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Dialogue and studio space: the architectural design studio as the setting for continuous reflection

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problem based learning;
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Abstract

Teaching and learning in the design studio aims to continuously offer the learner opportunities to relate their individual experience to the discourses shaping the professional field through an iterative process of inquiries, reflection and actions. This paper highlights the role of level-specific dialogue in the provision of design studio teaching at the early stages of the student's journey toward professionalisation.

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It will be suggested that the Problem-Based Learning model enshrined in the idea of studio teaching alone does not facilitate for a sufficiently refined and truly reflective learning experience. By looking at a range of publications on the reflective practitioner, I hope to focus the discussion on the diachronic nature of dialogue in the disciplinary context of architectural education.

The discussion of a number of case studies from the First Year provision at the CASS School of Architecture will illustrate a participatory approach to the dialogical scaffolding of early learning experiences and the assessment of generated outcomes as the conceptual framework of dialogical learning in the design studio. It will be argued that sustaining a dialogical process, based on multi-voiced provision, can contribute to the continuity of the learning experience at advanced levels of undergraduate studies, while critically addressing concerns raised about traditional studio teaching practices.

1. Introduction

The discipline-specificity of acquired competencies the Situated Learning concept evokes is particularly relevant to architecture, given that architectural education in the UK is subject to validation by professional bodies; more specifically the Royal Institute of British Architects (RIBA) and ARB (Architects Registration Board). Each school of architecture has to periodically demonstrate its compliance to the curricular framework set by these external professional bodies. The validation of a course by the RIBA aims to ensure that the academic journey students undergo at the institution in question is framed by the curricular standards and contents that lead to adequate professional skills required for achieving the status of chartered membership of the RIBA upon graduating with validated qualifications. The learning experience enabling the production of 'design studio projects' is thereby regarded as central to the acquisition of discipline-specific knowledge and skills. In practical terms, the RIBA validation criteria stipulate that a validated school of architecture is required to demonstrate that at least 50% of all assessed work at any level of study is undertaken as design studio projects. Yet, despite such a clearly defined frame for the application of theory, the term domain of interest can no longer be uncritically adopted. On closer inspection, a set of problems emerges, which puts studio teaching in an apprenticeship model at the heart of a wider debate on the scope of HE. These will be shown to critically impact on the importance of dialogue as an integral part of studio teaching provision on undergraduate courses.

In this context, the focus of this paper is a learning experience that encourages and promotes reflection and, in its later stages, dialogue. It will be illustrated that, unless qualities of a social practice are actively pursued by the adaptation to experience-centered forms of problem-setting, provision of formative feedback, and accompanied by the promotion of self and peer-to-peer assessment at different stages and at different levels of learning, the opportunities to develop a reflective learning provision can be compromised.

I will revisit the ideal model of the studio as the realm for reflection-in-action (Schön, 1985), and the teaching principles design teaching can engender with regard to reflection and dialogue. In a second step, I will use the discipline-specificity of formative feedback devices as a vehicle to discuss the different stages learners and facilitators undergo on the challenging journey of defining themselves in the context of architectural education within today's landscape of HE in the United Kingdom.

2. The design studio as the stage for reflective learning

2.1 Whose interest? The design studio and the domain of interest.

The architectural design studio, sometimes referred to as a mock-office, can be taken as the almost literal illustration, or physical analogy, of a domain of interest where a community of practice can build competency through the acquisition of

soft skills, as well as the development of discipline-specific literacy (Lave & Wenger, 1991). For architecture students, the studio experience resamples an apprentice workshop: the studio as physical, as well as a social space, dedicated to the common pursuit of investigating design through informal modes of exchanging developing insights, drawn from experimentation on a trial and error basis, and individually advancing the refinement of hard skills such as drawing, making and modeling. In each scenario, the exchange between novice and advanced learners that occurs in the shared space (often unsupervised by a facilitator) can be instrumental to the dynamic development of competency that the social learning model suggests. The studio culture, defined by all participants as a mode of interaction around a discipline-specific subject, mimics the informal modes of acquiring, appropriating and sharing of knowledge of everyday social interactions.

Even if we want to accept the apprenticeship model as a suitable analogy, we need to start asking more fundamental questions about the very notion of Situated Learning with regard to the political premise we encounter in the contemporary climate of educational practice in architecture schools around the UK. The studio must hereby be regarded as part of a wider context; as sitting within the scope of an architecture curriculum embedded in an institutional framework of Higher Education. This conversation is particularly timely as the term 'studio' is used more loosely today, given the drive toward a teaching and learning provision that is based on digital interfaces. The wide use of computer aided design (CAD) tools has impacted greatly on the way institutions evaluate the spatial needs of architectural learners. In a period of great expansion of courses and cooperative recruitment strategies that impact on the provision of learning spaces, it is important to draw out the socio-political aspect of learning about architecture in the physical studio space.

