

Bringing back hands-on type learning for Interior Design Students down- under

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ABSTRACT

During the 2020 Covid-19 lockdown in New Zealand, and the attendant Zoom sessions that proved exhausting for both Design students and tutors alike, it seemed a reset was required to encourage a more enjoyable, tactile way of learning and assessment for these drained students. Based on a cohort of over 40 Interior Design Students in a 2021 Construction type course at Unitec / Te Pukenga, this paper case studies a proposal to abandon essay writing and embark on a 1:20 scaled model of a partial interior as a new form of assessment for this course. Light timber balloon framing is the mainstay of residential construction in New Zealand, and knowledge of this construction method is at the core of the required learning. Allowing the students to 'design' their own interior space on the inside of the walled model allowed real 'buy-in' for them. This assignment was transformed from a chore to a form of enjoyment. The students were given an in-the-flesh cooking-school-type demonstration on model-making, tools, materials, and model-making techniques. The students were then allowed to bring in partially completed models to get one-on-one feedback from the tutor in the classes leading up to the final hand-in. For the tutor, these models provided rich material for their individual formative and summative assessments. This paper will unpack this 'on-the-fly' experiment and research various pedagogies to ground this application as a valid way of providing an experiential way of learning for the student and speedy marking for the tutor.

KEYWORDS: Experiential Learning; Hands-on learning; Real-world learning; Crafting knowledge.

1. INTRODUCTION

Learning should be enjoyable for the student just as tutoring (along with the attendant marking) should not be tedious for the tutor.

This paper arose out of tiresome and longwinded Zoom sessions during the Covid-19 lockdowns in New Zealand in 2020, when some students only presented their "black rectangles" to me (a couple of female students later admitted they were out together shopping for one 4-hour Zoom session!). Indeed, at times it really did seem as I was 'speaking to the void', as architect Adolf Loos similarly titled a collection of his essays: *Spoken into the Void* (Loos, 1987). Thinking about how to improve this dichotomy, I recalled watching cooking shows on television when I was younger. These were an excellent way to view

hands-in-motion food preparation and cooking techniques and I would often think, 'That doesn't look so hard - I could do that too!' Afterwards I sometimes emulated making the dishes, remembering the visual cues, tips, and tricks that I witnessed and gaining some confidence in my cooking skills. These days this is made even easier with YouTube 'pause-go-back-replay' function controls.



Fig. 1. Interior side of a student model

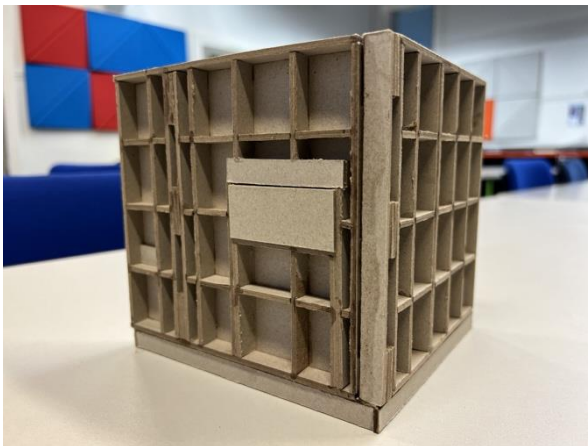


Fig. 2. Framing side of a student model

2. METHODOLOGY

This paper reports on an experimental assignment, driven by recent past dissatisfaction from students and tutor alike regarding an Interior Design assignment. It explores why it is important for Interior Design Students to learn about timber framing in association with footings, foundations, claddings, and roof structures (that is, elements outside the ‘interior’ of a built space), and how best to do this. I reflected upon past difficulties and then ‘framed up’ (forgive the pun), visualized and sketched possible scenarios. In conjunction with ‘close reading’ of various texts on experiential learning, tactile learning, and craft, I formulated and wrote up a new approach (including building a scaled model myself to check that it would all work when it came time to give a live demonstration in front of the student cohort. This is in line with Caroline Humphrey’s three stage development process of experiential learning, namely: “reflection; reframing; and reform” (Humphrey, 2009, p.378).

