



## ‘This is what gets people hired!’: Academic perspectives on employability skills in architecture and the potential impact of COVID-19

James Thompson<sup>1</sup> and Pippa Soccio<sup>1</sup>

Corresponding author: James Thompson ([james.thompson1@unimelb.edu.au](mailto:james.thompson1@unimelb.edu.au))

<sup>1</sup> Faculty of Architecture, Building and Planning, The University of Melbourne, Australia

### Abstract

This article presents findings from a recent study of academic perspectives towards employability in architecture. The aim of the study was to gauge the perceived impact of COVID-19 on employer values, and the degree to which these perceived changes were impacting teaching practices. Thematic analysis of data from semi-structured interviews with eight members of a postgraduate architecture community in Australia—including educators, practitioners, and students—revealed strong consensus. The relative value of skills such as teamwork and autonomy were deemed increasingly important following the widespread uptake of remote work. On the other hand, the value of competencies associated with the design process itself, as reflected in professional accreditation criteria, were perceived as stable. Most enlightening were participants’ views on how they believe employability skills are encouraged, observed and judged in academic contexts. By reinforcing how employability skill development tends to rely on the discipline’s tacit enculturation practices, this study raises critical questions about quality assurance and assessment practices within the architectural community. Embedded in these questions is the understanding that the challenge of employability skills assessment is entangled within the discipline’s failure to address its ongoing challenges around diversity, equity and inclusion.

### Keywords

Employability, architecture, competency, assessment, quality assurance, accreditation, enculturation, COVID-19

### Introduction

As the world adapts to the COVID-19 pandemic, its long-term impact has garnered much attention, including in higher education. Like so many aspects of life, educational responses amidst the pandemic altered our everyday practices and priorities, in many cases foregrounding or accelerating changes inchoate before the pandemic struck. The study reported in this article was prompted by local observations and global commentary surrounding 2020’s emergency shift online and subsequent questions regarding its impact on architectural education and practice: How might short- and long-term changes in learning, teaching and design practice affect notions of employability and professional competency? Will those who graduate during or after the height of the pandemic be judged by potential employers against different criteria than those who graduated before 2020? How might emergent notions of competency inform ongoing discussions around assessment, pedagogy, and curricula? This project contributes to recent efforts to better understand, and ultimately align, disciplinary values with teaching and learning practices in ways that support emerging professionals.

In architecture, as in other professional disciplines, the consensus between academics and employers is that employability skills—often described as ‘soft’ or ‘generic’, such as teamwork, time management and communication—are a curricular priority (see Maroya et al., 2019). However, architecture has yet to embrace the efforts currently underway in other disciplines to develop mechanisms for effectively assessing these skills. Although architecture has long acknowledged the problematic role of its ‘hidden curriculum’ for enculturating future professionals, it has yet to rectify the fact that the values communicated through its assessment practices do not align with its stated values or those identified by stakeholder groups. Indeed, resolving the gap between values and practices may be an important step in finally addressing the decades of disturbing evidence on psychological distress amongst architecture students and the disproportionate impact of pedagogical practices on women and people of colour (see Anthony, 1991; Thompson and Song, 2021; Howlett Brown, 2022).

Following a review of global and disciplinary discourses surrounding the concepts of competency and employability, most of which predates the pandemic, the paper discusses the study’s context and presents key findings with the intent of informing critical conversations in the discipline and follow-up studies.

## Competency, Employability Skills and Assessment

As numerous scholars have argued, competence is a complex concept, ‘difficult to define and even more difficult to measure’ (Levett-Jones et al., 2011, p. 64). In architecture, the term competency is typically associated with accreditation and licensure criteria, and therefore closely linked to skills deemed necessary to carry out and manage the building design process. However, broader understandings of competency in scholarship point to ways in which the concept pervades everyday practice, including knowledge, knowing-in-action, people, and artefacts like tools (Sandberg & Pinnington, 2009, p. 1143). The inclusion of relational and contextual dimensions immediately suggests ways that competency in architectural practice can be understood as broader than accreditation criteria commonly adopted around the world.

Globally, and in Australia beginning in the 1990s, the so-called competency movement has adopted the notion of generic skills—also known as ‘transferable’, ‘work-ready’, ‘essential’, ‘twenty-first century’ or ‘employability’ skills (Oraison et al., 2019)—with the aim of ‘creating a more flexible and mobile labour force to increase productivity [...] by redefining work as a set of transferable or ‘soft’ generic skills that is transportable and is the possession of the individual’ (Windsor et al., 2012, p. 213). As Gill (2020, p. 146) argues, this shift is reflective of the increasing pressure placed on universities to produce employable graduates, leading to ‘less focus on philosophical and higher-order thinking skills and greater focus on being job-ready.’ Despite acknowledging the value of employability skills, a key challenge is how universities and university teachers balance these skills alongside the demands for discipline-specific knowledge and skills (Badcock et al., 2010, p. 442). In certain countries like Australia, each university develops a set of graduate attributes derived from the values and expectations of various stakeholders with the intention that these are subsequently mapped and integrated into curricula and assessment designs (Askland et al., 2012, p. 3-4). Any discussion of quality assurance in relation to graduate competency and employability thus flows directly into the topics of assessment and accreditation.

Despite criticism and cynicism towards accreditation processes across the disciplines (see Timpson & Bayerlein, 2021), changes in accreditation criteria have been shown to impact learning (Volkwein et al., 2006) precisely because assessment and assessment practices have a significant impact on learning quality (Ostwald & Askland, 2012a, p. 76). Assessment, when designed well, supports students ‘by determining the agenda for learning, guiding attention to issues that matter, promoting student self-regulation, fostering reflection and providing information about progress’ (Ostwald & Askland, 2012a, p. 76). Ostwald and Askland (2012b), however, emphasise that assessment is ‘rarely simply pedagogical or altruistic in its intent; it is typically driven by a range of externally derived

standards and expectations, all of which have political, social and ethical implications' (p. 81). This is because stakeholder groups have vested interests in assessment of student learning, and therefore contribute to the setting of expectations codified as graduate attributes (Askland et al., 2012, p. 3). Finally, such processes are designed to adapt to changing industry practices and expectations. For instance, in Australia, universities solicit feedback about their courses through monitoring and benchmarking mechanisms 'to ensure that essential knowledge is relevant and current and addresses changes in industry standards' (Oraison et al., 2019, p. 174).

