Teenagers connecting their digital literacy practices in Schome Park, a virtual worlds project, with school experiences

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Abstract

This exploratory, work-in-progress paper examines a specific aspect of digital literacy practices in the Schome Park Programme (SPP): – a thirteen month virtual worlds project. We are using sources of data both external and internal to the project to illustrate the meanings teenagers made in contrasting and comparing their learning activities from within the SPP with their school literacies and learning. We draw on a currently proposed definition of digital literacies as the constantly changing practices through which people make traceable meanings using digital technologies. Working with and understanding of learning as involving changing patterns of participation we explore some of the sources of data available to the project to investigate how the participating teenagers compare and contrast their experiences with those they are familiar with in a school setting and how effective learning occurs within the project in relation to connections with school. We are finding multiple connections, both for students who participated effectively in the project and indeed to help explain those who did not. In the project some students drew upon the diverse resources, formed relationships with others and developed boundary-crossing learning opportunities for themselves. However if positive relationships do not develop quickly and/or boundary-driven learning opportunities are not sustained these will rapidly deter participation. Early findings lead us to support Barron’s (2006) suggestion that reaching understandings of how learning takes place across settings, and of the possible synergies involved and obstacles, may be useful to educators especially if they are interested in finding ways to supplement or extend school-based opportunities.

Study context

The Schome Park Programme (SPP) that forms the focus of this study was a thirteen-month long engagement by a virtual community working with teenagers located in the UK and the USA. Most participated outside their school environments but SPP included after school clubs and a classroom group. This hybrid virtual community which was constantly evolving over its lifespan was established in order to explore a
new form of educational system in order to meet the needs of society and individuals in the 21st century. We have engaged with a wide variety of perspectives on educational practices, consistently enacting a view that genuine participation by learners must be instantiated at all stages of planning and operationalizing education. Within the community, technology is seen not only as a tool to support and extend existing practices but also as having the potential to transform ways of representing the world and of supporting learning. The community decided to explore the potential of virtual worlds, considering their capacity to act as spaces in which visions of future practices and pedagogies can be built and experienced, making it "possible to construct, investigate, and interrogate hypothetical worlds," (Squire, 2006, p. 19) and received funding for three phases of work using the 3D virtual environment Teen Second Life1 establishing the first ‘protected island’ in Europe (Gillen et al., 2009).

The project ran from March 2007 to May 2008 in several phases that were differentiated in varying degrees in terms of participation, objectives and activities. At the same time there was considerable continuity in terms of setting, core participants, general ethos and some recurring activities. Appendix A is an attempt to summarise the project drawn from Twining & Footring (2008). A summary overview of the project has been published (Twining, 2009a). Furthermore the aims of the leadership of the project evolved as shown in Appendix A – although it is debatable to what extent any shift in aims was shared amongst all members of the community (Gillen, in print). This question, of course, raises perennial issues about notions of ‘community’ especially perhaps virtually – on investigation boundaries are always indeterminate and the extent to which aims are actually shared debatable. It is beyond the scope of this paper to participate in the ongoing scholarly discussions of how precisely to define a "virtual community"; although see Barab, Kling & Gray (2004) for a helpful outline of relevant approaches. With Pea (2004, p. xi) we are more concerned in this paper with the work of communities, loosely defined, than seeking a precise definition of "virtual community" or any other specification of "community".

The project had an enormous range of activities during the period, some connected with formal curriculum topics, e.g., physics, ethics and philosophy, and archaeology. Other activities stemmed from playful exploration of the environment’s affordances and attempts to share new skills with other participants. Many community games, events, and activities were spawned, some initiated by staff and some by students.

The Scheme Park programme fitted Barron’s (2006, p. 203) notion of “pathways for the development of interest and knowledge that include pursuit of further learning

1 Teen Second Life and Second Life are trademarks of Linden Research, Inc.
outside school.” All her identified strategies i.e. information retrieval; the creation of interactive activities; exploration of diverse media; seeking out relatively structured learning opportunities and the building of knowledge networks were present in the design of the project. That claim of course is not intended to imply that all these structures were perfectly realised in practice.