3. METHOD

I think it is useful here to outline the majority of the Assignment (so the reader can get a feel for the assessment event):

Arch. Technology Assignment 1A:

Build a 3D construction model (worth 24% of overall course weighting).

“[Each student] is required to construct a physical model (not smaller than 1:20 scale) of a part Interior of a Bathroom showing aspects of New Zealand’s light timber framing type construction.

The model is to comprise a floor and two walls only, so we can view into the model interior and see the framing making up the surfaces, from the ‘outside’.

You can find an image on the Internet and print that onto A3 sized paper, or you can design and draw up one for yourself. You will need a Plan and two internal Elevations to suit the following:

- It should have tiled floor (a ‘fibre-cement diaphragm’– for your model this will be cardboard), on floor joists (we suggest 190 x 45mm @ 600mm centres).
- A recessed wall cabinet, say 800mm wide (can be any height), such that it needs a lintel and some trimming studs (NB. Assume the wall studs are 90 x 45mm @ 600mm centres with nogs at 800mm centres).
- It must have one of the following options (you will need to construct the associated blocking to support your chosen option):
 - A wall-hung vanity/wash hand basin
 - A wall-hung toilet
 - A wall-hung bench

NB. The actual wall-hung toilet/vanity/WHB/toilet/bench itself does not have to be modelled if it is complex. Remember though – “What you put in, you will get out.”

- Your ‘framing’ can be cut from cardboard, or you can buy some balsa (but no need to break the bank!) Whichever you chose, they should be all at 1:20 scale (or 1:10 if you really want too).” (Rennie, 2023)

In class I gathered the 40 Interior Design students around a long table (rather like a cooking class), initially showing them the tools for good model making (which would also be useful for making ‘colour sample boards’ in real life as an Interior Designer). The tools included: a cutting board, good craft knife (with snap-off blades – so always sharp), a scale rule, a steel ruler (to cut against), everyday PVA glue, and a glue stick. I also briefed the students on Health & Safety issues around the use of the sharp craft knife. I then set about demonstrating how to make the model, giving them verbal ‘tips and tricks’ whilst measuring, cutting, and gluing some of elements together. I didn’t make the whole model in front of the students, but I did pull out my completed scaled model in a *voilà* moment. This was mainly to show them that it could be done, and that “they could surely do much better than *moi*”.

4. RESULTS AND DISCUSSION

Model making by architects/interior designers is not new of course. As designers we often want to get a sense of the whole designed space in miniature, how the light activates the forms and how the whole thing ‘feels’. For further reading on models as design tools that react to natural light as real-life spaces do, refer also to *Miniature Fictions* (Rennie, 2014, pp.135-49).



Fig. 3. Interior side of a student model



Fig. 4. Framing side of a student model

Many architects are deeply interested in how junctions are articulated, and to this end 1:1 scaled joints are often mocked up, in particular to analyse their feel with the human hand. One good example is Studio Mumbai’s work (I was lucky enough to see first-hand their exhibition *Work-Place* at the Venice Biennale in 2010). “Studio Mumbai is composed of a few

architects and nearly a hundred craftsmen – carpenters, masons, plumbers, electricians, and stonecutters – all working full time. Their work is based on a constant dialogue” (Jain, 2011, p.8). This idea of a tactile conversation between the macro and the micro is vital to assuring the designer and client that what is being proposed is compelling at all scales.

A model (or Marquette) is a ‘proposal’ rather than the final product and “its excellence can stimulate us, not to imitate, but to innovate [further]” (Sennett, 2002, p.101). In art and design, designers use Marquette’s to get client approval, in presentations seeking funding, and to check how their ‘new-born’ feels at this interim stage between the brainwave idea and its final realization at full size.

