

But a Walking Shadow: Designing, Performing and Learning on the Virtual Stage

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Abstract

Representing elements of reality within a medium, or taking aspects from one medium and placing them in another is an act of *remediation*. The process of this act, however, is largely taken for granted. Despite the fact that available information enables a qualitative assessment of the history of multimedia and their influences on different fields of knowledge, there are still some areas that require more focused research attention. For example, the relationship between media evolution and new developments in scenographic practice is currently under investigation. This article explores the issue of immediacy as a condition of modern theatre in the context of digital reality. It discusses the opportunities and challenges that recent technologies present to contemporary practitioners and theatre design educators, creating a lot of scope to break with conventions. Here, we present two case studies that look into technology-mediated learning about scenography through the employment of novel computer visualization techniques. The first case study is concerned with new ways of researching and learning about theatre through creative exploration of design artefacts. The second case study investigates the role of the Immersive Virtual World *Second Life*TM (SL) in effective teaching of scenography, and in creating and experiencing theatrical performances.

Keywords: scenography, education, 3D reconstructions, new media technologies, virtual learning environments, *Second Life*.

Introduction

Over last decades, multimedia and digital technologies became dominant in many disciplines including scenography. The term *remediation* was introduced by Jay David Bolter and Richard Grusin in 1999 to describe the convergence of different types of media, the absorption of one medium by another; and also to explain the assimilation of new knowledge delivered and experiences encouraged by new technological means. For instance, the genre of computer games remediates cinema (and *vice versa*); numerous web sites remediate the monitoring function of broadcast television; and, eventually, virtual reality (VR) supposedly ends the sequence by

fulfilling the promise of ultimate immediacy (Botler and Grusin, 1999: 6-11, 59-60). Furthermore, the emergence of cyberspace, as a digital network, remediates the electric communication means of the past 150 years, such as the telegraph and the telephone as virtual reality. It can be defined as a computer-generated, navigable infinity that exists behind the computer screen and is able to connect and separate its users at the same time, while they are actively engaged in the networked electronic communication. Despite remediation, the aforementioned media organically coexist and evolve together, contributing and relating to each other's content. Each of these technologies is a hybrid of technical, social, and economic practice and offers its own path to *immediacy*, with an ability to converge and create something new. In the context of this article, immediacy is used synonymously with 'transparency', that is, where the medium is unobtrusive and so no longer 'interferes with the user's ability to focus on the task' (Bowman, 2002: 282). Transparency to some extent is important since (as Murray and Sixsmith (1999: 324)) state 'it is only with the transparency of visual, kinaesthetic, aural, and other displays that a sense of virtual embodiment can be engendered.' Complete technological transparency, however, has not yet been reached, and one also might argue, whether there is an overall need to achieve it.

Theatre in the Virtual Age

It is often desirable to have a transparent medium in front of, or even around us to enjoy fully, for example, a virtual performance (i.e., watching a show through the medium, by contrast to looking at the medium, in order to see a show). On the other hand, however, the most recent tendencies in mobile digital technologies illustrate the clear shift towards numerous display and screen devices, miniaturized and oversized, which we encounter on a daily basis. Therefore, it is quite unlikely that a new generation of technology users surrounded by various hi-tech frames from the early years of their lives would perceive any of those as a medium between them and a virtual object or performance. Digital evolution is a process that produces new computer applications almost on an everyday basis. This could mean that the issue of immediacy will no longer be a problem in the future.

Current experimental theatrical productions are critically important for defining tendencies in the future development of contemporary theatre. There are several research groups whose goal is to install a number of basic application scenarios for students to develop during a course, but which can also serve as study

means for theatre artists, directors, and designers to benefit their professional development and lifelong learning, as well as to promote digital theatre-making. One of the main objectives of these experimental practices is to design digital scenery, which is unique to every theatrical piece and could be constantly modified (or programmed) during the performance. For example, the researchers in the Institute for the Exploration of Virtual Realities within the University Theatre and the Department of Theatre at the University of Kansas conducted several experiments with stereoscopic projections, VR headsets and live web-casting, aiming to investigate how digital technologies and the Internet can be incorporated into live theatre productions. Some of these experiments enabled specially designed virtual sets to be projected directly on stage and, conversely, to visualize the actors in VR environments, by using video and chroma key (i.e., superimposing one video image onto another) technologies. In addition to this, the research group examined the possibilities of communicating live performance to distant audiences and, furthermore, to stage real-time theatre shows in cyberspace, hoping to deliver live acting into ordinary homes.

