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Learning and Teaching in the Panopticon: Ethical and Social Issues in Creating a Virtual Educational Environment

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Abstract—This paper examines ethical and social issues which have proved important when initiating and creating educational spaces within a virtual environment. It focuses on one project, identifying the key decisions made, the barriers to new practice encountered and the impact these had on the project. It demonstrates the importance of the ‘backstage’ ethical and social issues involved in the creation of a virtual education community and offers conclusions, and questions, which will inform future research and practice in this area. These ethical issues are considered using Knobel’s framework of front-end, in-process and back-end concerns, and include establishing social practices for the islands, allocating access rights, considering personal safety and supporting researchers appropriately within this context.

Keywords—distance education, ethics, virtual environments.

I. INTRODUCTION

THE Schome group is a community which includes academics, parents, young people and educators. Schome was formed with the aim of creating ‘a new form of educational system designed to overcome the problems associated with current education systems in order to meet the needs of society and individuals in the 21st century’ [1]. As part of this process, the group has sought and engaged with a wide variety of perspectives on educational practices and potential educational futures. Group discussions of imagined future scenarios were underpinned by a stance that ‘regardless of when, or what we believe the future will be, our individual and collective visions are what matter’ [2]. This has been the group’s starting point as it seeks different visions of how education could, and should, be. This is done through an active wiki and online community forum which involve young learners with a range of educational experience as active participants. In these visions, technology is seen as supporting or extending existing practices, and but also having the potential to transform the curriculum and pedagogy [3].

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This process has included seeking the views of young people about how they like to learn and their own visions of the future [4] as well as constructing a database of pedagogies from around the world and developing an educational taxonomy [5].

The group is based at the Open University, which is the United Kingdom’s leading provider of distance higher education, with more than 11,000 students graduating each year. One element of the Schome group’s research has been to explore the potential of virtual worlds. The group considered the educational affordances which such environments offer and the capacity of virtual worlds to act as spaces in which visions of future practices and pedagogies might can be built and experienced. Such experiences are not easily achieved in the physical world and the group therefore saw virtual environments as important arenas for its work.

Courses which are wholly or partly based online are an established feature of distance education, particularly at a post-compulsory level. Their environments are likely to incorporate electronic mailing lists, email, asynchronous and synchronous conferencing and blogs. The immediacy of synchronous conferencing, in which participants communicate via typed messages, appeals to students used to informal communication through facilities such as Instant Messaging. The level of immediate and personal contact available in these familiar online environments can be enhanced through the use of virtual worlds [6].

A separate phenomenon has been the development of massively multiplayer online games (MMOGs) for the commercial and gaming world. These three-dimensional online game worlds are increasingly popular. World of Warcraft, for example, had over 7 million characters by April 2007 [7]. Virtual worlds combine a desktop virtual environment with synchronous chat communication. They share three distinctive features:

- the illusion of three-dimensional space
- avatars which serve as the visual representation of users (see Fig.1)
- interactive chat which allows users to communicate with each another synchronously [8].

Research on the use of these virtual worlds in formal educational initiatives suggests that they have the potential to extend the traditional classroom environment and also to act as a medium for distance education [9]. Within limits, such

worlds support the creation of constructivist learning environments ; [8], [10]. Research into purely text-based virtual worlds has found they too can ‘promote an interactive style of learning, opportunities for collaboration, and meaningful engagement across time and space, both within and across classrooms’ [11]. Visual representations of ‘in-world’ activities supply have additional affordances which support a constructivist paradigm of learning and ‘highly cooperative learning activities’ [6].



Fig. 1 Avatars in a 3D space engaged in a philosophy and ethics discussion.

Numerous possible virtual environments are available to educators [9] and popular virtual world applications include Active Worlds, blaxxun interactive, OnLive! Traveler and Adobe Atmosphere as well as MMOGs such as EverQuest and World of Warcraft.