Asking students to get up from their lecture theatre pews and gather around the front table changed the spatial dynamics of the lecture theatre space for an hour or so. The sense of ‘him versus us’ (tutor versus student cohort) dissolved and there was some banter exchanged around “Where is your cooking apron Sir?”, among other comments. The soporific passive lounging induced by lecture room seating was disrupted by a kinesthetic reversal: the students had to stand, and the tutor sat! Some students (mainly English as a second language students) even used their phones to record the model-making demonstration (without asking I hasten to add – one assumes that the common everyday use of cellphones now exempts the phone owner from any issues of copyright).

As of early May 2023, this new assignment incorporating ‘hands-on’ learning within the Interior Design Level 5 Diploma Course is in its second year. It has proved so successful that a student and all the built models were filmed for a 30 second ‘Tik Tok’ clip that is being used by Unitec as part of their promotion of the whole Interior Design course. Obviously, a selection of visible built work is much more accessible and understandable for prospective students (and enquiring parents) than say an image of an essay assignment.

I am also a practicing Architect and Unitec has a ‘Real-world Learning’ mantra, so I try to make all my sessions as relevant as possible to the world outside tertiary education. I am also a tutor on a Landscape construction paper, where one student task is physically building a 1:1 scaled model (using the real materials) of a construction (junction) detail that is part of their designed Garden. The analogy I use is, “I could waste your time (and mine) by explaining how the long grain of piece of timber can catch a handsaw blade and draw it away from the cutting line, versus cutting across the grain!” It’s much better to simply give the student the saw and let them experience this for themselves. Their bodies and minds soon learn by feeling the force of the latent structure of the timber, which can take over the saw as they cut.

By slowing down (and one must slow down when using a sharp cutting knife), experiencing making or ‘crafting’ via hands-on learning, and turning on your

'fave music' as you work, suddenly the assignment is no longer a mere chore. The making is deeply satisfying (and your admirers will exclaim, "You made that – WOW!").

The tactility of making allows the student an intimacy with each junction, each material. Contrast this type of handcraft with our ever-increasing virtual engagement with the world (for example, on-line shopping and on-line social networking). Akiko Busch argues that in fact we need this tactility to counter these other virtual activities in equal and opposite measure. Partaking in such "tangible experiences...demand[s] we use our abilities to see, smell, hold and touch in a real and visceral way" (Busch, 2004, p.44).

What I am trying to do with this assignment is to get students to be "active" (to get them out of their 'drone like' school homework mode) and start taking control (of a sharp knife) and making decisions for themselves ("cut here, not there...oops...should have measured twice and cut once!...Oh well, I will have to cut another"). This conversation with oneself is what builders occasionally do in real life too (when they are not concentrating!).



Fig. 5. Part Interior / part framing side of a student model



Fig. 6. Framing side of a student model

David Kolb talks about experiential learning "as a particular form of learning from life experience often contrasted...with lecture and classroom learning" (Kolb, 2015, p.xvii). Lectures are often boring and have been proven not to be a good way of transferring knowledge to students (refer to the writings of Mann and Robinson (2009), as an example). With boredom, comes thoughts of how to get around such ineffective tutoring, and unethical outcomes such as outside people being paid to write assignments on a student's behalf can undermine the whole education system.

With the impending tsunami of AI (Artificial Intelligence) threatening Education as a whole, such personalized and hands-on type assignments can help Universities and Polytechnics to provide fair and meaningful tasks. Likewise, such hands-on course elements provide the tutor with a robust foundation upon which to base the corresponding feedback (and grade). I ask the reader, "Is it fair that some students are diligently researching a topic, in the library or online, and then spending many hours writing an essay for submission (for credit towards their degree/diploma), while knowing that some of their cohort are cheating (using mere minutes of time) via the use of AI to make a similar submission for the same assignment?"

