

Intangible heritage as pedagogy: reorienting architectural education through the Confluence Studio

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ABSTRACT

Architectural education in Australia has historically emphasised formalist and aesthetic concerns, often marginalising the social, cultural and ecological knowledges that shape lived environments. This paper repositions intangible cultural heritage (hereafter 'ICH') not as ancillary content, but as an epistemic and ethical framework for rethinking architectural pedagogy. Drawing on Pallasmaa's reflections on embodied and sensory knowledge, Ingold's anthropology of making, and Huppatz and Day's decolonising approaches, it examines a third-year design studio that foregrounded making as a primary mode of learning. The Confluence Studio, centred on designing a South Sulawesi Sea Cultures Centre in Tana Beru, Indonesia, unsettled conventional practices: drawing was displaced by model-making, oral traditions informed spatial logic, and Indonesian terms served as conceptual scaffolds. Students developed tactical interventions translating intangible cultural knowledge into form, program and material strategies.

Pedagogical methods combined theoretical principles of linearity (Ingold), verticality (Bachelard) and confluence (Zumthor), cross-cultural translation of language, and iterative maquette-making to foreground relational, embodied and process-driven design thinking. Subsequent drawings articulated programmatic and spatial relationships.

Findings indicate that ICH-informed pedagogy can transform studios into laboratories for memory, relational exchange and future-making. By privileging hands-on, culturally attuned and iterative methods, the studio demonstrates how architectural education can cultivate designers capable of socially, culturally and ecologically responsible practice, extending beyond purely formalist frameworks.

Keywords

Architectural pedagogy, intercultural design, maritime heritage, maquette-making, Confluence Studio, embodied knowledge.

Introduction: locating intangible heritage in architectural pedagogy

Formal and aesthetic concerns have historically been privileged over social, cultural and ecological knowledge in architectural education in the Australian context. These design processes often limit students' engagement with the broader contexts in which architecture operates

(Rendell et al. 2001; Salama and Patil 2025, 61). Yet, architecture and the design of the built environment are inseparable from the intangible dimensions of place. These crucial attributes include oral histories, ritual or socio-cultural practices, embodied skills and cultural memory, all of which are central to shaping the complexities of lived experience of built environments. Establishing ways and

means of relating the significance of intangible agents of human environments needs greater emphasis in pedagogy. Translating these dimensions into pedagogical practice remains limited, constraining students' capacity to engage meaningfully with the social, cultural and ecological contexts that inform design.

Globally, intangible cultural heritage is recognised as a vital component of sustainable and ethical design (Jimenez de Madariaga and Lazaro Ortiz 2022). Salama and Patil (2025) highlight that architectural pedagogy continues to lack a coherent framework for embedding socio-cultural knowledge into studio teaching, limiting opportunities for students to develop civic agency, critical reflexivity and relational understanding. In Australia, the 2021 National Standards of Competency further emphasise designing on First Nations' Country, reinforcing the urgency of culturally responsive pedagogy. Huppertz and Day (2022) advocate for Indigenous-informed approaches that reject *terra nullius* as a conceptual blank slate, framing Country as an active, relational and methodological partner in design. This orientation positions intangible heritage – knowledge systems, oral traditions and cultural practices – as central to both pedagogy and design.

ICH is understood in dialogue with UNESCO's definition as practices, expressions, knowledge systems and skills transmitted across generations that communities, groups and, in some cases, individuals recognise as part of their cultural heritage (UNESCO 2003). However, rather than treating ICH as content to be documented or preserved, this study operationalises it as a generative and process-based form of knowledge within design pedagogy. The term 'ethical' is used here to refer not only to cultural respect, but to relational modes of engagement that recognise knowledge as situated, embodied and co-produced. Similarly, 'oral tradition' is not limited to verbal transmission, but encompasses gesture, observation, imitation and making, reflecting the multimodal ways in which knowledge is sustained within vernacular and craft practices.

This paper positions ICH not merely as content to be documented but as a pedagogical driver. Drawing on Pallasmaa's (2017) reflections on existential and embodied knowledge, Ingold's (2013) anthropology of making, Escobar's (2018) pluriverse, and Huppertz and Day's (2022) decolonising processes, it examines the Confluence Studio, a third-year undergraduate architectural design studio.