The ultimate goal of such performances as *The Adding Machine*, *Dinosaurs*, *A Midsummer Night's Dream* and *The Magic Flute* was not only to generate and operate from the backstage such scenic elements as virtual landscapes and characters (Fig. 1), but also to justify the use-value of these multi-layered media settings in presenting a theatre show to a real audience.



Figure 1: *The Magic Flute* production at the University of Kansas' University Theatre. Images courtesy of Mark Reaney.

Mark Reaney, a designer and technologist of the research group, wrote about the performance of *The Magic Flute* at the University Theatre, University of Kansas in April, 2003:

‘To create *The Magic Flute*'s characters, we will need projection surfaces that can move with the performers and be manipulated by them. Digital images

will be projected onto special designed costumes, props and masks. In turn, the digital projectors will need to be mobile rather than fixed.'

Mark Reaney, 2003. Available: <http://www.ku.edu/~mreaney/flute/>.

Second Life is an immersive virtual world with (as of 2010) approximately 1.4 million members worldwide. Users create a digital version of themselves (called an avatar) and through this avatar can interact with other participants and objects inworld, and create their own content. The primary use of the platform is social networking, but artists, designers, performers, and educators have also employed it as a forum for their work.

Of the many theatre groups in *Second Life*, one, the *SL Shakespeare Company*, have performed a series of extracts from both *Hamlet* and *Twelfth Night*, held in one of the several recreations of the Globe Theatre (Chafer and Childs, 2008; 95). The ethos underlying the performances is to be a faithful presentation of Elizabethan performance (Joff Chafer, personal communication, 2008). To this end, costumes are as authentic as possible and avatars are given photorealistic appearance. *Second Life* also permits the viewer to move their point of view freely throughout the environment, independently of where the avatar is located. *SL Shakespeare Company* performances, however, are predominantly delivered as if the audience was viewing them from where they are seated. The audience members are encouraged to dress in Elizabethan costumes and the area surrounding the Globe recreates an Elizabethan environment in detail. The aim here is hence an act of remediation of the original piece in which the medium itself is transparent and therefore conforms to what Dobson refers to as a 'logic of immediacy' (2009: 2); the ultimate goal of the performance is to recreate a real world performance.



Figure 2: *Hamlet* performed by the *SL Shakespeare Company*. Images courtesy of Joff Chafer/Fassnacht.

In contrast, the Avatar Repertory Company, in their production of *The Tempest*, reinvented the staging of the play for this new medium, placing it across an entire island in *SL* (Fig. 3). Parts of the performance took place at various locations on that island with the audience sitting on a platform floating out on the sea at a distance from the action. Audience members, therefore, had to move their camera point of view to follow the performance. The design of the production was described as ‘pre-apocalyptic post-Victorian furry steampunk’ (Forder, 2009) – a design theme that firmly embedded the production in such cultures of the virtual world as ‘steampunk’ (design style representing a highly technological version of Victorian England) and ‘furies’ (residents of the virtual world who adopt animal avatars, or avatars with a mixture of human and animal elements). The production also drew on the affordances of the environment in that avatars flew (in the case of Ariel) or transformed from human to dragon (in the case of Prospero). Audience members were encouraged to follow these themes in their appearance, for example appearing in steampunk costumes or as dragons. Other traditions of performance, however, were maintained, for example, part of the island being designated a green room for actors’ avatars to reside when not required for the performance. This performance therefore adhered to the ‘the logic of hypermediacy’ (Dobson, 2009; 2), meaning that the medium, too, is part of the experience.



Figure 3: *The Tempest* performed by the Avatar Repertory Theatre. Images courtesy of Chestnut Rau and Joff Chafer/Fassnacht.

These different choices in the presentation of Shakespearian theatre exemplify two options available when remediating texts. In the performance of *Hamlet*, the transfer from one medium to the other is hidden as much as possible, but requires a greater reliance on the technology being transparent, since the success of the piece depends

on the experience being as close to the physical world as possible. In the performance of *The Tempest*, the new medium is foregrounded; the changes imposed (and permitted) by the new medium are integrated into the piece. Dobson typifies these as ‘window through’ and ‘window at’ respectively (Dobson, 2009; 3).