While all applications afford varying strengths and weaknesses for educators, the introduction and use of a 3D virtual world offers innovative and unique educational opportunities for both traditional classroom environments and as mediums for distance education. [8]

II. SECOND LIFE

Having considered the virtual environments available, the Schome group chose to create virtual education spaces within Second Life. Second Life has the characteristic three features of virtual worlds listed above and also allows users to add audio elements to their interactions. It operates as a MMOG, but with some important differences. Players are free to customise their avatars extensively and to own and develop virtual land. They can create and program objects; they then own the copyright to their creations and can buy and sell them using the in-world currency of Linden dollars, which can be exchanged for US dollars. There is no plotline to follow or roles to adhere to, although the trading of items and services for money has led to some seeing the ‘game’ of Second Life as being that of capitalism.

Educators can buy ‘islands’ within Second Life and design their own educational spaces. In such locations, students can meet and interact with tutors and each other through their avatars. Educators within Second Life exchange views and experiences; an e-mailing list and in-world groups facilitate this exchange. A major educational project is the Campus:

Second Life area, which was purpose built to give educators and students opportunities to experience the ‘*simulation and creativity tools available within a large, heavily populated digital world*’ [12]. Ten university courses were offered in 2005 and this number has grown rapidly. Second Life also allows courses to be delivered in a wide variety of ways. Medical students try out approaches to patient consultation; students’ avatars engage with the rules and practices of Roman civilization; others listen to a guest lecturer or musician in a virtual lecture theatre. Examples such as these demonstrated to the Schome group that Second Life had the potential to go beyond standard distance education pedagogy and might offer insights into the new educational practices which the group seeks.

The Schome group bought and created two islands. Schome Base is located on the main grid which is only open to those aged 18 and over. This article focuses on the second island, Schome Park. This is located on the Teen Grid, which is designed for young people aged 13-17 and is necessarily difficult for adults to access. Spaces owned by educational providers are therefore rare on this grid. Schome Park was designed to be an environment in which the Schome group could build a virtual representation of learning spaces for the real world and also explore new learning practices.

III. SCHOME PARK

In spring 2007, the first groups of young people to use Schome Park were participants in the Schome / NAGTY Pilot. This involved around 150 members of NAGTY (The National Association of Gifted and Talented Youth) who were aged between 13 and 17 and were geographically dispersed across England. This group contained a large sub-section of young people from NAGTY’s scholarship programme, GOAL, which aims to support those groups currently unrepresented in higher education, in particular from socially disadvantaged or ethnic minority backgrounds. All participants were volunteers who already had experience of participating in subject-based online forums organised by NAGTY. The primary aim of the pilot was to explore the educational potential and pitfalls of Schome Park and in so doing to:

- provide participants with a positive learning experience outside school which would give them the opportunity and support to maximise their potential
- provide a greater understanding of virtual reality 3D environments as a medium to support learning
- develop thinking about a potential future education system and about how different media might support this
- try out different models of education.

The pilot participants were supported by elements of the Schome infrastructure. This offered the young people a range of resources, including:

- Schome Park – designed to stimulate students and provide them with
- opportunities to develop and implement their own ideas for activities and projects (see fig. 3)

- the Schome community wiki – which includes information and instruction about in-world events and possibilities, as well as providing a collaborative space for students and staff to document their experiences and thoughts
- the Schome community forum – in which students can engage in discussion with other members of the Schome community and can support each other
- the SLog – a purpose-built tool created to enable those on Schome Park to share their in-world experiences by blogging them directly to a publicly accessible website.



Fig. 2 Schome Park's area for carrying out physics experiments.