Situated in Australia but remotely focused on the South Sulawesi Sea Cultures Centre in Tana Beru, Indonesia, the studio foregrounded 'making' as an epistemic tool. Drawing was deferred in favour of maquette-based exploration; oral traditions informed spatial logics; and Bahasa Indonesian terminology (*muara, garis, jalur, alur, menjulang*) scaffolded conceptual thinking. Students developed *taktiks* – tactical interventions translating intangible cultural knowledge into architectural form, program and material expression. These methods operationalised intangible heritage through the theoretical drivers of Ingold's (2013) linearity or line/path/flow (*garis/jalur/alur*), Bachelard's (2014) verticality or height (*menjulang*), and Zumthor's (2006) confluence, figuratively point of convergence (*muara*), bridging cultural understandings and embodied design thinking.

The Confluence Studio also resonates with scholarship on Australian First Nations' vernacular knowledge. Memmott (2007) demonstrates how Aboriginal architectural traditions are grounded in cultural practices, oral transmission and ecological relationships – all forms of intangible heritage extending beyond material shelter. McKenna (2014) highlights Indigenous protocols, such as Welcome to Country, as symbolic but contested forms of ICH recognition, while Moreton-Robinson (2015) critiques settler-colonial frameworks for obscuring Indigenous epistemologies. By observing these insights, the studio was pedagogically designed to feature the South Sulawesi site not as a blank canvas but as an active relational system. Through ethnography, language and making, students translate intangible heritage into spatial sequences, thresholds and layered programmatic relationships, demonstrating how ICH can be operationalised to foster intercultural, ethically engaged and heritage-informed design practices.

This paper investigates how intangible cultural heritage can be mobilised as a central driver of architectural pedagogy, shaping not only what students learn but how they learn. Traditional Australian architectural education has historically privileged formal and aesthetic concerns over social, cultural and ecological knowledge, limiting engagement with the broader contexts in which architecture operates (Rendell et al. 2001; Salama and Patil 2025). By foregrounding ICH, encompassing oral traditions, craft practices, ritualised knowledge and embodied skills, as both method and content, this study positions students' engagement with heritage as an active,

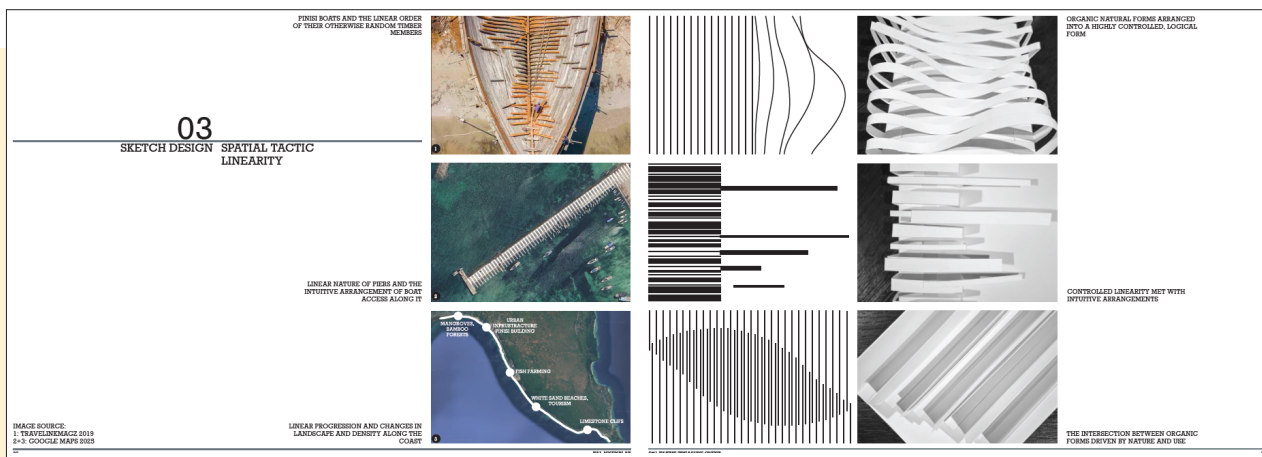


Figure 1
 ©Tal Nisenblat, DBAE student, 2025, Confluence Studio ARCH3050_maquettes_L-R linearity studies.

generative process that informs design thinking, making and spatial reasoning. In doing so, it situates architectural education at the intersection of culture, ecology and ethics, demonstrating how studio teaching can cultivate reflexive, socially responsive and interculturally informed architects. **Figure 1** demonstrates Tal Nisenblat's interpretation of the intersection of culture and ecology in her articulation of pattern forming and making.

