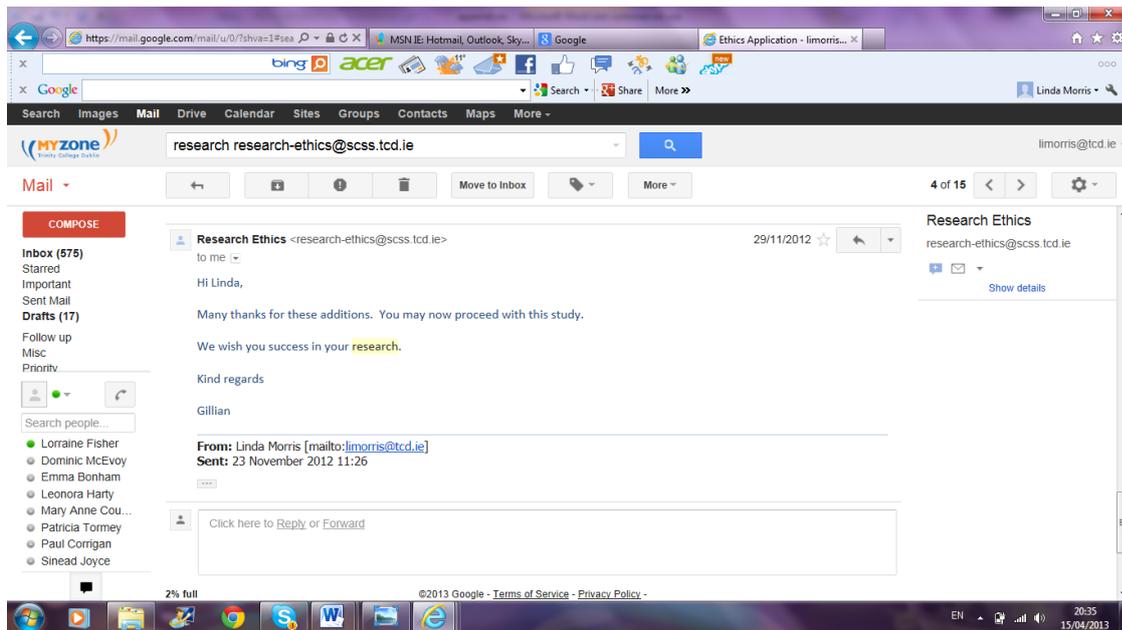
**Ok. So here, I guess, is where the real thing is. Em ..Do you think that what you learned from the experience would translate to another poem? So it's all very find saying 'O right yea, well we did that and we looked at this... now nobody taught you anything on the poem, you got all that from your own experience..., but could you take that experience and would you be more confident in looking at mood in another poem. Or do you think you would have to go through the whole process again in order for it to help with another poem?**

*Development of Learning* No. I think it's helped a lot. You can kind of... you are more confident..eh...or I find anyway that... em.... after the whole experience of it you can take parts of it and use it for something else. Like we were doing an unseen poem in English the other day and em she was talking about how we had to take in the mood of the poem. *Confidence* *Transfer* Whereas before I would have been like I don't know what I am even looking for when you ask me to look for that, I was kinda like 'O O.k.', I was more confident. And then when I read through it I was like, I can picture things more easily and think about the colours and stuff.. and it was a lot...it came to me a lot clearer than it usually does. *Learning* *Development*

**Ok.Do you think that was because of the experience and not just because it was an easier poem?**

I think it was because of the experience you were more confident in it. I think you felt like if you had gotten that one and you had not misinterpreted it completely then you are more confident going into it. I could definitely visualise things a lot easier. *Visualisation* *(16)*

# Appendix 17- Research Ethics Approval



## Appendix 18- Ethics Paperwork

### Appendix 18a-Student Participant Information Sheet

You are invited to take part in a research project exploring the use of virtual worlds to assist in the understanding of poetry. It is important that you read this information sheet and ask any questions that you feel are necessary. You can ask questions at any and all stages of the process and are entitled to withdraw at any stage.

