

AUTHENTIC FICTIONS: SIMULATION, PROFESSIONALISM AND LEGAL LEARNING

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The truths of metaphysics are the truths of masks.¹

I do think of instruments as having the best interfaces that have ever been designed . . . If there's any object in human experience that's a precedent for what a computer should be like, it's a musical instrument: a device where you can explore a huge range of possibilities through an interface that connects your mind and your body, allowing you to be emotionally authentic and expressive.²

INTRODUCTION

The recent Carnegie report on legal education, the volume on *Best Practices*, and a gathering of papers, articles and book chapters both in the UK and in Europe have as a uniting thread their support for experiential forms of learning.³ Law school teaching and learning, typified in the US by practices rooted in Langdellian orthodoxies, have always been subject to critique ever since the realists in the 1920s. Increasingly, though, the critiques are finding common ground in the varieties of educational theories that turn to the experience of lawyers and their clients, and of students and their teachers, as social beings, bound by social relations.⁴ Dewey, whose work constitutes the

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¹ OSCAR WILDE, *THE ARTIST AS CRITIC: CRITICAL WRITINGS OF OSCAR WILDE*, 432 (Richard Ellmann, ed. 1969).

² Olive Burkeman, *The Virtual Visionary: Interview with Jaron Lanie* THE GUARDIAN, Dec. 29, 2001, at 6.

³ See PAUL MAHARG, *TRANSFORMING LEGAL EDUCATION: LEARNING AND TEACHING THE LAW IN THE EARLY TWENTY-FIRST CENTURY* (2007) (hereinafter *TRANSFORMING LEGAL EDUCATION*); Carrie Menkel-Meadow, *Taking Law and . . . Really Seriously: Before, During and After the Law*, 60 VAND. L. REV. 555 (2007); ROY STUCKEY ET AL., *BEST PRACTICE FOR LEGAL EDUCATION: A VISION AND ROAD MAP* (2007); WILLIAM M. SULLIVAN, ANNE COLBY, JUDITH W. WEGNER, LLOYD BOND & LEE S. SHULMAN, *EDUCATING LAWYERS: PREPARATION FOR THE PROFESSION OF LAW* (2007).

⁴ See Arthur W. Combs, *Affective Education or None at All*, 39 EDUC. LEADERSHIP 494 (1982); MALCOLM KNOWLES, *THE ADULT LEARNER: A NEGLECTED SPECIES* (3rd Ed. 1984); DAVID A. KOLB, *EXPERIENTIAL LEARNING: EXPERIENCE AS THE SOURCE OF LEARNING AND DEVELOPMENT* (1984); CARL R. ROGERS & H. JEROME FREIBERG FREE-

great watershed of modern educational philosophies streaming from the nineteenth into the twentieth century, defined the term as follows:

Experience is the result, the sign, and the reward of that interaction of organism and environment which, when it is carried to the full, is a transformation of interaction into participation and communication. (*LW*, 10, p. 28)⁵

It is a definition that is profoundly applicable to twenty-first century educational practice. It prefigures the key findings of many contemporary educational movements such as the situated learning movement, and is directly applicable to the work of Lave and Wenger, of Suchman and others.⁶ These and other educational approaches emphasize the role played by tacit learning through familiarity with social situations and actions, where educational design is often “an emergent product of situated action, rather than its foundation”.⁷

One theme running through the many contemporary versions of experiential learning is that of “authenticity” – the correspondence, in some way or other, of learning to the world of practice that exists outside of teaching institutions. The concept is an important one, for it lies at the heart of the attempts by educators since Dewey to address the relationship between learning and life. In dealing with it, we must acknowledge that there are many factors that affect authenticity of task such as context, learner motivation, task, feedback, social interaction, and social presence; and it is clear from the literature that they require to be carefully managed in any curriculum that involves e-learning. This article sets out to explore some of these issues; to describe an experiment in extended simulation in a program of professional legal education in Scotland, and to outline some general principles of what we term “transactional learning,” together with examples of their application and their effect upon student learning. In

DOM TO LEARN (3rd Ed. 1994); see also Alice and David Kolb, *Experiential Learning Bibliography 1971-2007*, <http://www.learningfromexperience.com/research-library/>; James Neill, *Experiential Learning and Experiential Education: philosophy, theory, practice and resources*, <http://wilderdom.com/experiential/>. See also JEROME BRUNER, *ACTUAL MINDS, POSSIBLE WORLDS* (1986) and JEROME BRUNER, *ACTS OF MEANING* (1990).

⁵ All references to Dewey’s work are to the standard critical edition, *THE COLLECTED WORKS OF JOHN DEWEY* (Jo Ann Boydston, ed. 1969–91), and published as *THE EARLY WORKS (EW)*, *THE MIDDLE WORKS (MW)* AND *THE LATER WORKS (LW)*.

⁶ JEAN LAVE & ETIENNE WEGNER, *SITUATED LEARNING: LEGITIMATE PERIPHERAL PARTICIPATION* (1991); ETIENNE WENGER, *COMMUNITIES OF PRACTICE: LEARNING, MEANING AND IDENTITY* (1998); JOHN SEELEY BROWN & PAUL DUGUID, *THE SOCIAL LIFE OF INFORMATION* (2000); LUCY A. SUCHMAN, *PLANS AND SITUATED ACTIONS: THE PROBLEM OF HUMAN-MACHINE COMMUNICATION* (1987).

⁷ SUCHMAN *supra* note 6, at 67. It is of course a point that a number of realists at Columbia, Yale and Johns Hopkins in the early twentieth-century would have readily understood; but the implied critique not only of the content but of the method of educational practice is more penetrating – see *TRANSFORMING LEGAL EDUCATION*, *supra* note 4, ch. 3.

the process, we shall site this experiment within the larger literature of authenticity and the constructivist movement in education, and discuss how it can contribute to the development of professionalism among students.

In many respects, educational theories such as constructivism have evolved in order to make sense of the concept of authenticity, and to adapt it in one way or another to forms of education. We shall be exploring the effect of constructivism upon authenticity below, so it may be useful to start with a definition of this complex term. Wilson characterized it as being “best understood as ordinary cognitive practices that are situationally defined, tool dependent, and socially interactive”.⁸ Constructivism has been used and adapted in many university disciplines.⁹ Such practices are based on forms of experiential learning, and authenticity is a key element of them – indeed it is often taken as being the touchstone of the situated practices that Wilson describes in his article.¹⁰ The language of authenticity, though, is problematic for higher education, as is the analysis of it. If we examine Wilson’s words above, for example, it is easy to accept that in the professional workplace learners learn best using tools that they have to

⁸ Arthur L. Wilson, *The Promise of Situated Cognition*, 57 *NEW DIRECTIONS FOR ADULT AND CONTINUING EDUCATION* 71, 72 (1993), quoted in JOSEPH PETRAGLIA, *REALITY BY DESIGN. THE RHETORIC AND TECHNOLOGY OF AUTHENTICITY IN EDUCATION* 71(1998). Petraglia’s text is a sympathetic but penetrating critique of the constructivist enterprise, and we rely on some of his argument below. Constructivism itself is a much debated term, and less a definition of a unitary concept than a constellation of ideas and approaches to learning. For further definition and commentary on what might be regarded as the core constructivist concepts and practices, see David H. Jonassen, Terry Mayes & Ray McAleese, *Components of Constructivist Learning Environments for Professional Development*, in *DESIGNING ENVIRONMENTS FOR CONSTRUCTIVE LEARNING* 125 (Thomas Duffy, Joost Lowyck & David H. Jonassen, eds. 1993); David H. Jonassen, *Thinking Technology: Towards a Constructivist Design Model*, *EDUC. TECH. RESEARCH AND DEVELOPMENT* 34(1994); Gershon Tenenbaum, Som Naidu, Olugbemir Jegede & Jon Austin, *Constructivist Pedagogy*, in *Conventional On-campus and Distance Learning Practice: an Exploratory Investigation*, 11 *LEARNING AND INSTRUCTION* 87 (2001).

⁹ See for example in Chemistry: Barney Dalgarno, *The Potential of 3D Virtual Learning Environments: A Constructivist Analysis*, 5 *ELECTRONIC J. OF INSTRUCTIONAL SCIENCE AND TECH.* (2002), available at http://www.usq.edu.au/electpub/e-jist/docs/Vol5_No2/Vol5_No2_full_papers.html); in scientific discovery education: Ton De Jong, Wouter R van Joolingen, Janine Swaak, Koen Veermans, Renate Limbach, Simon, King & Daniel Gureghian, *Self-Directed Learning In Simulation-Based Discovery Environments*, 14 *JOURNAL OF COMPUTER-ASSISTED LEARNING* 235 (1998); Karen Barton & Paul Maharg, *Interdisciplinary Research, Design And Implementation*, in *GAMES AND SIMULATIONS IN ONLINE LEARNING* 170 (Clark Aldrich, David Gibson & Marc Prensky eds. 2006), and Business Studies: Sami Nurmi & Timo Lainema, *Turbulence Ahead! Engaging Students With Authentic, Collaborative Problem Solving Activities*, 11 *THE INTERNATIONAL SIMULATION AND GAMING YEARBOOK* 205 (2001).

¹⁰ See also Margaret Gredler, *Games And Simulations And Their Relationships To Learning*, in *THE HANDBOOK OF RESEARCH FOR EDUCATIONAL COMMUNICATIONS AND TECHNOLOGY* (David Jonassen, ed. 2004 at 571).

hand, and which they use as a matter of course in their workday tasks. But what about learners in higher education (HE)? If authentic tasks are “situationally defined,” then this is one reason why transfer of learning from academy to professional workplace is problematic. If, for example, a task is tool-dependent within the practice that is situationally defined, then tool-use outside that environment will be untypical of that environment in the interactivity for which it is used. In terms of being authentic to real world tasks, it would appear that HE, and professional and vocational learning in particular, has a difficult task on its hands when it uses constructivist approaches to learning.

I. AUTHENTICITY AS MIMESIS

But this is only the case if we adopt a particular view of what constitutes authenticity. Behind our brief and rather naïve analysis of Wilson’s definition of constructivism, for example, lies an implicit model of mimesis, namely that in a constructivist encounter there is, in some form or another, a replication of aspects of reality. It is a common view of what constitutes authenticity, but it is suspect on at least four counts. First, any attempt to replicate reality can only fail: reality is too complex, random, uncertain, immediate and cannot be reconstructed in this simplistic way. This has not stopped educationalists from claiming that constructivism “turns toward a consideration of what real people in a particular knowledge domain and real life context typically do”.¹¹ Secondly, a statement such as this begs the question whether there is anything typical about real life contexts.¹² In effect it essentializes roles, relationships, views found in reality in order that these may be instrumentalized in educational action.

Thirdly, as Petraglia shrewdly observes, truly authentic experiences can neither be “predetermined nor pre-ordained;” and it is this quality, together with the willing suspension of disbelief in what is after all a simulated activity that marks out the successful authentic experience in many constructivist approaches to learning.¹³ The

¹¹ Anne K. Bednar, Donald Cunningham, Thomas M. Duffy & J. David Perry (1992), *Theory into Practice: How Do We Link?*, In CONSTRUCTIVISM AND THE TECHNOLOGY OF INSTRUCTION 17, 18 (Thomas Duffy & David Jonassen, eds. 1992).

¹² On one level, of course, we understand reality by creating scripts about it and using these. There is a substantial body of cognitive literature that focuses on how we schematize reality in this way. See for example Minsky’s frame, Schank & Abelson’s script and Chilton’s morphism: Marvin Minsky, *A Framework For Representing Knowledge*, in THE PSYCHOLOGY OF COMPUTER VISION 211 (Patrick Winston, ed. 1975); ROGER C. SCHANK & ROBERT P. ABELSON, *SCRIPTS, PLANS, GOALS AND UNDERSTANDING: AN INQUIRY INTO HUMAN KNOWLEDGE STRUCTURES* (1977); PAUL CHILTON, *ORWELLIAN LANGUAGE AND THE MEDIA* (1988).

¹³ PETRAGLIA, *supra* note 8, at 11. Coleridge’s phrase “willing suspension of disbelief” is a key concept in Romantic critical discourse, the use of which is analyzed in the context

aesthetic basis to such suspension points the way to an identification of the ground of authentic experiences, which, far from being within us, is distributed in the world. As Barab, Squire & Dueber frame it, authenticity lies “not in the learner, the task or the environment, but in the dynamic interactions among these various components . . . [A]uthenticity is manifest in the flow itself, and is not an objective feature of any one component in isolation.”¹⁴ This is an important interpretive point that we shall return to later.

In addition, we would argue that what one might call the mimetic fallacy (echoing that term’s use in the domain of literary theory) is insufficient to describe the role that educational theory can play in legal learning, and the complexity of the reality of educational encounters *and* professional practice. When well designed, for instance, simulation has much more to offer a legal practitioner in the way of reflection, variation, feedback and negotiated learning than a mere mirroring of real-life tasks. And to view things from the other side, the quotidian reality of professional practice and culture often affects simulation design in ways that are unexpected, difficult to predict and almost impossible to replicate, as we shall see below.

Finally, the model of mimesis ignores how technology is used in HE. As many commentators point out, information and communications technologies (ICT) are tools that mediate information exchange, the generation of knowledge and social relationships . Nor are such problems raised by ICTs alone – they are present in most professional and artistic activities, where technology and authenticity are often issues central to the practice of an art or profession, and the interpretation of activities in both domains.

In many respects, the arguments that surround the concept of authenticity in Early Music are germane to this point, and it is worth exploring some of them as analogies to the authenticity / technology debate. The general debate circles around the performance of Medieval, Renaissance and Baroque music – to put it very briefly, how, and to what extent, can such music be performed so that we can hear what listeners in sixteenth-century London or seventeenth-century Venice would have heard? The technological and interpretive issues that surround such an apparently innocent question are highly complex.¹⁵

of video games in Jan Herrington, Ron Oliver & Thomas C. Reeves, *Patterns Of Engagement In Authentic Online Learning Environments*, 19 AUSTRALIAN J. OF EDUC. TECH. 59 (2002).