IV. ETHICAL ISSUES RELATED TO THE CREATION OF SCHOME PARK

Schome aims to explore and develop a future education system. Research is an essential part of this process and many of the ethical issues which emerged were a result of Schome Park being both a research area and an educational environment. The Schome group would support the view that

good quality research, which develops our theoretical and empirical knowledge of the world of education, is important, and if researchers are seen to conduct their activities unethically then this research is less likely to get done and will not be given the consideration it should receive...research, as with any other activity in a humane, open and democratic society, should be conducted within a framework of values ... Developing and sharing a set of ethical guidelines is one way of working towards these goals. [13]

The premise that underpins this discussion is that researchers are pursuing knowledge and that this pursuit should be carried out in a fashion that is truthful and in accord with the laws of a democratic society.

...what purpose could be more worthy than to include in our educational research a concern for the good and the rights of those we investigate and the society of which we and they are a part [14]

One issue which arose from this research was the extent to which current ethical guidelines are appropriate for educational research conducted in virtual worlds. It is only relatively recently that professional bodies in the social sciences have produced ethical guidelines for their members. The British Educational Research Association (BERA) adopted a set of principles in 1992, following a pattern established by the American Education Research Association the previous year. The BERA [15] and British Psychological Society [16] guidelines, for example, are sound ones and are subscribed to without argument by the majority of educational researchers. A main aim of such guidelines is to protect those being researched from harm. The Association of Internet Researchers [17] identifies the following ways in which online research differs from offline research:

- greater risk to individual privacy and confidentiality due to increased ability to access information
- greater challenges when obtaining informed consent
- greater difficulty presented by the increased range of contexts for research
- the global reach of the technology raises new ethical issues.

A perception of online worlds as potentially risky environments was clearly evident in the group's communications with the pilot's sponsors and the Open University Ethics Committee. A major concern related to child safety. How would the Schome group ensure that adults working with the young people were screened and monitored? This was a relatively straightforward issue; each adult was screened at an enhanced level via a check with the UK's Criminal Records Bureau (CRB). This is a standard practice in the United Kingdom for adults those who work with young people or vulnerable groups.

A second issue was whether Second Life would be a safe environment for young people. Press accounts of this virtual world have often focused on the growing sex industry and on other controversial elements of the main adult grid with its many millions of inhabitants. However, Schome Park is located on the Teen Grid, which is only accessible to adults who have passed appropriate checks. Avatars on the Teen Grid cannot access the adult grid. In order for the Schome group to create an educational space, CRB clearances for all group members who needed access to the Teen Grid had to be submitted to Linden Labs, the owners of Second Life. The avatars of these named individuals were then granted access to Schome Park, where they work as the Schome staff. These avatars are confined to Schome Park and are unable to access other parts of the Teen Grid.

Before any young people were able to access Scheme Park, staff drew up an acceptable use policy (AUP), based on the Linden Labs 'commandments' which are applied to everyone on the Teen Grid. Everyone accessing the island read and agreed to the AUP. In brief, they agreed to: respect everyone in the Scheme community, remain anonymous, keep their password secret, respect people's privacy, keep it clean (with regard to language, sex and violence); and they agreed not to harass or assault people, disturb the peace or allow Second Life to interfere with their real-world commitments.

Second Life allows a very high level of surveillance. Scheme researchers designed sensors and placed these on the island to record which avatars were present at which location and at which time. Staff avatars also 'log chat', recording a transcript of all text communication with that avatar. This includes one-to-one or one-to group instant messages, as well as the general conversation taking place in their vicinity. On some occasions, staff have also videoed what was happening on the island, recording all details visible on the computer screen. This level of surveillance is unique in an educational setting and is thus far higher than would normally be expected when team members have been screened and are known to one another.

The avatar, however, is not the person. There is no absolute guarantee that the person controlling the avatar is the person with the CRB check. The same is true of the young people's avatars. Other protective features were therefore adopted. Scheme Park provides the option to 'report abuse' both via a menu on the computer interface and via a 'Help' button which can be touched by an avatar in world. Pressing this button sends a 'help needed' message both to adults in-world and also to the email boxes of the Scheme group staff.