As illustrated above, the role of new media and computation technologies is increasingly important for the evolution of theatrical space, where set design is often an essential component. It can be argued that at present more than ever the overall theatrical atmosphere depends on how well performance space is digitalized. Computer technologies are an integral part of almost every theatre venue, however, some of the aforementioned novel technological applications are often perceived as a threat to artistic creativity if used onstage. The main reason for this is that these technologies may alter the very basis of traditional theatre-making, meaning that they have the potential not only to enhance, but also to transform the ways in which we design and perceive theatrical spaces. In order to overcome prejudices however, there is a strong need for special technology-mediated education and training of future theatre scholars, particularly based in theory-oriented academic institutions.

Learning about Scenography in the 21st Century

The approach to teaching and learning has changed over the last decades. Learners are now being given an opportunity to control their study process, actively engaging with course resources that, in their turn, became more technology-based (Laurillard, 2002; Jonassen and Land, 2000). This change generally supports the constructivism’s focus on individual learning in a socio-cultural setting (Selwyn *et al.*, 2005). There are, however, some reservations about whether such highly technological approach will benefit the educational process as a whole. It could be observed that even now there is a considerable amount of doubt amongst contemporary educators of students’ computer literacy (especially within the life-learning practices) and their motivation for independent use of, for example, computer-based educational packages (IPSOS MORI, 2007: 31). Some of the teachers are hesitant about changing their pedagogical methods, arguing that computer-mediated learning could potentially shift students’ attention away from concentrating on their studies towards a fascination with technology. The reasons for this are mostly the same – insufficient training and, as a result, lack of confidence in using novel technologies.

New media applications are often seen as an inseparable part of modern-day teaching and research processes. For example, three dimensional (3D) reconstructions of various historical works of art, design and architecture have already established themselves as a new research methodology. Some academics (particularly in theory-based drama departments), however, argue that digitally reconstructed artefacts do not provide a feeling of ‘materiality’, which is crucial for historical research and thus might confuse the learners. There are also concerns that, once a collection of research materials are rendered as a single model in 3D, it becomes difficult to convey an awareness of the conjectural nature of the research. One might also question the need to reconstruct digitally historical materials, stating that it is probably more important to create something new, for example, a theatre performance, employing the same technologies, instead of spending valuable time, and of course money, on ‘re-building’ something that already exists in the form of sketches, pictures, schemes and photographs (i.e., as two dimensional (2D) sources of information).

Some of these reservations are quite understandable; however, they can be undoubtedly addressed. Theatrical artefacts are a crucial link in bridging the gap between past and present theatre practices. Their visualization in 3D is often possible and even necessary for scholarly analysis and ‘as close to the original as a performance reconstruction can never be’ (Kuksa, 2008: 54). The creation of the ‘new’ and reconstruction of the ‘old’ can be successfully combined and greatly enhance each other. For example, a new virtual performance can be staged within the ‘old’ 3D-reconstructed theatrical site, using motion-capture technology, or the ‘old’ show could be revived in the new computer-generated settings. Some scholars even suggest that it is crucial not only to reconstruct the tangible environment, but also ‘the ephemeral performance that occurred within it’ (Sarlos, 1989: 200). Certainly, such technological approach to education is still a comparatively young phenomenon with insufficient time for pedagogical or administrative structures to generate accepted practices and standards. Therefore, all educational innovations should be carefully assessed before their implementation in the classroom and thoroughly evaluated afterwards.

Case Study One: Bringing Practice to Theory

There are a number of educational projects that employ critical approaches to, for example, theatre education. They attempt to develop innovative teaching strategies

and propose a new kind of scholarly research. Usually, it is specialised software or online modules that contain virtual environments generated for accessing, investigating, and learning essential elements of theatre-making through experiencing a body of knowledge interactively. These educational projects attempt to help their users in studying the basic principles of theatre, which are difficult to communicate using established teaching techniques. These may include set design, lighting, acoustics, sightlines, and also perception of time and space.

The Set-SPECTRUM educational project (Kuksa, 2007) was developed with a major goal of giving its users the most accurate and comprehensive visual and textual information on American theatre designer Norman Bel Geddes (1893-1958) and his 1921 *The Divine Comedy* set concept. The project aimed to strengthen the existing approaches to research and teaching, by transforming learners into active participants with an opportunity to be engaged with the content interactively and creatively. It was designed to allow its users to not only access the digitized original materials for studying the history as well as the essential elements of Bel Geddes' set concept, but also the only existing 3D digital reconstruction of this 'lost' stage model (Fig. 4).

