

Facts and Figments. Imagination and Reality in Design-Build Education.

Conventional architectural pedagogies have evolved to fit the design studio model. With the increasing use of Design-Build-Live projects in contemporary architectural education, we need to develop a theory of learning and teaching appropriate to the particular contexts and opportunities of Design-Build-Live project education. This paper explores the complex relationship between imagination and reality and their role in shaping a live project pedagogy.

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INTRODUCTION

This paper draws upon an analysis of case study projects submitted to the Live Projects Network¹ and suggests that live projects are not as real as they are often perceived to be.² How many live project educators involve students in the total reality of the project that includes everything from early negotiations with the client, the raising of funds, seeking regulatory permissions and engaging with post-occupancy issues arising, often post-graduation? The term live project will be used throughout the paper, with Design-Build education being considered as being within the field of live project education.

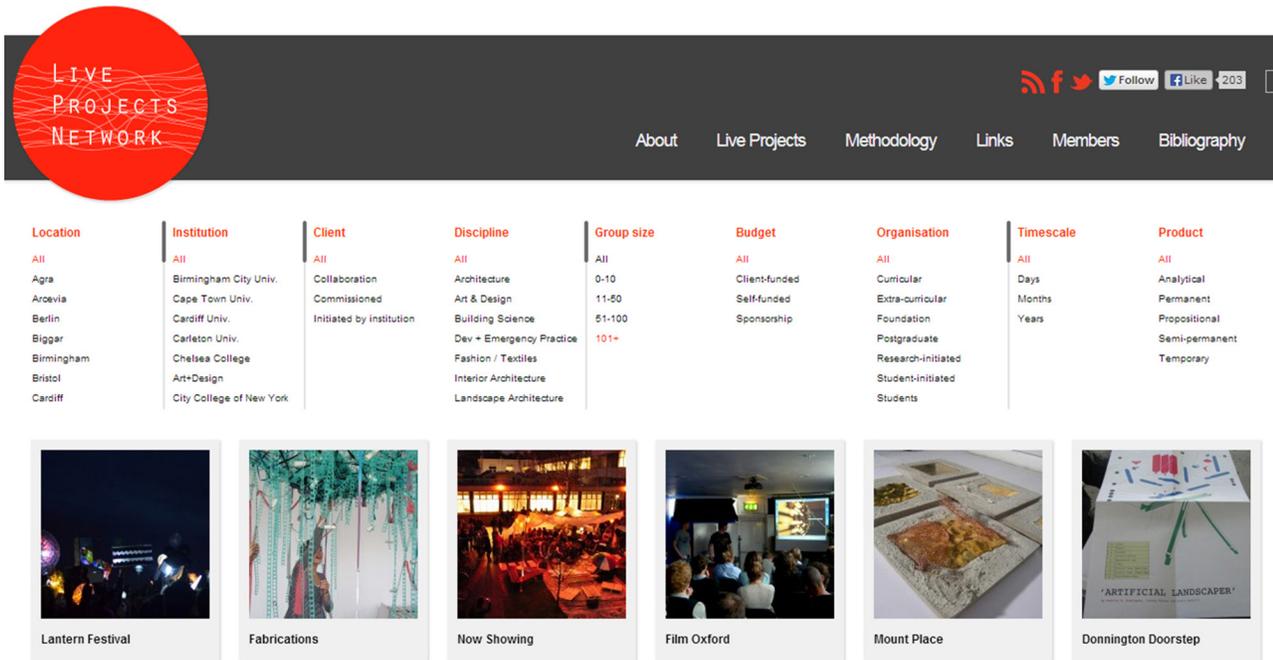
This paper reflects on imagination and reality in architectural design³ through two case study live project collaborations. One with The Story Museum and one with a community archaeology group that illustrate the interrelationship between fact and fiction as well as the material and ideal significance of cultural artefacts in the activity of architectural design.

