Investigations
in university teaching and learning **vol. 13 summer 2022** **ISSN 1740-5106**

Building Social Justice and Student Wellbeing through Praxis-based Pedagogies

Sandra Denicke-Polcher & George Fereday

London Metropolitan University

Keywords*: live-build, wellbeing, learning-through-making, peer-to-peer cohesion, community, ESJF.*

Introduction

Studies have identified an increasing prevalence of anxiety and depression in students of architecture (AJ 2018, Kirkpatrick, 2018). At the same time, the act of physical making is associated with increased wellbeing (Gaber, 2014) and community cohesion (Denicke-Polcher, 2020), as well as improved learning outcomes (Harriss and Widder, 2014, Fereday 2019, Carpenter 1997). With the ambition to create a learning environment which might improve student mental health and learning outcomes, the School of Architecture implemented a hands-on making workshop as part of the second year curriculum in 2016.

The five-day Mudchute Workshop, part of students' technology module, is now a recurring event taking place off-campus on an urban farmland at Mudchute Farm, London (Figure 1). Through a mixture of construction exercises and experimental workshops, students learn through making: dynamically experiencing the structural properties of building materials, interrogating new methods of jointing, and encountering structural performance and construction sequencing. Through the process of making, the abstract *practice* of architecture can be connected with the *praxis* of building in the real world.

To explore the positive effects on our students, we conducted a wellbeing survey, using the Warwick-Edinburgh Mental Wellbeing Scale (WEMWBS), and an online focus group, both at the end of the academic year 2019-20. The latter included a group of 12 students, who had participated in the 2019 and 2020 workshops and encouraged students to talk to us as much as discussing with each other about the experience and long-lasting effect of the workshops. In contrast, the WEMWBS was based on a set of answers which allows a comparison of benefits over years. Outcomes of both suggested that collaborative making fosters peer-to-peer cohesion, increases self-confidence and wellbeing, and is an effective means of applying theory and synthesising learning. Additionally, both survey and focus group gave us a chance to review the workshops in terms of the contribution to London Metropolitan University's Education for Social

Justice Framework (ESJF)1 set up in 2019. Considering the ESJF's key criteria of (1) inclusive assessment, (2) inclusive leadership, (3) identity, personalisation and reflection, (4) critical theory and pedagogy, (5) relationships and psychosocial environment, and (6) accessibility, we found good practice and identified areas for improvement in the future.

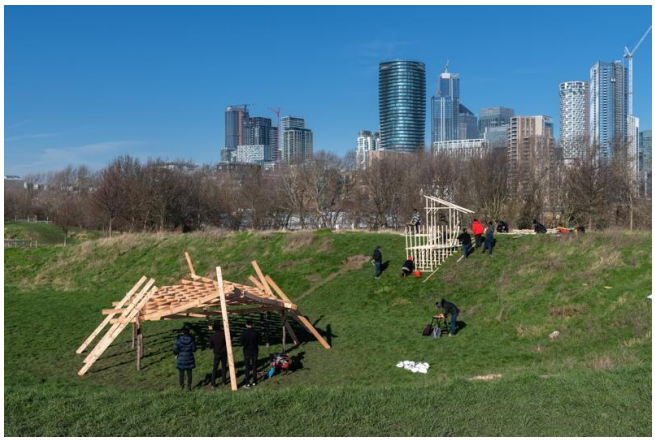

Figure 1: Making workshops on urban farmland at Mudchute Farm

Introducing the Mudchute Workshop in the Context of the ESJF

The primary emphasis of the Mudchute Workshop is building a student community forged through common making experiences and achieving learning milestones through applying theory to practice. At undergraduate level, students often complain of feeling ham-strung by a lack of basic structural knowledge. Model-making can help test ideas, but only offers a rule of thumb as structural behaviours of materials are not scalable.

Every year, three to five separate structures are discussed, designed and assembled from different materials in small groups of 15 students. For the last two years, one of these groups was also given the opportunity to travel to a small village in Southern Italy instead of working in London. Here, the university's links to social enterprises enabled students to work on building projects as a form of skills exchange that benefited the local community and migrants to the region and produced structures which were used beyond the workshop.