Other areas of the Teen Grid are constructed by young people and most adults are barred from visiting these (Linden Labs staff monitor these areas and provide in-world support). The young people in the Scheme / NAGTY pilot group had previous experience of subject-based discussion forums and online message boards. As individuals, they could create their own account in the Teen Grid and travel where they wished in this environment designed for teenagers. However, the funders of the pilot project felt that the online safety of individuals in the pilot group might be compromised if they visited areas which the Scheme adults could not access. These concerns meant that the young people in the pilot, like the adults, were confined to Scheme Park. One negative effect of this was that the group became wary of 'outsiders'. Schomer43 wrote:

I still feel that as soon as we're on the main TSL grid our community and rules are going to go down the toilet! How can we make outsiders follow our rules? We can't, so we need to sit down and think of a way of making sure the rules are followed by the outsiders.

Child protection issues therefore had a significant effect on the ways in which Scheme Park was used by the pilot group. Adults with enhanced CRB levels of clearance were monitored at high levels; young people who had been advised of the safe practices and potential dangers of online interactions found themselves confined to a highly monitored world. Second Life, on the main grid, offers a wealth of resources and being able to search and visit different areas and meet other avatars is central to its ethos. Some of the young people involved in the pilot were acutely aware of the limits which had been set. As Schomer86 appealed:

I'd like to experience freedom...I'd like to be able to leave...Teen Second Life was created for protecting the young...instead of being kept here like a prisoner.

Restrictions to access meant that it was impossible to invite visiting experts or speakers to Scheme Park, even if closely monitored by staff both in-world and face to face, unless they were willing to undergo a lengthy and expensive clearance procedure. At the same time, pilot participants were unable to access the expertise and creativity of others on the Teen Grid. Their group membership prevented them from accessing the online forums in which other Second Life members share information and experiences. Schomer108 complained:

I was speaking to many people...and they keep referring to the forum for help and for like....scripting resources that I can read...and it's really annoying when you cannot go on it.

The pilot project was exploring new ground and the possibility of unexpected events ensured that the extent to which these limitations were justifiable has been debated by the Scheme group. The power that funding bodies and ethics committees have, and their understandable 'need to protect', made this an important issue. A indirect consequence of these restrictions may have been that young people took matters into their own hands. It was possible for them to circumvent these restrictions by signing onto the Teen Grid as individuals. This would have given them access to resources not available to the restricted Scheme group.

1) Front End Concerns

Lankshear and Knobel [18] distinguished three points within the research process: front-end concerns, in-process concerns and back-end concerns, suggesting that these were useful reference points when examining ethical issues in online research and potential consequences for those being researched.

Front-end concerns include demonstrating respect for others online by participating in the community to be studied for extended periods of time prior to the start of formal data collection [18]

As the interest in virtual environments such as Second Life has increased, researchers have become increasingly interested in collecting data within them. At conferences and in online discussions it is commonplace to hear of researchers who are researching and writing about Second Life, having

spent little or no time in the environment. This suggests a 'RAM raiding' style of research, with minimal commitment to the environment being researched. In contrast, the Schome / NAGTY project originated with a pre-existing group, all members of which had previously spent at least two months in world. The majority of adult participants had spent considerably longer in-world as the Schome islands were purchased eight months before the official start of the pilot. This experience meant that researchers were informed and contributing members of the community and were therefore better positioned to obtain a balanced and insightful understanding of the practices there. This is in keeping with ethical approaches suggested for real-world qualitative work [19] and ethical cyberspace research [20], [21].

a) Informed consent

A variety of practices have been developed for gaining informed consent when researching the online interactions of young people [22], [23]. In this case, young people were told about the project via the NAGTY online forums and face-to-face meetings and were asked to express an interest. Two hundred and fifty did so. NAGTY wrote to their parents and schools, asking parents and students to sign informed consent forms giving permission for the students to take part and for data to be collected and used for research purposes. These letters and consent forms were approved by the Open University's Ethics Committee and conformed to the BERA Guidelines on Educational Research (BERA, 2004). Consent via these forms was required for all participants. In addition, participants were told about the use of chat logs and sensors on the island and signed a form agreeing to the collection of data.