Through this engagement process, employability skills like teamwork, communication, and time management have been consistently identified as essential by employers across the professions long before the pandemic. Moreover, their value relative to technical skills has evidently increased over time (Deming, 2017). With some variation in relative significance and between disciplines, studies have shown broad acceptance of employability skills amongst academics, students, and graduates, as well as consensus that employability skill development be integrated within disciplinary learning structures (dela Harpe & Radloff, 2006).

On the other hand, studies also reveal discrepancies between assessment/accreditation criteria and employability criteria in the form of job listings (Oraison et al., 2019). Historically, employability skills have not been assessed explicitly within university assessment designs, meaning employers have not been provided with direct indication of a graduate's potential workplace-readiness via such metrics. However, over the past decade or so, calls for new approaches to assessment posit that 'if the development of generic skills is truly prioritised in university teaching, it should be addressed by academic assessment' (Badcock et al., 2010, p. 444). At present, a range of disciplines, including nursing (Song & McCreary, 2020), media and communication (Gill, 2020), science (Sarkar et al., 2020), business (Cotronei-Baird, 2020), and engineering (Burnett et al., 2021) are directing efforts to integrate employability skills into curricula. This includes, for instance within nursing, reviewing the range of direct observation tools for assessing students undertaking authentic clinical activities (Ekman et al., 2020). Whilst there remains significant room for improvement and innovation in this space, the focus on authentic assessment of employability skills ostensibly lays at the forefront of the ongoing competency movement.

The present study, whilst not an attempt to evidence or critique competency or employability skills as such, does acknowledge that neither of these concepts are value-free (Windsor et al., 2012). Bridgstock's (2009) critique of employability skills as narrowly focused and employer-centric rather than employee-centric also remains a key reminder to foreground future practitioners. Likewise, it is essential to recognise recent work that critiques the broader 'employability agenda' (Tomlinson & Le Huu Nghia, 2020) and the troubling lack of nuance surrounding student perspectives on the topic (Lock & Kelly, 2020). Ultimately, employability is understood as 'both *contextual* and *relational* as opposed to just an individual problem in accessing favourable labour market returns' (Tomlinson & Le Huu Nghia, 2020).

The premise for the present study is that, amidst the values of various disciplinary stakeholders—explicit or otherwise, aligned or otherwise—the perspectives of academics responsible for delivering curricula and assessing student learning represent a linchpin of sorts. As Cotronei-Baird (2020) has recently noted, 'there is a dearth of research on academics' understanding of employability skills and on the extent to which they integrate employability skills development into their teaching and assessment practice' (p. 204). The trouble evidently is that 'While [employability] skills and attributes are necessarily implicated in all academic work, their development is often tacitly assumed' (Johnson et al., 2015, p. 1). Certain beliefs underpinning this tacit assumption emerged in the findings from the present study, as discussed below. In comparing academics' espoused understanding of employability skills and reported practice against their actual teaching practices, Cotronei-Baird (2020) identified a disjuncture between the two. Such findings contribute to the idea that 'employability skills are not systematically and consistently integrated into teaching and assessment practice' (Dyki et al., 2021, p. 231). In the recent study conducted by Dyki et al., the majority of academics were 'mostly 'discussing' employability skills, with little opportunities for students to

develop and enhance the skills in practice' (Dyki et al., 2021, p. 231). Within the architecture context, the hope is that the present study can establish the basis for deeper exploration, including direct observation of teaching and assessment practices, as has been conducted in other disciplines (see Cotronei-Baird, 2020). This can then inform targeted guidance for leadership and professional development around employability skill development.

## Employability in Architecture

As the present study context was a postgraduate architecture community, it is important to question where architecture sits in the above discussion on competence, employability, assessment and accreditation. As mentioned, and as in other disciplines, consensus exists between architecture teachers and employers on the importance of employability skills. For instance, a study by the Architects Accreditation Council of Australia (ACA) published just before the pandemic found 'strong alignment between academics and practitioners about the importance of most skills. Critical thinking, problem solving, communication, time management and collaboration are all highly rated by both' (Maroya et al., 2019, p. 6). Furthermore, the study found that, 'The key qualities sought when employing graduates are enthusiasm and a willingness to learn, along with the ability to collaborate and work effectively in teams' (Maroya et al., 2019, p. 11). Findings from this study suggest that the architecture community, at least in Australia, has not raised significant concerns in terms of how graduates are considered more or less employable by educators or industry. This is distinguished from other disciplines in Australia like engineering, which has recently proposed a wholesale redesign of its assessment approaches and a revisiting of its core competencies and curricular focus, with an emphasis on work-integrated learning (Burnett et al., 2021).

This is not to say that architecture is immune to criticism. There remains no effective mechanism for higher education providers, or design practices for that matter, to ensure the degree to which architecture graduates perform against these valued skills and attributes. The lack of any nation-wide requirement for work placements prior to graduation ostensibly contributes to—and is justified by—the ongoing impression within the architecture community that there are certain skills that fall outside universities' responsibility to promote through assessment (see Maroya et al., 2019). This is reflected in the updated 2021 criteria for accrediting architecture courses in Australia, which identify professionalism and communication as 'professional capabilities' and position these as an 'umbrella' for the specific, and primarily technical, units of competency (ACA, 2021). Whilst a deeper analysis of these units of competency is beyond the scope of this paper, it should be unsurprising that the emphasis remains on those associated with health, safety and wellbeing of building occupants, as well as issues around ethics and professional liability. Again, as with any set of accreditation criteria, these can be understood as a reflection of the values and expectations held across stakeholders who contribute to their development. In the case of architecture, this encompasses a long tradition of maintaining a 'hidden curriculum' (see Dutton, 1987).