Through critical feedback from students and teaching staff, the Mudchute Workshop has been incrementally adapted to improve cohort attainment and learning outcomes. The net result of this is

[1] Reaffirming the university's position and commitment to social justice and social mobility, the ESJF has been forged by a group of staff, Students Union and students to develop a values-led framework, which combines principles of inclusive pedagogy and supports the new University Strategy launched in 2019.

a three-tiered approach to teaching, involving live-drawing lectures, 1:1 making workshops, and model-making exercises. The format of the workshop is also designed to implement the majority of the university's ESJ framework, addressing its key criteria in the following ways:

(1) Inclusive assessment:

The necessity to embrace a diversity of pedagogical experiences is well established in schools of Architecture internationally. Verghaeghe (2017) writes that "the term 'design' creates a distinction between the work of the architecture and its materiality, and the representation of its underlying concept," positing that "architecture can – rather than being taught – be learnt by experience through material-based pedagogies". Such pedagogies challenge traditional concepts of architecture, and draws on the diversity of our cohort and support their practical experience.

Compared to the general population, architecture students have been shown to be "intuitive" as learners. Brown et al found that architecture cohorts "tend to learn best through problem-based learning, colloquia, and group work, and prefer workshops and seminars to lectures", recommending that "a wide range of teaching methods be employed in an attempt to communicate with all students" (Brown et al, 1994). Responding to the literature and student feedback, the school of architecture has developed a mixed-mode pedagogy including making workshops, peer-review and Virtual Learning Environment (VLE) centred self-directed study, providing an inclusive learning environment and equality of opportunity for all learners. For the Mudchute Workshop, this consists of a holistic coursework task and assessment strategy, the Techbook. This requires a balance of written, drawn and physically made components.

A quantitative increase in student attainment (Fereday, 2019) demonstrates that having experienced and documented making at 1:1 scale, the cohort felt equipped to analyse the behaviour of other structures featured in preceding lectures. Since the inception of the workshops, the spread of highest marks has improved with a greater number of higher grades attained. The assessment strategy has also anecdotally improved student confidence in design stage conceptualisation of building structures. This suggests that consecutive time-tabling of 1:1 making followed by reflective exercises of self-evaluation, has reinforced learning as well as helped to implement more inclusive learning. Critical reflections from alumni have confirmed this:

> *"The Mudchute workshop was an extremely useful step in beginning to understand how materials, structures and construction techniques function at 1:1 ... The experience … made it possible to test materials to their limits and to intuitively reflect on how and why they might have failed, for me this kind experience is invaluable. …the observations … are not only applicable to this particular construction but also to other materials and structures, so the knowledge and experience I have gained can be applied to future projects."*
> (Student, 2017)

(2) Inclusive leadership:

Whilst leadership is not explicitly built into the curriculum for the workshop, the peer-to-peer interactions mean that student groups are encouraged to self-organise to achieve their built group structure, whilst also offering a neutral space to practice leadership skills. This freedom to work collaboratively with others is an important preparation for professional practice, where collaboration with a range of consultants and stakeholders is commonplace. This is also an opportunity for tutors to rethink architecture studio teaching to become more inclusive to widen access and participation, guided by self-determined leadership roles within each workshop group.

(3) Identity, personalisation and reflection:

Self-determination and social skills are important aspects of the workshop. Many of our students have multiple external commitments and spend a limited time at the university, e.g., to earn a living, to care for their family members. With high prevalence of depression and anxiety in architecture students nationally (AJ, 2018), the intensive collaborative workshop may counter isolation and anxiety.

Peer-to-peer work may be especially important for students from disadvantaged backgrounds as “they may find it harder to study in environments that are not conducive to learning” (Skidmore, 2020). The Mudchute Workshop may act as a social leveller, and we have moved the workshops earlier in the first semester to maximise its impact.