Responding to this gap is increasingly urgent. Taken together, these perspectives call for pedagogical approaches that acknowledge architecture not only as the design of physical form but as the negotiation of cultural practices and living knowledge systems. Responding to this challenge, the socius-centric model proposed by Salama and Patil (2025) offers a way of reimagining the design studio as a site for co-constructing knowledge through dialogue, iterative feedback and embodied processes of making.

It is precisely at this intersection that the Confluence Studio is situated. Conceived as a pedagogical experiment bridging Australian and Indonesian contexts, the studio deliberately centred intangible heritage – from oral traditions and craft practices to culturally embedded ways of making without drawings – as a driver of design thinking and learning itself. This paper illustrates, by aligning Huppatz and Day's (2022) notion of Country as methodology with Salama and Patil's (2025) socius-centric pedagogy, how architectural education can move beyond abstract formalism towards intercultural, ethically engaged and heritage-informed design practice.

Salama and Patil (2025) argue for framing the studio environment as a site for co-constructing design knowledge through dialogue, iterative feedback and interdisciplinary exchange, rather than a space where students passively absorb pre-defined solutions. These developments align with broader social and political transformations, including urban renewal, social housing agendas and the reclamation of historic environments, which have exposed the limitations of the canonical tradition in architectural education (Salama and Patil 2025). In response, community design centres and related initiatives emerged, mobilising students and tutors to engage directly with under-resourced communities through practice-based, participatory learning. These initiatives emphasise real-world engagement, social responsibility and the co-production of knowledge, challenging the perception of the architect as an isolated visionary and repositioning them as a socially embedded, critically reflective agent. Critical pedagogy further complements this approach, reconfiguring traditional teacher–student relationships so that knowledge emerges dialogically, grounded in the lived experiences of all participants (Salama and Patil 2025). By situating students within real-world socio-political and ecological contexts, studios can foster reflexive, ethically informed and culturally responsive design practices. Salama (2021) calls for transcultural and interdisciplinary approaches that embed cultural knowledge as central to spatial production, while Hadjiyanni and Zollinger (2013) similarly emphasise process-oriented pedagogies that foreground cultural diversity and identity in design education.



Figure 2
 © Tal Nisenblat, DBAE student, 2025, Confluence Studio ARCH3050_maquettes_L-R confluence studies, where patterns emerged in the student's understanding of the South Sulawesi context and were integrated into her design concept.

Within this context, the Confluence Studio at (the antecedent institution to Adelaide University in 2026) the University of South Australia [2025] operationalises these principles through engagement with the intangible heritage of South Sulawesi, including oral traditions, maritime practices and ecological knowledge. Here, ICH is not peripheral; it constitutes the epistemic core of the studio, structuring how students investigate, interpret and translate cultural knowledge into architectural form, space and materiality. Students are guided by theoretical frameworks of Ingold's linearity, Bachelard's verticality and Zumthor's confluence, and by using Bahasa Indonesian terms (*muara, garis, jalur, alur*) to bridge cultural understandings and to scaffold thinking. The studio encourages students to approach design problems through making as an epistemic tool, privileging maquette construction over conventional drawing, and then translating the maquettes into programmatic and formal articulations.

The studio thus exemplifies a pedagogical model where intangible heritage drives learning, making and design thinking. By situating students' design work within living cultural, ecological and relational contexts, Confluence Studio demonstrates how architectural education can transcend formalist conventions, producing graduates capable of culturally embedded, ethically engaged and socially responsive design practice.