¹⁴ Sasha A. Barab, Kurt D. Squire & William Dueber, *A Co-Evolutionary Model For Supporting The Emergence Of Authenticity*, 48 EDUC. TECH. RES. AND DEV. 37, 38 (2000) quoted in Herrington *et al.*, *supra* note 13, at 60.

¹⁵ For examples from the extensive literature see Stephen Davies, *Authenticity in Musical Performance*, 27 THE BRITISH JOURNAL OF AESTHETICS 39 (1987); Laurence Dreyfus,

Perhaps the first and incontestable point one might want to make is that technology-mimesis alone cannot bring about authenticity. One may construct an exact copy of a baroque flute – there are many descriptions, illustrations and even guides to how instrument-makers made them. The modern copy will of course never be quite the same as one made with authentically eighteenth-century methods of instrument-making, with its local wood- and metal-working traditions in particular production centers; but it will be a close imitation.

When it comes to playing this copy instrument, there are also quite precise textual guides to methods of playing such an instrument – Johann Joachim Quantz’s celebrated *On Playing the Flute* is one such. The construction of instruments themselves, as well as accurate paintings of instruments certainly give us clues about playing technique. However even small changes in technology and product can lead to significant differences in sound quality, playing techniques and musical interpretation. After all, modern instrumentalists have learned to play their instruments using modern methods and playing over the range of modern music: we cannot be sure that how they play

Early Music Defended against its Devotees: A Theory of Historical Performance in the Twentieth Century, 69 THE MUSICAL QUARTERLY 297(1983); Dorottya Fabian, *The Meaning of Authenticity and the Early Music Movement – A Historical Review*, 32 INT’L REV. OF THE AESTHETICS AND SOCIOLOGY OF MUSIC 153 (2001); JOSEPH KERMAN, MUSICOLOGY (1985); AUTHENTICITY AND EARLY MUSIC (Nicholas Kenyon, ed. 1988); PETER KIVY, AUTHENTICITIES (1995); David Schulenberg, *Expression and Authenticity in the Harpsichord Music of J.S. Bach*, 8 J. MUSICOLOGY 449(1990); Renee Timmers, R. Ashley, Peter Desain, Henkjan Honing & W. Luke Windsor, *Timing of Ornaments in the Theme from Beethoven’s Paisiello Variations: Empirical Data and a Model*, 20 MUSIC PERCEPTION 3 (2002); August Wenzinger, *Der Ausdruck in der Barockmusik und seine Interpretation*, in ALTE MUSIK IN UNSERER ZEIT – REFERATE UND DISKUSSIONEN DER KASSELER TAGUNG 35 (Walter Wiora, ed. 1967).

The use of music as a tool of analysis of law and legal matters is of course not new. Peter Goodrich employs it in his treatment of law in one of Rossini’s operas – Peter Goodrich, *Operatic Hermeneutics: Harmony, Euphantasy, and Law in Rossini’s Semiramis*, 20 CARDOZO L. REV. 1649 (1999). Richard Posner compares secondary literature on Robert Bork and Beethoven in discussions of originalism in constitutional interpretation and the authenticity debates in the performance of Beethoven: Richard Posner, *Bork and Beethoven*, 42 STANFORD L. REV. 1365 (1990)). Levinson and Balkin have compared musical and legal interpretive methodologies: Sanford Levinson & Jack M. Balkin, *Law, Music, and Other Performing Arts*, 139 U. PA. L. REV. 1597 (1991). It is interesting that this is a book review of Nicholas Kenyon’s text on early music and authenticity cited above at note 16. See also Sanford Levinson & Jack M. Balkin, *Interpreting Law and Music: Performance Notes on “The Banjo Serenader” and “The Lying Crowd of Jews,”* 20 CARDOZO L. REV. 1513 (1999). Both Goodrich’s and Levinson and Balkin’s articles are derived from the interdisciplinary workshop on music and the law, ‘Modes of Law: Music and Interdisciplinary Theory. Maharg compares the Kodály Method with legal educational strategies in TRANSFORMING LEGAL EDUCATION, *supra* note 4, at Ch. 2. Gallacher analyses musical and legal textualism and contextualism in Ian Gallacher, *Conducting the Constitution: Justice Scalia, Textualism, and the Eroica Symphony*, 9 VAND. J. OF ENT. AND TECH. L. 301 (2007).

their copy instrument is how a Baroque musician would actually have played it. Harnoncourt put this well, talking of post-Baroque violin bows and how they affected violin technique in comparison to earlier Baroque bows:

The bow created by Tourte at the end of the 18th Century produced an *equally strong* tone along its entire length. Further an almost inaudible bow change can be executed almost completely masking the difference between upbow and downbow. In addition, the violinist can play extremely loudly with this bow, while the bouncing bow technique sounds hard and drum-like. These qualities, which make it ideal for rendering the “broad sound surfaces” of music after 1800, must be paid for by the loss of many other qualities. With such a bow it is very difficult to create an elastic, bell-shaped tone, to shorten a tone so that it does not sound chopped off, or to give a different sound quality to the up and the downbow, something required in early music and easy to execute with the Baroque bow.¹⁶

It is when we come to play and listen to Baroque music that we begin to have deeper problems with authenticity. Interpretation inevitably leads us to question what a musical text, either technical guide or musical description or the score itself, actually means. In practice, what tunings were used? In performance, how can one be sure that a modern interpretation of a melodic line would have precisely the melodic inflection and articulation that Quantz, for instance, would have understood as acceptable performance at the court of Frederick the Great? What tempi were Quantz’s 300 or so concerti actually performed at? How were dynamics interpreted? How were they alternated? How was ornamentation in a baroque orchestra understood and performed? When a soloist performed a cadenza, what were the aural and structural assumptions underlying the performance of improvisation and embellishment? How did continuo accompaniment of soloist performance proceed in terms of all the above issues? The social and practice context also matters. In this period most orchestras played the music collectively at one rehearsal before performance – how did knowledge of that affect the quality of prior individual practice and the final concert, as well as conducting styles?

Nor would the situation be solved by us taking the musicological equivalent of the internet’s WayBack Machine, and listening to a recording of Quantz conducting one of his concerti. For this would simply give us one recording by one composer, not the general understanding of what constituted acceptable musical performance, for either player or listener. And of course there are deeper issues.

¹⁶ NIKOLAUS HARNONCOURT, *BAROQUE MUSIC TODAY: MUSIC AS SPEECH* 96 (Mary O’Neill, trans. 1982).

We live in a different cultural context, musically, conceptually, aurally, and cannot hear the music with an eighteenth-century mind – if there can ever be said to have been such a thing. In the European Baroque period there were generally understood to be three approaches to styles of music-making – French, Italian, German – but even within these style divisions there were many sub-divisions – the English interpretation of the German style, in performances of Handel and others, for instance.¹⁷

But these and other topics of authentic performance lead us to deeper issues of interpretation of aesthetic objects. We cannot ever understand what Quantz really intended by any of his concerti any more than we can really understand what contemporary composers “mean” by their work. And these points should also lead us to question why authenticity in early music has become such an industry, and why it has come about now. Clearly, from Dolmetsch onwards, there has been a steady interest in developing our historical understanding of Early Music, but the claim that performance of such works can be “authentic” has always been fraught. There is of course an economic and cultural context to our contemporary conceptual debates. Conductors such as Christopher Hogwood and Roger Norrington have made their international careers out of the exploration of this field; as have virtuoso performers such as Emma Kirkby on voice and Anthony Rooley or Nigel North on lute.¹⁸ Specialist recording companies such as Naxos fuel the industry and in turn feed upon the debate, releasing new interpretations of standard works, new “authentic” recordings from the corpus of Early Music, and the like.

All of these points are convincing arguments for the position that authentic performances can never remove us from our aural, cultural and economic contexts.¹⁹ This is not simply because of the massive cultural shift brought about by the recording and reproductive industries in the twentieth century – a watershed the economic and cultural implications of which we are still in the process of understanding.²⁰ It

¹⁷ See COLIN LAWSON & ROBIN STOWELL, *THE HISTORICAL PERFORMANCE OF MUSIC: AN INTRODUCTION* (1999).

¹⁸ And Norrington has exported Early Music analytical techniques to an archaeology of the classical period, too. See, for example, his work on metronomic markings in Beethoven's Ninth Symphony, which was embodied in his 1987-89 recordings of the nine symphonies.

¹⁹ See KENYON and KIVY, *supra* note 16.

²⁰ Commentators since Benjamin and Adorno have explored the effects of mass reproduction on original artistic culture. See for example Benjamin's seminal essay on 'aura' (close to the concept of authenticity): Walter Benjamin, *The Work of Art in the Age of Mechanical Reproduction*, in *ILLUMINATIONS: ESSAYS AND REFLECTIONS* 217 (Hannah Arendt ed., Harry Zohn trans., 1968), and THEODOR W. ADORNO, *THE CULTURE INDUSTRY: SELECTED ESSAYS ON MASS CULTURE* (1991) (strictures on mass reproduction and

is simply because authenticity itself is not realizable in these or similar contexts. The distance of time and place separate us inexorably from any single musical discourse that is a product of both time and place. Locale, situation, time and hermeneutical understanding are key creative factors in the interpretation of authentic practice, whether of an artistic object or performance.

We might summarize the points made so far by listing them in terms of types of authenticities in the following table:

Type of authenticity	Object or event	Description
Technological	Instrument	Tool- or instrument-based; dependent on multivalent technologies
Practice-based	Practice, rehearsal, realia of practice, eg type of concert hall, etc	Embedded in schemas, assumptions, learned habits of lessons, play, practice, economic factors, rehearsal & performance
Hermeneutic	Performance	Creation of meaning through interpretation of textual objects, and objects of practice and performance

FIGURE 1: LEVELS OF AUTHENTIC ENGAGEMENT

When viewed as the components of authenticity in the analysis of Early Music, these three levels are not a set of hierarchical categories, moving uni-directionally from base technologies to highly abstract hermeneutical understanding. On the contrary, these categories are porous. Indeed one cannot help but shift from one category to the next in an analysis of authentic performance, for most analyses will move between the three levels. Thus, analysis of the construction of a Baroque bow inevitably takes account of practice-based authenticity; while any analysis of hermeneutic authenticity leads us into practice context, and often to technologically-authentic objects.

However if one is a performer of Early Music, as opposed to a critic or commentator, the relationship is different, and is probably best represented by the mediational triangle of activity theory. At its simplest, the triangle takes the form of Figure 2, where an agent (or performer) is involved with a mediational tool (for instance, a musical instrument) to create the object or objective, namely performance.²¹

culture). See also ROLF WIGGERSHAUS, *THE FRANKFURT SCHOOL: ITS HISTORY, THEORIES AND POLITICAL SIGNIFICANCE* (Michael Robertson trans.,1994).

²¹ For a general introduction to activity theory see Kari Kuutti, *Activity Theory As A*

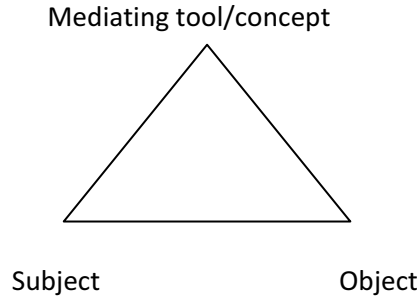


FIGURE 2: BASIC MEDIATIONAL TRIANGLE

We can, however, adopt Engeström’s variant of this, and create a more sophisticated diagram of performance and authenticity that takes social and historical context into account, as follows:²²

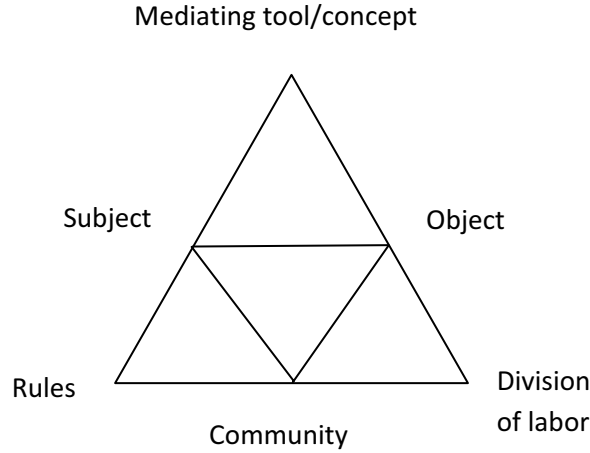


FIGURE 3: ENGESTRÖM’S MODEL OF MEDIATIONAL ACTIVITY

A diagram of authentic Early Music performance would now read as follows:

Potential Framework For Human-Computer Interaction Research, in CONTEXT AND CONSCIOUSNESS: ACTIVITY THEORY AND HUMAN-COMPUTER INTERACTION (Bonnie A. Nardi ed., 1996). Martin Owen, of Futurelab, was the first person to apply activity theory to our transactional approach, and we are indebted to him for valuable discussions regarding the applicability of the theory to our approach to simulations.

²² For information on Engeström’s adaptation, see Yrjo Engeström, *Activity Theory And Individual And Social Transformation*, in YRJO ENGESTRÖM, REIJO MIETTINEN & RAIIJA-LEENA PUNAMÄKI, *PERSPECTIVES ON ACTIVITY THEORY* (1999); YRJO ENGESTRÖM, *LEARNING BY EXPANDING: AN ACTIVITY-THEORETICAL APPROACH TO DEVELOPMENTAL RESEARCH* (1987).