A Virtual World is a computer-simulated environment within which users can interact with objects and each other. They are being used by an increasing number of teachers as a support to modern students who are familiar with technology and wish to use these skills to help them learn the more difficult parts of the school curriculum. The study of poetry is often identified as a problem area by students and this study aims to explore if the exploring the poem in a virtual world environment can help. The virtual world environment being used here is Second Life.

This study is being conducted by Linda Morris as part of her Masters' Programme and is being supervised by Mr. Timothy Savage, Assistant Professor, Trinity College.

**If you wish to take part, it is important that you understand what you have to do and how much time it will take. Therefore please read the following carefully.**

**This study will require your participation on four separate occasions. The first occasion is an orientation session in Second Life and the three subsequent sessions relate to the study itself. The total time required will be 4-5 hours and this will be spread over a period of 3 weeks.**

#### Orientation-

You will be asked to attend an orientation session in Second Life together with the other participants. This should take about 30 minutes, but you are welcome to stay longer if you want to know more.

#### Session 1

This phase will require you to attend a one hour session divided into two stages.

Stage 1- You will be asked to read a poem that you have never seen before and write a response to that poem based on a series of questions.

Stage 2- You will then be taken into a purpose-built Virtual World environment and asked to explore a series of rooms. Each room will create a particular mood/atmosphere. You will be asked to interpret that mood and write a brief report explaining how you made your choice. You will be working on your own but I, the researcher, will be present to answer any questions. I will also be observing and note-taking. You will not be recorded in any other manner.

Session 2- This session will be a group session and take approximately 1 hour. It will be broken up into three stages.

Stage 1- Individual building. You will be asked to work alone in the virtual world environment. Each participant will be given access to an empty room in a virtual house and will be asked to turn it into a mood room based on a poem that you will be given. I will be present to help with any technical difficulties and will be observing and note-taking. You will not be recorded at this stage.

Stage 2- Each student will then be asked to show their room to the rest of the group and explain the reasons behind their decisions. The group and researcher may ask questions, which you may choose to answer. This stage will be audio-recorded.

Stage 3- Each student will be asked to write a brief response to a particular poem, based on some specific questions.

Session 3- Finally, you will be asked to meet with me, individually, to write a brief response to to discuss how you found the experience. This brief interview should take no more than 20 minutes and will be audio-recorded.

It should also be noted that the written responses you provide in both Session 1 and Session 2 may be evaluated a teacher, other than the researcher. These responses will be completely anonymised and you will not be identified in any way. If you have any concerns about this, please let me know.

- Participation in this project is completely voluntary and you may withdraw at any time, including after the process is over.
- Some stages of this study will be audio-recorded. You may opt out of being recorded or ask for the recording to be stopped at any stage. Should you decide to withdraw from the study, audio recordings of your participation will be destroyed.
- A decision to not participate or withdraw will not affect any aspect of your school life.
- If you or anybody else in your family has a history of epilepsy, please be aware that this study uses computers and as such participation is at your own risk.
- Information collected as part of the study will be stored in accordance with the Data Protection Act.
- In the unlikely event that information relating to illicit activities should emerge from this study, the researchers will be obliged to report it to the appropriate authorities.
- Your participation in this study is completely anonymous. Any information that identifies you in any way will be removed from the analysis and findings or possible publications of the study.
- Participants may benefit from the project by engaging with a poetic text in a new way- a support to your study of poetry in the Leaving Certificate. You may also benefit from learning from your peers in the group session.

If you have any questions before, after or during the project please contact Linda Morris at [lmorrisols@gmail.com](mailto:lmorrisols@gmail.com) or arrange a meeting in school.

## Appendix 18b-Student Participant Consent Form

**Project** Virtual Mood-Leveraging the affordances of the virtual environment to assist students in the interpretation of poetic mood.