In all of the workshops, students are asked to decide where to situate their structures, responding to ground conditions, topography and site constraints. Material options are kept simple so as to complete a structure in the time afforded, whilst incorporating periods of critical reflection at each stage of the process. Critical reflection is captured in each student’s coursework design, making and assembly process, incorporating collective discussion, decision-making, written observations, sketches and photography (Figure 2).

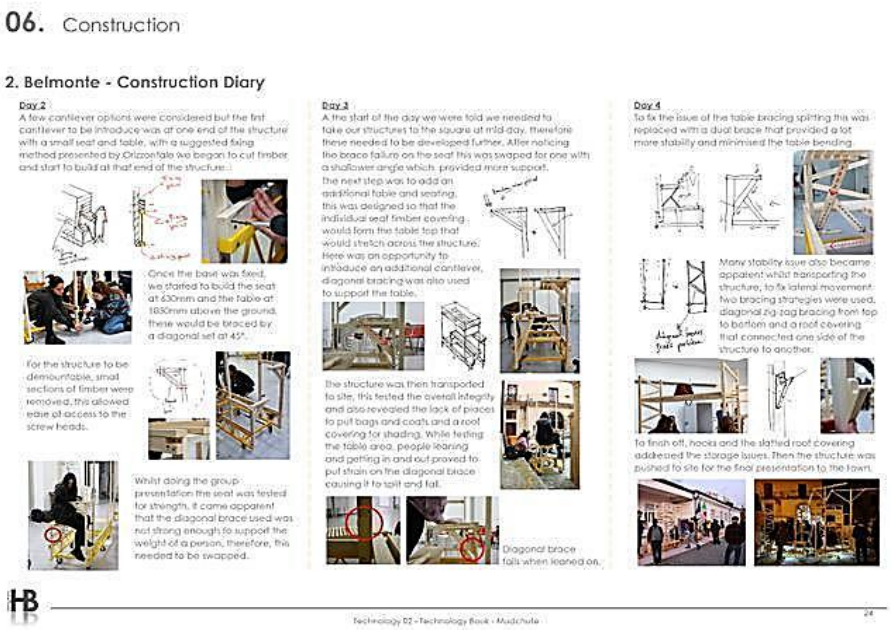

Figure 2: Student workbook page documenting making and assembly process (with permission of student Harry Breeden)

(4) Critical theory and pedagogy:

Praxis, or the enacting of theory, is where conceptual leaps are often made by students having an opportunity to mesh drawing processes and tectonic spatial awareness with the physical properties of materials. Enacting also provides a neutral space where students can come together to forge a sense of community and purpose outside the studio. Many architecture schools offer some form of praxis-based experiences, e.g., Rural Studio or the Centre of Applied Technology (CAT). Such making exercises offer students an opportunity to intuitively enact technical syllabi, but there is also evidence of subtle sociological and psychological benefits that are harder to quantify. These include making's impact on wellbeing, sense of community and development of collaborative skills. The Boyer report on architectural education encouraged the integration of soft skills in students of architecture through a praxis-based approach, posing that *"Architectural education is really about fostering the learning habits needed for the discovery, integration, application, and sharing of knowledge over a lifetime"* (Boyer et al, 1996).

In order to offer our architecture students a breadth of experiences that spans the theoretical, physical and social aspects of the architectural profession, we use a diversity of pedagogies. Learning-through-making has been an effective means of connecting theory and practice, described by one student as an "*indispensable opportunity to learn many skills and [see] how the theory works in practice."*

(5) Relationships and psychosocial environment:

In order to assess how the workshops impacted wellbeing, students of the 2019 workshop were invited to complete a standardised wellbeing survey: The Warwick-Edinburgh Mental Wellbeing Scale (WEMWBS) (Tenant et al, 2007), with the aim of assessing change in wellbeing following participation in the workshop (Ethics Committee ref: RE2007).

Importantly, this study demonstrated that the workshops could be linked to positive relationship building. The large majority of students who completed the questionnaire agreed that the making workshop had positively impacted them, with 100 per cent agreeing that it had increased a sense of achievement (Figure 3).