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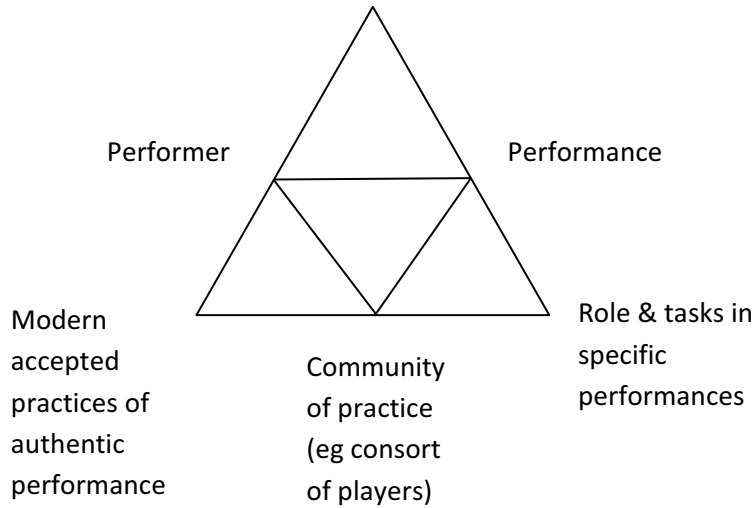


FIGURE 4: AUTHENTIC PERFORMANCE IN EARLY MUSIC

We have already noted that in this diagram the musician's performance is mediated by his or her instrument. But modern practices of authentic performance are also mediated by performers and help to form the specific community of players. And that community, through the mediation of performance itself, in turn develops its own performance roles and parts. We shall return to this diagram, and to the idea of context-mediated performance later in the article. There is a further point that should be made about the authenticity and mimesis in the performance of Early Music, however. If the concept of a wholly "authentic performance" is unattainable, this is not to say that the concept has nothing to add to performance or audience appreciation or indeed the history of contemporary music in the twentieth and twenty-first centuries. Early Music played in period styles and on period instruments has in many ways transformed our modern view of historical musical reality – sonority, voicing, phrasing, articulation, musicography – and helped us to understand anew not merely historically musical practice but our own contemporary musical culture.

In a similar manner, the use of technology in tasks carried out in simulations in HE cannot be the same as the use of technology in actual tasks carried out in the environment of work: the contexts, in place and time, are significantly different; the discourse is profoundly different because place, time and above all intention are very different. Instruments may look the same – computers, cellphones, for instance – but are used in very different ways. Tempi of transactions and learning is very different; articulation of knowledge is often entirely different. As Michael Eraut has said of knowledge in the

workplace,

[t]he context of use also affects the learning of theoretical knowledge, and . . . it is misleading to think of knowledge as first being acquired and then later put to use. Not only does an idea get reinterpreted during use, but it may even need to be used before it can acquire any significant meaning for the user. Thus its meaning is likely to have been strongly influenced by previous contexts of use; and the idea will not be transferable to a new context without further intellectual effort²³

Nevertheless, it ought to be acknowledged that the effort to embed authenticity in learning can engender its own benefits for learners. It can involve learners in rich analysis and discussion of the many forms of symbolic interaction that take place not only in and around works of art, but in and around professional culture and work as well.

II. CONSTRUCTIVISM, AUTHENTICITY AND PROFESSIONAL LEARNING

Any effort to create authenticity in learning will turn, at some point or other, to the body of educational theory known as constructivism. In some respects, the constructivist movement can be interpreted as a revolt against the attempt by cognitive scientists in the latter half of the twentieth century to re-fashion the model of mind as a computer, adapting such a model from information-processing paradigms – that is, sets of algorithmic diagrams.²⁴ This is certainly true, but it tends to obscure the deep roots that the constructivist enterprise has in educational literatures throughout the twentieth century. Dewey is an oft-cited source.²⁵ But the European traditions of early cognitive thought, represented for example by Vygotsky, Luria, Leont'ev and Bartleby, are also rich sources, focusing as they do upon the cultural and historical processes by which we construct our understanding of the world.²⁶ That understanding includes how we understand the processes of learning – learning as a way of being in the world, as well as learning as symbol manipulation. More recently, constructivism has intensified the focus on the social ground of learn-

²³ MICHAEL ERAUT, *DEVELOPING PROFESSIONAL KNOWLEDGE AND COMPETENCE* 51(1994).

²⁴ See EDWIN HUTCHINS, *COGNITION IN THE WILD* (1995).

²⁵ See Jim Garrison, *Deweyan Pragmatism and the Epistemology of Contemporary Social Constructivism*, 32 AM. EDUC. RES. J. 716 (1995).

²⁶ See JEROME BRUNER, *THE MIND OF A MNEMONIST: A LITTLE BOOK ABOUT A VAST MEMORY*, (1987); ALEXEI N. LEONT'EV, *PROBLEMS OF THE DEVELOPMENT OF THE MIND* (1981); ALEXEI N. LEONT'EV, *ACTIVITY, CONSCIOUSNESS, AND PERSONALITY*, (1978); Lev S. VYGOTSKY, *MIND IN SOCIETY: THE DEVELOPMENT OF HIGHER PSYCHOLOGICAL PROCESSES* (1978);

ing, moving from individual cognition within the world to a view of cognition as profoundly enmeshed within a web of social interactivities and physical realities.

Such seminal shifts of understanding in learning also trail with them shifts in what constitutes authenticity, moving from knowledge acquisition to cultural anthropologies of contextualized learning.²⁷ As Petraglia puts it, “the *desideratum* of authenticity in education has grown out of century-long intellectual progression rather from any single framework attributed to any single movement or individual.”²⁸ Recently though, the process has gathered pace with the formation of radical constructivist theories, situated learning theories and others.²⁹ In such theories there is often an implicit critique of educational institutions and the discourse of schooling generally, and a move to take account of ways in which learning happens in society beyond such institutions. It is a critique founded upon the socially-negotiated character of learning and often entails a call to social action. Lave & Wenger’s concept of legitimate peripheral participation, for instance, describes processes of apprenticeship where a learner, starting at the periphery of a profession, moves ever closer to the expert center of the community of practice as he or she gains knowledge, experience and status within the community.

The authors elaborate upon such examples a theory of situated learning, the consequences of which are profound for school-based learning. Nor is this a simplistic contrast of the university as a place of symbolic, decontextualised, inauthentic learning over against the workplace as locus of authentic, contextualized learning. According to Lave and Wenger, control, power, transparency are some of the issues that determine whether the learning environment is successful or not for learners, and whether learners remain sequestered from the world of practice; and this process of sequestration can occur in university, trade school or workplace. One of the key contrasts for them was between a learning curriculum and a teaching curriculum. The former they described as consisting of “situated opportunities for the improvisational development of new practice.”³⁰ By contrast, “a

²⁷ See SYLVIA SCRIBNER & MICHAEL COLE, *THE PSYCHOLOGY OF LITERACY* (1981); Sasha A. Barab, Kenneth E. Hay, Michael G. Barnett & Kurt D. Squire, *Constructing Virtual Worlds: Tracing The Historical Development Of Learner Practices/Understandings*, 19 *COGNITION AND INSTRUCTION* 47 (2001); Sasha A. Barab, Kurt D. Squire & William Dueber, *Supporting Authenticity Through Participatory Learning*, 48 *Educ. Tech. Res. and Dev.* 37(2000).

²⁸ PETRAGLIA, *supra* note 8, at 55.

²⁹ For an example of strong constructivism, see Ernst von Glasersfeld, *RADICAL CONSTRUCTIVISM: A WAY OF KNOWING AND LEARNING* (1995). For situated learning theories, see SUCHMAN *supra* note 6, LAVE & WENGER *supra* note 6, and WENGER, *supra* note 6.

³⁰ LAVE & WENGER, *supra* note 7, at 97.

teaching curriculum is constructed for the instruction of newcomers'” where the meaning of what is learned “is mediated through an instructor’s participation, by an external view of what knowing is about.”³¹ But where Lave and Wenger observe that constructivist, situated learning can be blocked anywhere, others are more critical of the role of schools as institutions generally, and the effect of teaching practices within them. As Brown, Collins & Duguid point out in their important article on situated cognition,

[m]any of the activities students undertake are simply not the activities of [authentic] practitioners and would not make sense or be endorsed by the cultures to which they are attributed.³²

A comment such as this goes to the complex heart of the debates about authenticity. For if it is undeniably true that the great majority of law school activities are not the activities of practitioners, it is not necessarily the case that practitioner cultures do not endorse such activities. On the contrary: regulatory bodies and practitioners do endorse them, if not wholeheartedly, as recent debates about professional education in the USA, England & Wales, Scotland and elsewhere have proven. The relationship between schools and practitioner communities remains uneasy, in part because authenticity is a contested discourse between the two communities. For most of the twentieth century debate has been couched in terms summarized by Twining’s striking metaphor of Pericles and the plumber.³³ The two poles appear irreconcilable, because underlying the discourse of each are codes of behavior and learning patterns that are inimical to each other. But if we begin to understand and change the fundamental educational practice codes underlying these polar opposites it may be possible to begin the dialectical process of engagement between them.

Recently, a strand of constructivist theory has been developed that holds promise of mediation between them. In part it derives from mainstream constructivist thinking, in part from rhetorical positions such as that defined by the New London Group.³⁴ It also stems from new environments brought about by the development of computerized games and simulations, called multi-user virtual environments (MUVEs), and the research that has grown up around them into how users learn in these and similar online environments. The environments have been described at length elsewhere and need no extended

³¹ *Id.*

³² John S. Brown, Alan Collins & Paul Duguid, (1989) *Situated Cognition And The Culture Of Learning*, 18 EDUC. RESEARCHER, 32, 34 (1989), quoted in PETRAGLIA, *supra* note 6, at 67.

³³ William Twining, *Pericles and the Plumber*, 83 LAW Q. REV. 396 (1967).

³⁴ The New London Group, *A Pedagogy Of Multiliteracies: Designing Social Futures*, 66 HARV. EDUC. REV. 1(1996).

introduction here.³⁵ While almost all MUVES can be used for simulative purposes in education, the type of MUVES we are interested in is that category which can be used for authentic simulation purposes in legal education. Worlds such as *There* or *Second Life* are examples of 3D worlds; but in the simulations described below we have used a 2D world.

These worlds enable us to create powerful and immersive simulations. They enable HE to embed situated practice to a considerable extent within institutional programs of study; and they may enable law schools to transform a teaching culture, predominantly concerned with the manipulation of textual and symbolic knowledge, into a learning culture where students learn and are assessed on their “participation in changing practices”. These words of Jean Lave are quoted by James Gee, whose recent books are explorations of how video games and MUVES can be used to change educational practice at fundamental levels in a curriculum.³⁶ At times Gee’s work re-states other constructivist approaches (for instance his exploratory cycle of “probe, hypothesize, reprobe, rethink” is a variant of Kolb’s cycle); but he also inverts many settled approaches to learning particularly in the 36 learning principles in the Appendix that concludes *What Video Games Have to Teach Us*.³⁷ His work, and the work of many other educationalists dealing with these new environments, gives us glimpses of how fundamental change may come about within our law schools.³⁸

Before we go on to describe our program of study, and then describe our own 2D world and how it was used, it would be useful if we outlined four general traits of constructivist practice that we followed in our simulations. First, the basis for our approach is what might be termed authentic problem-solving where learning opportunities and affordances are aligned to processes and personnel in real legal work-

³⁵ Jack Balkin, *Virtual Liberty: Freedom To Design And Freedom To Play In Virtual Worlds*, 90 VA. L. REV. 2043 (2005); Richard A. Bartle, *DESIGNING VIRTUAL WORLDS* (2003); Jesper Juul, *HALF-REAL: VIDEO GAMES BETWEEN REAL RULES AND FICTIONAL WORLDS* (2005); KATIE SALEN & ERIC ZIMMERMAN, *RULES OF PLAY. GAME DESIGN FUNDAMENTALS* (2004); KATIE SALEN & ERIC ZIMMERMAN, *THE GAME DESIGN READER. A RULES OF PLAY ANTHOLOGY* (2006); *TRANSFORMING LEGAL EDUCATION*, *supra* note 4, at ch. 6.

³⁶ Jean Lave, quoted in JAMES GEE, *WHAT VIDEO GAMES HAVE TO TEACH US ABOUT LEARNING AND LITERACY* (2003) at 190.

³⁷ *Id.* at 90.

³⁸ For discussion of how such change can be brought about, see David W. Shaffer & Kurt D. Squire, *The Pasteurization of Education*, INTERNATIONAL CONFERENCE OF THE LEARNING SCIENCES (2006), available at http://epistemicgames.org/cv/papers/pasteurization_for_ICLS.pdf (accessed 27/02/07). See also the discussion of transformational change in Paul Maharg, *Afterword: Elective Affinities – Experience, Ethics, Technology, Collaboration*, in *TRANSFORMING LEGAL EDUCATION*, *supra* note 3.

place situations, and where feedback opportunities and assessment are built around the situations.³⁹ This leads us to the second trait, namely that the problem can be designed as open or ill-structured, or bounded and linear, as appropriate; but that in any simulation, students are required to construct the nature of the problem collaboratively before they begin to reach for options or solutions. Third (and as a result of the previous traits), the online learning environment is designed to enable students to construct knowledge, both substantive knowledge of law and procedural knowledge of legal transactions, and to enact this knowledge in a value-laden professional context. In this sense, the project can be said to be an example of “transactional learning” – a term we shall describe in more detail below. Fourth, the problem is embedded in a context of social negotiation at two levels. The first level is social within the student group, and where there is both differentiated learning (*i.e.*, where individuals complete tasks) and collaborative learning between individuals. The second, deeper level concerns another meaning of authenticity we have yet to explore, and that is emotional and expressive authenticity. Students are encouraged to explore this as part of the development of their sense of growing identity as a professional. In this sense, Jaron Lanier’s comment in the epigraph, drawing an analogy between musical instruments and computers, is apt. It points to the need to create an environment in which students can begin to comprehend and practice through active performance the complexity of a professional task or transaction, and how they may develop their own professional voice within it.