A sociocultural view of learning as advocated by L. S. Vygotsky and Lave and Wenger is employed.⁴ Learning as a “person-in-the-world”⁵ distinguishes live projects from design studio and professional projects. Architectural design is a creative pursuit with a practical application in a social context. Vygotsky acknowledged that both imagination and reality are active and related to learning in the social world.⁶ It is unhelpful that reality and imagination are often conceptualised as a duality between architectural practice and theory. These tensions between reality and imagination already present in architectural education seem to be brought to the surface by live project education which is located simultaneously in the world and in the university.⁷

WHICH REALITY?

“The so called real world”.⁸

— John Hejduk



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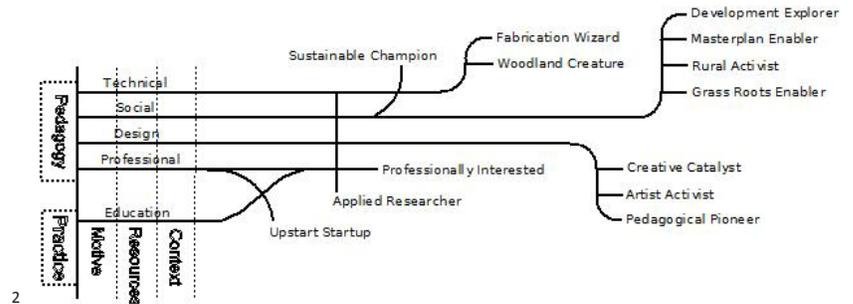
Conventional contemporary design studio projects are ostensibly (although rarely entirely) freed from the constraints of reality. Live projects are ostensibly totally immersed and engaged with reality. Criticisms arising from this dichotomous view of contemporary architectural education are that the theoretical opportunities of the conventional design studio model have led architectural education to become too detached from contemporary practice (perceived as the reality), making education irrelevant to practice. On the other hand, the practical, ethical and resource restraints of live project education have been criticised for restricting the ambition and creativity of realized projects and by extension, the learning derived from them. Any portrayal of conventional design studio and live projects as a dichotomy is misleading. Both are predictive pursuits that use imagination to engage with the reality of the future context that they hope to occupy.

If we make the presumption that professional practice projects are real, live projects are very different from them in some fundamental ways. Architecture students are not professional architects. Real architects rarely construct their own designs in the way that live project student architects often do. Only a fraction of professional projects are realized all the way through to construction. Most live projects manage to conclude at the point pre-agreed between university and external collaborator. One can begin to question which is more real – professional or live projects?

If we take professional practice to be primarily concerned with the realisation of projects rather than a simplistic view of practice as being real, we can identify differences between the reality of a live project, a design studio project, and a professional project.

The Live Projects Network is an international online resource founded in 2012 by the author in collaboration with Colin Priest. It aims to “share best practice, encourage dialogue and contribute to the establishment of a theoretical basis for the study of live projects.”⁹ Ninety-seven case study projects were submitted to the Live Projects Network between April 2012 and July 2014. The case studies are located across five continents. Following an analysis of the available data it was possible to establish

Figure 1: *Live Projects Network*



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some trends and patterns in live project practice. Thirteen live project models were identified and a provisional taxonomy devised.¹⁰

A qualitative analysis of primary motivation revealed a surprisingly small number (7%) of live projects with the primary aim of engaging with professional practice.¹¹ Live projects do tend to be shielded from accusations levelled at design studio projects of being irrelevant to practice. Despite this, the data suggests that the reality of practice is not the reality that most live project educators chose to align with. There may be good reason for this. If students came to believe that they were practicing professionals when engaged in live projects, this untruth would render the project effectively unreal. The position of Legitimate Peripheral Participation appears to be an appropriate one for students engaged in live projects to adopt. This position acknowledges that “learners inevitably participate in communities of practitioners and that the mastery of knowledge and skill requires newcomers to move toward full participation in the sociocultural practices of a community.”¹²

ANALYSIS OF IMAGINATION AND REALITY IN A LIVE PROJECT COMPARED TO DESIGN STUDIO AND PROFESSIONAL PROJECTS.