Figure 3. Bar chart of positive responses to the workshop questionnaire against number of respondents

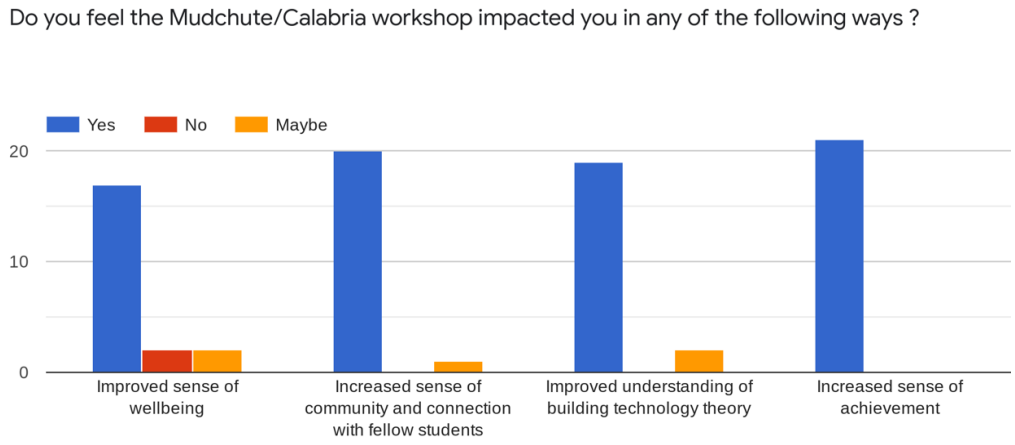

Figure 3. Bar chart of positive responses to the workshop questionnaire against number of respondents

In regards to the links between teamwork and wellbeing, students told us via the focus group, that they had developed stronger relationships with each other. Tutors also observed how students organised themselves to work as a strong team according to their individual strengths and experiences.

Mastery, self-efficacy, empowerment and wellbeing have been evidenced from group making and participatory action in the design and construction of architecture beyond higher education (Heslop, 2020). In our students, collective making did not only reveal the benefits of teamwork, such as coming up with better ideas together than individually (Figure 4). The focus groups highlighted how collaborative experience created a sense of achievement which improved student wellbeing and learning outcomes. The workshops gave students space to practise essential collaboration skills needed as architects. One student explained:

"I made new friends but also I learned from others, exchanged information. Collaborating and working as a team improved my communication skills, also proved that a team can solve a problem quicker than an individual."

Figure 4: Teamwork building the space frame structure, 2020

(6) Accessibility:

Siting the making workshop on Mudchute community farm in Tower Hamlets which is close to the Aldgate campus and accessible by public transport, meant that the majority of our students were able to attend. All tools, materials and PPE are provided, without additional cost to students.

For those students that cannot attend, a distance-learning alternative is available. Whilst this does not replicate the physicality of making outdoors, it does hone students' research and critical reflection skills through analysis of projects of similar scale.

The Future of the Mudchute Workshop

Over the last six years the Mudchute workshops have demonstrated alignment with Londonmet's ESJF key criteria. During the Covid-19 pandemic in 2020, allowing face-to-face teaching in an outdoor environment was a rare opportunity for social interaction and collective learning.

The ESJF has been a useful tool to reflect on our methodology and identify areas for improvement. For example; (2) inclusive leadership and (4) critical theory. Adjustments such as a requirement for each student to participate in leadership roles within their group, may offer one way to address this.

The workshops are particularly successful in response to the ESJF's criteria (5) Relationships and psychosocial environment. The workshops' diverse pedagogies enable different learners to succeed in their studies and reaffirm the University's position of celebrating the diversity of its students. As feedback revealed, the intensity of the workshops has led to a sense of belonging to each other which continued when the students returned back to the design studio. This *belonging* certainly can be seen as a key element for improved retention and achievement.