Others have made similar comment, and from within the field of legal critique. Stuart Toddington, writing from a jurisprudential angle, commented that

The problem . . . is that the narrow conception of skills employed [in professional educational literature] is now the dominant conception and that this dominance is becoming more entrenched. Thus the space for imaginative discourse becomes smaller as the habitual usages, associations and references of the managerial/clerical perspective become more difficult to penetrate.⁴⁰

Part of the “narrow conception of skills” is precisely the mechanistic statement of outcomes and method that lays down (often as learning outcomes or competences) what students are supposed to achieve,

³⁹ Roger Schank, Andrew Fano, Benjamin Bell & Jona Menachem, *The Design of Goal-Based Scenarios*, 3 J. OF THE LEARNING SCIENCES 305 (1994); Yuxin Ma, Douglas Williams, Louise Prejean & Charles Richard, *A Research Agenda for Developing and Implementing Educational Computer Games*, 38 BRIT. J. OF EDUC. TECH. 513(2007).

⁴⁰ Stuart Toddington, *The Emperor’s New Skills: The Academy, The Profession and the Idea of Legal Education*, in 2 WHAT ARE LAW SCHOOLS FOR? PRESSING PROBLEMS IN THE LAW 69 (Peter B.H. Birks ed., 1996).

and the results of which Lave questioned above. Really, what students themselves need to do, and what constructivists tell us they are best to do, is to find their own voice and performative skills so that they can understand and perform the situated tasks of legal practice. And – to adapt Lanier’s words – if computers can become flexible instruments of changes in perception and learning, then electronic mediation of experience may thus enable richer and more complex role play and personal engagement arising out of experience than would otherwise be possible using more conventional media.

The conditional tense dominates the last sentence. The question, of course, is how to bring about such engagement in authentic performance on professional tasks.

III. ARDCALLOCH – THE SIMULATION LEARNING DOMAIN

For the last seven years we have been using a virtual community with professional law students at the Glasgow Graduate School of Law (GGSL), and developing a model that will help us develop professional authenticity.⁴¹ We call this “transactional learning”. Before we go on to describe the characteristics of transactional learning in more detail, however, we shall first describe its educational context, and features of the learning environment that we have created for students in order to facilitate this form of learning.

Our simulation environment is used principally on the Diploma in Legal Practice at the GGSL.⁴² This is a postgraduate, one-year course taken by students who already have an undergraduate degree in law (LLB), and who wish to become either solicitors or advocates in Scotland. The course comprised 283 students in 2007 – just under 50% of the total annual intake into the profession in Scotland. Two full-time staff (Barton and Maharg) run the program, along with two part-time staff, three Visiting Professors, administrators and approximately 150 practitioner-tutors. After successful completion, students require to undertake a two-year traineeship with a legal service employer (or if they wish to go to the Bar, one year of training and a

⁴¹ Paul Maharg, *Negotiating the Web: Legal Skills Learning in a Virtual Community*, 15 INT’L. REV. OF L. COMPUTERS & TECH. 345, (2001); Paul Maharg & Antoinette Muntjewerff, *Through a Screen, Darkly: Electronic Legal Education in Europe*, 36 THE LAW TEACHER 307 (2002); Paul Maharg, Abdul Paliwala, *Negotiating the Learning Process with Electronic Resources*, in EFFECTIVE LEARNING AND TEACHING IN LAW 81 (Roger Burridge et al. eds., 2002); Paul Maharg, *Virtual Communities on the Web: Transactional Learning and Teaching*, in AAN HET WERK MET ICT IN HET ACADEMISCH ONDERWIJS (A. Vedder ed., 2004).

⁴² The GGSL is a joint graduate school of the law schools of the Universities of Glasgow and Strathclyde. It was formed in 1999 and hosts a number of Masters programs as well as the Diploma in Legal Practice and the Professional Competence Course.

period of preparatory training), before they are granted their Practice Certificate by the Law Society of Scotland.

As part of the GGSL Diploma we have created a simulation environment which consists of a fictional town on the web, situated on the south bank of the river Clyde, quite close to Glasgow. The town is represented by a civic history, a map and by an online directory of several hundred institutions, businesses, virtual student law firms, and people (see figures 5-7).⁴³



FIGURE 5: HISTORY OF ARDCALLOCH—EXTRACT OF SECTION FROM TOWN ORIGINS TO EARLY MEDIEVAL PERIOD

The fictional town is of course an ancient device, whether sombre Platonic Republic or the dystopian futurescapes of *Bladerunner*, or vast contemporary multi-user online games such as *Second Life*. In most modern instantiations, there is no separation between the backdrop of the narrative and the sense of place: the narrative is often an

⁴³ Acknowledgments are due to the members of the Learning Technologies Development Unit (LTDU) in the University of Strathclyde Law School, without whose technical expertise the environment could neither have come into being nor have been elaborated and maintained. The web-based environment was originally designed and implemented by Paul Maharg and Scott Walker (Learning Technologies Development Officer and manager of LTDU). In due course the simulation web applications were built by Scott Walker, Michael Hughes, Lead Applications Developer, and others.

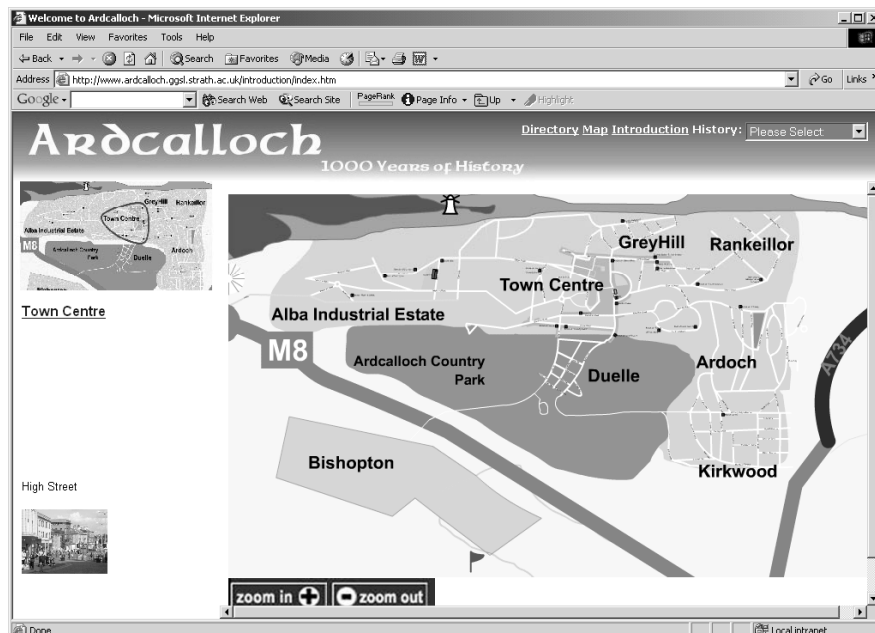


FIGURE 6: MAP OF ARDCALLOCH

integral part of the place itself. This narrative device is something that we build upon in our own simulative activities.

The same is true of our use of the fictional online environment; and in this sense we have learned a lot from the way in which narrative and constructed place interact with each other. We use the environment as an integral part of the transactions that students carry out in the course. In Conveyancing, for instance, they learn how to convey domestic property using a text book and styles resources, both of which are used in a series of face-to-face tutorials. They then put this learning to use in the transactions whereby they purchase *and* sell property over the web. This means that by the time they have completed the Diploma, they have experience of two entire conveyancing transactions – both purchase and sale. Such experience is fairly unique on programs such as the Diploma, where normally students are trained in dealing with parts of transactions, but rarely have experience in dealing with an entire transaction. In order to create the background to the tasks, we created fictional clients and firms with which there would be interaction by the “real” firm of students. There could thus be real-time messaging between the client, the other firm, the student firm, and relevant institutions in Ardcalloch.

This has been adapted to a number of different legal domains. For example, we run simulations along similar lines of a Personal In-



FIGURE 7: DIRECTORY OF ARDCALLOCH

jury transaction, and a Private Client executry where students learn and are assessed on their ability to wind up the estate of a deceased client. The process of raising or defending of a Civil Court Action is also learned through simulation (described in more detail below).

IV. TRANSACTIONAL LEARNING

In all of these projects, the common denominator is the legal transaction. The Diploma educates and trains students to become capable trainees in firms; and therefore the education that students engage in ought to be as practical as possible. From the outset, it became clear that we would need to define, for ourselves and others, what “transactional learning” actually meant; and we stated the following seven basic characteristics as defining what at present we would claim to be the outline features of our current practice. The categories are not closed, and we would emphasize that the model is still developing.

1. *Transactional learning is active learning.* Transactional learning should be active learning, not passive. In that sense, we want students to be involved in activities within legal actions, rather than standing back from the actions and merely discussing them. There is, of course, a place for learning about legal

actions. Indeed, transactional learning is rarely possible unless students first have a conceptual understanding of what the process actually entails. However, transactional learning goes beyond learning *about* legal actions to learning *from* legal actions. We would claim that there are some forms of professional legal learning that can only take place if students go through the process of active learning.

2. *Transactional learning is based on doing legal transactions.* As befits the type of learning that students do in a professional legal course, we aim to give them experience of legal transactions. In addition to learning about how property might be conveyed, students also take part in the transaction. They thus learn considerably about the practical realities of legal actions.
3. *Transactional learning involves reflection on learning.* Transactional learning involves thinking about transactions — indeed (to go back to the root of the word) thinking *across* transactions. It includes the ability to rise above detail, and “helicopter” above a transaction; or the development of the ability to disengage themselves from potentially damaging views of the group process within the firm, and re-construct that view. It includes documenting firm transactions.
4. *Transactional learning is based on collaborative learning.* Transaction as collaboration, indicating the root of the word: literally “acting across”. Students are valuable resources for each other, particularly if they have opportunities to engage in both cumulative talk (the accumulation and integration of ideas) and exploratory talk (constructive sharing of ideas around a task).⁴⁴ In the GGSL, we create around 70 “virtual firms” of four students, in which they carry out transactions using the virtual community (see figure 8 for an example of a virtual firm’s home page). Collaborative learning breaks down the isolation and alienation of what might be regarded as individual or cellular learning. There is of course a place for individual learning, silent study, literature review and so on, and we emphasize this as a preparation for collaborative work. But students can help each other enormously to understand legal concepts and procedures by discussing issues, reviewing actions in a group, giving peer feedback on work undertaken in the group, and so on. And perhaps what is even more important is that in the process of doing so, they have the oppor-

⁴⁴ See for example Carla van Boxtel, Jos van der Linden & Gellof Kanselaar, *Collaborative Learning Tasks and the Elaboration of Conceptual Knowledge*, 10 LEARNING AND INSTRUCTION 331 (2000).

tunity to begin to trust each other to carry out work that is important (there is high-stakes assessment value to the projects). In other words, students begin to learn how to leverage knowledge amongst themselves, and to trust each other's developing professionalism (learning about know-who, know-why, as well as know-what within the firm). Often, we have found, if there are virtual firms that are not producing acceptable standards of work or keeping to deadlines, it is because they do not know how to work together effectively; and this often arises from a lack of trust⁴⁵.

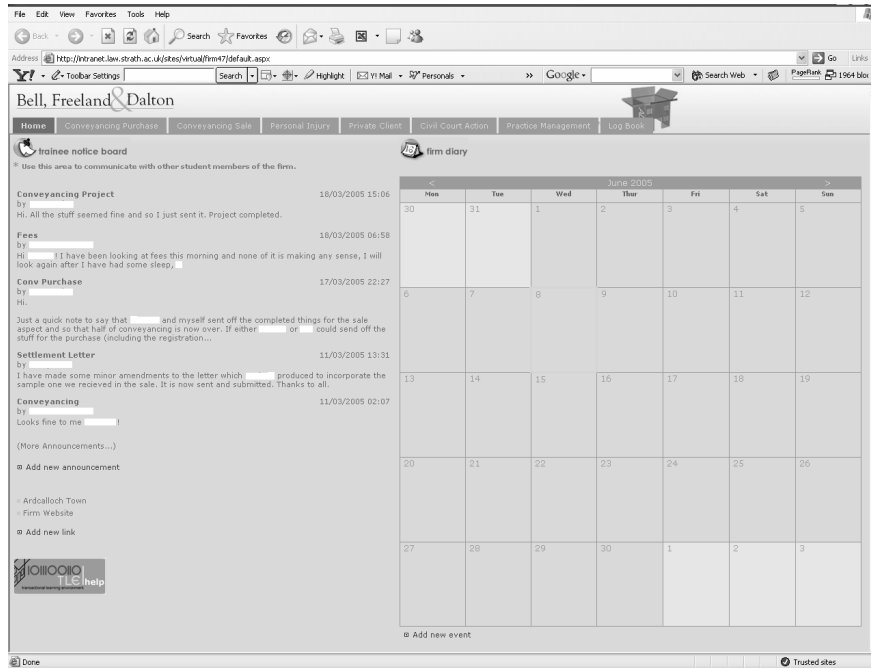


FIGURE 8: STUDENT FIRM'S INTRANET HOME PAGE (WITH DISCUSSION FORUM — STUDENT NAMES REMOVED FOR PRIVACY). NOTE THE TABBED LINKS TO TRANSACTIONS BELOW THE FIRM NAME STRAP-LINE

5. *Transactional learning requires holistic or process learning.* In seminars and lectures and in their reading of texts, students engage with ideas, and form understandings of legal concepts, the identity and purpose of documents, actions and the like.

⁴⁵ Karen Barton & Fiona Westwood, *From Student To Trainee Practitioner – A Study of Team Working as a Learning Experience*, 3 WEB JOURNAL OF CURRENT LEGAL ISSUES: SPECIAL EDITION ON LEGAL EDUCATION (2006).

However such learning is part-to-whole; we also need to give them opportunities for whole-to-part learning, and for learning about legal process. The transactional projects provide the environment for this form of learning. In this sense, the learning arena can truly be called a transactional learning environment (TLE).