“An idea of fabrication emerges”¹³

—John Hejduk

Drawing on the analysis of the Live Projects Network case study, fifteen characteristics of practice, live project and design studio projects were compared. It was observed that live projects tend towards practice reality in matters of realization (e.g. a fully realized building is possible). Live projects tend towards the reality of the design studio in matters related to their shared educational identity (e.g. participant status remains that of a student). Live projects exceed the reality of practice in matters relating to certain roles neglected by professional architects (e.g. designers engage with construction). Live projects occupied a middle ground between practice and design studio in matters relating to resources (e.g. scale, complexity and time scale are negotiated to suit academic requirements as well as those of the external collaborator).

Any pedagogy of live projects needs to consider which parts of the reality of professional practice or design studio the project can and should engage with. This presents several dilemmas. Students report high levels of motivation when engaged with live projects.¹⁴ Are they motivated because they mistakenly believe that they are acting as professionals, by the expectation that they will gain skills and knowledge relevant to their future careers or are they stimulated by their immersion in an authentic context? Live projects are normally very carefully planned and managed by educators to succeed in their aims and meet learning outcomes. Will learning be affected if students are exposed to the risk that the project will fail? How is trust between learner and educator affected by a project that does not conclude as planned? How

Figure 2: Provisional Taxonomy of Live Projects

does this affect motivation and attainment? Do institutional structures penalise students and educators for engaging with learning from failure? Is a commercial imperative or a valid departure from the syllabus acceptable? Should any professional activity be carried out in collaboration or competition with practitioners?

One issue that unites practice, live and design studio projects is that a mixture of reality and imagination are present in both architectural design and in learning. Perhaps it is more helpful to think of practice as a place primarily for the realisation of projects and the educational design studio as a place primarily for the theorisation and pedagogy of architectural design. Live projects are the site of all three: realisation, theorisation and pedagogy. They are located simultaneously in the world and in the educational institution.¹⁵

CASE STUDY 1: THE STORY MUSEUM, OXFORD

“All are objects and all are subjects”¹⁶

— John Hejduk

The following case study describes conclusions drawn from journeys between reality and imagination made by students of architecture at Oxford Brookes University during a series of live projects for The Story Museum in Oxford in 2011-12.

The nature of the client, The Story Museum heightened awareness of the coexistence of reality and imagination in occupied spaces. The first project entitled, *Fabrications* was to design and build storytelling spaces. The evocative atmosphere of its semi-derelict post office building provoked the creation of new stories and the embroidering of existing ones. The brief required students to reflect on this by drawing and writing stories about what the space might become as part of their site analysis. The storytelling spaces were constructed from found objects and materials, adding further layers of stories drawn from elsewhere. These everyday objects, scavenged by students with a budget of £50 were transformed when activated by designers and users, introducing the concept that objects are infused with cultural meaning.

The next project to design a Story Tower was to generate ideas for The Story Museum’s aspiration to join Oxford’s dreaming spires. Although the intention was real, its unknown date in the future meant that this project was more speculative. It culminated in the making of 1:20 models of each tower. The Story Museum then unexpectedly invited the students to collaborate with a writer to exhibit these models in an installation entitled *Tall Tales* as part of their *Other Worlds* exhibition. Returning to the post office five months since their last visit the students commented that “It hasn’t changed!” as if they expected the building to have sprouted the towers that they had imagined. It was decided to exhibit the towers as silhouettes rather than display their material reality as architectural models. This was done to allow visitors to imagine for themselves what the skyline could become.

In these projects it was necessary to be explicit about the interplay of reality and imagination in the design process to help students to negotiate the constant movements made between them. This was particularly important because not only were the projects about stories, they were also real. They were also real in different ways ranging from construction and occupation, to ideas generation, to reinterpretation and reconstruction for a new audience. At every stage both reality and imagination were present but in subtly different ways. This series of live projects enabled students to work with the “evolving and negotiated future context”¹⁷ characteristic of architectural design that blurs imagination and reality. This experience gave students the opportunity to absorb this understanding into their design process.