It was important that participants understood these conditions from the outset. Data relating to the project is so intertwined that, although participants were free to withdraw at any time, it would be very difficult to remove data relating to their past participation. Just under 150 students returned the consent forms by the deadline. They were sent an email by the Schome group, asking them to visit a website where they could choose a username and password for Schome Park on the Teen Grid.

Although a full description of the pilot was given, those signing the consent forms may not have had sufficient experience of virtual worlds or of research to make an informed judgement. When a staff member referred to research at an in-world meeting, Schomer46 immediately asked:

To find out what is going on inside our heads, government research?

Schomer129's understanding of research also seemed limited:

I don't mind being interviewed...or interrogated.

To increase understanding, pages about research were added to the wiki, and workshops for young researchers were held on the island.

b) Public or private space?

A concern arose early in the pilot project about the extent to which the wiki and community forum were seen as private spaces by participants. Whilst interactions on the island were private, with access was limited to the Schome group, interactions with the same individuals in the wiki and forum were public. As the project progressed these sites were increasingly accessed by other researchers, educators and reporters. Participants were frequently reminded that conversations which 'felt private' were open to the world. Staff moderated both the forum and the wiki daily to ensure that participants adhered to the AUP, and that they did not reveal personal details.

The distinction between private and public communications was clouded by the fact that all Schome Park interactions were recorded by any Schome staff present. Staff avatars often looked very similar to those created by the young people, so the distinction was not necessarily clear. This issue has been raised in other online contexts; 'public declaration of one's role as a researcher of online practice is important' [22]. It could have been easy for participants to forget that most actions and events on the island are recorded and analysed. Given the immersive and engaging aspect of the island, staff avatars wore 'Logging chat' notices above their heads to remind participants that chat logging was in progress (see fig. 3). The Schome website was used to enhance awareness of the project and to maintain informed assent. It provided a public record of developments in Schome Park and the research project, as well as providing a forum for discussions and queries.

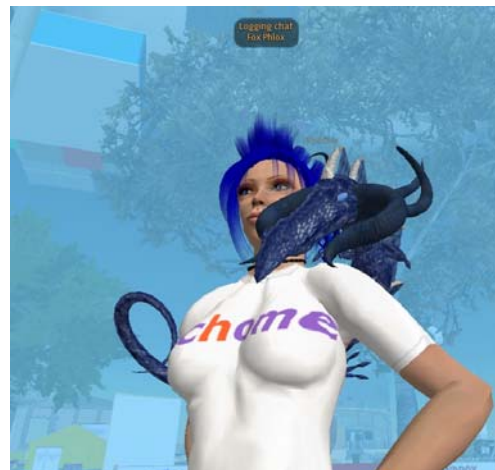


Fig. 3 An avatar displaying a 'Logging chat' message

As it was the staff who logged chat, their conversations were recorded in more detail than those of any other individual, meaning that the chat logs potentially revealed a wealth of personal details about individual staff, ranging

from their eating habits to their experiences of school. The massed chat logs contain all of these individuals' in-world conversations over a period of weeks and, put together, creates a new sort of data. People may need experience of working with this system before they can give truly informed consent.

2) *In-process concerns*

Knobel [22] argues that the online researcher must maintain a consistent online persona in order to maintain confidence in the project and in the researcher. Here she is referring to consistency as expressed through text communication. For the adults working and researching in Shome Park this need for consistency created an interesting tension. They could create avatars of any ethnicity, gender, age or species, could dress as they pleased and could change details of their appearance at a moment's notice. These visual elements are very important in Second Life. Members often devote a great deal of time and money to their appearance, and their form therefore reflects both the degree of immersion experienced and their experience of the virtual world.