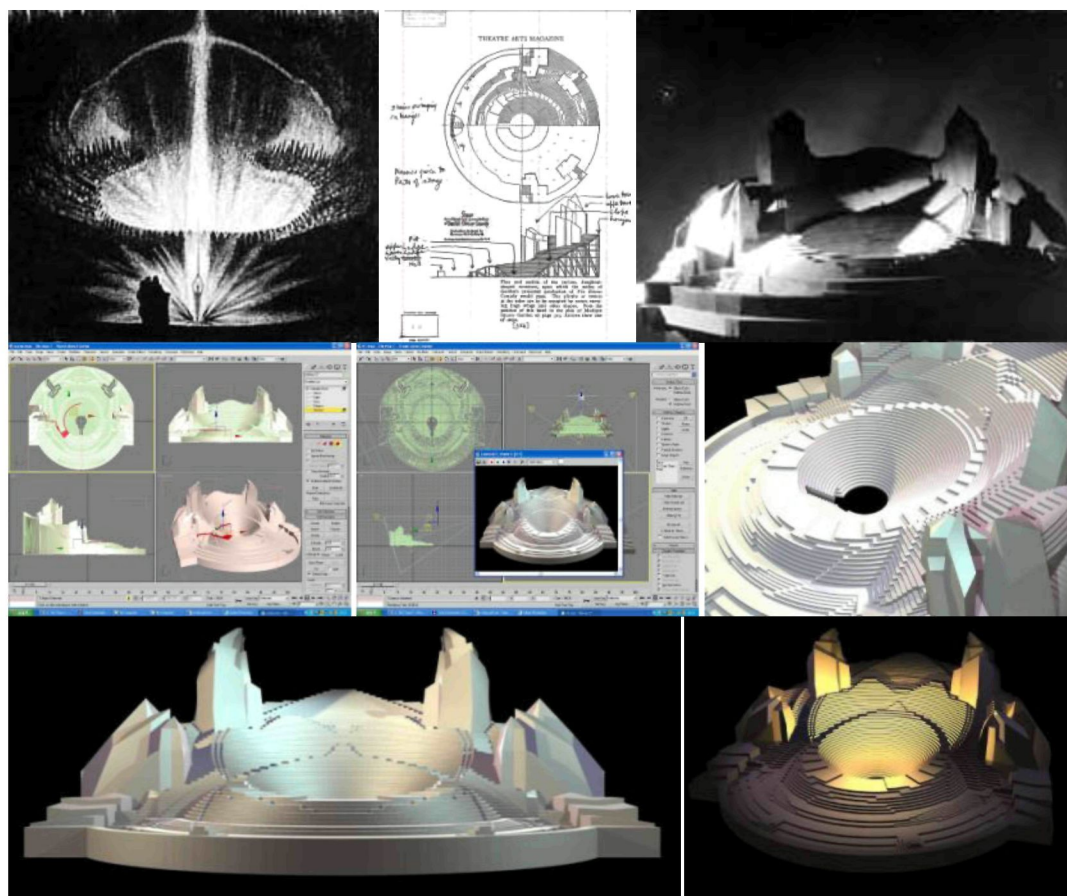


Figure 4: The Set-SPECTRUM project.

The main goal of the project was to enhance and extend the theatrical experience of *The Divine Comedy* set concept and transform the ways to study it, without replacing (but adding to) the original 2D visual resources, which can be found in the Harry Ransom Humanities Research Centre in the University of Texas at Austin.

Microsoft PowerPoint 2003 was used for assembling and presenting the Set-SPECTRUM project as a coherent whole. Direct 3D 9.0 Library was employed to render 3D graphics for the digital stage-model, control the lighting, and navigate the cameras. Three lighting sources with changeable light cones were available for students to move around the 3D model, as well as a choice of specular, ambient and diffuse colours and five light sets.

In November 2008, *The Divine Comedy* digital model was used as a teaching resource for the second year undergraduate students in the School of Theatre and Performance Studies at the University of Warwick. This practical session was a part of the Theatre, Design and New Media module and aimed at introducing students to new research methodologies to study historical artefacts. It was devoted to the early 20th century New Stagecraft Movement in the United States of America and to one of its pioneers – Norman Bel Geddes. The session activities were designed to provide a theoretical framework for identifying various forms and styles of theatrical presentation in relation to mood, theme, cultural context and historical period. Using the Set-SPECTRUM, students were exploring relevant resources (Fig. 5), analyzing and discussing original images, blueprints, and photographs, interacting with the 3D model, and ultimately communicating their ideas, solutions, and responses in a range of visual forms.