The wider perspective on the principles of acquiring knowledge can serve as an introduction to the argument in defense of physical learning spaces for architects. Barnett establishes his critical distinction between knowledge and knowing (a process conducive to the learners' experience of epistemic becoming), by pointing out the importance of a curriculum that reflects principles of personal development, and encourages the formation of epistemic virtue (Barnett, 2009; Brady & Pritchard, 2003). Barnett's argument is driven by the concern that conventional means of education, based on a one-directional delivery of knowledge as a set of predetermined certainties might undermine the scope of HE to aid the development of learners for whom knowing is an act of engagement in a process of becoming. Taking the aspect of becoming as the yard stick of development, one could argue for a distinction to be made between receiving teaching input based on an individual learning experience that is potentially isolated from the community of inquiry of the studio space, and the dialogical feedback students give while working alongside each other in a workshop-like studio setting.

Barnett posits that the provision of knowledge alone does not sufficiently prepare for the complexity of a 'real world' (or professional) environment outside academia. This 'real

world' is in fact itself subject to an increasing complexity (Schön, 1985, p. 15) and demands preparedness, one might argue, for life-long engagement with learning that challenges traditionally assumed boundaries to professional practice as set out by regulatory bodies external to HE. Beyond the externally determined framework of learning objectives – i.e. those set by professional bodies such as the RIBA – a deeper engagement with learning as a process of becoming has to be regarded as a pedagogical imperative for today's architectural learners. The latter can be linked to a social experience, for which a stage needs to be provided. The rudimentary knowledge conducive to becoming an architectural learner is unlikely to be covered in individual feedback, which focuses on the representation of design ideas. The transferable skills of teamwork competency and dialogical problem-solving contribute just as prominently to the development of professional skills (as in the preparedness of continuously acquiring professional knowledge) as do the hard skills simulated on the computer screen. In this context the social aspect of learning to become an architectural professional can however not (yet) be simulated virtually. For the time being the physical studio space plays a critical role in the prospect of developing towards becoming and architect, in the sense of Barnett's proposition.

How does this problem of professional knowledge (Schön, 1985) translate to the present investigation? As one prominent critic puts it: "The regulation of architectural knowledge is directly prescribed by professional architectural practice through its statutory mechanism, the ARB" (Rhowbotham, 2012, n.p.). For the purpose of the current investigation, the very idea of a 'regulated domain' in the context of UK education will call for a distinction to be made between reflection in a teacher-centered mode of teaching (as envisioned by Schön), and the intentions framed by a dialogical approach to learning (Wells, 1999). A more detailed evaluation of the nuance of each approach can offer a better appreciation of what being an architect might imply for the learner whose knowledge of the domain advances through the social process of communicative interaction. The role of the teacher as a facilitator, even participant in dialogue, hereby becomes instrumental (Webster, 2004).

It must be noted that without a physical space in which the traditional *modus operandi* of architectural education can be challenged, the opportunity to advance the pedagogical ambitions of dialogical teaching might be compromised altogether.

The wider impact of dialogical learning in a design studio setting must extend to all forms of assessment, not all of which rely on the voice of the teacher. Without fundamentally undermining the principles of a community of practice and the teacher-centered expert/apprenticeship model, the emphasis on dialogue – the naturally occurring type of learning within a Learning Community (Flecha, 2000) – can enable a shared social experience where embedded, discipline-specific power relations can be subject to questioning, that takes place in the design studio.

2.2 Reflection as the basis for dialogue: adapting the problem-based learning paradigm.

In Donald Schön's (1985, 1987) theoretical appraisal of the architectural design studio, the term of Reflection-in-Action plays a central role. Briefly outlined, the concept is concerned with the nature of the discourse sustained between teacher (coach) and student in the context of problem-based learning in the studio as the setting that 'provides a venue for students to engage in conversation, dialogues and collaboration related to open-ended problems and encourages speculative exploration.' (Roberts, 2004). However, throughout his writing Schön highlights the potential problems traditional modes of transferring 'professional knowledge' to learners can cause in the field of architecture (Schön, 1987, p. 43). He recognises the valid critique to the potentially disempowering position of learners in the face of an extensive breadth of knowledge which the teacher engenders, spanning from science to artistry (Schön, 1987, p. 7). More specifically, in discussing the dilemma of relevance (Schön, 1985, p. 15), he returns to the problem of uncertainty, following John Dewey's epistemic paradigm, with regard to the relation between education and the professional field outside academia.

Over the years, critical emphasis has been laid on the discontinuous nature in Schön's model. Notably the critique often emerges from fields external to the domain of architecture. Bleakley (1999) puts forward the concept of Reflection-as-Action to be a more suitable concept for the process of attaining experimental knowledge from exercising certain practice-based, artistic processes. More recent studies (Hébert, 2015) focus on the inconsistencies in the concept of reflection in Schön's development of Dewey's Rationalist-reflective model towards a more immediate, experiential quality of knowing (Experimental-intuitive model). In the context of this paper, it is important to establish how the pedagogical principles of dialogical learning – which asks of both, learners and facilitators to cooperate in a discursive mode of critical reflection as a mode of learner empowerment – can inform a revision to the traditional dynamics between teacher and learner observed by Schön, without undermining the objective of initiating the learner to modes of disciplinary literacy required for professional practice.