**Researcher** Linda Morris

**Project Background** Virtual Worlds are being used by an increasing number of teachers as a support to modern students who are familiar with technology and wish to use these skills to help them learn the more difficult parts of the school curriculum. The study of poetry, and most particularly of poetic mood, is often identified as a problem area by students. This study aims to investigate if exploring poetic mood within a virtual world environment can help.

### Procedures

**This study will require your participation on three separate occasions (The three sessions listed below). The total time required will be approximately 4-5 hours and this will be spread over a period of 3 weeks.**

#### Orientation

You will be asked to attend an orientation session in Second Life together with the other participants. This should take about 30 minutes, but you are welcome to stay longer if you want to know more.

#### Session 1

This phase will require you to attend a one hour session divided into two stages.

**Stage 1-** You will be ask to read a poem that you have never seen before and write a response to that poem based on a series of questions.

**Stage 2-** You will then be taken into a purpose-built Virtual World environment and asked to explore a series of rooms. Each room will create a particular mood/atmosphere. You will be asked to interpret that mood and write a brief report explaining how you made your choice. You will be working on your own but I, the researcher, will be present to answer any questions. I will also be observing and note-taking. You will not be recorded in any other manner.

#### Session 2

This session will be a group session and take approximately 1 hour. It will be broken up into three stages.

**Stage 1-** Individual building. You will be asked to work alone in the virtual world environment. Each participant will be given access to an empty room in a virtual house and will be asked to turn it into a mood room based on a poem that you will be given. I will be present to help with any technical difficulties and will be observing and note-taking. You will not be recorded at this stage.

**Stage 2-** You will then be asked to show their room to the rest of the group and explain the reasons behind your decisions. The group and researcher may ask questions, which you may choose to answer. This stage will be audio-recorded. Please note that you may opt out of being recorded at any stage. See the Participation Information Sheet for more details.

**Stage 3-** Each student will be asked to write a brief response to a particular poem, based on some specific questions.

**Session 3-** Finally, you will be asked to meet with me, individually to discuss how you found the experience. This brief interview should take no more than 20 minutes and will be audio-recorded.

**Anonymity** Your participation in this study is completely anonymous. Any information that identifies you in any way will be removed from the analysis, findings or possible future publications of the study.

**Benefits** Participants may benefit from the project by engaging with a poetic text in a new way- this may help prepare you for the Leaving Certificate English course. You may also benefit from learning from your peers in the group session.

## Declaration

I am 18 years old or older and as such, I am competent to provide consent.

I have read or had read to me the information sheet and consent form.

I have had the opportunity to ask questions and have had them answered.

I understand that I may ask questions about the research project before, during and after my participation.

I understand that I may stop electronic recordings at any time, and that I may at any time, even subsequent to my participation have such recordings destroyed.

I understand that I can refuse to answer any question at any time.

In the case where the researcher is also my teacher, I understand that I am not under the same obligations to submit work or attend sessions as I am when I am completing course work during the school day.

I understand that participation in this study will take place at lunchtime, or after school and that the researcher will fix a time that is convenient to me.

I understand that I am under no obligation to take part in this project and a decision not to participate will not affect my school life in any way.

I understand that my fully anonymised responses to texts may be evaluated by a teacher other than the researcher.

I understand that I have the right to withdraw from this study at any time and this will have no negative impact on me.

I understand that my anonymity will be protected in the analysis, findings and any publications that arise from this research.

I understand that if I, or anybody in my family, have a history of epilepsy I am proceeding at my own risk.

I understand that any reference to illicit activities will have to be reported by the researcher to the relevant authorities.

By signing below, the participant is declaring that they have read the above information and the Information Sheets. While the signatures indicate a willingness to participate, they in no way undermine the right of the participant to withdraw at any stage.