Figure 5: Practical session at Warwick University.

The specific aims of the seminar were:

1. To aid students in developing a critical understanding of the complex and dynamic relationship between design, new media technologies and theatre.

2. To introduce them to the methods and conceptual models for visual analysis, interpretation and evaluation of design form.
3. To enable learners to comprehend scenographic practice in relation to a chosen dramatic text (or an identified theatrical event).
4. And, to obtain a broader understanding of the nature and application of multimedia components within theatre design and education.

Session Structure

The seminar was structured to enable students to understand the complicated construction of *The Divine Comedy* set, ultimately encouraging creativity in the classroom. This exercise aimed to challenge the traditional approach to interpreting classical texts through employing visual learning and ‘hands on’ techniques.

At the beginning of the class students were introduced to the 3D digital model and were shown how to navigate and illuminate it. The session involved sixteen participants divided in five groups of three-four people to encourage discussions and brainstorming activities. Each group was given two pieces of the original Dante’s text (one part taken from the *Inferno*, another one from the *Paradise*) and asked to create two digital sketches representing mood schemes for given passages (Fig. 6). At the end of the session students were required to present and explain their works and findings.

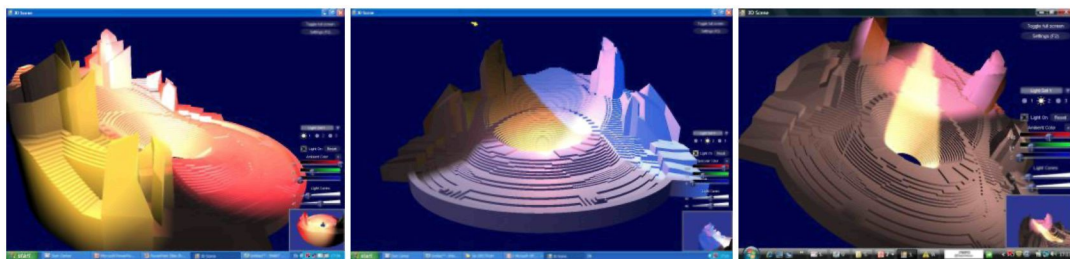


Figure 6: Students’ visual representations of Dante’s text.

The Interactive White Boards were used for this exercise. This technology allowed students to record their creative ideas by making real-time changes directly on screen, saving files with notes, converting handwriting to text, and writing in digital ink over application.

As a part of the session’s evaluation students were requested to fill out a short questionnaire, in order to provide a valuable feedback on their experiences. The main

responses were that all of them found the activity unique, fun, engaging and very useful for their learning about *The Divine Comedy* set. They also pointed out that the opportunity to get engaged with the 3D model creatively by illuminating it helped them to understand Dante's text much better. This practical seminar confirmed the research finding that a 'hands on' visual approach to learning about scenography is beneficial for theatre studies students in the theory-based departments to study various theatrical artefacts.

Session Evaluation

The success of the session was very reassuring; particularly considering the fact that two thirds of the students admitted that their computer skills are in need of some improvement. Fifteen out of sixteen participants acknowledged that it was quite easy to learn how to interact, navigate and illuminate the 3D model (one student was undecided). An encouraging result of the evaluation was that students emphasized the benefits of the 'hands-on' experience that enabled their better understanding of the set structure than if just using 2D sources. Participants accentuated that this opportunity to contribute to the process of learning through the practical engagement with the digital set allowed them to appreciate fully how lighting can change the meaning of the message delivered on stage and the emotional atmosphere of theatrical space. All students agreed that this exercise made their learning about the real set more interesting and engaging, providing a new (even better) way to study this complicated historical artefact, giving them an opportunity to express their creative side, and making them more conscientious about how the text relates to design choices.

Some of the interesting comments included: 'It would be beneficial for my learning about theatre artefacts to use this sort of applications more often', 'This exercise helped in making me appreciate the scale and comprehensiveness of the set design ... using the different light beams to create an ambience was useful from a design perspective', 'It [the exercise] taught me about perspective + lighting + mood creation. It was also good to see a set design in 3D – which is rare'.