Rather than using Schön's Reflection-as-Action model uncritically as a general framework for problem-based learning that allows for the primacy to the somewhat mythicised artistry of the teacher, one can observe from the outset of its introduction that its adaptation in operational studio teaching has required discipline-specific interpretation and refinement (see Concept-Test Model, Ledewitz, 1985, p4). A meaningful process of dialogical learning in the architectural design studio can be thereby derived from the specific modes of representation of knowledge the student of architecture engages with in her work.

Why is a distinction from the broader field of creative practice necessary? Everyone who has studied architecture in an art school will recognise the problem. Unlike other disciplines, architecture studies rarely produce the thing-itself (i.e. painting, sculpture etc.), but a representation

of 'projects'. Seeking solutions for large-scale problems, architecture students employ a certain degree of abstraction in objects-as-representation (i.e. architectural scale models, scale drawings, etc), from which often follows a divorce of media and product. Unlike in the other departments of the art school, any architectural proposition (unless built at full scale and using industrial building materials) tends to be a provisional representation of an idea of a project rather than the object itself. The preliminary detachment by the divorce of media and product of the representation of knowledge in the scale model of the projected building from the thing itself (the fully realised building) is instrumental to a discourse on qualitative aspects, that fosters the development of knowledge of the conceptual interrelation between formal, functional and spatial principles of architecture propositions. By these means, the production of objects-as-representation offers a platform for dialogue where learner and tutor engage with the projected object as a 'conversation piece' that facilitates for a discipline-specific investigation. In the process they can frame a discourse around architectural knowledge that extends beyond the formal acquisition of hard skills by touching on collaborative and discursive modes of design thinking. Deriving from the more traditional master-apprentice model, which foregrounds the disparity of experience between teacher and learner, dialogical teaching provision emphasises empowerment of the latter in the process of acquiring disciplinary insights based on scaffolded reflection. With relation to the design process, this process continuously acknowledges the provisional nature of representation (or simulation) and underpins the learner's iterative induction into the professional artistry of architecture by means of a discursive, co-authored process of inquiry, centered on the design process itself, rather than its outcome (see section 3).

The basic building stones of dialogue, it seems, are easily aligned with different stages of an architectural design process. Ledewitz (1985, p. 5) elaborating on Schön, emphasises the multiple design cycles which add critical perspective to the progress of learning, by enabling an iteration of 'testing' (possibly at different scales), 'each cycle represent(ing) the designer's best effort to solve a problem in terms of what he or she understands at that point.' Ledewitz explores methods of design teaching that mimic the process of design iterations in the professional office. Reflection is here described as independent learning through an action (experience), indicative for a design process that involves rational reflection. The design analogy allows for a cross-disciplinary comparison with other domains of practice, which seem to work on the similar principles of representation (rather than expression, which is more commonly identified as the aim of purely artistic practice and processes), and where similar studio teaching experiences seem to be valid. A cross-disciplinary perspective can aid the adaptation of a wider theoretical framework around dialogical pedagogy to the discipline specific setting. There is no need for architecture to idiosyncratically invent its own theory, as it is often implied by literature from within the field. Specifically, accepting the duality of architectural learning between an art and a craft, as described by Schön, does not have to stand in the way of adopting a wider view on how the design process can be described as a learning process, without the need to give primacy to mimicry of

office-like processes over the learner's formative experience as becoming. Let us consider this quote, which introduces the iterative process of learning as the basis of a holistic dialogical exchange between learner and facilitator:

"It [learning] must operate as an iterative dialogue; Which must be discursive, adaptive, iterative and reflective; And which must operate at the level of descriptions of the topic; And at the level of actions within related tasks" (Laurillard, 2002, p. 86).

Even though Laurillard's Conversational Framework model was not developed with the design studio domain in mind, Lee's (2006) adaptation of the teaching tool for the experimental learning in a design environment opens up a meaningful theoretical potential for process-based teaching and learning. For the purpose of this paper, the division of discursive or interactive levels established by Laurillard (see diagram below) invites distinction of academic and experiential knowledge (Lee, 2004), with the aim to diversify the modes of reflection teacher and learners engage in.

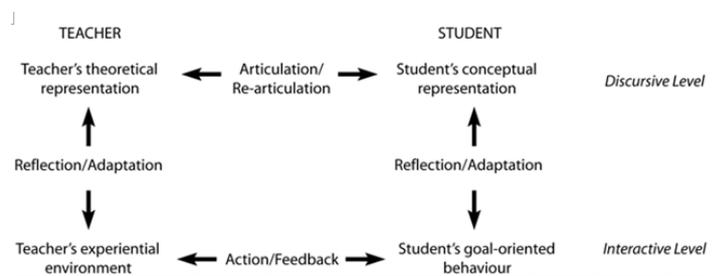


Figure 1: The Conversational Framework for the learning process

Source: Laurillard et al., 2000, reproduced in Lee, 2006.