A generation ago, scholars raised sharp criticisms of architectural education in suggesting the problematic ways that cultural norms and values get passed to students. Cuff (1991) observed the 'macho, boot camp atmosphere' (p. 128) widespread in studio culture, and others questioned why the hazing-like ritual of design juries remained as a core feature of architecture's signature pedagogy despite the devastating impact on so many students, particularly women and people of colour (Anthony, 1991; Webster, 2005). Arguing that such practices serve an enculturation function for the profession, Stevens (1995) conceptually distinguished two types of inculcation in the studio: the scholastic or pedagogical approach to teaching explicit knowledge and skills versus the charismatic mode of 'transferring embodied cultural capital' (p. 117). The latter type of inculcation, Stevens (1998) argues, is how architectural education 'favors the privileged' by ignoring privilege (pp. 189). Importantly, Stevens (1998) makes the case that the socialising function of architectural education is an inherent feature to any profession; the problem is that, within architecture, this occurs through tacit mechanisms and therefore reproduces problematic structures of power and privilege. Insofar as employability skills fall under the charismatic side of the equation, which many of them ostensibly

do, they tend to fall outside the realm of assessment design. The recent investigation of the Bartlett School of Architecture (see Howlett Brown, 2022), one of the discipline's most recognised providers globally, underscores the lack of progress made since widespread concerns about architectural culture and pedagogy were first identified. The report's findings support the notion that architecture schools and industry collectively and systemically contribute to a culture of 'favouritism,' 'unhealthy habits' and 'psychological games.' Importantly, the report authors tie these persistent cultural features to concerns for diversity, inclusion and pedagogical practices—including common studio feedback mechanisms. One reason that architecture is yet to follow other professional disciplines in developing ways to explicitly assess employability skills can be attributed to the heavy focus on design-based learning and widespread dependence on practitioners as educators. The sense that design itself is a mysterious, individualised and open-ended endeavour leads to the impression that becoming an architect is also comprised of such features. In other words, architectural culture conflates the design process with its pedagogical approach, thereby justifying tacit teaching practices (Thompson, 2019).

Against this backdrop, Askland and Ostwald (2012) raise the juxtaposition of disciplinary values and higher-education practices through their observation that 'architecture and design are engaged in a struggle to maintain a balance between professional culture—with its acceptance of subjective judgement by expert designers—and the quality assurance expectations of modern higher-education institutions' (p. 47). Although their work focusses on the assessment of creativity—referring to it as 'a task which is more complex and nuanced than the assessment of technical skills and factual knowledge' (Askland and Ostwald, 2012, p. 47)—the same might be said for the wider suite of employability skills valued within the academy, as reported here. Certainly, there are many examples of teamwork, for instance, being assessed at the subject/module-level, and Bohemia et al. (2006) marks one of the few published efforts to assess remote/cross-cultural collaboration skills. However, the fact that such attempts ostensibly lie outside quality assurance-related engagement with stakeholders suggests that 'acceptance of subjective judgement by expert designers' is winning out over 'the quality assurance expectations of modern higher-education institutions' on this front. In the meantime, employability skills tend to remain either implicit, as part of architecture's longstanding hidden curriculum or as verbally-encouraged-but-not-codified learning outcomes. As revealed in the present study, academics continue to perceive these employability skills as valuable to employers whilst judging them informally through their interactions with students.

The interviews presented here were conducted 18 months after COVID-19 began disrupting higher education and architectural practice. The community had, as of late 2021, ostensibly passed through all five stages of grief (Brown, 2020), reaching a period of reflection and imagining potential long-term repercussions. Some observers emphasized the changes to the built environment itself, noting the ramifications wrought by geographically flexible living and working patterns (Chayka, 2020), which in architecture's case include 'new digital tools and processes' and new modes of design communication (Ravenscroft, 2021). Revealing the intersections between academia and practice, the industry's adoption of digital practices and processes saw parallels in academic studio contexts through remote/hybrid learning and teaching platforms and processes (Thompson et al., 2021a). Finally, observers noted the pandemic's impact on the community's value systems, including spotlighting student and employee wellbeing (Gill & Bennett 2021; Wittenoom & Razbash, 2021; Waite, 2021). These three foci reflect concerns for the resilience of, respectively, the architectural industry, architectural education and individual members of the community.

By mid-2021, the discourse shifted towards forecasting the persistence of COVID-associated changes to practices and values. One author predicted the emergence of the design industry's own version of the gig economy, 'focused less on full projects, and more on discrete tasks' and comprised of a 'new generation of younger, digitally-facile practices, with workers and talent distributed globally' (Bernstein, 2020). The continued interest around architecture's cultural response to the pandemic highlights the need for up-to-date scholarship on educational practices vis-à-vis graduate employability—and consequently, the need to revisit the discipline's unresolved issues around

enculturation as discussed above. Though disruptive events like a pandemic are perhaps unlikely to alter the *content* of employability skillset lists, they may affect the *relative value* placed on certain skillsets—and perhaps the relative weight between technical and employability skills. Hence, the impetus behind the present study was precisely to explore this notion of post-COVID-19 employability by eliciting the perspectives of individuals, each of whom shares connections to a single postgraduate architecture program in Australia. By inviting participants to reflect on the disruption to teaching and learning precipitated by the pandemic, conversations progressed from the nature of employability skills themselves towards assessment and quality assurance of these skills, as discussed below.

## Study Context and Methods

The research team was comprised of two members of an academic, discipline-specific learning and teaching group housed within a faculty of architecture at an Australian institution. Each team member had themselves traversed from architecture course to architectural practice, before returning to the academy as educational researchers. Ethics approval for this study was granted through the authors' institution. The literature reviewed from within the architectural context underscored the thorniness of the proposed topics of discussion. Likewise, scholarship from across other disciplines revealed the centrality of stakeholder perceptions and values, and the potential mismatch between espoused values and practices. Thus, the present study was approached as a foray into the topic of employability skills from a curriculum and pedagogy standpoint, eliciting in-depth and diverse perspectives from a single community. The qualitative approach, and the focus on a small sample group, is intended to inform broader study sets by helping frame potential challenges and opportunities emerging from stakeholder perceptions within the academic community. As the present study concentrated on the perceived impact of employability on teaching and learning, it intentionally did not include perspectives from those primarily beyond the academy, such as industry employers or members of the accrediting body. Nor was it designed as a complete case study to capture the cultural and structural aspects of the particular faculty community.

Study participants were part of the faculty's learning and teaching community and associated with its accredited Master of Architecture (M.Arch) course. Eight individuals were interviewed representing the following cohorts:

- full-time educators, each with industry experience and active professional networks,
- industry practitioners with part-time teaching roles as studio tutors, and
- students who were employed in architectural practice during the pandemic.