One staff member having experimented with her 'in-world' appearance stated 'I feel uncomfortable looking like a teen when I'm not'. She did not experience the same feeling on the main adult grid, where she continued to use a young, conventionally attractive avatar. Similar tensions were expressed by other Shome members. One initially appeared as a giant rabbit, but found that he was not taken seriously in this guise. Shome staff took care to identify themselves as such, by wearing branded T-shirts and by displaying a 'logging chat' notice at all times. Staff had to learn to deal with a multiplicity of identities: community member, researcher, teacher, learner and, in many cases, owner of another avatar with a different personality on the main grid. They also had to be aware of being assigned the role of counsellor, confidante or friend by young participants. Knobel [22] recommends employing a 'reciprocity factor' to demonstrate ongoing respect for participants by helping them with some online tasks. All Shome Park researchers therefore commit to active in-world support. Staff help the young people to set and achieve their own goals rather than simply going into the in-world environment and extracting data.

a) *Staff issues*

Shome staff are drawn from across the university; and their experience as gamers, parents, web designers has proved as important to the project as their academic standing. Because Shome is committed to the creation of a 'better education system', group members are motivated by this ideal. This, combined with the freedom to contribute and develop roles within the group, has resulted in a highly motivated and committed team which has invested large amounts of time and effort in creating Shome Park and a supportive infrastructure. The engaging, immersive nature of the environment means that staff may spend large amounts of

time there outside the normal working day. There is a heavy workload, as staff have responsibilities in the wiki and forum as well as on Shome Park. In-world work involves complex multi-tasking as one avatar may be involved in two or three individual conversations by 'private' message (still recorded in Chat Logs), plus the general in-world conversation, as well as any tasks they are undertaking. This forces those involved in complex tasks, such as designing or building, to work late at night, when they are not likely to be distracted by conversation. As the work is highly pressurised, staff are not scheduled in world for more than two hours a day, although some have spent much longer working on specific projects. The pilot project has offered contributors a new role and a new identity both in Shome Park and also within the project team. This team has gained valuable experience in this environment but when the project is completed there is a risk that they will return to their previous identities within the University and not be rewarded, in professional or career terms, for this innovative work. In-world expertise is not currently reflected in real world recognition.

3) *Back-end concerns*

Back end concerns encompass a commitment to maintaining the participants, anonymity within research reports, a task made problematic by the ease of accessing and cross referencing increasing amounts of data via the internet [22]. They also involve evaluating the trustworthiness of the research accounts and issues which arise from a subsequent reflexive analysis of the research undertaken.

A significant issue for this project was the protection of the identity of the young participants. Young people contributed to each element of the Shome infrastructure: Shome Park, the community forum, the wiki and the SLog. The wiki and forum had been established for several years and the adult participants could be identified on these sites. The new young users were required to use their avatar names and images in all settings in order to maintain their anonymity in these public spaces. They were also told not to reveal their personal details in any context. As many of the participants knew each other in other online settings, had worked together, met face to face and in some cases even attended the same school, this masking of their true identity proved frustrating. As Schomer136 said, 'it's driving me mad not knowing who everyone is!' and this problem provoked extended attempts to get round the system. Schomer43 pointed out that useful information was being denied to participants:

I feel that even though we don't know each other's ages, there is still some sort of... age gap between us. Some think that we're all the same, we know the same as each other. But this isn't the case.

In reporting this research we have anonymised the young people's avatar names. However, using pseudonyms to conceal well-established online identities removes an important data layer concerning the online aliases people choose to use and the identities they craft via these aliases

[24]. Aliases can be considered part and parcel of a 'consciously "public" performance for others' [17] in which users participate willingly and openly, and thus cannot be subjected to the pseudonym rules which apply elsewhere. AOIR [17] suggested that 'to change the names or pseudonyms would dilute if not render unintelligible the meaning of specific exchanges'. An avatar's name may often contain aspects of that person's in-world behaviour and ambitions, it might not be appropriate to share these. On the other hand, some people view their avatar as an artistic creation and want it named, while others want their avatar credited for demonstrating marketable online skills. Despite these points, the protection of participants took priority, and so avatars have been referred to by pseudonyms throughout this article.