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Figure 3: *Foreword*, storytelling space made from binary print cards. Fabrications project by OB1 LIVE, Oxford Brookes School of Architecture for The Story Museum, 2011

THE ROLE OF IMAGINATION AND REALITY IN THE ACTIVITY OF DESIGN.

“Actual thought is of no substance. We cannot actually see thought, we can only see its remains.”¹⁸

— John Hejduk

If we take a sociocultural approach and conceptualise the reality of practice, live projects and the educational design studio as three different and equally authentic contexts we can begin to find appropriate pedagogies to apply in each. In order to explore this, Vygotsky’s pedagogical and developmental theories will be discussed and reference made to Lave and Wenger’s conception of situated learning via *legitimate peripheral participation*.¹⁹

“If pedagogical practices are understood as those which influence the formation of identity as well as learning outcome.....then a form of social theory is required that will allow us to model and investigate the processes of education”.²⁰ Vygotsky’s multi-disciplinary approach enabled a psychological understanding to be integrated with the sociological. Lave and Wenger’s study of apprenticeships²² found that telling stories is central to establishing an identity for the learner within a community of practice. Live projects enable the learner to begin to imagine themselves in their future professional role and to role play. Most students of architecture will not have had much opportunity to observe themselves in this role or to talk about it. It is therefore an important concrete experience for them to absorb.

Vygotsky’s concept of a *Zone of Proximal Development (ZPD)*²³ is the place where artefacts are used as mediators and where the social and individual are considered together.²⁴ The ZPD is the distance between a child’s level of development when acting independently and the higher level of development that can be reached when activity is collectively generated. van der Veer and Valsiner²⁵ caution us to remember to be critical when considering the effectiveness of the intervention of these socially dictated others on the individual’s development. This critique of the ZPD is useful when considering a context where adult architectural students are operating in an authentic context such as a live project. It should be borne in mind when we ask which parts of the reality of any context a live project should engage with.

Vygotsky and his colleagues introduced the concept of mediation as the means for culture to influence psychology and learning. A subject can choose to influence an object by using a tool or artefact. The artefact can be physical such as a hammer that is used to physically alter a material object. It can also be psychological or human²⁶ and used to change mind and behavior. Psychological artefacts can include language, counting systems, symbols, works of art and mechanical drawings.²⁷ The role of the tutor as a mediator is an important factor that distinguishes live projects from practice and apprenticeship. The sociocultural context of learning in the world is altered by the tutor’s presence there.

One must also be conscious of the “objectification”²⁸ of artefacts. The artefact has been produced for a certain human use. It has therefore become imbued with cultural meaning. It is now both a material and an ideal artefact.²⁹ This concept is helpful when considering both the activity and products of live projects. Even the most prosaic of designs are imbued with cultural meaning making it impossible to separate imagination and reality, the ideal and the material. This complexity is exaggerated in live projects because they simultaneously occupy two different contexts (with their different realities) as defined by the realms of practice and education. Students and tutors need to be conscious of the interplay of imagination and reality in order to understand the process of their own creative production. They need

to be able to articulate and manipulate the ideal and material qualities in cultural artefacts in order to negotiate the ethical imperatives of live projects, particularly when operating in unfamiliar cultural contexts.

CASE STUDY 2: ARCHEOX ARCHAEOLOGICAL COMMUNITY GROUP, OXFORD

“He was shown documents, writings, drawings, and paintings of mythical animals and yet simply could not be convinced of their existence”³⁰

— John Hejduk

A live project in 2013-14 for Archeox, a community archaeology group, gave us the opportunity to explore the significance of reality and imagination when working with cultural artefacts. Archeox had trained local people to excavate two sites in the area where they lived. They had uncovered a leper colony at the site of a medieval chapel and evidence of its later occupation by seventeenth century Civil War soldiers. Students of architecture at Oxford Brookes University were commissioned to design and install an exhibition of twenty-four small artefacts at the Pitt Rivers Museum, Oxford. This was followed by an ideas generation project to design a Small Museum of Things. This local museum is to house Archeox’s collection and the hope is to locate it close to the chapel in the derelict house of a Victorian pioneer photographer, Henry Taunt whose photographs had helped Archeox to carry out their research.