Lee's original interpretation of reflection in a Conversational Framework highlights also self-assessment devices, such as written exercises at different stages of the design process (Lee, 2006, p. 18). The written component embodies the rationalist-reflective model described by Dewey, with the additional aspect of actively aiming to empower learners to record their own voice in the process of dialogue (Odgers, 2001). Writing is here not to be classified exclusively as an effective vehicle for self-assessment. As creative practice, it moreover fosters the social constructivist aspects of learning, by allowing learners to voice their existing knowledge and experience in the context of the encounter with the disciplinary domain. The opening of the domain to interpretation allows not only the learner, but also the facilitator to engage in a continuous process of reflection by means of dialogical principles.

In order to fully live up to the potential of an iterative dialogue, it is important to look specifically at the way problem-based learning tasks are set, bearing in mind the aim to underpin the above mentioned learning experience in the studio, in order to encourage modes of dialogue relevant to the development of the architectural learner.

3. Dialogue towards a preparedness for Higher Education

3.1 Process first: attempts on a dialogue around 'creativity' in the provision of First Year studio teaching.

For Schön, the paradox upon entering design education consists in the demand on the student who "cannot at first understand what he needs to learn, can learn only by educating himself, and can educate himself only by beginning to do what he does not yet understand" (Schön 1983, p. 93).

Tracey and Hutchinson (2016, p. 92) introduce the benefit of reflective writing for "students, particularly when they are novices in a field, may benefit from scaffolding to guide the reflective process, including prompts that encourage them to draw connections between course content and personal experience."

In the First Year of study, the process of learning through designing, i.e. a continuous questioning of the brief through the production of a series of experimental responses, can be aligned with a concept of 'creativity', where "the pedagogic goal is (...) not externally judged 'success' but individual growth, progress towards the ultimate aim of learner-independence. Thus, self-actualization is prioritized over subject-knowledge" (Dineen et al., 2005).

An example from personal practice experience can aid the illustration of this point. The widely popular diagnostic 'Beyond the Object' project (similar projects are run in other institutions), typically runs for the first month of design studies, when learners freshly enter the Higher Education environment. In the context of the current discussion, the exercise can serve us an example of how an open-ended exercise, where no 'right solution' exists, can facilitate for the encounter with the problem of 'thinking architecturally' (Schön, 1985). The project brief asks of novice students to find an object (don't buy it, don't steal it) and investigate its 'essence' through drawing, disassembling, re-assembling, change of scale and function, play with its spatial and material principles (reflective experimentation). In broader terms the fuzzy description of the problem is aimed to help learners to critically understand creativity as a process of iterative experiments, rather than a one-off 'idea'. Further, the brief can provoke an early form of dialogue with the learning facilitator (design tutor), who supervises a group of individual projects over the course of the first month. Here the first verbal foundations are laid for the development of subject-specific, disciplinary literacy concerned with modes and conventions of representation, the preoccupation with spatial principles and the foregrounding of experience as a central theme of spatial proposition.

After running the project for some time, we realised the formative significance of this first encounter with design teaching for the relationship between learner and teacher. The expectation of learners are often directed at the tutor as an 'expert', whose wisdom, expertise and sensitivity will add quality to their problem-solving process. It became

important to us to change this dynamic of expectation from the start, and set up a student-centered framework in order to flip the 'creative responsibility' into the court of the student. From the very first day students come in with a found object, they are asked to write a reflective apologia of not more (or less) than 200 words: 'Describe the object without naming it'. The emphasis is given on three questions: how is the object made? How is it used? Why is it interesting to you?

Using the 200-word framework, students are encouraged to write in any style they like, including non-academic styles such as poems, rap lyrics, song, first-person narrative, object-point-of-view, etc. The choice of representation of their ideas and interest is thereby with the learner, who aims to communicate their central ideas. Strictly in keeping with the principles of evaluating the success of such communication by measures applied by Buchanan (1992) to designing for wicked problems, learners make their first practical experience between the evaluation of propositions by criteria of it works /it does not yet work, rather than wrong/right. What is initially played out in the text-based exercise can later be translated to other types of representation. Without being overly conscious of the significance of their first 'creative manifesto' the students effectively re-write and customise the generic project brief by introducing individual perceptions of knowing, or what is already known or has been experienced. All subsequent discussions with the design tutors are based on the students 'authorship' over the project, to which the acquisition of hard skills will serve as an extension (or translation) of their creative practice of writing into a discipline-specific set of visual communication. The transition becomes the fundamental problem learners will iteratively address throughout all projects in their First Year.