To provide further framing around the student context, this particular architecture course does not require work placements, and employment in practice whilst enrolled in study—though not uncommon—tends to lie entirely outside curricular offerings or institutional programming. The hybrid composition of participants is reflective of the wider disciplinary community, as well as a desire on the part of the research team for each one-on-one conversation to cover multiple conceptualizations of competency, including both as an (educational) outcome and as a (practice-based) capability. Each participant was asked to briefly position themselves in terms of their relationship to academia and industry, then to describe how they understood the broader relationship between academia and architectural practice, both through their lived experience and in their ideal world. In formulating each participant's position, these framing questions ultimately provided context to better interpret their perspectives (see Shreeve, 2010, p. 693). The dialogical approach of the one-on-one interview increased the certainty that, as researchers, we captured and interpreted each participant's perspective and how their context and identity may inform it. On the other hand, the research team's position within the faculty community granted an 'insider' position that appeared to contribute to (rather than detract from) the forthrightness of participants. Echoing another recent study that sought to critically and reflexively examine architectural culture, the

present study acknowledges that subjectivity is, in fact, a resource, rather than a threat, to building theory and informing further exploration (see Stead et al., 2022).

The core of each interview consisted of participants being asked to identify and discuss the skills and competencies they believed shifted the most, in terms of perceived employer value, as a result of the pandemic. Participants were provided in advance with two lists. One was of 11 groupings of employability skills (see Table 1), as published across two international and two Australian reviews of graduate attributes and skillsets of the future (Australian Trade and Investment Commission, 2019; Kumar et al., 2019; Parker et al., 2018; Leopold et al., 2018). The other list was comprised of the nine elements from the National Standard of Competency for Architects' Units of Competency (AACA, 2018), the accreditation framework in Australia (see Table 2). Thus, each participant had the opportunity to discuss perceived changes to industry expectations in terms of both 'soft' and 'hard' skills.

**Table 1: List of 'Generic' Skillsets Used as Interview Prompt**

Technical competence; digital literacy; efficiency
Creativity; problem-solving
Analytical thinking/reasoning skills; research skills
Collaboration; teamwork; cultural competency
Care; empathy; professionalism; ethical conduct
Confidence; autonomy; self-care
Oral/written/visual communication skills
Project management; multi-tasking; time management
Lifelong learning; resilience; cognitive flexibility
Financial literacy; business acumen; risk management
Leadership; entrepreneurialism; people management; mentorship

**Table 2: List of 'Architectural Competencies' Used as Interview Prompt**

Project briefing
Pre-design
Conceptual design
Schematic design
Detailed design
Documentation
Procurement
Construction stage
Practice management

Participants were then prompted to reflect on the implications of these potential changes in expectations from a teaching and learning perspective:

- How do you think students and graduates are being judged as potential employees in terms of their proficiency in these skills? (for educators and/or practitioners)
- What are you doing to promote these skills in students? (for educators)
- How do you come to know which skills are most valuable and how well you have acquired each one? (for students)

This portion of the interviews ultimately took the form of a Socratic dialogue, with the interviewer encouraging the interviewee to unpack their beliefs in successive fashion. Thus, conversations were open-ended and driven by the back-and-forth exchange between interviewer and each participant. This format was intended to prompt reflection and elicit deeper discussion, rather than restricting participants to a series of pre-determined questions. As proposed by Curato (2012), this ‘epistemic interview’ approach can be more appropriate than conventional interview approaches, depending on the aim of the interview and the relationship of parties involved. In this case, the aim of collective inquiry and knowledge building outweighed the mere conveying of participants’ experiences. Insofar as each conversation framed around the shared topic ultimately veered along a unique path representing each participant’s perspective and values, the advantage of this approach was borne out.

Interviews were conducted in September 2021, over Zoom due to COVID-19 restrictions, with each lasting 30 to 60 minutes. The screen-sharing functionality of Zoom allowed participants to view a virtual whiteboard of the two lists described above and presented in Tables 1 and 2. This content served as a visual probe, to which the participants continually referred throughout the interview.

Each interview was transcribed, anonymised and analysed independently by four members of the learning and teaching group to identify themes and variations. These are discussed below in two sections. The first directly responds to the question at hand: What impact has COVID-19 had on perceived industry expectations of both ‘soft’ and ‘hard’ skills? The second section discusses participants’ views on how employability skills are encouraged, observed and judged in academic contexts.

## Findings

Across the eight participants, a strong consensus emerged around a shared narrative: that the value placed on certain dimensions of employability by industry had increased during the pandemic. Namely, they perceived greater demand for graduates:

- with skills necessary for collaborating, presenting and engaging in feedback remotely;
- with the ability to be proactive (e.g., reaching out to colleagues for feedback/direction) and autonomous (e.g., in how they manage their time and responsibilities, and how they care for themselves);
- with leadership potential and a people management style relevant to a context of remote/hybrid working modes.

Such a narrative was attributed to the shift in working modes across the industry, and other changes in practices and values accelerated by the pandemic. Consistently, participants emphasized two, non-technical skills required for working remotely: autonomy and collaboration. Being able to manage oneself and work effectively in teams were considered two sides of the same coin for working remotely—and together were perceived to be the skillset with the greatest increase in employment value. As one full-time educator articulated:

*I think [with] the move to remote working and flexible working arrangements, the things that might then begin to impact on graduate skills and the sorts of things that we might want to encourage in our graduates [...] I think those things would be: Being able to learn or operate*

*remotely and not being physically co-located in an office. And I think tied to that is being able to work in integrated but remote teams. So I think, from my perspective, that is the thing that I think is going to be a critical skill for people going forward.* (Full-time educator 5)

Under the umbrella of autonomy, the notion of students needing to be proactive also received considerable attention. As one full-time educator claimed:

*There's something [as a student] about going into the campus and going to a schedule of classes and having just everything kind of set up for you and you just kind of fall into it. I think with COVID [...] if you want to really show people your work, you have to set up the Zoom link. You have to kind of arrange the time in a way that's different [...] I think the good students, the ones who are realizing they needed to not just react to COVID but they actually have to be a bit proactive to make sure that they're ahead of it, you know, they decide, 'Look, I'm gonna meet up with three or four friends and talk about our project together and arrange a time when we can all discuss stuff outside of class. 'Cause we don't have the luxury of going to a class and then walking out and sitting down at a table after class to talk about it. We have to quite consciously put it together, you know, those extra meetings and those kinds of informal discussions.'* (Full-time educator 3)

Using assessment design to effectively foster collaboration skills, including contributing to a group while working autonomously, had been identified as a challenge within architecture before the pandemic (Thompson et al., 2021b). The renewed emphasis on remote/hybrid working models prompted by the pandemic only underscores the significance of promoting and measuring such skills for graduate employability.