When asked to describe their experience in three words the most common words used were 'experimental', 'enjoyable', 'useful', 'creative', 'innovative' and 'thought-provoking'.

The development and implementation of computer-based knowledge delivery platforms could be a helpful impetus for students to bring their familiar, media-influenced perception of life into the classroom. This exercise demonstrated that this novel conceptual model of learning about ‘lost’ scenographic artefacts encouraged students’ curiosity about the subject, deepened their understanding of the set-structure, and boosted learners’ motivation to explore difficult topics through creative involvement.

Case Study Two: Learning Theatre Design in *Second Life*

This case study also took place within the Theatre, Design and New Media module described above. As with the other elements of the course, the session was intended to give the students an additional platform from which to evaluate and interpret theatrical spaces, and to develop engagement with virtual stages (Childs and Kuksa, 2009: 1135). The resources used in the session were produced by the Theatron 3 project, which ran from 2007 to 2009, was led by King’s Visualisation Lab at King’s College London, and was funded by Eduserv. The directors of the project, Professor Richard Beacham and Dr. Hugh Denard, had the goal of adapting 3D models of twenty theatres from a variety of periods in history (Fig. 7) to *Second Life*.



Fig. 7: Theatron 3 theatres: Epidavros, The Globe and the Odeon of Pericles.

By placing the models within a virtual world, the intention was that these empty stages could become inhabited due to the presence of avatars, and that through

embodiment within the environment via their avatars, users would be able to engage with the space more immersively and perhaps acquire some insight into the lived experience of historical theatrical spaces. These models are as historically accurate as research and the ability to create in *SL* allow. Sources used are original plans, existing buildings and other records such as paintings, tapestries, etc. that depict the theatres.

The specific aims of using *Second Life* as one of these platforms were:

1. To identify whether the environment afforded any sense of immediacy, and what activities could support this.
2. To determine if there were any added benefit to the students experience if a sense of immediacy within the virtual environment was attained.
3. To encourage the students to consider the distinction between the recreations of real life theatres in the virtual world and creations new theatrical spaces that exist solely in the virtual world.

Session Structure

After an initial practice period, students were given landmarks to explore two recreations of real life theatres (Theatron's Theatre of Epidavros and the *SL* Shakespeare Company's Globe Theatre), and two theatres created specifically for *Second Life* (the Caledon Gaiety Theatre and the Ballet Pixelle) (Fig. 8).



Figure 8: Students explore Caledon Gaiety and Theatre of Epidavros in *SL*.

For the real life recreations, students were asked:

- What would be the challenges for actors and designers working in virtual theatres in *SL* and in real theatres these models represent?
- How do theatres in *SL* differ from real life theatrical spaces?

- What can you determine from the stage design about the nature of the performances, and the communities that built the stages in *SL*?

Session Evaluation

The session was evaluated through direct observation of student activities inworld, through a transcript of the plenary discussion, and through the students completing a questionnaire on their experiences and on their preferences as learners. The transparency of a medium such as *Second Life* is dependent on the ease with which users can navigate through the space. Motion control, manoeuvring and wayfinding are particularly difficult at first, and approximately half of the students struggled with these elements. However, by the end of the exercise all students appeared to be able to find their way effectively in *SL*.

Heeter (1995: 200) discusses two forms of engagement with virtual spaces, one of these is an engagement of belief in the virtual world, and the other is an engagement of belief in the virtual body. When asked about these forms of engagement, approximately one in four of the students who rated the session highly reported a feeling of connection with the virtual space, and half a connection with their virtual body. Of those that rated it poorly as an educational experience, *none* reported an engagement of either type. The fact that the technology did not ‘erase itself and leave the viewer in the presence of the objects represented’ is indicated by the questions that the students were able to discuss and those that they were not. When asked to comment on the difficulties presented by the technology, students talked about the advantages and disadvantages in depth. They were also able to comment on the design differences between the ‘real-in-virtual’ and ‘solely virtual’ theatres. However, the question about the challenges for actors and designers would be in the real theatre represented by the 3D model was met with confusion by the students; the virtual spaces had not made an emotional impact on them, and so responses relating to their experience of the space were not forthcoming. This indicates that for a virtual world to be effective as a learning environment, engagement of belief in the virtual world, and in a virtual body, will be of considerable benefit. These levels of engagement, however, take longer to attain than simply acquiring the techniques to manipulate the technology. The virtual world, and the virtual body, must be inhabited for a sufficiently long enough time for the

technology to not only become second nature, but for the user to feel in the *presence* of the virtual.