3.2 Multiple- voices, towards a critical reflection of work in progress.

Central to the tutor's work in First Year remains the scaffolding aspect whereby learners are helped in the process of finding their own voice within the domain of architecture. Webster (2004) suggests that deep and transformative student learning can be aided by adapting McLaren's concept of the tutor as 'liminal servant' (McLaren, 1999), who consciously attempts to overcome the ritualistic modes of schooling, by perusing a student-centered perspective on communication in tutorials. (I should add that the terminology of 'servant' seems desperately unsuitable in the age of the privatisation of HE and its repackaging as a 'service'.) While Webster's valid points on the problematic dynamic of the one-to-one tutorial are certainly not to be dismissed (Webster, 2004), an attempt to mediate a dialogical process can be exemplified in a multi-voiced delivery of design teaching already practiced in some schools of architecture.

At the CASS School of Architecture, a whole-year provision of studio teaching (of a cohort of about 100 students per year) is in place of the first year of study. Learners are initiated into the course and subsequently supervised by two groups of design tutors on different days of the week. One day is run on the basis of a skilling workshop (hard skills) with emphasis of conceptual representation techniques. A

second day provides individual conversation where generic stages of learning are applied to individual projects through conversations with a 'personal tutor'. In addition, tutors providing in individual sessions are rotated for each new project (total of four projects a year). In effect, students are expected to engage in an iterative dialogue with a variety of conversation partners, where the constant factor is the record they sustain through their design work. This reflective record of their process makes up their individual portfolio of work. The aim of the portfolio is to document in a visual representation, aligned with professional standards, a record of the increasingly independent reflective process the student encounters in a variety of dialogues throughout the year.

A specific example to illustrate the process is the group-work project 'Making Furniture', which asks of our student to collaborate with the skilled makers in other departments of the CASS (Jewelry, Guitar-making, Textiles, Ceramic etc.) in addressing a problem-based learning exercise. The learning focuses on the acquisition and development of soft skills, as well as interdisciplinary knowledge exchange. In essence, the brief asks a team of students to collaborate with a specific maker, in order to conceptualise and build a piece of site-specific 'furniture' that is fitted in a specific place in the urban landscape (site). The furniture piece is at full scale, and the qualitative challenge is to 'translate' the essential means of making from a non-architectural scale, to one that corresponds to the scale that mediates between the human body and the urban setting.

The process of dialogue can encourage a more nuanced notion of knowing, whereby knowledge is not exclusively received passively from a central 'expert authority' (the design tutor), but constructed and negotiated through the evaluation of a multitude of viewpoints, including those of peers. Consistent with the problem-based learning paradigm, the 'advice' (or formative feedback) the group receives from tutors, technicians and so on, through a series of constructive conversations, is directed at pointing at possible ways of addressing the problems at hand independent of 'right or wrong' value judgments. This experience mirrors to some extent the feedback structure of the 'Beyond the object' project, but now includes an exchange that introduces the value of a peer-to-peer discourse on the aims, context and formal language of the project. The soft skill of teamwork, central to the inherently social design process in the discipline domain is therefore exercised. The ultimate meaning-making, in this case framed as designing through making, plays out on the experiential plane, through the physical construction of a conceptual 'furniture piece' in the school's workshops.

The project comes closest to Bleakley's (1999) description of Reflection as Action. It should be noted that, in terms of cognitive development, the experiential learning in the workshop can foster the advancement of discipline-specific modes of action, in relation to the independent knower concept posited by Baxter Magolda (1996) and others. She summarises that students (see Hettich, 1998, p. 57): 'learn independently; learn by using others; learn by direct action, learn by acting assertively; and learn by thinking for themselves.'

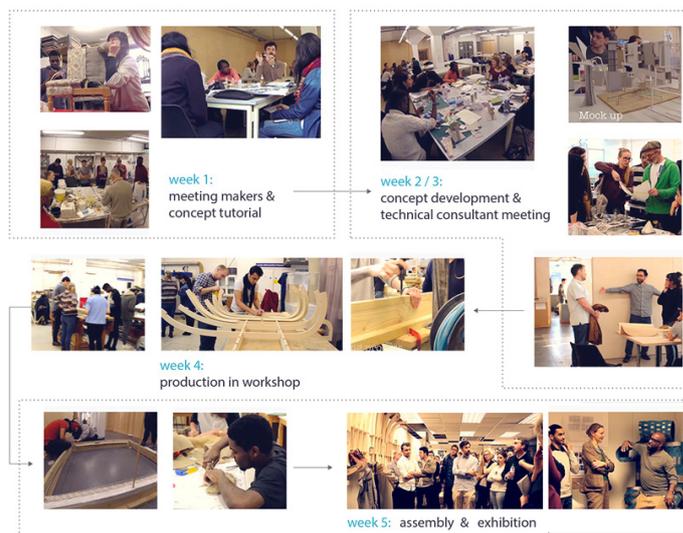


Figure 2: Stages of the design process for the 'Making Furniture' project

Source: the images are a series of stills taken from the short film 'Making It' that was made to document the process. The full version under: CASS: *Making It*. Accessed 11 May 2020. <https://www.youtube.com/watch?v=X0On16XtewY>.