Surprisingly participants tended not to identify digital literacy as an employability skill that had increased in relative relevance, with one educator suggesting it has 'always been a priority'. Instead, participants were concerned with how graduates use technology to communicate, as suggested by one educator:

*I mean, you'd be tempted to say digital literacy, but I don't think that is critical. I think what we've learned the most in this context is actually more about communication [...] The fundamental need there is not to know how to Zoom, which we all learn very quickly. It's about how to stay engaged in communication.* (Full-time educator 4)

Likewise, strong verbal and non-verbal skills of communication over videoconferencing platforms were perceived as markers of the ideal graduate-practitioner, as suggested by a part-time tutor/practitioner: 'If they can't communicate on Zoom, have eye contact and be able to speak up, that's a major problem. That leads into confidence and autonomy and independent working' (Part-time tutor/practitioner 1). Such perspectives towards communication skills suggests that, if and when they are to be assessed, the context should not be limited to conventional verbal or written modes (e.g., presentations or essays) but include the suite of skills needed for effective communication over virtual platforms, such as active listening.

Finally, the changing social relations engendered by the shift to remote work suggested to several participants that, as one full-time educator put it, 'leadership, I think, has never been so important [...] People management as a whole. But we need a new breed of leaders, really, for these hybrid ways of working' (Full-time educator 1). Again, this raises the issue that assessment criteria—in this case those associated with leadership skills—may need to be revisited to gauge whether pre-pandemic notions are still applicable to today and tomorrow's industry context.

When prompted to discuss the more technical competencies associated with architectural accreditation criteria, all eight participants believed that the relative value of each competency was unaffected by the pandemic. Notably, however, several did critique the list of competencies, either in terms of not explicitly including particular skills related to the design process, or in terms of the balance between which competencies were the responsibility of universities versus industry. Most of this commentary was considered unrelated to COVID-19's impact, with the exception of an

increased focus on design for healthy buildings—specifically, consideration of indoor environmental quality and the need to embed this perspective earlier in the design process.

With each participant having spoken about the importance of employability skills—not just in relative terms but absolutely and sometimes quite passionately—participants were prompted to reflect on the implications from a teaching and learning perspective. Half of the participants appeared to accept employability skills remaining an implicit feature of the curriculum. The other half argued that such skills should be explicitly encouraged but not necessarily assessed. Of those who endorsed a less *ad hoc* approach to developing employability skills, obstacles raised included finding space in the ‘already full’ curriculum, potential pushback from students and potential bias in assessment. Underlying the full range of participant perspectives towards assessment—namely, the resistance to explicitly assessing employability skills—were beliefs related to some combination of the following:

- A critique of the commodification and ‘bureaucratizing’ of higher education more broadly;
- The notion that employability skills are best encouraged through dialogue alone, by persuading students through discussion that the reason they are being asked to complete tasks, for example, is to develop certain skills deemed valuable by employers.

One full-time educator articulated the importance of employability skills as forming part of architecture’s hidden curriculum:

*There's no structured learning of those soft skills. That's why they're soft skills, I suppose. But they are essential. I suppose that the activities that you do as a student of architecture implicitly require you to develop those skills. And they're not skills that are easy to assess [...] but the trick is to provide a learning environment where the soft skills become essential. (Full-time educator 4)*

Another full-time educator expressed a perspective of making such skills explicit by emphasising their value when framing learning activities to students:

*I think we should be putting soft skills more under the spotlight, even in the way of how can we actually teach that? How do we teach that? And be more upfront with students that when you have group work, this is part of your soft skills. When we have deadlines, this is about time management and multitasking. Or when you actually have engagement with industry, and when you have different people from different fields of specialization, you're teaching them how they're going to go about behaving in multidisciplinary teams when they're out there in industry [...] So I think universities really need to sharpen the focus on how we explicitly tell students, what are we trying to expose them to? [...] I think it's about communicating [...] It's really about this dialogue in how you explain what that subject intends to achieve [...] But this is not through the formal process of learning outcomes and all this stuff that we have to do. (Full-time educator 1)*

The belief held across this sample of participants was that graduates were, in fact, achieving employability skills through the current approach, as evidenced by employers continuing to seek out students from each graduating cohort who, in the minds of educators and employers, embodied certain attributes valued by industry.

This then raised the question of if and how only certain students obtain such valued attributes, and how they are judged by educators and potential employers. One full-time educator claimed that ‘any employer can tell you within about three weeks whether that person's competent or not’ (Full-time educator 3). Others, including a student participant, described how teachers judge which students have the most highly valued employability skills through their engagement in a subject, and how these judgments inform which students are recommended to industry contacts as potential employees. Multiple participants, including current practitioners, discussed frequently receiving requests from industry contacts to identify potential employees from within a student cohort. Likewise, the idea of professional networking was identified as an employability skill. Several participants, including a part-time tutor/practitioner, spoke about how final reviews—and other

instances when practitioners enter the studio environment—serve as opportunities for employers to informally assess potential employees:

*They see who will be great in the office. They can see [particular students'] strengths and capabilities through just their motivation and the way they carry themselves, how they present, how they talk and can speak up, and that they're not afraid to actually have an opinion. That's something that I know employers really look out for, that skill of being able to carry yourself on your own autonomously in an office. Then you don't need the handholding as much. (Part-time tutor/practitioner 1)*

Thus, there appeared to be broad recognition across participant cohorts that students are being judged—by their teachers and industry guests—in terms of employability skills that are not evident in any graphic portfolio of design work. However, this was being done informally and without the direct input, or perhaps awareness, of students. This reliance on a hidden curriculum raises concerns about equity and inclusion, as discussed in the following section, and as emphasised in the startling findings of the Bartlett School of Architecture report cited earlier (see Howlett Brown, 2022).