This paper positions intangible cultural heritage not merely as content to be documented or preserved, but

as a generative force within architectural pedagogy. By foregrounding ICH, design studios can become sites where learning, making and critical thinking are deeply intertwined with the social, cultural and ecological knowledge embedded in communities. The Confluence Studio exemplifies how ICH actively shapes both the process and outcomes of architectural design, guiding students' epistemic and creative engagement.

Confluence Studio's approach resonates with contemporary scholarship advocating Indigenous-informed design methods. Huppatz and Day (2022, 4–5) emphasise that in Australian Indigenous contexts, design cannot be reduced to discrete artifacts or symbols; instead, it encompasses a holistic understanding of relationships among people, objects and environmental systems. Figure 2 demonstrates one student's *taktiks* (tactics) for applying patterns she saw in the landscape to her building concept. Page and Memmott (2021) similarly note that contemporary First Nations designers embed design within ecological, sacred and social systems, aligning closely with the Confluence Studio's operationalisation of ICH from South Sulawesi. Here, ICH is treated as a core pedagogical driver shaping both process and outcomes.

The studio also engages with the reconsideration of space advocated by Huppatz and Day (2022, 5–6). Western architectural pedagogy often treats space as abstract, universal and measurable (Yusaf 2019). In contrast, Indigenous spatial models consider relationality, cosmology and the agency of place. As Smith (2020,

51) observes, Western representations of Indigenous space have historically transformed land and culture into a spatial image of the West, rather than reflecting Indigenous worldviews. In Confluence Studio, ICH informs how students conceive, sequence and inhabit space, foregrounding relational and processual thinking.

Building on these debates, the Confluence Studio was conceived as a testbed for incorporating intangible maritime heritage and intercultural knowledge as central generative agents in architectural design education. Students were tasked with designing a Sea Cultures Centre in Tana Beru, South Sulawesi, a site renowned for its traditional boatbuilding tradition and long-standing trade with First Nations Australians, particularly the Yolŋu people of Northeast Arnhem Land. The studio foregrounded intangible heritage, maritime practices, ecological knowledge and intercultural exchange as primary drivers of spatial, material and programmatic decisions, rather than as secondary content. Through oral traditions, craft practices and maquette-making, students explored territorial imagination via Bahasa Indonesian terms such as *wilayah* (to make territory), privileging making over drawing to embed ICH directly in the epistemic process of design.

This article reflects on the following questions: What pedagogical methods best support student engagement with remote sites and intangible heritages? How can intercultural studio practices foster deeper understanding of ICH? In what ways can ICH be operationalised into architectural form, space and materiality? Mid-semester outcomes are presented to illustrate how ICH can function as a central, generative tool in studio pedagogy, bridging intercultural knowledge and ethical spatial practice.

Studio structure and pedagogical framework

The Confluence Studio was delivered over a 13-week semester within a third-year undergraduate architecture program, comprising approximately 90 students with staff/student ratios of 1:23. The studio was structured in three key phases: (1) immersion and translation of intangible cultural heritage through lectures, ethnographic material and language-based conceptual framing; (2) iterative maquette-based exploration, where students engaged in hands-on making as the primary mode of inquiry; and (3) spatial and programmatic articulation, where insights

derived from making were translated into architectural proposals.

Assignments were sequenced to prioritise process over outcome, beginning with small-scale exploratory models (as students' *taktiks*), followed by aggregated spatial systems, and culminating in an integrated architectural proposition. Teaching was delivered through a combination of pre-recorded lectures, studio workshops, guest Indonesian contributions, and iterative desktop and whole-group critiques. Tutors facilitated reflective dialogue and guided material experimentation, while guest contributors, including South Sulawesi cultural knowledge holders in boatbuilding and visual artists, expanded the epistemic scope of the studio. This structure positioned ICH beyond simply content, to emphasise its role as a methodological driver across all stages of learning.