Architectural schools which have strong workshop provision, supported by highly trained technicians (as London Met historically has been able to sustain), therefore have a proverbial 'ace up their sleeve' when it comes to implementing a pedagogical framework that encourages the continuous development of independent learning at all level of study (see Figure 2).

3.3 Assessing Dialogues: the portfolio review of the whole-year cohort.

Championing a dialogical approach to learning and teaching places the same demand of iterative reflection on the team of facilitators and on the individual tutor, as it is expected from the learners. The assessment of such projects offers another opportunity for dialogue, which challenges the teachers to critically evaluate the results of their teaching practice. The critical alignment of the principles of pedagogy around the student-centered paradigm of 'creativity' (Dineen et al., 2005) and becoming within the context of a regulated professional domain is sustained in the assessment of the First Year portfolio. The tutor uses the portfolio as a prop to 're-tell' the story of the learning process that the individual student has undertaken throughout the year. While the assessment of hard skills, such as representation through drawing, model making and a command of different scales is central to the decision made on pass or fail grades, excellence of work is attributed to portfolios which visually evidence a process of iterative experimentation indicative of a preparedness for future deep learning at degree level.

The summative assessment process offers an opportunity for the establishment of an environment where iterative reflection is normalised as a means of responding to logistic and curricular challenges, which often reflect in the overall quality of the result produced by any cohort. The final

assessment format also gives the tutors and course leaders the opportunity to reflect on their teaching practice by discussing the process the students undergo in First Year with their peers in a continuation of dialogical practice. The curricular 'certainties' handed down over years of delivering First Year studio teaching are thereby themselves subject to continuous questioning; an iterative work in process informed by the changing needs of diverse cohorts of students. In this context, the characteristic flexibility of the whole-year cohort model is evident: the large number of students who share a learning experience will not only effectively support each other by setting a variety of examples of diverse modes of 'good practice'. The larger sample of comparable results at the assessment point also allows a deeper reading of the aspect of the curriculum that works in pedagogy terms, as measured against the evidenced advancement of the cohort's disciplinary knowledge.

4. Continuous dialogue: the start of a discussion

4.1 Pedagogy and the market: the architectural studio in the age of multi-lateral competition.

The 'vertical studio' describes a delivery model where 2nd and 3rd year students are taught side-by-side in studio units (up to 25 students), which are run by architectural professionals who are contracted for teaching on a year-by-year basis. The architects (re-)enter the realm of academia with a specific research project, often aligned with their professional practice. These projects are pitched to both degree levels at the beginning of the academic year, which choose which aspect of practice they (the practitioners) want to dedicate a year of their study towards. Studio units compete with each other for students.

The studio system has been popular with many institutions in the U.K. since the early 1980's, when it was initially 'imported' from the US. A 'school-specific style' (aesthetic) of inquiry and representation, a school identity of other sorts, might be seen as the distinguishing commercial aspect of the studio system when it comes to devising an institutional brand. In the light of the current economic-political context of Higher Education in the U.K., the Situated Learning paradigm (even in the form described in the first chapter) is potentially negotiated against the treatment of the studio system as a marketing tool for student recruitment (Fraser, 2014). One can start to trace the outline of a conflict of interest that has been subject to much debate within the architectural field in recent years: what exactly is the relationship between architectural pedagogy and market forces of the Higher Education industry (Rhowbotham, 2012)?

4.2 Vertical studios, crits and the relevance of dialogue.

Many architecture practitioners teaching in HE are outstanding in their field of professional practice and have, in many cases, a lot 'to teach' to students in the format described by Schön almost four decades ago. The idea of being a good

teacher, Webster suggests, is for many of these part-time educators therefore informed by their private recollection of good teaching which they received as a student, or by observed methods to which they subjectively attribute an implicit truth about teaching design (Webster, 2004). Webster observes that an explicit theoretical pedagogy plays a diminished role in the self-perception of many teachers of studio units, often based on a (not altogether ungrounded) assumption that an over-theorising of the design process can lead to reductive teaching. Yet, while the awareness of how students learn (see Biggs, 2011; Iyer, 2015) is often lacking, few will want to describe themselves neither as the 'hegemonic overlord' described by critical pedagogy, nor as cog in the marketing machinery of their parent institution (I use the hyperbole here for dramatic effect). While discipline-specific, empathetically phrased literature on architectural teaching styles exists (Moore, 2001), the discourse or critical encounter with the architectural professional, as a teacher remains broadly an academic pursuit of researchers outside of the studio systems. The unquestioned establishment of teaching methods and the manner of passing on architectural knowledge has come under fierce criticism by sociologists, who identify a tendency in the *modus operandi* associated by Pierre Bourdieu with a self-validating field of cultural production, rather than a profession (see Stevens, 2002; Jones, 2011). In the social context of the discipline described by Jones (2009), dialogue can be seen as a means of shedding off social constructs through active modes of critical communication (Freire, 1996).