In a perfect world tertiary level tutors are looking for 'deep world learning' (not related to the virtual world or AI machines) and real student understanding, rather than surface learning. Paul Ramsden rather wittily uses the term "deep-holistic and surface atomistic" (Ramsden 2003, p.43). Among the 'student types' I currently tutor are a mother working part-time to pay for childcare whilst re-training at uni, another mother who brings her baby (along with the paid babysitter) into the building foyer whilst she attends my 4-hour Design Studio sessions, and many 25-year olds who have to hold down three part-time jobs to pay their 'uni fees' (and do the 'homework' in between times). It seems everyone is 'busy, busy' in this uber-paced world, and thus we see many students wanting to obtain just enough information to pass the paper. As a result, a 'once-

over' grazing to gather enough information to get a pass grade seems to be the current fad. The reader can see the attraction of AI for students struggling with the many demands of their lives. Other students want to 'pass well' and are not shy about bluntly asking tutors, "What do I have to do to get an 'A' Grade?" Using AI is very tempting to not just 'get ahead', but to 'get well ahead'.

When I piloted the course, once the students commenced their models (and before the final hand-in), I allowed them to bring their partially completed model into class to receive some verbal feedback from me (only if they wanted too – it wasn't compulsory). Again, there was some banter exchanged as I asked them to leave their lecture theatre seats and "queue up outside my office!" And again, I sat at the front table so I could look at each model in turn. We were all in a small lecture theatre (with 40 students). Such open-plan spaces are how most real-world Design offices are set up these days, so that people can overhear conversations and learn from each other in a subtle 'eavesdropping' way. Similarly, all the students could hear my feedback and suggestions to other students as I critiqued their models. Note: I did not critique the 'Interior' side of the model (that is their domain), although I always said something positive (for example: "looking great" or simply "woah"). But there are structural rules, regulations and ways things are done within the Building Industry that have to be respected and learnt by newcomers. So, if the student put a timber stud in the wrong place, I told them so. Then, at home, they would cut it out. Whereas in reality, a builder might use a reciprocating saw, the student would cut out the incorrect 'card stud' with their knife (and associated glue) and insert a new stud in the correct place. What is fascinating is that these two processes (although at different scales) are very similar in a kinematic way. It is like 'real-world learning in miniature' and engages students in a way that abstract learning cannot. This type of bodily learning may not be called upon straight away, but the hope is that a few years down the track, students might think back and say to themselves, "Oh yeah, this is like the time I tried to hang a wall vanity off fresh air – and that tutor showed me how I needed some timber blocking behind the wall so it could be fixed securely." 'Summative and formative assessment' is the other side of the learning/tutoring coin. For me, viewing the freshly submitted models en masse still provides a buzz in the second year of the course (and fellow staff members' "oohs and aahs" bring smiles all round). Firstly, getting 40 different solutions to the same assignment brief is uplifting. I always get students to hand-in on a large table in the school foyer at 9.00am – so they can see each other's efforts and hear the "oohs and aahs". Then they can all relax (having achieved a hand-in) and I take them off-campus on a site visit (rather than have them sit through a 3-hour class session led by me!) It is also good for me not to have 40 essays (construction related) to read and grade. It

should be noted that these days, student essay responses seem to be very similar (bordering on repetitive). Students of today use Facebook to share found links from the internet, so the resulting essays are often very similar.

However, when it comes time to grade the 3D models in private, each model can be picked up and viewed from multiple angles (for example making it easy to judge the height of an interior wall-hung vanity versus the height of the blocking (to support it) on the wall framing side of the same wall). So, construction accuracy is easily judged by me, and dare I say, 'the marking is speedy'. I am of the opinion 'that within Design courses, what you put in – you will get out'. So visually assessing, checking, and grading is simple, in fact pleasurable with these physical models. Moderation of the grades is also straightforward as although the other members of staff don't really know much about construction (they defer to me on that aspect), they know what a 'lot of work looks like!' Unitec requires a marking rubric to be filled out for each student (showing grade categories and related descriptions). But I always add various personal comments: it never hurts anyone (at any stage of life) to receive praise! Even though it takes me longer to make individual (and unique) comments on each student's work, I consider the payback worth it. Full attendance in class and casual "hellos" on campus from students all help 'oil the education wheel'.