The broader sense amongst the participants was that the pandemic had led to a heightened awareness of pre-existing issues within architectural education, as opposed to prompting anything entirely new. As one full-time educator claimed:

*Even in design studios, working in teams, working with other people, all those things are important, which weren't previously addressed in any case across the profession and in the education of the profession. So maybe it just means that there's more of a need to do that now, rather than COVID revealing some huge new gap or some new pressing thing that we should be teaching students. So I think it's probably more the need to address these pre-existing gaps. So maybe COVID has [...] heightened them a bit more. (Full-time educator 5)*

Another full-time educator described this moment in time as an opportunity to shift the emphasis in academia to employability skills:

*[Employers] do expect [us] to teach the technical aspects by the time [graduates] start working. And they're after the soft skills that the students don't necessarily realize they're learning as they go. I think there is a huge opportunity to actually shift some of the conversation less on the highly technical [skills...] to also have perhaps just as much emphasis on all of the [employability] elements. That, actually, this is what gets people hired! Because the irony of this whole thing is when we have industry people coming to our studios to see our students and get to cherry-pick the best students, they're after qualities that are not technical qualities, because they expect the students to learn the technical qualities once they started working. And here we are still teaching them how to do it! I think it's a really interesting opportunity to have this conversation about how you teach all these skills or how you expose students to all these skill sets that are not necessarily the traditional professional training that we've seen [...] So I see this as an opportunity and that's perhaps being accelerated by the pandemic. It was already there, but not at a pace that it's taking place now. (Full-time educator 1)*

## Discussion

Insofar as this study's sample may reflect wider perceptions across the architectural community, the findings suggest that architectural education is facing an unprecedented opportunity to embed employability skills more explicitly into its notion of competency and assessment/accreditation practices. Other disciplines, particularly those with shared characteristics to architecture, ostensibly face a similar challenge/opportunity. Unlike similar studies in other disciplines (e.g., Cotronei-Baird, 2020), teachers who participated in the present study were not claiming to assess employability skills in the first place; thus, in this case, it is evidently not an issue of dissonance between stated beliefs and teaching practices. Rather, most conferred a belief that employability skills can be promoted through processes of implicit judgment and/or verbal persuasion alone. It would appear, then, that

the notion of assessment as defining ‘what students regard as important, how they spend their time and how they come to see themselves as students and then as graduates’ (Brown et al., 1997, p. 7) has not gained wide adoption in this, or perhaps the wider, architecture community.

The degree to which the community ultimately accepts assessment of employability skills will depend, largely, upon consideration for how individual teaching practices are influenced by academic experience and disciplinary context (see Cotronei-Baird, 2020, p. 203). Resurgent interest in the architectural apprenticeship model (see Dawson & Osborne, 2020) offers potential inroads for aligning industry values and higher education quality assurance expectations, shifting the student experience away from a focus on professional accreditation criteria. In any case, authentically involving all stakeholders in these efforts towards innovative assessment approaches—most importantly students—will be critical.

The most urgent challenge for architecture lies in the fact that implicit approaches towards skill development and their judgment—i.e., its reliance on a hidden curriculum—are potentially insidious. The enculturation of students into the architectural community is an inherent process that is inescapably tied to power and prejudice (Dutton, 1989; Stevens, 1998), but so long as this process transpires invisibly, it can be expected to perform a certain agenda:

*[S]tudents are directed toward an invisible gate, through which they can step in once they have internalized the right kind of attitudes, preferences, habitus, and behavior. Those students who are willing to accept, maintain, and reinforce the prevailing cultural and social norms are welcomed to enter the gate (Yanar, 2007, p. 68).*

Thus, the process by which employers (and educators as proxies for employers) continue to judge their potential and current employees’ level of competency—insofar as it is opaque, unspoken and therefore prone to prejudice—limits ‘the capacity for graduates to make empowered and informed decisions’ by not recognizing employability as ‘a complex interaction between broader structural influences and individuals’ own agency in making sense and mediating these changes’ (Tomlinson & Le Huu Nghia, 2020). Bridgstock’s (2009) recommendation to shift the focus from employability to ‘career management competence’ continues to offer a valuable way of foregrounding the agency of emerging practitioners in this process of redesign. In the most idealistic vision of the discipline’s future, undergoing a cultural shift towards explicit assessment of employability skills contains the emancipatory potential for the level of agency, diversity, equity and inclusion that has long evaded architectural education and the profession.

## Conclusion

Long before COVID-19, critics observed decades-long changes to architectural culture that lay the foundations for those further precipitated by the pandemic. For instance, Allen (2012, p. 229) noted the impact of highly mobile student cohorts and remote design practice, as well as the increasingly hybrid modes being adopted in the face of uncertain futures. An acceleration of these trends over the past few years only adds to the urgency of critically exploring what the community values, and how it promotes such values. The present study is intended as a prompt for the discipline of architecture to consider whether recent changes have affected perceptions of industry values as represented through employability skills—and likewise, how the perceptions of academics inform the ways in which employability skills are promoted and assessed. The findings, as indicated in the reflections of participants, suggest the opportunity currently facing the architecture community: to address its longstanding and problematic dependence on a hidden curriculum of employability skills by embedding these within a revised approach towards assessment. This underscores the need for leadership in steering such a monumental cultural shift, as well as further scholarship to inform policy changes and guidance.

Indeed, future research is needed to broaden the investigation of employability skills beyond academia to the industry context, specifically to explore hiring practices and how these are shaped

by perceptions towards the relative value of skills. A limitation of the present study, its minimal sample size, also implies the need for a wider set of studies across multiple institutional contexts. Likewise, shedding light on other fields that share pedagogical features with, and therefore face similar challenges to, architecture can inform a set of strategies tailored to the nuances of their cultural contexts.