The most prominent single item of evaluating a learner's cognitive and skill-based advancement of knowledge, the 'building project', forms the centerpiece of the assessment in the later stages of First Year, as well as throughout the 'vertical studios' at degree level. It is important to acknowledge the different expectations placed on the students within different frameworks of studio teaching delivery. These do not simply reflect level-specific advancement of knowledge in terms of the domain, but often also the fulfillment of agendas within the 'private' agenda set by individual studio conveyors (often referred to as professional preoccupation of the studio master). The portfolio is thereby casually described as resulting from the specific studio, which embodies qualities the student can evidence to have internalised in her work. In the context of the current discussion, we will only be able to sketch out where the problem might lie for a student transitioning from a whole-year experience to one framed by the vertical studio perspective on educating for architectural practice.

For the formative assessment of building projects, design juries (or crits) are the predominant method. The crit has been extensively deconstructed by researchers (Oh et al., 2013) and richly rendered in Webster's Foucauldian perspective (Webster, 2006). In our context, the focus is on the potential of the crit event to encounter and overturn the perceived limitations this formative feedback format seems to engender. The achievement of excellence – in terms of the product of much design teaching at degree level (and beyond) – widely rests on the development of the capacity to take advantage of creative freedom. Starting with the First Year curriculum, the development aims towards a more discipline-characteristic application of creative thinking

processes, whereby subject-knowledge (such as building technology, historical precedence etc.) become more important in the assessment of the learner's advancement. Counter to this commonly applied formula for tracking a student's progress towards independence and ultimately employability, research suggest that from 11 key indicators most often used in studio assessment in architecture (de la Harpe & Peterson, 2008) the product (i.e. the building proposal) ranks first, followed by process and nine other criteria, including reflective practice in ninth place. The lowest ranked indicator is the student's perspective (person). (Notably the study claims that 'person' ranks fourth in the assessment in Fine Art practice). The obliviousness described by Webster in architectural design teaching on how students learn seems here to be validated by research that indicates a neglect of the personal perspective of "classroom practice including thoughts, feelings when displaying work for critical response" (de la Harpe & Peterson, 2008) and that the format has been described as 'emotionally flawed' (Chadwick & Crotch, 2007).

5. For further discussion: Stages of dialogue

5.1. Preparing learners for continuous dialogues.

This paper has focused on methods of scaffolding dialogue in the early stages of an undergraduate course in architecture, which peruses a widening access agenda. The specificity of this context has shaped the interpretation of the literature on reflective learning. Level-specificity and division of the learning experience between whole-year and vertical studio provision have further impacted on the framing of the problem, as each might contribute different expectations on the learner's ability to raise to the challenges of dialogue. The long-established concept of the reflective practitioner turned teacher framed by the concept of 'Socrates in the studio' (Till, 1996) gives primacy to the modes of dialogue between the studio facilitator and the cohort of students, which ultimately enable the learner to outgrow the need for instruction. Following a progressive trajectory of empowerment of the learner toward an independence that enables her to cope and respond positively to the increasingly complex demands of the architectural profession outside university, Till and other commentators speak of the independence of the learner in terms of professional agency. Resulting from the refinement of the discourses first exercised through the reflective teaching methodologies in the studio setting, more recent critiques of the architectural field have led to a comprehensive revision of the possibilities of architectural practice itself (Awan et al., 2011). The ability of learners to partake in critical dialogues concerning their becoming a professional architect has become a central theme of the architectural discourse on education.

The question addressed in this paper is how to define dialogical learning in a widening access scenario, in order to facilitate for the novice learner's preparedness to engage with and benefit from the ever more complex demands and possibilities of reflective practice, by providing curricular entry points towards participation in the sophisticated cultural introspection of the professional field of today. In other words, how can the novice learner who does not come