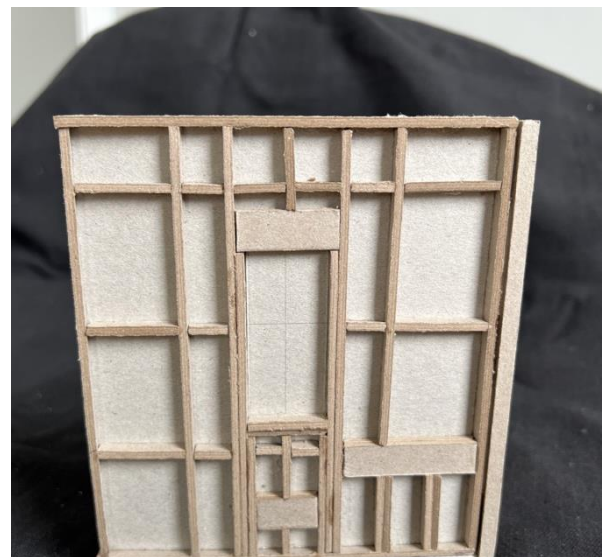


Fig. 7. Framing side of a student model

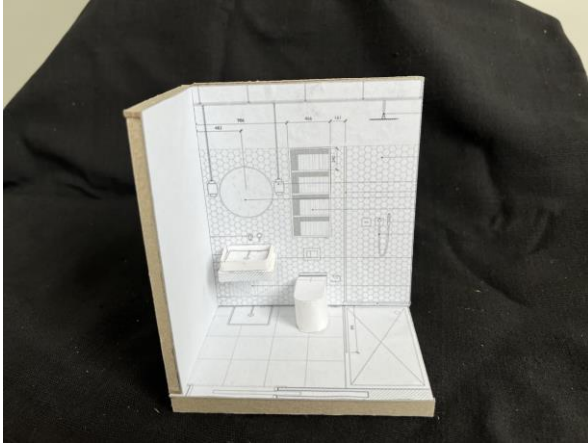


Fig. 8. Interior side of a student model

As Ramsden (2003) states more formally, “It is...apparent from what we have heard from students that a deep [learning] approach is very much more satisfying way to study. It allows students to use academic knowledge to control and clarify the world outside academic knowledge” (p.60).

5. CONCLUSION

After this year’s version of the same assignment, one student quipped, “Are all the assignments making models?” (My answer to her was a disappointing “No, construction detail drawings, and a test are to follow.”) But within a recent external review (January 2023), the reviewer cited this model-making as a “wonderful departure from tedious rote-learning of building codes...and the follow-up detailed drawings affirm the built [scaled model] learnings” (Ashworth, 2023). The observation that the physical model-making is not the total answer to learning is important to highlight here. However, the affirmations that it is a “good way to start a course” (Ashworth, 2023) to get some ‘buy-in’ from the students (by being allowed to ‘design an interior’ so early in the course) were good to hear. The reviewer also commented that the student must take note that their design decisions have construction ramifications (‘through the wall’ so to speak), with other modes of communication (for example drawing a technical detail) an excellent follow-up to the hands-on activity and helping to provide a well-rounded course. As again summarized by Ramsden (2003), “Certain general characteristics...the high structure, a strong knowledge base, ability to apply one’s own and other people’s ideas to new situations, and [the] integration of knowledge...[are] the aims of [tertiary tutors]” (p.60).

All learners are different. Some like reading/reflecting/writing, while others enjoy ‘getting in there amongst it’, getting their hands dirty via making something. Maybe it is primal, stemming back to making ‘mudpies’ on river picnics or ‘building sandcastles’ at the beach as children.

I am sure this type of engagement with materials and associated learnings has room for improvement by

other researchers and it will be good to see the impact on future tutoring methods.

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