The two workshops in Southern Italy have highlighted the benefits of involving local communities in the making process and working on a structure which has a functional life beyond the workshop (Figure 5). Students felt that their actions were "*meaningful*", in turn affecting students' self-esteem, as they were "*given purpose and trust*". As a consequence, our future aim is to work at Mudchute with local communities and build a collection of permanent farm structures over time, helping the University's positive contribution to the city and local communities in which our students work. It might be worth mentioning the superdiversity of the local population

Figure 5: Urban furniture pieces constructed during the 2018 workshop in Calabria. Used for outdoor public exhibitions and events

References

(author- Architects Journal?) AJ Student Survey (2018). <https://www.architectsjournal.co.uk/news/student-survey-only-the-rich-need-apply-to-study-architecture/10033472.article> [accessed 6th April 2020].

Boyer, Ernest L. and Lee D. Mitgang. (1996) Building Community: A New Future for Architecture Education and Practice: A Special Report. Jossey-Bass Inc., (Preface xvi)

Brown, R., Hallett, M. and Stoltz, R. (1994). Student learning styles in landscape architecture education, *Landscape and Urban Planning,* 30.3, pp. 151-157.

Carpenter, J. (1997). Learning by building: Design and construction in architectural education. New York: John Wiley & Sons.

Denicke-Polcher, S. (2020). Expanding the Scope of Architectural Education: Creating a culture of global citizenship for students, *Charrette 6(2): Learning through Practice.*

Fereday, G. (2019). Learning structures in Architecture: a 'triple-lock' approach to pedagogy, *Investigations in university teaching and learning,* 12, pp. 24-30.

Gaber, T. (2014) The agency of making and architecture education: Design-Build Curriculum in a New School of Architecture, *ArchNet-IJAR: International Journal of Architectural Research*, 8(3), p. 21.

Harriss, H. and Widder, L. (2014) *Architecture live projects: Pedagogy into practice*: Routledge.

Heslop, J. (2020) Learning through building: participatory action research and the production of housing, *Housing Studies*, pp. 1-29.

Kirkpatrick, M. (2018) Mental wellbeing and the architecture student. <https://absnet.org.uk/system/files/Dissertation%20-%20Melissa%20Kirkpatrick.pdf> [accessed 6th April 2020].

Skidmore, C. (2020) If universities shift online, we risk more poorer students dropping out, *The Guardian*. <ttps://www.theguardian.com/education/2020/may/04/if-universities-shift-online-we-risk-more-poorer-students-dropping-out> [accessed 1st November 2021].

Tennant, R., Hiller, L., Fishwick, R. Platt, S., Joseph, S., Weich, S., Parkinson, J., Secker, J., Stewart-Brown,S. The Warwick-Edinburgh Mental Well-being Scale (WEMWBS): development and UK validation. Health Qual Life Outcomes 5, 63 (2007). https://doi.org/10.1186/1477-7525-5-63Verhaeghe, G. (2017) Learning Architectural Design. Material and Immaterial Aspects, *The Design Journal*, 20 sup1, pp. 1140-1153.

Biographical note

Sandra Denicke-Polcher is Deputy Head of Architecture at AAD, London Metropolitan University, an architect and National Teaching Fellow (HEA). Her work identifies the complex relationships between architectural education and practice, exploring how learning can be enhanced by the involvement of stakeholders and communities. She has worked on community live projects in the UK and abroad. She co-runs Crossing Cultures in Southern Italy, which addresses issues around migration, settlement and identity, and collaborates on a multidisciplinary research project about mental health and the reactivation of marginalized areas. She published on "Architecture of Multiple Authorship" in Architecture and Resilience (Routledge 2018), on how such projects "support Intercultural Learner Relationships (Routledge 2021), and on Crossing Cultures' creation of a culture of global citizenship for students (Charrette 6(2) 2020).

(s.denicke@londonmet.ac.uk)

George Fereday is Associate Teaching Professor of Architecture at AAD, London Metropolitan University. George formerly conducted research at the Centre for Natural Materials Innovation at The University of Cambridge and worked in practice at Foster+Partners Architects. George's teaching interests include use of natural materials in construction, learning through making, and the reciprocal relationship between teaching and research. He is a member of *Making Matters*, part of the CreATuRE Research Centre at London Metropolitan University (Research Centre for CREative Arts, culTURes and Engagement).

(g.fereday@londonmet.ac.uk)