Theoretical frameworks: hands, making and oral traditions

This section situates intangible cultural heritage as a generative driver of architectural pedagogy, showing how embodied, oral and craft-based knowledge can shape design thinking, spatial reasoning and studio learning. Tana Beru has historically served as a node of maritime exchange, linking South Sulawesi with Northern Australia (Northeast Arnhem Land; also the Kimberley, Western Australia) and our First Nations people since the 17th century through trade, diplomacy and shared cultural practices (MacKnight 1976; Clark and May 2013; Sutherland 1982). The different vessels that sailed between our two countries included large boats called *praus*. Therefore, again to reflect that the boats were constructed according to hereditary knowledge systems, these histories reflect key principles of the studio.

The 'making' versus 'drawing' approach is sought as one way of realising intangible concepts in physical forms. The motions of 'linearity' in movement employed by the crew working up and down the deck, or distributing cargo to a pier, emphasise movement via a contrasting 'verticality' approach in ascending and descending a mast and making certain sail arrangements; while the process of 'confluence' might represent the coming together of these movement systems, their intersection, a meeting of ideas and aspirations, or (equally) the coordination of collective labour and seasonal conditions (Liebner 1998, 2022, 2014; Horridge 1986; 2020). In the Confluence Studio,

these maritime concepts were considered intangible logics that were not merely precedents but operated as central epistemic tools through which students engaged with intangible heritage. These ways of thinking and bringing movement systems together in designing the linking of craft, oral traditions and embodied skills to architectural making and spatial reasoning produced maquettes that were culturally suitable.

The Confluence Studio also addressed contemporary challenges such as climate change, rising sea levels and ecological vulnerability by encouraging students to integrate resilient construction strategies, locally sourced materials and vernacular knowledge (Fry 2010 2011; Memmott 2007; Ibrahim Utaberta 2012, Utaberta, 2013). Vernacular traditions are inherently adaptive, evolving in response to environmental, cultural and material conditions. These adaptive logics provided a framework for students to operationalise intangible heritage through key terminology and their Bahasa Indonesian equivalents as drivers for the terms *linearity*, *verticality* and *confluence*, while attending to cultural, ecological and social dimensions (Liebner 1998, 2022; Horridge 1986; Nurdin 2020). Simultaneously, students engaged with intangible heritage – including language, storytelling and

ritual – as generative drivers of architectural form, space and material expression (Salama 2016, 2020, 2022, 2025; Hadjiyanni and Zollinger 2013 2019).

Linearity

Linearity in the Confluence Studio was grounded in Tim Ingold’s (2013) *Making: anthropology, archaeology, art and architecture*, where his conception of making as a process of ‘wayfaring’ is documented. Knowledge emerges through movement and embodied engagement, rather than through static design practices. Linearity is not merely geometric or formal; it represents temporal and procedural sequences embedded in practice. In maritime and craft traditions, such as the boatbuilding practices of Tana Beru, linearity manifests in a variety of ways, from the sequential assembly of components, organised labour flows, and navigational sequences and trajectories, encoding cultural, ecological and technical knowledge into the process of living by the sea in a maritime navigational vocational series of practices (Horridge 1986; Liebner 2014).

For Tana Beru, maritime practices such as navigation, boatbuilding and trade routes exemplify linearity: from the elongated hulls of *praus*, to the careful assembly of planks in the production of the hulls, all of which emerge