**Research questions**

This paper represents an early stage in our investigations aimed at tackling the following research questions:

- How, when and why do students engaged in activities within the project make connections to other domains (home, school etc.)
- What are the barriers to their participation, especially in terms of making connections through digital literacy practices with learning activities in other domains?

**Ecological perspective on digital literacies and learning**

We would suggest the following as a definition of digital literacies: the constantly changing practices through which people make traceable meanings using digital technologies. This definition puts people’s practices to the fore, the ways in which they integrate new explorations and new tools into already existing, always dynamic, activities that they shape according to their purposes and experiences. So the definition of what digital literacy includes or how it is constituted is constantly in flux. Indeed, since the term includes a constellation of practices, it is useful to consider literacy as always plural (Barton, 2007).

Our argument here is that digital literacies, as all literacy practices, can usefully be approached through an ecological perspective (Barton, 2007). The notion of ecology provides a metaphor to assist us in thinking about “how the activity – literacy in this case – is part of the environment and at the same time influences and is influenced by the environment” (Barton, 2007, p. 29). This connects well with Barbara Rogoff’s (1997) proposal that learning can be regarded as transformations in the patterns of participation in joint activity. Employing a traditional individualist cognitive approach, it would be deemed impossible for us to look for evidence of learning because we do not have access to the individuals in the actual world; with a sociocultural approach we are enabled to consider evidence attesting to patterns of participation in joint activity.
Teenagers participating in the SPP were also in almost every case also attending school (although there were a few exceptions who were home-schooled or on long term sickness leave). Some participated as part of their school activity, although as a distinct project; some through an after school club. For every student participating, joining the SPP was voluntary; for the majority it was a home-based activity which they freely chose to join after hearing of the project, typically through information made available via schools or the National Association for Gifted and Talented Youth (the recruiting channel in the pilot phase – see Appendix A.) This project is thus well placed to contribute a response to Barron’s (2006, p. 194) challenge:

A better understanding of how learning takes place across settings, and of the possible synergies and barriers between them, may help educators find ways to supplement school-based opportunities.

This paper represents an initial, exploratory and partial element of that contribution.

Methodology

Developing an approach

The Schome Park Programme is unusually multidimensional, with activities of very diverse kinds, at different times and in different places, involving different combinations of people (See Appendix A and Twining 2009a; b). As an educational project it is perhaps particularly unusual in that not only are multiple perspectives absolutely intrinsic to the project (for this is always inevitable to some extent) but there were activities extremely salient to some individuals – sometimes all the activities they engaged in – that were completely unknown to some members of core staff, even the director, until after the project had finished.

We have argued elsewhere (Twining, 2009b) that the nature of open virtual worlds enables a new, transformational research strategy. The project recruited young people and staff who interacted on an enclosed (protected) island in TSL through avatars, ie. anonymised projections of simulated figures. Essential components of the project were communications via other online domains, most especially the asynchronous forum and wiki. Here too the anonymised identities were used; until close to the end of the project few participants ever met one another face to face. Although we knew that in practice some students did get to know some of our real names and professional locations, we all maintained our within-project identities in interactions. Besides the ethical reasons for this there were great advantages in associating ourselves with avatar personas that avoided persistent inequalities and differences in for example age issues in the project; one characteristic was fluidity of leadership (Peachey, Gillen & Ferguson (2008). The design of the project is highly distinctive in terms of researched educational interventions in that it was possible to introduce innovative features of curriculum design, ways of learning and teaching
together all in an extraordinary environment that enabled interactional possibilities not realisable in the actual world, all at the same time. Drawing on the work of Christensen, Hom and Johnson (2008) we have argued elsewhere that the SPP is thus an examplar of ‘disruptive innovation theory’ in education, competing in a different plane of activity to the existing model, in which different criteria apply (Twining, 2008b).