Through observation of our students working in this environment we have also added the following characteristics to the original list of five to further define what we mean by transactional learning:

6. *Transactional learning is based on immersion in professional role-play.* An important aspect we have observed is that students engaged in transactional learning are not simply involved in progressing a simulated transaction within what we might consider a relatively safe environment, but they are in fact taking part in a much more sophisticated process that involves them taking on the persona of a professional lawyer within the virtual spaces of *Ardcalloch* and their student “firm”. Interaction with opposing student firms as well as fictional and simulated clients⁴⁶ provide opportunities for students to engage in professional role play at a much deeper level than is otherwise possible in a traditional classroom setting. At this level, understanding and application of the relevant principles, codes of conduct and ethical issues become explicit and personal responsibility is developed in a way that is not possible in any other learning environment other than placement or clinic work.
7. *Transactional learning relies on task authenticity.* It has been argued, in relation to on-line learning environments, that “[a]uthentic settings have the capability to motivate and encourage learner participation by facilitating students’ ‘willing suspension of disbelief’.”⁴⁷ This allows students to become immersed in the setting, providing motivation and encouraging perseverance in tasks. Without this task authenticity, full engagement in professional role-play is compromised and the learning gained from that personal experience and interaction reduced. Task authenticity, like authenticity in the Early Music debates, cannot be reduced to any single component, but is a function of the interaction of the whole. Barab, Squire and

⁴⁶ See Karen Barton, Clark D. Cunningham, Gregory Todd Jones & Paul Maharg, *Valuing What Clients Think: Standardized Clients and the Assessment of Clinical Competence*, 13 CLIN. L. REV. 1 (2006) for a detailed description of our use of Simulated Clients within the Diploma in Legal Practice Course.

⁴⁷ Herrington et al., *supra* note 13, at 62.

Dueber’s description of how authenticity arises from the “dynamic interactions” of elements within an environment or field (quoted above) expresses this well.

Just how this set of characteristics might be operationalized can be set out in a version of our diagram of Early Music authentic performance (Figure 9).

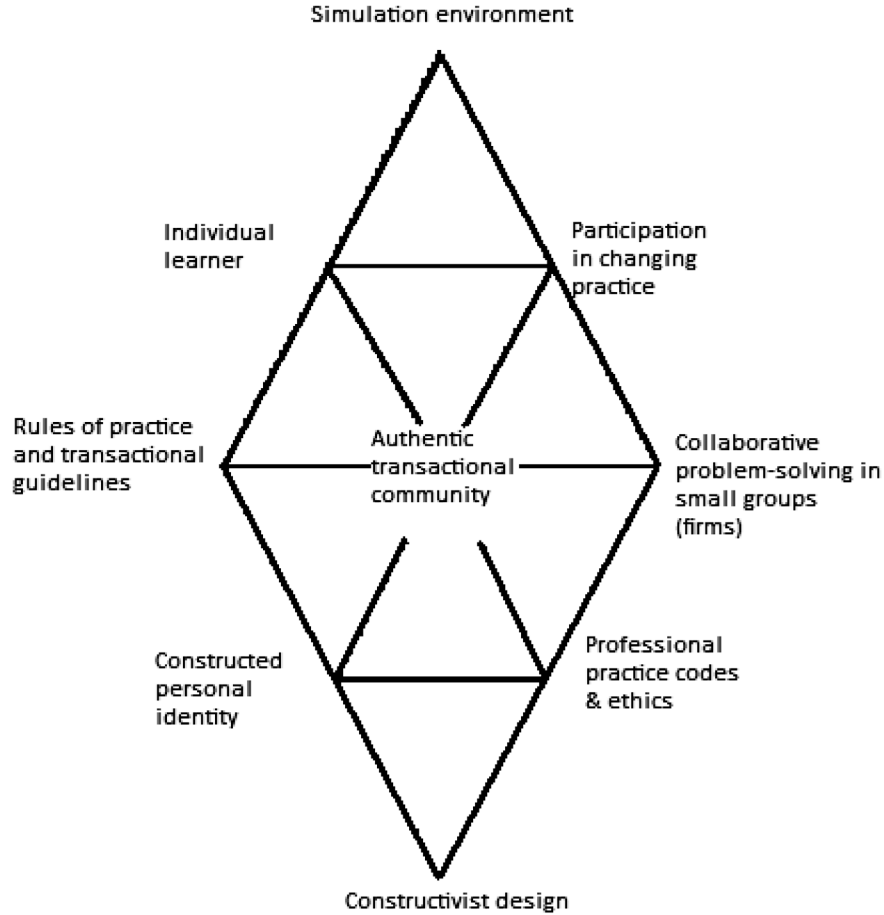


FIGURE 9: MEDIATIONAL ACTIVITY IN TRANSACTIONAL LEARNING

In the basic mediational triangle at the top, we move from subject, through mediational tool or concept use, to objective, namely participation in changing practice. Practice refers not just to changing legal practice, but those practices and personal understandings that students require to change if they are to enter the world of legal practice. The rules (mid-left in the diagram) are those of the legal practice community, together with the resource-base and guidelines given to

students as part of their learning environment. The community (center-diagram) is that of transactional learning – transactional in all the senses described above. The division of labor by which such change is achieved is through collaborative problem-solving in small groups or “firms” – a feature of the transactional environment that we shall describe in more detail below. And underlying this structure is the critical element of personal identity construction and change that takes place when a student participates in a professional course. For us, it was essential that any constructivist design enabled such change, and therefore it is appropriate that the learning design is seen as a mediational element in the process. But mediation is also the role played by the authentic transactional community – the community that willingly suspends its disbelief, enters the transactions and performs them as if they are actual transactions. The community, too, plays an important role in mediating the understanding of professional ethics – a point that we shall discuss in more detail below.

V. TRANSACTIONAL LEARNING IN PRACTICE: CIVIL COURT ACTION

How might all of this translate in actual educational practice in professional legal education? In the Diploma curriculum, the module “Civil Court Practice and Procedure” deals with the process of raising, conducting, funding and resolution of civil litigation in Scotland. The course was initially designed to take account of the two main aspects of civil practice, namely the rules and conduct of civil procedure (adjectival law) and the professional skills of advocacy and drafting pleadings. Prior to our changes around five years ago, it consisted of a series of conventional lectures and associated reading running in parallel alongside a series of skills development tutorials. The part-time practitioner-tutors who led the small-group seminars (around 12-14 in a group) were local solicitors, akin to adjunct professors in US law schools, who focused on developing students’ ability to present a reasoned argument to a judge through written pleadings or oral submission. While the lectures and tutorials were notionally linked, assumptions were made in the tutorials that students had acquired adequate knowledge of the procedural rules to allow the tutorials to deal primarily with the skills element of the module. This created misalignment within the module, because teaching and learning were not fully integrated, and was still highly teacher-centered, both in lectures and seminars. In addition the course also focused on three assessment points and tested students’ knowledge of civil procedure as well as competence in the professional legal skills of drafting pleadings and advocacy. These assessments were:

- A drafting exercise (drafting an initial writ, the initiating court document in civil procedure in Scotland);
- An advocacy assessment (in this case oral submission of a motion to court);
- A written examination (on the substantive and procedural law of civil litigation).

The drafting exercise and advocacy assessment were regarded as essential practical elements of the assessment regime but were unsatisfactory in terms of determining if a student really understood the court process or where and how these elements fitted into a court action. Students tended to see these activities as isolated incidents rather than as elements in a continuing process. The tasks, though valuable in themselves, did not allow the student to experience the interactive and spontaneous nature of the court action. In addition the drafting exercise and written examination were held as open-book assessments in order to mimic the real-life office situation where students would have texts available to them but would require to know what they were looking for and where to find it. In particular students would not be expected to draft an Initial Writ in an office without some form of style, either an “in office” house template or a court template. However it became clear, particularly after the marking of the drafting exercise, that open-book assessment was not particularly appropriate for the tasks in hand. Students could score as much as 80% or more in the drafting exercise, but could so fail particular elements of it that the document produced by student would be regarded by practitioners as seriously flawed in certain respects – the wording of particular clauses, or the omission of key phrases or pleadings, for example. In addition the assessment only tested students’ ability to draft the initiating court document and much of what would be considered the key skill or art of a practicing civil litigator, that of adjusting written pleadings, was neither addressed adequately nor assessed appropriately. It was also clear that while students were able to answer questions that tested their knowledge of the theory of civil procedure, their ability to transfer that theory into practice was clearly limited (or at least not assessed). They found it difficult to “see” the whole transaction and to understand it from different points of view, *e.g.*, the pursuer (who raises the action), the defender (who defends the action) and the Court (which, through the Clerk, administers the action). They were able to understand, for example, the concept of asking for an interim order but were not always clear how this happened or when it was competent for them to request it. This holistic view of the process was lacking within the module, together with other key professional issues such as the effect of the litigation process on clients, which was not

fully appreciated by students. All of this suggested that a more closely integrated theoretical and practical approach was required.

To address the issues identified, we decided to use the transactional learning environment (TLE) of Ardcalloch as both a learning tool and an assessment tool where learning through participation would deepen and enrich the learning experience, while at the same time allow us to shift students from merely learning process, procedures and facts as isolated units to learning, through first-hand experience, about professional capabilities such as personal responsibility, team working, ethics, client care and risk management – a far more ambitious aim. As a consequence we believed the integration of legal theory and practice would become much more explicit for the students, and would help to facilitate at least part of the transition from law student to practicing lawyer.

The Civil Court Action was developed as one of the portfolio of cases assigned to the student firms within Ardcalloch. As with the other TLE projects, it appeared as one of the files within the virtual firm environment and involved citizens of Ardcalloch raising or defending a civil action, with each of the student firms acting for either the pursuer (plaintiff) or defender (defendant) in each case. The digital setting of the TLE provides a range and depth of realia that is rarely possible to achieve in a classroom or traditional role-play setting.⁴⁸ For example, the Court could now become a significant presence within the transaction and its importance in the conduct of the proceedings (including payment of court fees and setting of deadlines) was made much more relevant to the students who were working to provide the best possible outcome for their client. The Court consisted of a website which provided the type of information the firms might call on to help them progress their action (forms, guidance notes etc.) and which could be updated on a regular basis to reflect current “live” cases. As tutors, Barton and McKellar acted as the Clerk to the court within the transaction, responding in character to correspondence and the lodging of documents by the student firms as appropriate. In addition we also took on various roles such as that of the client, senior partner and other citizens or institutions in Ardcalloch and engaged in the process of responding to firms’ requests for information, clarification or instruction.

⁴⁸ The term realia derives from library classification, and refers to miscellaneous collections of objects, particularly in archives, that do not easily fit print categories – tools, textiles, etc. In education the term is sometimes used by teachers to refer to teaching aids used in the classroom. Wikipedia has an especially useful entry on the subject — <http://en.wikipedia.org/wiki/Realia>. We use the term to describe any form of digital object that might be required as part of a simulation.

A. *Project Description*

At the start of the project, those firms who are acting for the pursuer receive a memo from their senior partner outlining the client's case and instructing them to raise an action. They are also sent their client's precognition (statement) and any relevant initial productions – basically they are given all the information that they need at the start of the project that would normally be available to them in the real life transaction. They are given this in the form of statements and written documentation through the Senior Partner rather than directly from the client as we are not yet able to provide a face to face meeting with individual clients. Documentation coming from the Senior Partner, who has effectively had the “interview” with the client, maintains the authenticity and also gives a sense of a supervisory element similar to that of a trainee solicitor in practice. Students are able to contact the Senior Partner if, for example, the client has not responded to letters or they are seeking advice on a particular course of action. As managers of the project we can also use the Senior Partner role to contact a student firm if, for example, we need to give further details to the firm as a result of some unexpected investigation they have carried out.

Students then need to collate and analyze information from characters or institutions in Ardcalloch, particularly when they in-gather evidence and productions to build their case. Within the video lectures that run in parallel with the project (more of this below), students will have been shown examples and templates of the initiating documentation and how they are created. Students will also have practiced drafting similar documentation in their tutorials (though of course the details of the simulation project scenarios do not replicate those given in tutorials – students must adapt the template to their own scenario which will be unique to them). The pursuer firms then raise the action, draft documents, correspond with the Clerk to obtain a warrant for service, and contact their client as required while following the correct procedure within a set timeline.

The opposing firms, when instructed by their own senior partner some two weeks later (*i.e.*, after the writ has been served on the defender), will proceed to defend the action in the same way. At a certain point in the process, all of the firms receive previously created additional information from their respective clients which require them to make adjustments to the pleadings. In this way students are required to make changes to the pleadings rather than just simply raising or defending the action with one document. Most students tend to make changes to the pleadings anyway as a result of investigation with their clients and other witnesses. In some cases the information requested is completely useless for their case but some students want to

leave no stone unturned and look for evidence where there is clearly no need. While this is not “wrong” students are given feedback within the project which will encourage them to reflect on the most effective use of their time.

The additional information released to the firms has been written so that it will give indications to firms that there are a number of productions which they might find useful. Indeed, if firms read these statements carefully they will find there will always be something which should be lodged in court in the form of an inventory of productions. These productions have been previously created and can be easily released to the firms; but only if requested by the firm. Although the productions have been available from the first time we implemented the simulation project it has only been since the project was expanded from four to eight weeks duration that students have begun to lodge the productions, suggesting that the longer they play the simulation in character the more they will engage with the resources and online characters, and be prepared to explore factual evidence and legal process. This point has been verified by Maharg’s experience in the Personal Injury transaction.⁴⁹

B. Authenticity and The Role Of The Tutor

Each pair of firms start with a unique scenario and they will also progress their actions uniquely, since they will have to make strategic choices, respond to each other’s claims and deal with new information or unknowns as the transaction progresses. Although the format of the initial writ will be the same, the content of each document will be quite different and, as the pleadings flow from this document, each action will be completely different.