Although the finds were significant in revealing the history of the site, only a small number of the artefacts were of national or international significance. Archeox therefore allowed our students and members of the public to touch the finds. One group picked up a medieval crotal bell were amazed to hear it could still ring. This very direct contact with the artefacts deepened the engagement of students with the project and enabled them to alter their existing concepts of museums as places full of glass cabinets. Direct encounter with the artefacts as material objects and with the people who found them enabled students to understand that they needed to consider a mixture of research and storytelling. This mixture of reality and imagination was used to explore the original use of the object, its physical and cultural context, to explain the circumstances surrounding the disposal or loss of the object, to establish the circumstances surrounding its recovery and to understand that, like architectural design, the science of archaeology is mixed with elements of uncertainty and imagination as it attempts to reconstruct the story of each artefact.

THE ROLE OF IMAGINATION AND REALITY IN THE ACTIVITY OF LEARNING.

“Our kindergarten teacher...instilled in us the idea that individual creativity within a willing community of students is a profound social act.”³¹

— John Hejduk

Having considered the role of imagination and reality in the activity of design, in the development of the identity of a learner within their community of practice and the coexistence of ideal and material qualities in any cultural artefact, a discussion of the role of imagination and reality in learning itself now follows.

Vygotsky made some subtle observations on the changing nature and role of imagination and its relationship with reality as we develop from childhood, through adolescence, to adulthood. The following discussion will look in particular at chapter 12 of his *Paedology of the Adolescent*. The chapter is titled *Imagination and creativity of the adolescent*.³² Vygotsky’s developmental findings help us to understand how we learn to implement creative ideas. He also notes that certain traits characteristic of childhood can persist into adulthood. To summarize Vygotsky’s findings on the role of imagination in human development from childhood, through adolescence, to adulthood:



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Figure 4: Exhibit for a medieval silver coin dated as 1180-1189, *Found Objects* project by OB1 LIVE, Oxford Brookes School of Architecture for Archeox, 2013