## References

- Allen, S. (2012). The future that is now. In J. Ockman (Ed.), *Architecture school: Three centuries of educating architects in North America* (pp. 202-29). MIT Press.
- Anthony, K. H. (1991). *Design juries on trial: The renaissance of the design studio*. Van Nostrand Reinhold.
- Architects Accreditation Council of Australia (AACA) (2021). The National Standard of Competency for Architects <https://aaca.org.au/wp-content/uploads/2021-NSCA.pdf>
- Askland, H. H., & Ostwald, M. J. (2012). Assessing creativity: Academic and student perceptions. In H. H. Askland, M. J. Ostwald, A. Williams (Eds.), *Assessing creativity: Supporting learning in architecture and design* (pp. 47-61). Australian Government Office for Learning and Teaching.
- Askland, H. H., Ostwald, M. J., & Williams, A. (2012). Assessing creativity: Revisiting the literature. In H. H. Askland, M. J. Ostwald, A. Williams (Eds.), *Assessing creativity: Supporting learning in architecture and design* (pp. 1-16). Australian Government Office for Learning and Teaching.
- Australian Trade and Investment Commission (2019). *Innovation in employability*. Austrade Education Insight Series. Commonwealth of Australia.  
<http://www.austrade.gov.au/ArticleDocuments/1358/Innovation-in-employability.pdf.aspx>
- Badcock, P. B. T., Pattison, P. E., & Harris, K.-L. (2010). Developing generic skills through university study: A study of arts, science and engineering in Australia. *Higher Education*, 60(4), 441-58.  
<https://doi.org/10.1007/s10734-010-9308-8>
- Bernstein, P. (2020, May 12). Ten thoughts on the future of practice, *ArchDaily*  
<http://www.archdaily.com/939012/ten-thoughts-on-the-future-of-practice>
- Bohemia, E., Lauche, K., Langeveld, L., & Badke-Schaub, P. (2006, September 7-8). *Designing distributed design studio* [Paper presentation]. 8th International Conference on Engineering and Product Design Education, Salzburg, Austria <https://www.designsociety.org/download-publication/28201/Designing+Distributed+Design+Studio>
- Bridgstock, R. (2009). The graduate attributes we've overlooked: Enhancing graduate employability through career management skills. *Higher Education Research & Development*, 28(1), 31-44.  
<https://doi.org/10.1080/07294360802444347>
- Brown, J. (2020, May). From denial to acceptance: A turning point for design studio in architecture education. *Distance Design Education* <https://distancedesigneducation.com/2020/05/11/from-denial-to-acceptance-a-turning-point-for-design-studio-in-architecture-education/>
- Brown, G., Bull, J., & Pendlebury, M. (1997). *Assessing student learning in higher education*. Routledge.
- Burnett, I., Cameron, I., Crosthwaite, C., Foley, B., Goldfinch, T., Hadgraft, R., Hargreaves, D., King, R., Lamborn, J., Lawrence, R., Reidsema, C., Symes, M., & Wilson, J. (2021). *Engineering change: The future of engineering education in Australia*. Australian Council of Engineering Deans  
<https://www.aced.edu.au/downloads/2021%20Engineering%20Change%20-%20The%20future%20of%20engineering%20education%20in%20Australia.pdf>
- Chayka, K. (2020). How the coronavirus will reshape architecture. *The New Yorker*  
<https://www.newyorker.com/culture/dept-of-design/how-the-coronavirus-will-reshape-architecture>
- Cotronei-Baird, V. S. (2020). Academic hindrances in the integration of employability skills development in teaching and assessment practice. *Higher Education*, 79, 203-223. <https://doi.org/10.1007/s10734-019-00405-4>
- Cuff, D. (1991). *Architecture: The story of practice*. MIT Press.
- Curato, N. (2012). Respondents as interlocutors: Translating deliberative democratic principles to qualitative interviewing ethics. *Qualitative Inquiry*, 18(7), 571-82. <https://doi.org/10.1177/1077800412450154>
- Dawson, S., & Osborne, A. (2020). Re-shaping built environment higher education: The impact of degree apprenticeships in England. *International Journal of Construction Education and Research*, 16(2), 102-116. <https://doi.org/10.1080/15578771.2019.1668888>
- dela Harpe, B., & Radloff, A. (2006). Lessons learned from three projects to design learning environments that support 'generic' skill development. *Journal of Learning Design*, 1(2), 21-34.  
<https://files.eric.ed.gov/fulltext/EJ1066478.pdf>

- Deming, D. J. (2017). The growing importance of social skills in the labor market. *The Quarterly Journal of Economics*, (4), 1593-1640. <https://doi.org/10.1093/qje/qjx022>
- Dutton, T. A. (1987). Design and studio pedagogy. *Journal of Architectural Education*, 41(1), 16-25. <https://doi.org/10.1080/10464883.1987.10758461>
- Dyki, M., Singorahardjo, M., & Cotronei-Baird, V. S. (2021). Preparing graduates with the employability skills for the unknown future: Reflection on assessment practice during COVID-19. *Accounting Research Journal*, 34(2), 229-45. <https://doi.org/10.1108/ARJ-09-2020-0285>
- Ekman, N., Taft, C., Moons, P., Mäkitalo, A., & Boström, E. (2020). A state-of-the-art review of direct observation tools for assessing competency in person-centred care. *International Journal of Nursing Studies*, 109, 103634. <https://doi.org/10.1016/j.ijnurstu.2020.103634>
- Gill, R. (2020). Graduate employability skills through online internships and projects during the COVID-19 pandemic: An Australian example. *Journal of Teaching and Learning for Graduate Employability*, 11(1), 146-58. <https://doi.org/10.21153/jtlge2020vol11no1art946>
- Gill, T. & Bennett, S. (2021, August 29). Lessons from the lockdowns, Part 1. *Parlour*. <https://parlour.org.au/parlour-live/light-at-the-end-of-the-tunnel/lessons-from-the-lockdowns-part-1/>
- Howlett Brown (2022, June 2). *The Bartlett School of Architecture: Environmental investigation*. [https://www.ucl.ac.uk/bartlett/sites/bartlett/files/the\\_bartlett\\_school\\_of\\_architecture\\_environmental\\_investigation\\_report\\_june\\_2022p\\_6.pdf](https://www.ucl.ac.uk/bartlett/sites/bartlett/files/the_bartlett_school_of_architecture_environmental_investigation_report_june_2022p_6.pdf)
- Johnson, S., Veitch, S., & Dewiyanti, S. (2015). A framework to embed communication skills across the curriculum: A design-based research approach. *Journal of University Teaching & Learning Practice*, 12(4) <https://doi.org/10.53761/1.12.4.6>
- Kumar, S., Gokhale, A., Bhattacharya, S., & Verma, V. (2018, October). *University of the future: Bringing Education 4.0 to life*. Federation of Indian Chambers of Commerce and Industry. <https://ficci.in/spdocument/23043/higher-education-ficci-Report.pdf>
- Leopold, T. A., Ratcheva, V., & Zahidi, S. (2018). *The future of jobs*. World Economic Forum. <http://reports.weforum.org/future-of-jobs-2018/>
- Levett-Jones, T., Gersbach, J., Arthur, C., & Roche, J. (2011). Implementing a clinical competency assessment model that promotes critical reflection and ensures nursing graduates' readiness for professional practice. *Nurse Education in Practice*, 11(1), 64-69. <https://doi.org/10.1016/j.nepr.2010.07.004>
- Lock, E., & Kelly, K. (2020). Ignorance in risk: An exploratory investigation of Australian higher education students' perceptions of their education-employment pathways. *Journal of Teaching and Learning for Graduate Employability*, 11(1), 22-36. <https://doi.org/10.21153/jtlge2020vol11no1art894>
- Maroya, A., Matthewson, G., and Wallis, L. (2019, December). *Architectural education and the profession in Australia and New Zealand*. Architects Accreditation Council of Australia <http://www.aaca.org.au/wp-content/uploads/Architectural-Education-and-The-Profession-in-Australia-and-New-Zealand.pdf>
- Oraison, H., Konjarski, L., & Howe, S. (2019). Does university prepare students for employment? Alignment between graduate attributes, accreditation requirements and industry employability criteria. *Journal of Teaching and Learning for Graduate Employability*, 10(1), 173-194. <https://doi.org/10.21153/jtlge2019vol10no1art790>
- Ostwald, M. J., & Askland, H. H. (2012a). Model and matrices. In H. H. Askland, M. J. Ostwald, A. Williams (Eds.), *Assessing creativity: Supporting learning in architecture and design* (pp. 63-80). Australian Government Office for Learning and Teaching.
- Ostwald, M. J., & Askland, H. H. (2012b). Assessment regimes: Patterns of creative evaluation in architecture and design. In H. H. Askland, M. J. Ostwald, A. Williams (Eds.), *Assessing creativity: Supporting learning in architecture and design* (pp. 81-100). Australian Government Office for Learning and Teaching.
- Parker, S., Dempster, A., & Warburton, M. (2018, July). *Reimagining tertiary education: From binary system to ecosystem*. KPMG. <https://assets.kpmg/content/dam/kpmg/au/pdf/2018/reimagining-tertiary-education.pdf>
- Ravenscroft, T. (2021). *Norman Foster, Virgil Abloh and more share their thoughts on the global impact of covid-19*. dezeen <http://www.dezeen.com/2021/03/11/coronavirus-pandemic-impact-norman-foster-virgil-abloh-sevil-peach/>
- Sandberg, J., & Pinnington, A. H. (2009). Professional competence as ways of being: An existential ontological perspective. *Journal of Management Studies*, 46(7), 1138-1170. <https://doi.org/10.1111/j.1467-6486.2009.00845.x>
- Sarkar, M., Overton, T., Thompson, C. D., & Rayner, G. (2020). Academics' perspectives of the teaching and development of generic employability skills in science curricula. *Higher Education Research & Development*, 39(2), 346-361. <https://doi.org/10.1080/07294360.2019.1664998>