Dealing with the consequences of this welcome but unpredictable and authentic aspect of transactional learning presents a new set of issues to think about for the tutors and educational designers. For example, on occasion, firms have taken routes that we had not anticipated the firms would consider. In one case, in order to protect the client’s position and ensure there would be adequate funds to meet the hoped-for ultimate decree in his favor, a firm sought to arrest on the dependence of the action (*i.e.* they sought a warrant to arrest [freeze] funds belonging to the defender while the action was ongoing). The arrestment was served (by email, the recognized method of service in Ardcalloch) on all the banks and building societies in Ardcalloch to ascertain if the defender had any resources there. While this was particularly enterprising of the firm involved, if it had been al-

⁴⁹ See MAHARG, *TRANSFORMING LEGAL EDUCATION*, *supra* note 4, at Ch. 7.

lowed to take its course, it would have required considerably more time and alternative processes than were available within the confines and timescales of the project. We dealt with this situation by responding in character as the banks/building societies, indicating that no funds were held on behalf of the defender.

On another occasion a defending firm decided it would be appropriate for the client to counter-claim against the pursuer. While this course of action was possible – and certainly competent – it was not desirable in the course of the action that formed the project. We had to reply to the firm, in character as the client, indicating that the client did not want to counter-claim – she merely wanted to defend the action raised. In the circumstances of the case it was a reasonable decision for the client to have made. This response prompted a private on-line discussion among the members of the student firm. The firm was highly skeptical of the client's viewpoint and debated what course of action they should take. Eventually they decided that, although they did not necessarily agree with her choice, they could not go against her instructions and therefore proceeded to defend the action. There were several interesting points about this crux. First, the problem as perceived by the students was neither pointed out by staff, nor was it deliberately inserted into the simulation: it arose from student engagement with the simulative context. Second, having perceived and constructed the problem, students then negotiated the reasoning behind and value of the client's solution among themselves. It is an example of authentic problem-solving in action.

From a learning design point of view such authentic engagement is fascinating, dangerous and essential. We needed to create the space or clearing within legal problems, such that dialogue on these issues could take place within the firm, while ensuring that we are offering the appropriate routes for resolution of the conflict.⁵⁰ But a simulation that allows for such flexibility of response could easily drift in directions that practitioners would think inappropriate, incompetent or unethical and therefore levels of failsafes need to be built into the

⁵⁰ The analogy with music is irresistible; but there is a closer analogy with the reader-response movement in literary criticism. As Maharg puts it

[m]eaning derives from the relationship between reader and text and cultural context, and therefore – much as in music production – the gaps or spaces in the narrative or form are as important as the information that is there on the page. Meaning is thus shaped not by information *per se*, but by the absence of information and what readers do when faced with such a gap. MAHARG, TRANSFORMING LEGAL EDUCATION, *supra* note 3, at .

For further information on reader-response approaches to textual meaning, see WOLFGANG ISER, THE ACT OF READING (1978); HAN S ROBERT JAUSS, TOWARD AN AESTHETIC OF RECEPTION (Timothy Bahti trans., 1982); LOUISE ROSENBLATT, THE READER, THE TEXT, THE POEM: THE TRANSACTIONAL THEORY OF THE LITERARY WORK (1978).

learning design. Yet at the same time, such openings are essential to student learning. If student choice were so restricted in the simulation that they could only ever choose the right course of action, this would be a mimesis of correct procedural action, but at the expense of deep learning – students would not engage with the scenario, would not remember process or choices as well as when they are engaging directly in choosing courses of action. It would also be a misrepresentation of the complex actuality of choices facing lawyers, as well as an unethical representation of the process of justice.

The examples above illustrate clearly the type of decisions educational developers need to take when designing such projects, and the necessity for robust educational models on which to base these design choices. As a result of our experience of developing and implementing transaction-based learning we have developed a spectrum model of simulated practice⁵¹ (see figure 10). The model provides a method of categorization of simulations between a “bounded field” of practice at one end of the spectrum and an “open field” of practice at the other⁵². In this model, the Civil Court Action would appear to be located towards the “bounded field” end of the spectrum but in some ways can be seen as a hybrid of the two models, in that it follows a set pattern but deviations are possible and may need to be facilitated either prior to the simulation project running or while it is ongoing. However, as these examples highlight, if the students do not follow fairly predictable operations in the way we envisaged, then back-up plans or strategies to deal with these situations must be designed into the simulation, and this requires consideration of the procedural as well as educational features of the transaction.

C. Authenticity in Action

Other examples of the firms’ engagement with the environment highlight the levels of complexity at which authenticity as a form of distributed intelligence is encountered throughout the progress of the transaction. Inevitably, there are different levels of complexity – two examples will suffice to show such complexity. In one year we noticed several pursuing firms had, in their Initial Writ, craved interest at the rate of 15% and not, as expected, the judicial rate which would have been appropriate in the given situation. We were puzzled over this and wondered why it appeared to be such a common error and why,

⁵¹ Karen Barton & Paul Maharg, *E-Simulations in the Wild: Interdisciplinary Research, Design and Implementation of Simulation Environments in Legal Education*, in *GAMES AND SIMULATIONS IN ONLINE LEARNING: RESEARCH AND DEVELOPMENT FRAMEWORKS* 115 (David Gibson, Clark Aldrich & Marc Prensky, eds., 2006).

⁵² *Id.* at 119

BOUNDED FIELD <-----> OPEN FIELD

		Bounded field <i>ie</i> transaction tends to. . .	Open field <i>ie</i> transaction tends to. . .
1.	Learning outcomes (LOs) & assessment	Precise learning outcomes, with simulation tasks based closely on outcomes – pre-defined Los	Bodies of evidence required to be produced to benchmark standards, but less emphasis on pre-specified outcomes
2.	Alignment with traditional learning & teaching methods	Teaching is aligned with tasks and outcomes, often according to an academic structure, eg lecture-seminar; learning is heavily ‘pushed’ by curriculum structure	Teaching is provided where needed according to learners’ needs, often according to a professional, just-in-time learning structure; learning is ‘pulled’ by learners
3.	Operational model	Linear domain procedures, eg predictable document chain – more operationally predictable	More varied, open or diffuse domain procedures, eg transactional guidelines but no specific document chain – less operationally predictable
4.	Student outputs	Specific documents, drafted to specific standards, eg initial writ; fixed or correct versions expected as student output	Procedures that involve a variety of documentation, or documents that cannot be specified easily in advance, eg negotiated agreements; various versions acceptable
5.	Resources	Resources are tied closely to tasks and learning outcomes – highly model driven	Simulation resources are not linked to tasks; learner needs to structure transaction through interactive querying of resources – highly learner driven

FIGURE 10: BOUNDED – OPEN FIELD TRANSACTIONS (REPRODUCED FROM BARTON & MAHARG (2006))

specifically, 15% was the rate requested. On further investigation it appeared that in earlier drafting exercise in seminars, students had been presented with a simple scenario involving the non-payment of invoices, and were asked to draft the Initial Writ. The terms of the invoice had stated payment within 28 days with interest charged at the rate of 15% thereafter. In the solution to this exercise, therefore, interest was craved at the rate of 15%, as per the invoice. It was obvious that there was a misinterpretation of the application of interest in the drafting of this clause which had not been picked up in the tutorials and some of the student firms had clearly transferred their incom-

plete understanding of interest provision in the context of this earlier tutorial exercise to the drafting of the Initial Writ in their transactional project.

In the second example, students in one firm requested a car insurance certificate from their client to verify that no claims had been made against their policy in the past five years. This was a request we had not planned for in the resources design, primarily because experienced solicitors would normally regard such documents as not relevant to the case. However, this example illustrates a common approach the students take, which is to request evidence and documents as a form of reassurance that they have explored every possible angle. With experience and practice they begin to appreciate the difference between the essential and the irrelevant; and unless they actually go through this process and discover this for themselves they will not be able make the transition from novice to practitioner.

Both examples quoted above are illustrations of authenticity in action at different levels of complexity. Recalling the earlier discussion of authenticity in Early Music, the first case could be regarded as an example of “technological level” authenticity, and the second of authenticity at the “practice-based level” (see figure 1). In these and several other similar situations, issues that arise in the context of a particular case within an individual firm become a topic of discussion on the online discussion forum set up to support learning in the project. In this forum students can seek guidance or clarification on matters pertinent to the progress of their action. When the issue of counter-claim was raised by one firm, for example, all other student firms were alerted to this possibility and the pros and cons of this approach were debated in relation to their own situation and as a general rule. The fact that general learning points can be generated from the specific and transferred across all of the firms in this way is extremely powerful. It is so because such learning is social and highly active. Again, we can recall the levels of authenticity from the Early Music debates. Hermeneutic critique could arise from either technological or practice-based levels, or from critique itself; but when it was elaborated, it nearly always shifted levels between the three types of authenticity. In a similar way, student comment could arise from a technical procedural issue, from a practice-based issue or from a point of law or ethics; but students needed to explore all levels for themselves and among themselves in order to come to a determination about the solution to the problem. Recall also the meditational activity that is plotted in Figure 9, where individual learners participate in changing practice through the simulation, but where the rules of practice, mediated by individual learners, help to create the authentic

transactional community which, through participation in changing practice, helps to sustain collaborative problem-solving amongst students.

However, it has to be said that because of the nature of this forum and the fact that the problems raised are always student-centered and arise from actual practice (and therefore tend to be unpredictable) the forum is of variable value as a consistent learning tool. And, while on some occasions the forum can be a lively area for debate on interesting points of law or procedure, at other times the topics discussed remain at the technical level, and are much more mundane. One of the ways we have sought to “capture” this learning is to archive previous years’ discussion forums and make them available to the current student cohort. Anecdotally, however, our experience would suggest that students gain more value from participation in the “live” forum than passive reading of previous postings and this is partially borne out by the frequency with which certain types of question appear each year in a new forum.

D. Degrees of Authenticity in Resources Design

Because each transaction involves a unique scenario we have created a range of documents pertinent to that case. For 70 student firms taking part in the project, this has meant creating 35 different scenarios each requiring its own document sets. In order to do this more efficiently we created a set of 5 “core” scenarios based around a simple payment type of civil action and created 7 variations on each of these main themes. For example, one of the core scenarios involves the sale of a car which is the subject of a number of complaints; another involves the sale of a horse which is subsequently found to have had a previous injury; another involves a dispute over whether a painting was taken from a dealer on sale or on approval. The realia for each scenario might include invoices, expert reports, service records, bank statements, returned checks etc. Each digital object is as close to an original as we can manage to create so as to continue the requirement for authenticity, with documents being scanned where appropriate. It is also necessary to have every document which may be requested by a firm available to the managing tutor who role plays the other characters in the transaction as there is no time while the project is live to create these on the run and assure their quality as realia. In order to manage the detail of this, we created each individual scenario as a database of details which draw upon the central scenario. In planning this, we resorted to laying out the scenario as a matrix.

What we have, in effect, is a cascade of variables across the scena-

rios which creates every scenario as a unique set of data. The problems involved in the creation of such a huge number of course documents were considerable, and it is only recently that we have developed administrative systems that will cope effectively with the generation, cross-checking and final proofing of such datasets. Each year we have created new documents while the project has been running live (one year, for instance, we created the record of a race in which the horse had run, using a real life example of an actual race; and we also created a newspaper story for a controversial planning application which was requested by a firm). Essentially we use a form of *inductive* reasoning, working backwards from a known end point, to create scenarios realia into which we place cues that will prompt the students to investigate certain issues further. We know, for example, that any item that has been mentioned in client statements or additional documentation will be requested by the student firms – even if it is not necessary. However, since the students are engaged in forms of backward and forward reasoning, in order to progress the transaction there are other documents which the firms funnel down to in their investigations and which they request. In the learning and resources design we have to make a decision whether to provide these or not (*e.g.* in this session, 2006/07, students asked for title deeds for the first time).⁵³ To monitor this, at the end of each academic session we collate a list of the documentation which has been requested by each firm during the running of the project and consider which of these we will formally create for the following year and insert in the resources database. Accordingly the scenarios become, over time, a rich collection of realia which managing tutors can draw on to establish and maintain the authenticity of the simulation.

Simulations, we have found, have a gravitational field of their own. Students, staff, administrators are drawn into their circle; and for simulations to work well, other elements of the course need to be aligned around them. The metaphor of the circle is apt: instead of a linear *cursus* or curriculum, our modules that involve simulations now circle and spiral around transactions. In the Civil Court Practice mod-

⁵³ There is an important subsidiary point here, namely the form of legal reasoning that students learning from a simulative environment. The issues have been explored by Stefan Kreiger, using Patel *et al's* research into forms of reasoning used by medical practitioners. If, for example, law practitioners use one form of reasoning, *e.g.*, forward reasoning, to reach a solution to a particular issue, and the learning design of the simulation environment teaches students to use backward reasoning to solve the same problem, then we could hardly claim that our simulation was authentic to the standards of practice. See Stefan Kreiger, *Domain Knowledge And The Teaching Of Creative Legal Problem Solving*, 11 CLIN. L. REV. 149 (2004); Guy-Marie Joseph & Vilma L. Patel, *Domain Knowledge and Hypothesis Generation in Diagnostic Reasoning*, 10 MED. DECISION-MAKING 31(1990).

ule, learning resources are re-designed so that tutorial topics are synchronized with timescales the student are working to within the transaction so that, for example, students will have practiced and discussed the drafting of initial writs or defenses with their tutors before they have to carry this out on behalf of their clients within their firms. Additional support is provided through the video lecture learning environment which has also been developed at GGSL. The Civil Court Practice course was the first within the Diploma to exploit the power of the video lecture environment to its full with integration of video, multimedia, graphical and text-based resources into a rich student-centered learning environment. Students are provided with this learning resource in place of conventional lectures, and are directed to specific sections in preparation for their course of weekly seminars where they practice the skills elements of drafting and advocacy. The video lecture environment is viewed positively by students who report flexibility and re-usability to be among its most valuable benefits.⁵⁴ However, it is still regarded as the “academic” part of the course, its use being primarily directed towards study and passing the final written exam. For the students, therefore, there still appears to be an element of dissonance between, on the one hand, a conventional, academic approach to learning about civil procedure and its interpretation and application in practice. We shall return to this issue and ways it could be remediated later in the article.