ENDNOTES

1. Jane Anderson and Colin Priest, 2012. *Live Projects Network*. [online] Available at: <<http://liveprojectsnetwork.org>> [Accessed 18 August 2014].
2. Jane Anderson, "Woodland Creatures and Fabrication Wizards. Resources, Product, Context and Motivation observed in a Taxonomy of Live Projects", Proceedings of *Living and Learning, the 2nd International Conference of the Association of Architectural Educators Conference 2014*, Sheffield, University of Sheffield, 3-5 September 2014. [online] Available at: <<http://aae-conference2014.wordpress.com/abstracts-and-proceedings>> [Accessed 20 September 2014].
3. Jane Anderson and Colin Priest, "Fabrications for The Story Museum. What year one students and John Hejduk can teach us about reality and imagination in architectural design", Proceedings of *Writingplace. Conference on literary methods in architectural research and design*, Delft, TU Delft, 25-27 November 2013.
4. *An Introduction to Vygotsky*, ed. by Harry Daniels (London: Routledge, 1998), p.144.
5. Jean Lave and Etienne Wenger, *Situated learning. Legitimate Peripheral Participation*, (Cambridge: Cambridge University Press, 1996), p. 52.
6. Lev Semyonovich Vygotsky, "Imagination and creativity of the adolescent", *Pedagogija podrostka* [Paedology of the Adolescent] (Moscow-Leningrad: Uchebno-Pedagogicheskoe Izdatel'stvo, 1931) in van der Veer and Valsiner, 1996, pp. 266-288.
7. Jane Anderson, "Undercurrent: swimming away from the design studio", *Charrette. The Journal of the Association of Architectural Educators* 1(1), June 2014b, pp. 3-19. [online] Available at: <<http://ingentaconnect.com/content/arched/char>> [Accessed 20 September 2014].
8. Mark Linder, *Nothing less than literal. Architecture after Minimalism*, (Cambridge, Massachusetts: The MIT Press, 2004), p.181.
9. Anderson and Priest, 2012.
10. Anderson, 2014a.
11. Ibid.
12. Lave & Wenger, p. 29.
13. John Hejduk, *Education of an architect: A point of view, the Cooper Union School of Art & Architecture*, eds. by Ulrich Franzen, Alberto Perez-Gomez and Kim Shkapich (New York: The Monacelli Press, 1999), p. 23.
14. Ruth Morrow, Rosie Parnell and Judy Torrington, "Reality versus creativity?" *CEBE Transactions*, 1 (2) (2004), 91-99. <<http://www.cebe.heacademy.ac.uk/transactions/pdf/RuthMorrow.pdf>> [Accessed 21 August 2014].
15. Anderson, 2014b
16. John Hejduk, *The collapse of time and other diary constructions*, (London: The Architectural Association, 1987), p. 56
17. Ibid.
18. John Hejduk and Richard Henderson, *Education of an Architect*, eds. by Elizabeth Diller, Diane Lewis and Kim Shkapich, (New York: Rizzoli, 1996), p. 340.
19. Lave and Wenger, p. 29.
20. Harry Daniels, *Vygotsky and Pedagogy*, (London: Routledge / Falmer, 2001), p. 1.

Children are concrete thinkers making drawings that represent real things that they have seen. They play with objects that represent real things. Vygotsky observes that the fantasies of children are not as original as commonly portrayed. He notes an absence of critical judgement and explains that "a child's vivid fantasy is conditioned not so much by the richness of his ideas, but by the fact that it is accompanied by a greater intensity and is more likely to arouse his emotions."³³

Adolescents retain concrete thinking but their imagination is infiltrated by abstract thinking. Drawings and toys are no longer used to support memory. Drawings now serve imagination and play is replaced by daydreams. Conceptual thinking makes adolescent imagination richer than a child's. Emotional needs remain intense but can now be satisfied by creative expression rather than play. In deference to the location of this conference, the fictional character Anne of Green Gables, an imaginative eleven year old helps us to understand this transitional stage of development. Driving to her adoptive home in Prince Edward Island for the first time she is struck dumb as she passes through a beautiful avenue of apple-trees that she later re-names *The White Way of Delight*: "with rapt face she gazed afar into the sunset west, with eyes that saw visions trooping splendidly across that glowing background...."It's the first thing I ever saw that couldn't be improved upon by imagination....It just satisfied me here" – she put one hand on her breast"³⁴ Vygotsky names this emotional aspect of imagination as "subjective fantasy"³⁵ and describes adolescents as becoming capable of "objective fantasy". Adolescents can use imagination to transform one concrete thought into a different concrete thought via abstract thinking.

Adults still retain some concrete thinking but are also able to create new concrete thoughts by integrating abstraction and concepts from the start. Vygotsky describes the importance of this developed objective imagination:

"where creation of some sort of new concrete structure, a new picture of reality, of a creative embodiment of some sort of idea, becomes indispensable for the process of understanding or the process of practical activity, there we find fantasy coming to the fore as a basic function. It is with the help of fantasy that not just literary works, but all the scientific inventions and technical achievements are created."³⁶

Here Vygotsky gives clear expression to the relationship between imagination and the creation of a physical reality that is familiar to those engaged in the architectural design process. It is also interesting to note the importance of engagement with real material objects as a necessary aid to concrete thinking and that concrete thinking persists to some extent into adulthood. This may contribute to another explanation of students' motivation during engagement with live projects. If these concrete experiences are novel, they will help students to form concepts related to them. Perhaps these encounters with real materials, contexts and people are becoming increasingly important for generations growing up with limited access to these types of visceral experiences.