Participant's Name

Participant's Signature

Date

Researcher's Name

Researcher's Signature

Date

**Statement of investigator's responsibility:** I have explained the nature and purpose of this research study, the procedures to be undertaken and any risks that may be involved. I have offered to answer any questions and fully answered such questions. I believe that the participant understands my explanation and has freely given informed consent.

Contact Details of Researcher- Linda Morris  
Our Lady's School,  
Templeogue Road,  
Terenure.  
Dublin 6

E mail [lmorrisols@gmail.com](mailto:lmorrisols@gmail.com)

## Appendix 18c-Teacher Participation Information Sheet

You are invited to take part in a research project exploring the use of virtual worlds to assist in the understanding of poetry. It is important that you read this information sheet and ask any questions that you feel are necessary. You can ask questions at any and all stages of the process and are entitled to withdraw at any stage.

A Virtual World is a computer-simulated environment within which users can interact with objects and each other. They are being used by an increasing number of teachers as a support to modern students who are familiar with technology and wish to use these skills to help them learn the more difficult parts of the school curriculum. The study of poetry is often identified as a problem area by students and this study aims to explore if the exploring the poem in a virtual world environment can help. The virtual world environment being used here is Second Life.

This study is being conducted by Linda Morris as part of her Masters' Programme and is being supervised by Mr. Tim Savage, Assistant Professor, Trinity College.

**If you wish to take part, it is important that you understand what you have to do and how much time it will take. Therefore please read the following carefully.**

Your participation in this study should take no more than one hour of your time.

- Student participants will have completed a pre and post intervention response to a specific text.
- You will be asked to review 3 sets of these responses, using a Response Evaluation Sheet provided by the researcher.
- The student responses will be anonymised, and identified only by a number.
- Your evaluations will also be anonymised.
- The evaluation sheets may be completed in your own time, in a setting of your choice as no observation or recording is necessary.

**Conflict of Interest** The researcher acknowledges that by inviting work colleagues to participate they are taking advantage of existing relationships. However, your participation is needed solely to provide the same expert and objective evaluation of students' work that you engage in every day. Evaluation frameworks have been provided so that this can be done anonymously and at a distance from the researcher.

- Participation in this project is completely voluntary and you may withdraw at any time, including after the process is over.
- A decision to not participate or withdraw will not impact negatively on you in any fashion.
- If you or anybody else in your family has a history of epilepsy, please be aware that this study uses computers and as such participation is at your own risk.
- Information collected as part of the study will be stored in accordance with the Data Protection Act.
- In the unlikely event that information relating to illicit activities should emerge from this study, the researchers will be obliged to report it to the appropriate authorities.
- Your participation in this study is completely anonymous. Any information that identifies you in any way will be removed from the analysis and findings or possible publications of the study.

If you have any questions before, after or during the project please contact Linda Morris at [lmorrisols@gmail.com](mailto:lmorrisols@gmail.com) or arrange a meeting in school.

## Appendix 18d-Teacher Participant Consent Form

**Project** Virtual Mood-Leveraging the affordances of the virtual environment to assist students in the interpretation of poetic mood.

**Researcher** Linda Morris

**Project Background** Virtual Worlds are being used by an increasing number of teachers as a support to modern students who are familiar with technology and wish to use these skills to help them learn the more difficult parts of the school curriculum. The study of poetry, and most particularly of poetic mood, is often identified as a problem area by students. This study aims to investigate if exploring poetic mood within a virtual world environment can help.

### Procedure

**Your participation in this study should take no more than one hour of your time.**

- Student participants will have completed a pre and post intervention response to a specific text.
- You will be asked to review 3 sets of these responses, using a Response Evaluation Sheet provided by the researcher.
- The student responses will be anonymised , and identified only by a number.
- Your evaluations will also be anonymised.
- The evaluation sheets may be completed in your own time, in a setting of your choice as no observation or recording is necessary.