equipped with the cultural capital, or the personal confidence to engage in dialogical learning, come to recognise her potential agency in shaping her educational experience and feel empowered to sustain the level of dialogue offered by contemporary discourses in the design studio? The case study of the First Year project described above aimed to outline the curricular processes conducive to the attainment of insights in how personal experience, from any background, can be seen as formative to the construction of disciplinary literacy in the field of architecture through a staged, multi-voiced and level-specific induction into professional dialogue. In this process, the role of the studio facilitator has been described as just one of many voices within the cultural environment of architecture education that can offer a formative experience of reflective dialogue. Workshop technicians, makers from other creative fields and not lastly their student peers can all be seen to facilitate for meaningful opportunities for questioning assumptions, learning and unlearning about what it means to be an empowered student of architecture. (Still more voices are joining the dialogical choir as learners progress towards a 'social' understanding of architectural practice). While the curriculum that leads to professional qualification is set by the school of architecture and the principal reference point for the attainment of professional knowledge remains the studio tutor, the nature of the dialogues architecture students encounter in Higher Education are wide-ranging and diverse. Consequently, agency is seen as virtue, constructed in many settings and co-authored by many voices. The task of the studio tutor is to accept and promote the many other voices that enter and shape the studio experience. The studio space is but the central hub where these experiences can be subject to a reflective process that trains learners to build further insights en route to the practitioners they choose to become. The focal point of the dialogical learning experience is the physical setting of the studio which offers continuity through all stages of the learner's development. In the specific context described in the paper the aim is to coherently guide the student's journey toward a professional agency by offering opportunities for reflective, multi-voiced dialogue across the different teaching provision of whole-year and vertical studio delivery of studio teaching.

5.2 Easy steps toward continuity of dialogue in 'vertical' studio settings.

Dialogue has been described here as a reflective process of scaffolding the emerging student voice in the process of becoming an independent learner. In my view, the format of the crit is not the problem; they too can contribute to the here declared aimed process at any level of study. Simple adjustments can point the way to a more dialogical framework to critting (i.e. the process of formative assessment of work at crit events). Along with the general outlines suggested by research for good assessment approaches (Rust, 2002 quoted in de la Harpe & Peterson, 2008), which also account for opportunities for slow learning, discipline-specific modes of formative assessment have been suggested by researchers on the basis of dialogical learning (Utaberta et al., 2013). None of these models fundamentally undermine the professional discourse architectural teachers aim to establish. They can however start to frame an approach to

fostering a more critically engaged participation from both sides, allowing the practitioner/facilitator to re-establish the premise of her dialogical teaching practice.

The professional *modus operandi* of architectural practice can itself greatly contribute to the shaping of a dialogical teaching framework in HE. The lessons learned from public consultation experiences in practice – where practitioners engage in a dialogue with the public in order to facilitate for review of their proposed interventions in the urban realm – also can be highly effective in the design studio: To educate toward an empathetic mode of representation means to ‘level the playing field’ between feedback giver and feedback receiver. Building on the practice experience of architects, a model-only review is used in the first building design crit students undergo in their First Year at the CASS School of Architecture. There are no plans, but only sections and models, so to reduce the potential of abstraction at these early stages of the design process. In general, physical models have proven to be better conversation pieces, allowing for an open exchange of ideas that reduces the primacy of one-directional commentary (which is often the case with representative drawings, which as a medium are often subject to the qualitative attribute of ‘style’). Here the opportunity arises to involve workshop staff and makers from other disciplines in the design review. Other than diluting the architectural focus, these additions to the dialogical choir can foreground the aspects of making and the qualitative aspects of experience in dealing with materials that could be conducive to a wider view on the consequences of the proposed schemes. By the nature of their involvements with students across all levels, workshop technicians form a continuous relation with learners throughout their education. The quality of the object-as-representation in terms of its made quality can aid a more independent learning process that ultimately contributes to raising the level of the discourse leading to the advancement of disciplinary literacy in the design studio. In terms of assessing the reflection process of the design review, First Year students are encouraged to complete the written comments they receive by the expert panel by adding their own reflective evaluation of the discussion. Questions include: what is the strongest aspect of your work? What is it you think you should do next? These comments form the basis of a potential teaching contract, the personal tutor can return to after the crit event, for further development of the project. This simple device of dialogic feedback replicates earlier reflective exercises and can be conducive to a coherent, student-centered learning experience. In addition, following Baxter Magolda’s suggestion to recruit senior students to co-assess the work of their peers at earlier stages of education, one can start to re-describe that crit panels as events of a more empathic nature; one which re-introduces the multi-voiced principle when students receive advice from fellow learners. It should not be forgotten that, if the studio tradition is to continue, future teaching practitioners are sharing the studio space with current ones, on both sides of the panel.

The pedagogical grounding of studio teaching in problem-based learning is unquestioned. Yet a critical review of the deeper pedagogy, relating to the learning experience students encounter in situated-learning environments at degree level where vertical studios operate, is called for. Even

if the future brings about a complete revision of architectural education (Froud & Harris, 2015; Hunter, 2012), the current model still lends itself to a set of transferable principles of radical education through the employment of teaching and learning methods that can unlock the status quo of power relation within and outside institutions of Higher Education, and can contribute to a student-centered approach to becoming an architect. At the beginning of this journey, the novice learner needs to be provided with the level-specific set of opportunities to perform the acquisition of reflective tools that are instrumental for iterative leaps into criticality, independence and agency. To scaffold these first tentative steps towards immersed and empowered studentship is not the task of a single teacher or studio master. A wider curricular concern for a collective, critical culture of reflective learning can however set the stage for dialogue as a means of continuously challenging design studio practice in Higher Education and beyond.

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