It is important to remember also that the Civil Court Action transaction does not run in complete isolation. The firms are also dealing with other transactions at the same time within their virtual firms – notably the purchase and sale of a house, and winding up an estate of a client who has died intestate. And it is this immersion into the world of practice that provides a rich learning environment where students develop time management, team working, client care and resource management skills, and thus begin the process of transition from student to trainee. Students are encouraged to take responsibility for particular transactions and to delegate tasks to the firm members with regular internal group reporting. Thus they are developing a relationship with other firm members based on trust and are emerging as professionals –a process which is an essential element in their developing professional identity.

⁵⁴ See Patricia McKellar & Paul Maharg, *Virtual Learning Environments: The Alternative to the Box under the Bed*, 39 THE LAW TEACHER (2005) for a detailed description of the environment itself and a discussion of the findings of the extensive student evaluation that took place following the introduction of this technology into the Civil Court Practice and Procedure course. The educational design work was undertaken by Maharg and McKellar, as was the research study, while technical design work was carried out by David Sams of the LTDU, Law School, University of Strathclyde.

E. Authentic Assessment

With the re-structuring of the Civil Procedure course and the introduction of the Civil Court Action project, the assessment strategy for this module was also re-aligned. The drafting exercise, previously conducted as an open-book examination was removed, and each major stage of the transaction is now assessed as a group project by a tutor. Instead of the isolated drafting exercise students are assessed by tutors on online pages on the basis of the documentation they create for the simulation project *e.g.* the initial writ, the defenses, the adjustment of the pleadings. All elements are marked against a competent/not yet competent merit standard and the learning outcomes are made available to students in the course handbook beforehand. In order to maintain a sense of authenticity, firms receive the assessment and feedback in the form of a memo from their senior partner. Firms are given two opportunities to submit their documentation within the given timescales and if on the second occasion it is still judged not yet competent, the firm is removed from the Civil Court Action and will be deemed to have failed the project. In that event each member of the firm is required to sit a formal written exam, which includes a drafting activity. So far this sanction has not been imposed on any firm although it has been necessary to set the exam for students who, for various reasons, usually personal, have been unable to play a full part in the project. Students continue to be assessed individually on their advocacy skills and take an end-of-course written examination. It is hoped that in time the advocacy element will be incorporated into the simulation project, but this would require each student to be assessed on performative skills during the course of and within the confines of the project and the Diploma, and will not be an easy objective to achieve at this stage.

Given the shift from individual assessment to group work for at least part of the course, what effect does this have on our students and how do we adapt our underlying pedagogical models in order to ensure we provide the necessary support to help students engage with this form of learning and assessment? In our earlier description, collaborative learning was stated as being one of the key traits of the transactional learning environment. As with all such transactions in the GGSL, the firm itself is given a mark, not the individual four members of the firm. Each of them therefore require to co-operate with each other, and there must be evidence that they have agreed each step they should take and the content of each assessed document before it is submitted. In this way, we want to maximize learning within the group, and ensure that they have the experience of working on a legal transaction as part of team, with collective responsibility for

the outcome.

The sustained depth of group work over the course of the year and emphasis on high-stakes assessment in group work is new to our students. At undergraduate level, our students have been rewarded as a result of their individual efforts, working in ways that suited them and their preferred style of learning. They will have had little formal assessment based on team working. In fact, because entry to the Diploma stage of their training is based on direct competition with their peers (only a certain percentage of law graduates will gain entry to the Diploma, based on the average marks gained in the professional subjects studied at undergraduate level), it could be argued that their undergraduate studies socializes them into taking a highly competitive attitude towards each other and towards the law, one that can increase isolation and alienation in the student cohort⁵⁵. As a result, many are resistant to the concept of team working and this influences their attitude and approach towards the transactional learning environment and working in firms.

In studies carried out at GGSL over a period of three years, we have identified four “types” of firm characterized by their internal culture, their approach to tackling tasks, their internal relationships and their work styles.⁵⁶ This provided a measure of the main attributes of successful and less successful firms. Our studies have shown that those firms that are most successful (and whom we term *Learning Communities*) tend to work in a culture of inclusion and fairness, putting the aims of their team first rather than any personal agenda or gain. They exhibit a strong focus on task with good internal communications and high levels of co-operation. High levels of trust are formed quickly in the firm, with shared responsibility and respect for one another’s strengths and weaknesses also being key features. They also demonstrate high levels of engagement with the transactional learning environment and a strong commitment to getting the job done, seeking solutions instead of problems. By contrast, the least successful firms operate a culture of suspicion and blame, seeking their own agenda at all times with little recognition of the need to work as a team. They exhibit low engagement (if any) with their group tasks, seeing the projects as irrelevant and pointless. Their intra-firm relationships are abrasive and self-seeking, with no awareness of the impact of their behavior on other firm members. Polarized views and abdication of responsibility are also common traits. In between these extremes are two other categories of firms who share some of the characteristics of each of the types described above.

⁵⁵ A similar attitude is reported in US law schools in Sullivan *et al.*, *supra* note 4, at 31.

⁵⁶ See Karen Barton & Fiona Westwood, *supra* note 46.

It is reassuring to note that a very small number of our firms fall into the category of the least successful firms. Around 90% of the firms exhibit some or all of the characteristics of the Learning Community described above and we have put in place a number of initiatives to ensure that, so far as possible, the firms are supported in achieving this type of successful, collaborative working arrangement. As well as a number of team-building workshops and activities, each firm draws up a Partnership Agreement at the outset of the course which includes identifying the core values the firm will adopt and the arrangements for collaborative working and management of the firm. Shared values are an important element of establishing trust⁵⁷ and once agreed provide a foundation upon which dialogue between the firm members can take place should any disagreement arise. Once they start working together on the projects, on-line personal activity logs along with on-line peer- and self-assessment forms provide mechanisms for reflecting on contribution to the team effort and serve as early warning signals for potential problems. The activity log, supported by regular meetings with one of our specially trained tutors who act as the firm's Practice Manager, allows students to draw attention to particular problems without being confrontational, and helps the group to work towards an equitable solution. With the appropriate level of support the students can start to build "social capital" characterized, among other attributes, by high levels of trust and a sense of equitable participation in a joint exercise.⁵⁸

One of the important outcomes of this research was the recognition that task focus is crucial for learning. In addition, engagement with the transactional learning environment is essential. However, from what has been described above, it is clear that it is not enough to simply create the environment and leave the students to get on with it, learning through trial and error. As teachers in professional legal education we have a role to play in creating an environment where students are actively engaged in simulations of professional practice and feel safe to try out new skills and learn how to become lawyers within a supportive collaborative culture, and the more authentic this environment the better chance they have of engaging with the task. This requires a holistic approach to curriculum design which goes beyond the creation of individual "authentic" scenarios and settings with all of the associated artifacts, characters and complexities of real life that we have already outlined above; and requires instead a radical re-think-

⁵⁷ See for example TALCOTT PARSONS, *THE SOCIAL SYSTEM* (1951) and CHRISTEL LANE & REINHARD BACHMANN, *TRUST WITHIN AND BETWEEN ORGANISATIONS* (1998).

⁵⁸ DON COHEN & LAURENCE PRUSACK, *IN GOOD COMPANY – HOW SOCIAL CAPITAL MAKES ORGANISATIONS WORK* (2001).

ing of the curriculum and the support mechanisms surrounding it, including the resources, structures and personnel involved. This curriculum re-design is of a piece with the educational literature on MUVes cited earlier in this article, where conventional school structures and curricula are changed quite radically by the growth of new learning relationships between students, teachers and others, both on-line and face-to-face. It is in such new relationships that we can begin to recover a sense of authentic professionalism, and use it in our learning designs. Our observations of students working in their firms appear to show that the very small number of students who do not engage with the environment do not engage with the task, with professional values or with their peers, and are more likely to be in the position of “failing” students. Perhaps one of the most valuable emerging outcomes of this form of transactional learning and assessment is the early identification of those individuals who may eventually struggle to practice as professional lawyers.⁵⁹

F. *The Student Perspective*

The critical question is, of course, did the case study outlined above work as a form of transactional learning? Did the students learn as a result of “doing” the transaction and completing the documentation which was used to progress the transaction as well as for assessment purposes? Many of the students believed the assessment was useful to them, and embedded well within the subject, as the quotes from students’ feedback below demonstrate:

“Assignments were excellent from a practical point of view – I would feel confident enough to complete these tasks in the office now. Our assignments were also returned promptly which was great.”

“Assignments were a good way of bringing together knowledge obtained at tutorials. It is a practical subject and it makes sense to assess with practical assignments.”

“Again excellent practice for traineeship.”

“Realistic and a very reasonable form of assessment.”

“Provided with good feedback when made mistakes with any of these assignments. Allowed us to complete them properly the second time round. Good idea that students have an opportunity to correct work as I feel that I learned more and got more from the exercise as a result.”

⁵⁹ The issue has been analyzed in the literature of most other professions, and is linked in many studies with concepts of professionalism that arise from personal attitudes and value-systems. In the medical field, for instance, see Maxine A. Papadakis, Helen Loeser & Kathy Healy, *Early Detection and Evaluation of Professionalism Deficiencies in Medical Students*, 76 *ACADEMIC MED.* 1100 (2004).

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“Support and advice was given by the tutor on relevant problem areas of the assignments.”

“Very good assessments – helped understand work done in tutorials. Very useful.”

“Good learning tool – feel I learned more doing this than just reading about it.”

This authentic immersion allows us to shift students from merely learning process, procedures and facts to learning, through firsthand experience, about professional capabilities such as personal responsibility, team working, ethics, client care and risk management. And this transition is clearly articulated by students in the reflective reports they submit to us at the end of the year:

“. . .it is good practice to keep clients updated with regard to the progress of their case, as it can take a relatively long time from when the client’s instructions are initially received to finally concluding the case for them”

“. . .working in the virtual environment has also helped me focus on the concepts of individual and collective responsibility”

“. . .our projects were quite clearly not completed in isolation. . .it was therefore vital to prioritize our workloads”

“. . .the [Project] really emphasized the importance of client care. . .this aspect was vital to the successful completion of the project (as well as any future transaction in my traineeship).”

“. . .taught me the importance of a client-oriented focus and strong client relationships. . . I believe we all learned valuable lessons in relation to people management that we will take with us to our respective traineeships.”

“Specifically. . .I was able to visualize transactions and the chain of events. . .this knowledge is something that cannot effectively be taught in lectures.”

“. . .prioritization was imperative to the success of our firm.”

“. . .I learned how important it is to use simple and concise language when corresponding with clients. . .it is important to make clients feel at ease and one of the most effective ways of doing this is to ensure that they understand what is happening.”

“. . .the importance of a letter of engagement will stay with me”

The main element of criticism from students concerned the dura-

tion of the project itself⁶⁰. A significant number of students noted that they would have preferred the project to have been longer in duration and dealt with more aspects of the procedure. However, one issue we were concerned about – the potential that students may have felt that they were being over-assessed – was not one the students raised. In fact, although they advocated an extension of the project, they did not necessarily want to see other aspects of the course reduced as a consequence. In many ways this is encouraging feedback and shows that, when students are truly engaged with learning they value the experience and look for opportunities to extend it.

G. Future Developments

The description above outlines the current state of the Civil Court Action within the wider context of the Ardcalloch transactional learning environment. The project has been developed and refined over a number of years with each iteration of the project building on the previous version. The scope of the transaction has grown, as has its duration and we aim to continue this development. We plan to improve the authenticity of the transaction to incorporate videos of the client interview, to add an interview with one of our standardized clients and require the students to draft the precognition themselves; and the progress of the action will be extended to include the Options Hearing (the point at which the action is first called in court and where the sheriff or judge rules on which option for further procedure would be most appropriate in the circumstances) where the students would present their case in the court in front of a real Sheriff. It may be that we will be able to use this oral submission as the advocacy assessment for the module and increase the integration of practice and theory within the module. We are considering employing some of our tutors who are also part-time sheriffs to play the part of the judge and thus further enhance the authenticity of the simulation.

One stage of future development is more ambitious, and deserves more detailed explanation. This will involve integrating the Civil Court Action as it exists more closely with the video lecture learning environment that exists as part of the resource-base for the subject. Re-configuring the course with the Civil Court Action project as the main foundation upon which everything else is structured will provide an opportunity to integrate the theoretical and practical aspects of the course more closely. The video lectures and seminars then become learning resources, seen as directly supporting the transaction and al-

⁶⁰ Student feedback on the project has been obtained each year through questionnaires and through focus groups.

lowing students to link seamlessly from the transaction to various supporting resources as required in a form of “just-in-time” learning. This ability to blend their student identities with that of their role-play identities as professional trainees will, we hope, create a new form of support scaffold for the students within the TLE. It is one where work and learning can perhaps more easily be seen as being part of the same continuum, thus providing the conditions for students to further develop professional skills and reflective practice, and be aware of their changing identities as emergent professionals.

Developing this idea further then, and placing it within the wider context of our approach to professional legal education we have now identified a number of paths or “views” through which students are able to learn and acquire knowledge. At this stage we are not attempting to define either taxonomies of learning or functional specifications but instead describe different, overlapping views of knowledge which depend on user purpose, the task in hand, prior knowledge and confidence or familiarity in handling the resources. Currently we would define them as follows:

Topic View: this may be represented linearly as a sequence of topics or concepts that build on previous topics or as a knowledge map based on key concepts so that patterns, relationships, and processes start to emerge. Students come to understanding of concepts by navigating through them in a linear fashion, determined largely by the way the materials or course itself has been structured. This view can support initial familiarization or detailed knowledge of concepts as well as understandings of overviews and connections between concepts while still giving students the opportunity to drill down into detail where required.