**Conflict of Interest** The researcher acknowledges that by inviting work colleagues to participate they are taking advantage of existing relationships. However, your participation is needed solely to provide the same expert and objective evaluation of students' work that you engage in every day. Evaluation frameworks have been provided so that this can be done anonymously and at a distance from the researcher.

**Anonymity** Your participation in this study is completely anonymous. Any information that identifies you in any way will be removed from the analysis, findings or possible future publications.

**Benefits** This study is investigating the manner in which new literacies displayed by the modern student can be harnessed to develop their ability to interpret poetic text. Participation in this study

## Declarations

I am 18 years old or older and as such, I am competent to provide consent.

I have read or had read to me the information sheet and consent form.

I have had the opportunity to ask questions and have had them answered.

I understand that I may ask questions about the research project before, during and after my participation.

I understand that I can refuse to answer any question at any time.

I understand that I am under no obligation to take part in this project.

I understand that I have the right to withdraw from this study at any time and this will have no negative impact on me.

I understand that my anonymity will be protected in the analysis, findings and any publications that arise from this research.

I understand that if I, or anybody in my family, have a history of epilepsy I am proceeding at my own risk.

I understand that any reference to illicit activities will have to be reported by the researcher to the relevant authorities.

By signing below, I understand that I am declaring that I have read the above information and the Information Sheets. I also understand that while the signature indicates a willingness to participate, it in no way undermines my right to withdraw at any stage.

Participant's Name

Participant's Signature

Date

Researcher's Name

Researcher's Signature

Date

**Statement of investigator's responsibility:** I have explained the nature and purpose of this research study, the procedures to be undertaken and any risks that may be involved. I have offered to answer any questions and fully answered such questions. I believe that the participant understands my explanation and has freely given informed consent.

Contact Details of Researcher- Linda Morris  
Our Lady's School,  
Templeogue Road,  
Terenure.  
Dublin 6  
E mail Imorrisols@gmail.com

## Appendix 19a- Sample Teacher Evaluation 1

Student (3)

Comment on the evaluation of mood in the first response and the amount and nature of the evidence being used to support it.

Identifies a prevalent mood in the poem - calmness. The pace of the poem is understood. Getting near the sense of integration in the second last sentence of this comment. Does not get the shift in stanza 4. 'Serenity' used again - did these students get some sort of prompting before or did they engage with the poem cold?

Comment on the evaluation of mood in the second response and the amount and nature of evidence being used to support it.

A close critical look at the text. Identifying what is implied by various images + words. The peaceful - austere - resigned momentum of the poem is sensed + this would presumably be clarified further on more re-reading of the text. A more forensic look at the text!

## Appendix 19b-Sample Teacher Evaluation 2

Student I

Comment on the evaluation of mood in the first response and the amount and nature of the evidence being used to support it.

Much of student I's initial response to the poem is straight narrative - an account of what the poem is about. At this stage her understanding of the concept of mood is unclear and so she is unable to fully engage with the question at this reading.

Comment on the evaluation of mood in the second response and the amount and nature of evidence being used to support it.

A much better response to the question. The student's understanding of the concept of mood has improved enormously resulting in an answer that contains less narrative and a much greater insight into the poem's varying moods.



3⑦ Used experiences in virtual world to help with  
poem  
"especially spooky room"

Transfer - "not going to build up own personal world  
but"

Might build collection of images for  
study

3⑧ Confidence - (NB) I knew what I was looking  
for, but I didn't think I knew"

Sound // for tone of voice

"Looking for the ~~sound~~ ~~to~~ pictures &  
the volume makes you have to understand it  
more"

Transfer "I felt (sic) more confident about  
the music poem in like makes to  
LC + stuff"

3⑨ Ownership - "I wanted a specific line  
Transfer - The second time I wrote it, I knew  
what to write

(NB) First time - "what is a typical  
course"

Engagement "You learn better when you work hard &  
that you're actually learning"  
"At the end I looked back & said 'I actually learned stuff'"