Taking an ecological perspective on the project, influenced by cultural-historical activity theory, it is necessary appropriate to engage in an eclectic mixture of methods in order to explore this diversity. It is also necessary to recognise that inevitably the interpretation arrived at in this paper is only one possible story, one synthesis of the many that could be told. In the very narrow constraints of this paper, our selection of data is inevitably extremely limited and could be criticised as essentially arbitrary, although we do endeavour to provide some justification for qualities of breadth and depth. Nevertheless, we would contend that its value resides not in a claim to objective truth, but as a necessarily partial interpretation constructed through participation throughout the project and subsequent lengthy immersion in diverse sources of data.

Methods

Our approach to data collection and analysis may be termed virtual literacy ethnography (Gillen, 2009). This involves combining corpus linguistic tools, textual analysis and a consideration of some of the multimodal characteristics of the project spaces in a framework of new literacies that recognises the ‘radically changing forms and functions of texts’ (Kress, 2005).

Data may be categorised as belonging to two distinct spheres.

Data external to the project

Sources of data are of two types:

- Published outputs from the project including a professionally made programme for Teachers’ TV; participants’ multimodal video/machinima productions posted to Blip TV and YouTube; reports, papers and conference presentations produced by members of the Schommunity for a variety of external audience.
- A questionnaire survey of participants at the end of the pilot phase

The quantity of the first sphere of data is enormous; so for this paper we take an illustrative sample that from our extensive background knowledge of this work we believe to be not unrepresentative. For the purposes of this paper, the second is drawn upon in a systematic way, utilising some early organisation of this data conducted by Deirdre Cook.
Internal sources of data

The data for the study are constituted by records of activities logged in three domains:

A. Logs of synchronous 'chat' and instant messaging while inworld (where made available by members of staff for research by other members of staff).
B. Discussions posted on the community's forum – often related to planning and discussing possible or actual activities inworld but also often more generally related to the community or even participants' out of project interests.
C. Material placed on the wiki, especially popular for advertising events and, to some extent afterwards, recording and reflecting on activities, including through images.

For the purposes of this paper we make use of:

(A) the corpus of chatlogs constructed from interactions inworld (NB this is a small subset of all interactions in-world which while still substantial is only a partial record of all the in-world communications). We searched for instances of the word 'school' and have begun an analysis of collated words and a discourse analysis of select instances, selected as part of an extensive discussion relevant to our investigation here.

(B) The forum data relevant to our research questions is enormous. We selected a single particularly interesting and relevant thread or theme for discussion and assembled these texts into a thread, cutting out some extraneous material. This discussion was sparked off by a posting by a student who announced his intention to build a cathedral in Schome Park. This led to an intensive discussion of 87 messages over a period of 10 days.

Findings

External sources of data

Some student participants, especially a small number who joined at the beginning of the project, participated enthusiastically and continued to the end made extensive connections between the SPP and the 'actual world' (Boellstorff, 2008). The strongest example of this were two groups which entered national competitions and, since they passed through initial stages came together in actuality to participate in competition finals.

Some students were in groups which associated together offline while participating in the wider SPP community in the project. One such example was a group of 26 students and 9 staff recruited by the South East Grid for Learning (SEGiL; see Pim, 2008) which found considerable benefits for participating students:
There have been clear social benefits for students in terms of building confidence and enhancing self-esteem. Development of IT-based skills has also been relatively easy to demonstrate because of involvement in projects and the legacy of built objects around the island. There is also evidence within the blogs and wikis of higher-order thinking and the ability to engage in mature debates around quite complex issues e.g. seeking permission for building and conforming, or not, to building regulations. One student was directly interviewed for the Teachers TV film entitled ‘This virtual life’. (Pim, 2008)

The student referred to spoke enthusiastically in the programme about his experiences in bringing together his hobby shared with his father concerned with steam trains and the virtual worlds project via the school setting. In SPP he persuaded the community to allow him to build a steam engine museum; he completed this with astounding replicas, sound effects and explanatory posters. One engine and train was involved in a further project within SPP – the making of a machinima (edited video): this has been published on Blip TV (http://schomepark.blip.tv/file/971966/).

Forty-five questionnaires were received at the end of the pilot phase; 40 of these being from students who had engaged with Schome Park inworld, all but two of these had also engaged with the wiki; 29 had used the forum. Thirty-six students gave responses to an open-ended question asking for explanations about their levels of engagement with SP, half of which make contributions to our category of 'enthusiastic'. We thus have retrospective comments on the pilot stage from 18 students for whom the pilot project went well which were freely constructed.