Discussion

Education is naturally a social process, where knowledge is an experience and information is an environment. The ability of cyberspace to create a new multi-participant studio or a classroom, where learners are able to compare various forms of delivery and choose one they prefer, in order to accomplish a particular task, is particularly important for studying theatrical spaces. Virtual environments are a logical extension of arts integration and an ideal place for applying existing knowledge and creating new sets and performances. The development of new technology-based educational and creative projects for teaching history and principles of scenography would benefit greatly the very nature of scholarship.

There is a growing need for learners to be transformed from being simply passive consumers of yet another digital product to actual participants with the opportunity to experiment, communicate their ideas, and examine their knowledge. It becomes a necessity for teachers to adopt new ways of delivering information to improve the levels of interaction amongst the students, to promote collaborative learning (Larochelle and Bednarz, 1998) and to enable learners to explore actively and creatively a wide range of resources without being limited to established linear models of analogue information.

However, even amongst the most committed education-development professionals, who may be fully aware of the benefits of computer-based education, it is not uncommon for their interest to fade because of difficulties in implementing novel digital teaching products. Agreeing with the benefits of e-learning and establishing it as a knowledge delivery platform are two different matters. Policy making, planning and e-resources allocation are often viewed as benefiting some 'universal' learner, without regard to a concrete place and time. It is necessary for theory-based drama departments to facilitate an awareness of what kinds of digital products and projects already exist for theatre students, researchers, and practitioners. This could be a potentially significant investment in partnership and networking, encouraging continued effort on the part of those who are interested in the development of future innovative educational means and practice-based applications.

In addition, the issue of controlling various digital educational applications is an important one. It requires not only familiarity with the equipment and knowledge of software, but also motivation, which lies at the heart of the human-computer interaction. It is the learner that lies at the centre of any change. Acquiring the skills to manipulate and interact with the technology takes time, resources and support. Not all students are willing, or able, to make this engagement, and those that are require a longer period of time to become fully immersed than that required to simply be able to use the technology. Not all learning programmes have the time to be dedicated to enabling students to become sufficiently engaged. Therefore, educators may find that although embodiment within the VR environment is their rationale for employing computer visualization techniques (mainly due to their potential to provide an immediate experience of stages that are not physically real) this is the very element that introduces challenges for some learners.

Conclusion

Theatre design and education within virtual worlds may be subjects to a ‘logic of immediacy’ or a ‘logic of hypermediacy’. Although these two modes are not entirely mutually exclusive (for example, a medium cannot be entirely transparent (Dobson, 2009; 3)), the two modes do present a different set of conventions, and challenges, to anyone teaching or designing within a digital space. The conventions of a ‘window at’ activity only require students to acquire the technical skills to manoeuvre their virtual body and then observe and reflect on the virtual world they are investigating; but do not require them to feel immersed. This level of skill can be achieved with a shorter time in the virtual world. Designing for a ‘logic of hypermediacy’ offers more flexibility, since the limitations of the technology can be circumvented (or made a feature of the performance or learning activity), and the affordances capitalized upon.

Learning activities and theatre design corresponding to a ‘logic of immediacy’ are more demanding than those of hypermediacy in some ways, less so in others. Although the act of remediation here is a translation of the real to the virtual, and so draws on elements that are familiar to the learner or audience member, the demands it makes upon the technology and upon the participants, are greater. A ‘window at’ requires the window to disappear from the viewer’s perception, so not only must the technology approach transparency, but the learner or audience member must be sufficiently immersed within the environment that they can experience a degree of

immediacy. From our observations of students, the time required inworld before these feelings of immediacy emerge are much longer than those required simply to move and observe within the environment. The distinction between these two modes, however, is simply one of dissimilarity in the rules and conventions that govern these different activities. Being aware of which of these modes are in operation can help to frame expectations of the participants (student, teacher, designer, audience member) and, we would suggest, to enable a more satisfactory learning or performance opportunity.