a) Shaping the world

Schome Park was designed to be a space in which new forms of distance education practices could be tried out in order to develop visions for the future. However, outside pressures had a significant influence on the environment which was created. Young people who signed up were already members of interest groups within the NAGTY community. These groups were allocated areas of the island. The archaeology group created a section of Hadrian's Wall with which they could interact to discuss historical issues and designs. The philosophy and ethics group carried out discussions in a Japanese Zen garden. The design, although engaging, thus imposed a conventional division between subjects. Various meeting areas were designed for events on the island. In an environment in which participants can appear as a rabbit, a colour or a brain in a jar; where they can fly, teleport and create objects at will, the design presupposed that they would need to sit in ground-level buildings. Power relations from outside the virtual world shaped in-world creativity and invention, and carried with them implications for the pedagogy and the ways in which the young people would learn.

When young people did not use the spaces as intended this became an issue in terms of their behaviour. An early building experiment was construed as a 'griever attack' because it left the island and airspace littered with thousands of unnecessary objects and wasted hours of staff time. New builds had to be granted planning permission. Very few were allowed at ground level; other participants had to build in the sky, creating a thriving aerial culture. The environment is not value free, and the values implied in its design sometimes conflict with the stated aims of the project.

The pilot's funders presupposed a learner-teacher model of education and required that each participant had access to formal induction sessions. However, most of the young participants were already familiar with online interactions and 3D virtual worlds and easily adapted to the environment. In this case, the young people quickly subverted expectations, using the session as spaces in which they could ask questions

related to their individual needs and ambitions within Second Life.

b) Inclusion and virtual worlds

Virtual environments have the potential to increase access for some disadvantaged groups, but they are not inclusive in themselves. Being 'digitally connected' is becoming a critical aspect of our educational and social experiences. The development of the internet and the arrival of the Information Age' have led to concerns that a new form of social exclusion might result from information poverty. Equal access to and participation in such learning experiences must therefore be part of inclusive approaches to education. There is a danger that groups which might benefit most significantly from engagement with educational experiences in Teen Second Life remain outside of the current wave of interest in such work. The Schome Park project therefore aimed to involve students from NAGTY's scholarship programme i.e those from socially disadvantaged or ethnic minority backgrounds. Analysis of participation data suggests a low take-up from this group, possibly because many of them could only access Schome Park from school. The heaviest users of Schome Park formed an active core group. They were able to access the island from home and, as a consequence, most events and discussion took place in the evenings, excluding those who were online only at lunchtimes or directly after school.

V. CONCLUDING REMARKS

Cyberspace experiences which can contribute to ethical wisdom are only now developing. As time passes, the wisdom gained from dialogic experience in cyberspace between participants and researchers will serve as a basis for future ethical work regarding the boundaries of participation in virtual distance education and scholarly observation. Ethical considerations need to go beyond the simple reiteration of existing professional guidelines. Such guidelines, whilst helpful, do not address many complex issues which require resolution, for those seeking to build and research virtual learning spaces for distance education. Setting up Schome Park suggests that the educator-researcher needs to maintain the students' ongoing informed *assent* through several routes; for example in-world signals, wiki-based information and a consistent avatar identity. This is essential as the engaging nature of the environment means that participants can quickly forget that they are learning within a 'high surveillance' educational project. Child protection issues must be addressed in on-line communication forums and finding ways to guarantee this is likely to mean that high levels of surveillance and monitoring will remain a key feature of distance education for young people learning in virtual worlds. Lastly, research seeking 'new visions' of distance education pedagogy need to reflect upon the influence of real world power relationships on shaping in-world practices. It may be that these influences act to transfer

existing real-world practices in the virtual world and opportunities to develop new approaches are lost.

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