- Shreeve, A. (2010). A phenomenographic study of the relationship between professional practice and teaching your practice to others. *Studies in Higher Education*, 35(6), 691-703. <https://doi.org/10.1080/03075070903254602>
- Song, Y., & McCreary, L. L. (2020). New graduates nurses' self-assessed competencies: An integrative review. *Nurse Education in Practice*, 45. <https://doi.org/10.1016/j.nepr.2020.102801>
- Stead, N., Gusheh, M., & Rodwell, J. (2022). Well-being in architectural education: Theory-building, reflexive methodology, and the 'hidden curriculum'. *Journal of Architectural Education*, 76(1), 85-97. <https://doi.org/10.1080/10464883.2022.2017699>
- Stevens, G. (1995). Struggle in the studio: A Bourdivin look at architectural pedagogy. *Journal of Architectural Education*, 49(2), 105-122. <https://doi.org/10.1080/10464883.1995.10734672>
- Stevens, G. (1998). *The favored circle: The social foundations of architectural distinction*. MIT Press.
- Thompson, J. (2019). *Narratives of Architectural Education: From Student to Architect*. Routledge.
- Thompson, J. & Song, H. (2021). DIAGramming Supportive Learning Environments: Architecture student wellbeing and resilience. *Charrette*, 7(2), 113-133. <https://www.ingentaconnect.com/content/arched/char/2021/00000007/00000002/art00006>
- Thompson, J., Tregloan, K., Soccio, P. & Song, H. (2021a). Dual Delivery Design Studios: Exploring design learning for hybrid cohorts. *Design and Technology Education: An International Journal*, 26(4). <https://rest.neptune-prod.its.unimelb.edu.au/server/api/core/bitstreams/03360d9f-dcf5-5827-9dda-6fdd24c13a28/content>
- Thompson, J., Braglia, R., & Teba, T. (2021b). Qualified Satisfaction: First-year architecture student perceptions of teamwork. *International Journal of Art and Design Education*, 40(1), 146-164. <https://doi.org/10.1111/jade.12342>
- Timpson, M., & Bayerlein, L. (2021). Accreditation without impact: The case of accreditation by professional accounting bodies in Australia. *Australian Accounting Review*, 31(1), 22-34. <https://doi.org/10.1111/auar.12303>
- Tomlinson, M., & Nghia, T. L. H. (2020). An overview of the current policy and conceptual landscape of graduate employability. In T. L. H. Nghia, T. Pham, M. Tomlinson, K. Medica, & C. Thompson (Eds.) *Developing and utilizing employability capitals: Graduates' strategies across labour markets*, (pp. 1-15). Routledge.
- Volkwein, J. F., Lattuca, L. R., Harper, B. J., & Domingo, R. J. (2006). Measuring the impact of professional accreditation on student experiences and learning outcomes. *Research in Higher Education*, 48, 251-82. <https://doi.org/10.1007/s11162-006-9039-y>
- Waite, R. (2021, July 19). 'Lost, lonely and stressed': How covid has hit architecture students. Architects' Journal <http://www.architectsjournal.co.uk/news/lost-lonely-and-stressed-how-covid-has-hit-architecture-students>
- Webster, H. (2005). The architectural review: A study of ritual, acculturation and reproduction in architectural education. *Arts and Humanities in Higher Education*, 4(3), 265-282. <https://doi.org/10.1177/1474022205056169>
- Windsor, C., Douglas, C., & Harvey, T. (2012). Nursing and competencies—a natural fit: The politics of skill/competency formation in nursing. *Nursing Inquiry*, 19(3), 213-222. <https://doi.org/10.1111/j.1440-1800.2011.00549.x>
- Wittenoom, S. & Razbash, I. (2021, September 5). Lessons from the lockdowns, Part 2. *Parlour*. <https://parlour.org.au/parlour-live/light-at-the-end-of-the-tunnel/lessons-from-the-lockdowns-part-2/>
- Yanar, A. (2007). Knowledge, skills, and indoctrination in studio pedagogy. In A. M. Salama, N. Wilkinson (Eds.), *Design studio pedagogy: Horizons for the future* (pp. 63-73). The Urban International Press.