The most comprehensive comment conveys the innovative quality of the environment with appreciation of social and learning aspects:

Second life for a lot of people was a completely new environment, and so most of us had to spend a while learning how to use the features, change appearance, build etc. I used it a lot because it is a very stimulating medium—there is always lots to do, you are always learning about something new you can do with it. I also had a lot of very interesting conversations with people about various things both relating to schome park and not at all. The ability to have an intelligent conversation is very appealing to a lot of us who don’t necessarily have the chance in real life—and by having conversations we have the ability to make friends with people. I have made a lot of friends through using SL because it is more like having a real conversation due to the use of avatars etc. Also the feeling of learning things in an environment that isn’t a school—which has lots of related issues—its rewarding because I learnt a lot of things that are impossible to learn at school.

The point about being different from school was echoed by others, for example,
Schome park allowed many things which regular education simply doesn’t. Experimenting with the physics engine was particularly interesting but just being in-world is special. Building, planning and just talking are all enjoyable especially when you are building a chess piece requiring complex construction or debating on the criminal justice system. Perhaps most of all, schome park is informed as a community and allows for wider scope than if every one acted as purely individuals.

The point about the environment being fun and a good way to make friends within a safe community were perhaps the most frequently mentioned thing in the explanations for use. Ten responses, here with this being typical.

I like to meet my friends on there, we had fun creating new environments and learning in the simulated classrooms. I enjoyed allowing my creativity to wander free by designing building avatars and also helping groups to establish.

Seeing this as a place of learning as well as a social experience was also commented on frequently so for example,

I found it a remarkable experience, the fact I could joke and the like without social troubles was the greatest appeasement. The second being taught by professionals.

Involvement in specific learning challenges created involvement.

I used schome park quite a lot because at first it was interesting in its originality and then later because I was involved in different projects. The method of learning was new and I hadn’t been involved with anything similar. Knowing about the increasing use of second life I wanted to be part of the project and see what it was like for myself. After the initial period, it was the physics experiment, my own studies on trebuchets and, towards the end, the scripts I produced, that kept me coming into schome park.

Socializing, creativity, learning, freedom of expression finding like-minded people all were noted by the very positive respondents.

However there were also considerable difficulties that for some were insurmountable. The environment requires a relatively high computer spec, in particular a good graphics card; two participants could not get in-world and one at least crashed relatively frequently. One difficulty reported by four people was that they tended to be were logged on inworld when others weren’t and thus they had difficulties finding things to do and/or that things moved on without them. One specifically recommended that clearer goals would have been useful. Two people complained about the mode of communication. One pointed to particular constraints experienced in near-synchronous written ‘chat’:

Discussions were difficult to keep up with especially if many people were involved. Little time was available to think of valid and unusual points
because people felt that they had to keep the conversation going and that pauses were ‘bad’….Adding voice support to second life would make conversations so much easier than trying to type everything.

One student found the environment distracting through the use of the visual cues that for many others constitute much of its appeal:

    Found SL interesting & fun for entertainment but not good for education-too many distractions-discussions such as ethics and philosophy could have carried on using a purely text based system-Sl provided distractions.

Technological difficulties and/or perceived deficiencies very evidently interfered with the experience of quickly forming constructive and enjoyable relationships that was key for those who engaged more successfully.

**Internal sources of data**

Our analysis of references to 'school' within the corpus of chatlogs is ongoing in part as the results were stronger than we had expected: we have found 1,167 instances of the word used (and of course we recognise that some discussions relating to education might not mention the word).