We are living in ‘an epoch of media-morphosis’ (Schwarz, 1997: 8), where the experience and study of many historical artefacts can be enhanced and extended in digital space. There is little doubt that the act of *remediation* has been responsible for re-constructing our culture, history as well as educational techniques for decades. This article attempts to give a practical example of how the established approaches to teaching scenic design in the theory-based HE departments can be strengthened and modified. The demonstrated practical approach to learning proved to be successful in helping students to appreciate the scale and comprehensiveness of the given set design simultaneously bringing more creativity, engagement and fun into the study process. We attempted to illustrate the importance of new theatrical productions on virtual stages in *Second Life*. Not only do these virtual worlds provide a new medium with which performers and designers can experiment, they also provide the potential to reach new audiences and new collaborators. The use of avatars as performance devices, which are malleable and can be automated to various extents, raises dramaturgical issues, problematizing concepts such as embodiment, presence, liveness and eventedness, and may even challenge definitions of what constitutes performance. As a social phenomenon, virtual worlds are provoking a re-evaluation of what is meant by *identity* and *being* and, as such, could provide a fertile field for educators, writers and performers.

References

- Botler, D. and Grusin, R. (1999), *Remediation: Understanding New Media*. London: The MIT Press.
- Bowman, D.A. (2002) Principles for the Design of Performance-oriented Interaction Techniques in K.M. Stanney, (ed) *Handbook of Virtual*

Environments; Design Implementation and Applications, New Jersey: Lawrence Erlbaum Associates, pp. 277 – 300.

- Chafer, J. and Childs, M. (2008), The impact of the characteristics of a virtual environment on performance: concepts, constraints and complications. Proceedings of the ReLIVE 08 Conference, Open University, pp. 94-105.
- Childs, M. and Kuksa, I. (2009), “Why are we in the floor?” Learning about theatre design in *Second Life*TM, Proceedings of the Edulearn 09 International Conference on Education and New Learning Technologies, Barcelona, Spain, 6th to 8th July 2009, pp. 1134-114.
- Dobson, S. (2009) Remediation. Understanding new media: revisiting a classic, *Seminar.net - International journal of media, technology and lifelong learning*, 5 (2), http://www.seminar.net/images/stories/vol2-issue2/review_remediation_dobson.pdf, accessed 25th March 2010.
- Forder, J. (2009), Avatar repertory theater productions, <http://www.avreptheater.com/site/index.php?title=Avrep:Productions>, accessed 18th October, 2009.
- Heeter, C. (1995) Communication research on consumer VR. Biocca, F. and Levy, & M. R. (eds.), *Communication in the age of virtual reality* (pp. 191-218). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Ipsos MORI (2007), Student expectations study, JISC, <http://www.jisc.ac.uk/media/documents/publications/studentexpectations.pdf>, accessed 7th October, 2008.
- Jonassen, D. H. and Land, S. M. (eds.) (2000), Theoretical foundations of learning environments. Mahwah, NJ: Lawrence Erlbaum Associates.
- Kuksa, I. (2007), Scenography and new media technologies: history, educational applications and visualization techniques, Ph.D Thesis, University of Warwick.
- Kuksa, I. (2008), The Set-SPECTRUM Project – a new educational approach to studying theatre history and scene design. *Theatre Design and Technology*, 44/4, pp. 49-57 (cover story).
- Larochelle, M. and Bednarz N. (1998), Constructivism and education beyond epistemological correctness, in Larochelle, M., Bednarz, N., and Garrison, J.

(eds.) Constructivism and education. Cambridge: Cambridge University Press, pp. 3-20.

- Laurillard, D. (2002), Rethinking university teaching: a conversational framework for the effective use of teaching technologies (2nd ed.). London and New York: Routledge Falmer.
- Murray, D.C. and Sixsmith, J. (1999) The corporeal body in virtual reality, *Ethos*, 27 (3) Body, Self, and Technology (Sep., 1999), pp. 315-343.
- Sarlos, R. K. (1989), Performance reconstruction: the vital link between past and future, in Postlewait, T. and McConachie, B. (eds.) *Interpreting the theatrical past: essays in the historiography of performance*. Iowa City: University of Iowa Press.
- Schwarz, H. P. (1997), *Media-art-history*, ZKM/Centre for art and media, Munich: Prestel Verlag.
- Selwyn, N., Gorard, S. and Furlong, G. J. (2005), *Adult learning in the digital age: information technology and the learning society*. London: Routledge.

Websites:

<http://www.avreptheater.com/>

<http://www.ku.edu/~mreaney/flute/>

<http://slshakespeare.com/>

www.theatron.org