Relating this to the earlier discussion about the cultural meaning of objects, it seems logical that the pedagogical significance of encounters with materials, contexts and people becomes magnified for students of architecture who are learning to use cultural artefacts such as drawings and are learning to produce cultural artefacts such as buildings.

CONCLUSION. A PEDAGOGY FOR LIVE PROJECTS.

In summary, the stimulation to learning provided by an authentic context is important on several levels. Its reality enables concrete thinking, a necessary step in development that leads to the abstract thinking needed for creative productivity and therefore for the process of architectural design. The reality of an authentic

context is stimulating to the imagination because the artefacts found within it possess both material and ideal qualities. This condition of the co-existence of reality and imagination is particularly relevant to architects whose purpose is to use these cultural artefacts (such as drawing) to create new cultural artefacts (such as buildings). For students learning to become architects, the opportunity to interact with people in an authentic context gives them the opportunity to role play. They are able to imagine themselves in the role and to establish an identity for themselves within the culture of practice that they wish to join by learning from the stories of “old timers”³⁷ with the inevitable mixture of fact and fiction found within any story. Therefore a pedagogy devised to encourage learning within a specifically live project context would be clear about the identity of a student as a legitimate peripheral participant. It would recognise the authentic context of the live project as being located simultaneously in the world and in the educational institution. It would be devised with the understanding that the interplay between reality and imagination play a crucial role in human development and learning that persists into adulthood. It would articulate clearly the steps taken between reality and imagination in every design process. It would support understanding of the ideal and material qualities in any cultural artefact employed in, and resulting from, creative production. It would provide opportunities for collaboration, not just with the community and clients, but with practitioners to enable greater opportunities for engagement with professional practice as a context that is distinct from the live project context and also to enable practitioners’ stories to be passed on to students. Students and tutors would understand the importance of being critical of the effectiveness of the mediation provided by any external input. Finally, such a pedagogy would be conscious of the role of the authentic context and practitioners in helping the learner to develop their identity within their “community of practice”.³⁸

21. Daniels, 2001, p. 6.
22. Lave and Wenger, pp. 108-9.
23. Lev Semyonovich Vygotsky, *Mind in Society*, (Cambridge, Massachusetts: The MIT Press, 1978), p. 85-6 in Daniels, 1998, p. 4-5.
24. Daniels, 1998, p. 7.
25. *The Vygotsky Reader*, ed., Rene van der Veer and Jaan Valsiner, (Oxford: Blackwell Publishers Ltd, 1996) p. 6.
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27. Lev Semyonovich Vygotsky, “The instrumental method in psychology”, in *The Concept of Activity in Soviet Psychology*, ed. J. V. Wertsch, (Armonk, NY: M.E. Sharpe 1960/1981), pp.136-7 in Daniels, 2001, p.15.
28. David Bakhurst, “Lessons from Ilyenkov”, *The Communication Review* 1, 2: (1995), p.160 in Daniels, 2001, .p 21.
29. Daniels, 2001, p.23.
30. John Hejduk, “Zoologist” in *Adjusting Foundations*, ed. Kim Shkapich, (New York: The Monacelli Press, 1995), p. 41.
31. John Hejduk, *Schools of Architecture*, ed. Bart Goldhoorn, (Rotterdam: NAI Publishers, 1996), p. 9.
32. Vygotsky, 1931 in van der Veer and Valsiner, 1996, pp. 266-288.
33. Ibid, p. 280.
34. Lucy Maud Montgomery, *Anne of Green Gables*, (Harmondsworth: Puffin Books, 1982), p. 21-2.
35. Vygotsky, 1931 in van der Veer and Valsiner, 1996, p. 283.
36. Ibid, p. 285.
37. Lave & Wenger, p. 29.
37. Ibid, p. 29.