We would wish to be cautious in making claims from this data before a proper analysis is finished. However, initial investigations suggest that a high proportion of these occur within extended discussions rather than being in passing. Sometimes students make mention of things that are going on in their school lives, that perhaps are challenging or interesting and this leads to discussion. Sometimes discussions about schools occur as part of the explicit research agenda of the SPP, for example the second author started off a discussion on how students and others could work together to research what people thought they were learning in Schome Park. Students enthusiastically began discussing research methods at the same time as volunteering their opinions, eg:

    it doesn’t resemble a school lesson, because it’s so different (in a good way)…
    I’ve learnt a lot more in three weeks I’ve been doing this than I have in a whole year in French…
    it would be good to have this as an alternative to school.…noone really messes around either

    One useful thing about this is, while we’re discussing stuff in SL, we come up with related things that happen in RL that we can test in SL; this also tells everyone who doesn’t know about whatever it is what it is

The forum discussion following one student’s proposal that he build a gothic cathedral in Schome Park was intensive and wide-ranging. Dimensions to the argument including cross-cultural differences (the student was North American and most other participants British), the place of religion in society, the mutual
relationships between religion and historical events such as specific wars and other conflicts, meanings of religious symbolism, styles of architecture and mutual influences with religions etc. Many participants drew on what appeared likely to be sources of knowledge gained at school as well as outside. It is difficult to know whether the sustained level of debate, concern for maintenance of courteous relations and striving to understand the others’ points of view came from the project ethos or other sources of influence outside it. However there were two points at which students made explicit reference to schooling practices. One was where some students felt strongly that participation in Schome Park by a members of a school group which was gaining credit (for 'building' in a context of a computer class) was an inappropriate intervention in the voluntary community of Schome – although all the students involved were volunteers and an alternative route for credit in the classroom was available. However the second point was perhaps even more interesting. It was suggested that since the community was not on the whole supportive of the cathedral building plan in the way proposed (details are very complex) that the student concerned should be credited by the teacher for skills he displayed and indeed developed during the debate itself. The quality of an authentic learning experience – that all learning cannot be specified in advance, and that perhaps the best learning is not, by definition, - was voiced by students. It seems to us a very relevant aspect of the project as a whole, in terms of those students and staff for whom the project was a success overall.

Conclusions

Although data analysis is still ongoing we find some supportive evidence for her “conjectures” (Barron, 2006. pp. 200-201) from work with a minority of participants in the Scheme Park project that:

- Within any life space, a variety of ideational resources can spark and sustain interest in learning.
- People not only choose but also develop and create learning opportunities for themselves once they are interested, assuming they have time, freedom and resources to learn.
- Interest–driven learning activities are boundary-crossing and self-sustaining.

The learning ecology framework supports our analysis of why many students who joined the project failed to persist and left quickly. The following appear to have been influential factors:

- the need for rapidly developing positive relationships on both the intellectual and emotional dimensions, in the informal learning environment that may be contrasted with school where impersonal relations may at least be tolerated longer;
• absence of boundary-crossing activities;
• lack of sufficient structure in knowledge-developing pathways.

It is a salient issue for contemporary education to find such boundary-crossing interest-driven learning activities. Lenhart et al. (2008, p.1) after their major investigation of US teenagers’ digital literacies concluded:
Teens write a lot, but they do not think of their emails, instant and text messaging as writing. This disconnect matters because teens believe good writing is an essential skill for success and that more writing instruction at school would help them.

So we would offer support for Barton’s (2007, pp. 206-207) suggestions about the implications for educationalists of taking seriously an ecological approach to literacy. To paraphrase, some of the suggestions that he proposes formal schooling might benefit from taking account of, which evidence from this study supports, include
• print literacy should not monopolise the curriculum against other semiotic modes
• children learn literacy both from schools and other places, neither in a linear manner;
• literacy should be engaged in for authentic purposes;
• everyday literacy is a collaborative process, utilising peer support; such practices should be encouraged in the classroom.

The research explained in this article is clearly inadequate to investigate properly individual’s learning as it is actually cutting across into the actual world including school. As Pim (2008) asked pertinently of SPP:
However, what continues to be difficult is how to demonstrate long-term educational benefit. How do skills gained within an online virtual gaming environment transfer to real-life. What curriculum learning has taken place?
It would take a different project with strands of investigation both within the project and examining learning taken across different domains to answer this question properly; however the indicative findings that are being explored in this paper do suggest that such a venture could be worthwhile.

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