Transactional View: where knowledge components are embedded within an actual transaction, available chronologically as the transaction progresses in a just-in-time fashion. This view enables students to integrate their understanding of concepts while at the same time applying the concepts to particular problems, thereby constructing their own learning and functional knowledge. It may also facilitate the switch between backward and forward reasoning (though of course this still requires to be proved).

Simulation View: within this view students can switch from inside a simulation to access either of the other views if and when they need additional support or guidance. This view supports the student in exploration, questioning and going beyond existing principles, particularly when they are presented with unseen or unfamiliar problems.

VI. SIMPLE – THE NEXT ITERATION

To date, the simulation environment described above has largely been used only within the Glasgow Graduate School of Law. The exception to this was its use as part of an international simulation with the RechtenOnline Foundation in the Netherlands.⁶¹ In this transaction, Scottish students liaised with Dutch Business students in the University of Rotterdam on a simulated intellectual property transaction. While the transaction was successful in proving the value of such international simulations, it was clear that the two simulation systems needed to be built upon similar infrastructures and to similar international standards if such simulations were to be undertaken in the future as regular components of a program of study.

In 2006 a consortium of Futurelab, University of Strathclyde (GGSL) and UK Centre for Legal Education (UKCLE) successfully bid for JISC project funding under its Large-scale Implementation of Innovative Technologies call, part of the JISC Innovation strand.⁶² The consortium project is in effect the creation of the second iteration of an environment for professional learning – an open-source, open-standards transactional learning environment (SIMPLE) – and will engage in large-scale evaluation of the implementation of this environment.

The environment will be specified according to the requirements of a representative grouping of professions, and the functional specification, to be drawn up in the first six months of the project, will be implemented as a fully-functional platform and tested in the following twelve months of the project with our project case study sites, where it will be used within professional programs in the last six months of the two-year project. This platform will deliver the transactions. There will be a suite of tools which will allow the creation of transactional content by academics and professionals. Within the project we shall

⁶¹ The Dutch environment, effectively a town called Sieberdam, was built following a two-day seminar given in the Netherlands in 2002 by Maharg and Scott Walker to representatives of the RechtenOnline Foundation.

⁶² The bid was in response to JISC's 'Large-Scale Implementation of Innovative Technologies' call, in their E-Learning and Innovations strand. For the JISC SIMPLE project web site, see http://www.jisc.ac.uk/whatwedo/programmes/elearning_innovation/eli_simple.aspx. For the GGSL website including latest information regarding the status of the project, see <http://technologies.law.strath.ac.uk/tle2>. UKCLE is a joint funder as well as a project partner, generously matching JISC's funding of £100,000. UKCLE will be assisting with co-ordination of the English and Welsh law schools involved in the project, and will taking a leading role in dissemination of the project results and the application within the Law, as well as liaising with other HE subject centres. Futurelab will be largely involved in the evaluation of the project, and will contribute their substantial knowledge in the development and implementation of games and simulations. For more information, see the Futurelab site at <http://www.futurelab.org/>.

evaluate the educational value of these projects in a series of use case pilot studies. The studies will be carried out with staff from our institutional case study sites — effectively professional groupings within the three Faculties of Engineering, Education, and Law, Arts & Social Sciences in Strathclyde University. These involve the Dept of Architecture (BSc Architectural Studies, in particular the Postgraduate Diploma in Architectural Design, and the Design Management and Practice courses – these courses already have a strong interest in on-line learning); Glasgow School of Social Work (MA Hons in Social Work); and the Diploma in Legal Practice, Glasgow Graduate School of Law. We shall also be carrying out identical studies within a single profession, namely law. In association with UKCLE we have identified three law schools prepared and ready to host a case study, and work with them to embed SIMPLE in at least one module. University of Glamorgan Law School will be using the environment within a first year Tort module; University of the West of England Law School will be using it in a civil case (negotiated divorce) and criminal case, while Warwick Law School will be deploying it within their undergraduate Legal Practice module. Further case studies are being undertaken in the Law School at Stirling University (Legal Process module).

As will be clear by now, our pedagogical approach will be constructivist in nature, and will situate learning tasks as far as possible within authentic professional environments. Given our approach, our educational challenge is this: how can simulations effectively enhance professional learning across a range of professions? The project aims to answer this question in substantial detail, and is designed around five phases and a three-year trajectory thereafter (see Appendix 1 for a statement of these phases, together with a list of project outputs and outcomes). Critical success factors include the following:

- enhancement of student learning,
- user-friendly, interoperable, accessible and scalable applications and tools for academic and administrative staff
- embedding of professional learning within academic learning

CONCLUSION

In our internet age it is possible for us to rethink the architecture of legal education along transformative line, and use the new materials of digital learning to prepare our students not only for the globalised world of professional practice they are about to enter, but also the avalanche of knowledge that awaits them in our technological century. Barnett's age of "supercomplexity" is already upon us as far as

professional and cultural knowledge and technology is concerned.⁶³ If there is one way of coping, indeed thriving in this environment, we would hold that it lies in the route of re-thinking authenticity in learning for our law students. Transactional learning is one such possible route to authentic learning, in both universities and law offices.

There are, though, wider perspectives to this experiment. The web is a remarkable communications network, one among many. It has profound implications for our lives, and therefore we need to think closely about how we use it, and how we allow it to be used by others. Within our own discipline of legal education, we can use web-based simulations to create forms of education which not only challenge conventional modes of teaching but can be used to enable students to learn professional values and community-centered ethical approaches to lawyering.⁶⁴

Perhaps what is most ambitious about the whole experiment described here is its scale. We aim to build an entire program of study around simulation activities – not merely the transactional simulations described here, but other forms of simulative activities such as Standardized Clients. Strathclyde University's Law School has a Law Clinic, and simulation could also be used to provide practice for students working in the clinic; and it could be developed as a form of deep learning for solicitors or attorneys in practice. The basis to all of these extensions is the core of experiential learning, drawn from Dewey's particular form of democratic, pragmatic inquiry, and from his belief that educational growth is essential not just to professional discourse, but to living itself – as he put it, “[s]ince growth is the characteristic of life, education is all one with growing; it has no end beyond itself.”⁶⁵

Looking to the future of such experiments, it is clear that if simulations in MUVES such as Ardcalloch are to be successful, then the shift requires a change in conventional ways of thinking about educa-

⁶³ RONALD BARNETT, *REALIZING THE UNIVERSITY IN AN AGE OF SUPERCOMPLEXITY* (1999).

⁶⁴ Paul Maharg, *Conclusion: Simulation and Transformation*, in M. AHARG, *TRANSFORMING LEGAL EDUCATION*, *supra* note 4; Gail E., Hawisher & Cynthia L. Selfe, *Testing the Claims*, in *GLOBAL LITERACIES AND THE WORLD-WIDE-WEB 1* (Gail E. Hawisher & Cynthia L. Selfe, eds., 2000); D. D. Noble, *The Regime of Technology in Education in THE CURRICULUM: PROBLEMS, POLITICS, AND POSSIBILITIES* 267 (Landon E. Beyer & Michael W. Apple, eds. 1998); Michalinos Zembylas, Charalambos Vrasidas & Marina S. McIsaac, *Of Nomads, Polyglots, And Global Villagers: Globalization, Information Technologies, and Critical Education Online in 1 CURRENT PERSPECTIVES ON APPLIED INFORMATION TECHNOLOGIES: DISTANCE EDUCATION AND DISTRIBUTED LEARNING* 201 (Charalambos Vrasidas, & Gene V. Glass, eds. 2002).

⁶⁵ MW, *supra* note 6, at 9, 58.

tional practice – much of the research literature supports this view.⁶⁶ If the change is to be successful, those of us involved in transformative learning needs to give thought to the management of change within organizations, whether that be a law school or a law firm or some other legal service provider. Such change is always contingent upon local circumstances: of personnel, of hardware and software, of educational aims, the needs of a specific discipline or pattern of work, the horizon of what is possible on a particular course, in a particular office, the often complex problems of timetabling, diarizing and so on. This is hardly surprising, for the management of learning is really only another version of the management of culture change. Often, high-end theory, either educational or legal, has little to say about this.⁶⁷ And as much of the research points out, it is the ground-up perceptions and moves for change that come from teaching staff that are most likely to succeed in the long-term. Hannan and Silver point this out, emphasizing the contingency of change: “initiatives to improve teaching and learning that were located in a department . . . were more likely to succeed”, and were more like to be sustained when grown from within a department or unit, than imposed from without.⁶⁸

If this is true of higher education, it is true also of professional learning in law firms. There a need for imaginative and creative applications that support what fee-earners and others do in every day practice, and produce learning designs that enhance, enchant and engage practitioners. Drills and skills, mini-quizzes, talking heads and the like can go so far in ensuring compliance. But if learners are to return from learning to everyday tasks feeling they have learned significantly, they need attractive environments, integration of knowledge and purpose and above all activities that draw them into absorbing tasks and which retain the complex, multi-layered fragmented, random sense of reality while at the same time enabling them to reflect

⁶⁶ Ruth Holt, Martin Oliver & Claire McAvinia, *Using Web-Based Support for Campus-Based Open Learning: Lessons from a Study in Dental Public Health*, 10 ASS'N. FOR LEARNING TECH. J., 51 (2002); Paul Trowler, Joelle Fanghanel & Terry Wareham, *Freeing the Chi of Change: The Higher Education Academy and Enhancing Teaching and Learning in Higher Education*, 30 STUDIES IN HIGHER EDUC. 247 (2005); Jenny Waycott, *Reading with New Tools: An Evaluation of Personal Digital Assistants as Tools for Reading Course Materials*, 10 ASS'N. FOR LEARNING TECH. J. 38 (2002).

⁶⁷ Karen Barton, Patricia McKellar & Paul Maharg, *Situated Learning And The Management Of Learning: A Case Study*, 34 THE LAW TEACHER 141 (2000); Carol Weiss, *Nothing as Practical as a Good Theory: Exploring Theory-Based Evaluation for Comprehensive Community Initiatives*, in NEW APPROACHES TO EVALUATING COMMUNITY INITIATIVES: CONCEPTS, METHODS AND CONTEXTS (James Connell et al, eds. 1995).

⁶⁸ ANDREW HANNAN & HAROLD SILVER, *INNOVATING IN HIGHER EDUCATION: TEACHING, LEARNING AND INSTITUTIONAL CULTURES* 2 (2000).

on practice, and obtain feedback upon that practice. They also need powerful tools to create of such learning objects the programme of learning that they need for their own individual needs.

Is this possible? Yes – the experiments at the GGSL prove that is possible to create such authentic learning tasks, by defining authenticity as distributed intelligence within the world, and by using that intelligence in simulation and transactional learning. More than that – models of alternative, experiential educational structures such as clinic, simulation and transactional learning are absolutely necessary if we are to disengage from traditional educational models (which may have seemed appropriate for twentieth century classrooms but in many ways never were), and construct new models appropriate to the needs of our students and of education for justice in our democratic societies.⁶⁹

⁶⁹ In this respect, while there has been much progress made generally, particularly by the clinic movement, it remains to be renewed in each generation, each jurisdiction and law school, each class. Dewey pointed this out with regard to the notion of evolutionary progress in human affairs:

There is something pitifully juvenile in the idea that “evolution,” progress, means a definite sum of accomplishment which will forever stay done, and which by an exact amount lessens the amount still to be done, disposing once and for all of just so many perplexities and advancing us just so far on our road to a final stable and unperplexed goal (MW *supra* note 3 at 14, 197).

APPENDIX 1: SIMPLE PROJECT PHASES, OUTPUTS AND OUTCOMES

Project phases***Phase 1***

Project management, formation of detailed project plan, milestones, specific deadlines for all project deliverables; specific roles and responsibilities of the partners and team personnel. Creation of project web site and communications plan for entire project and beyond. Continuous project management.

Phase 2

Specification of an open source platform for the delivery of TLE projects. Liaison with case study staff on task design and implementation issues.

Phase 3

Development of open source, open standards platform to enable the creation, delivery and management of TLE projects

Phase 4

Use-case approach of task design and use, based upon case study sites within Strathclyde University. Use case study of SLI mobile collaborative learning within the university, where four virtual professional groupings, at least 16 students in total, would work with SLI laptops each within the TLE. Use case approach with implementation in three law schools in England and Wales.

Phase 5

Evaluation of student learning, of staff roles and experiences, of administration roles and integration, and organizational issues arising from large-scale implementation. Dissemination of evaluation results at conferences, road-shows, seminars and in papers to be published in peer-reviewed journals and as book chapters. Dissemination of SIMPLE as a fully-functioning environment, free, to interested parties in HE and FE.

Phase 6

Post-project. Dissemination of project applications; further development of TLE within LTDU; archiving of all project documentation on the website for a minimum of three years *post*-January 2008.

Project Outputs

1. SIMPLE: a suite of tools within a simulation environment
2. Technical volumes, including manuals and designs
3. Educational guidelines and advice as to best practice in the design and use of simulations and serious games, and assess-

- ment of students using these tools
4. Completed case studies of the use of the TLE across all collaborative departments and schools
 5. Community of practice within the participant departments as a nucleus for further development, clustered around a CoP website
 6. Knowledge and experience shared in workshops, roadshows (particularly with HE Centres such as UKCLE and other HE Centres associated with the project, eg Architecture)
 7. Conference papers; published articles; currently also investigating the possibility of an edited book arising from the project
 8. Project web site
 9. Project completion report

Project Outcomes

1. Enhancement of student learning across professional curricula in FE and HE
2. Simulation environment that can be used by both students in FE and HE, and by professional training organizations, thus bridging forms of learning between academic programs and continual professional development
3. Tool suite that will enable staff to engage with students in simulations that site learning firmly within professional contexts
4. Contribution to research on the use of e-simulations and professional learning, and mobile learning; and large-scale implementation within an institution
5. Awareness-raising among staff of the usefulness of simulation learning techniques for undergraduate and postgraduate curriculum design and teaching
6. Collection of case studies across the professions