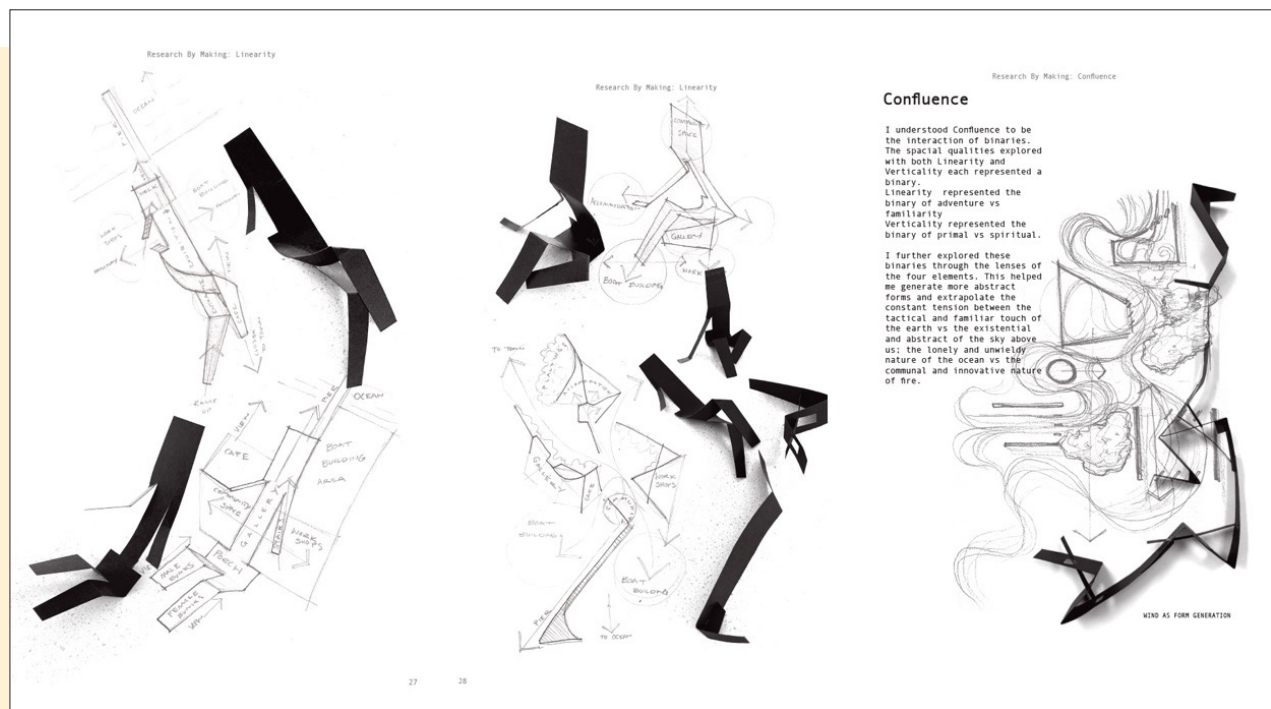


Figure 3 ©Henri Roussos, DBAE student, 2025, Confluence Studio ARCH3050_maquettes_L-R linearity studies + confluence.

from orally transmitted intangible cultural knowledges (Horridge 1986; Liebner 2014). Pedagogically, this idea was celebrated by having students trace processes through making rather than drawing, observing how material interactions, movement and collaboration generate knowledge. The Indonesian terms *garis*, *jalur* and *alur* provided conceptual considerations for linking these linear sequences to spatial and programmatic thinking. Students learned to treat design as a performative unfolding, where each action informs the next, and where intangible heritage, such as oral instruction, craft gestures and ecological timing, guides spatial and architectural decisions. Correlations between elements within the maquette generated emergent structural relationships that were not preconceived, but instead arose through a processual and dynamic mode of making.

This approach foregrounds embodied learning, where the student's hand and body participate in the production of knowledge, and where intangible cultural logics become generative frameworks for architectural form, circulation and function. By situating linearity as an epistemic tool, the studio demonstrates that process and sequence in making are inseparable from the cultural and ecological knowledge embedded in heritage practices. [Figure 3](#) indicates Henri's anthropometric study of historical ways of addressing Bugis figures in action to inform the cultural and ecological requirements of the brief.

Verticality

Verticality draws on Gaston Bachelard's *The poetics of space* (2014) (1964), particularly his reflections on attic/cellar oppositions, emphasising spatial hierarchy, shelter and cultural symbolism. Bachelard eloquently narrates how vertical relationships are expressed in lived space, considering how attics, basements, lofts and elevated platforms articulate hierarchy, intimacy and imagination. The attic, elevated with potential views out but often concealing the viewer, contrasts to the cellar, with its below-ground experience of containment and an insular, confined existence. Verticality is not solely a structural endeavour; it embodies symbolic, functional and experiential dimensions of place, linking human perception to memory, ritual and embodied dwelling. These relationships pertaining to height, or enclosure, views out or obstructed, were identified through the movement systems of ascending and descending in the maritime and coastal context of Tana Beru, as well as on boats. Vertical features of the boat, methods for observing the weather,

the horizon, in elevation to mediate environmental conditions, signal social or ritual significance, and provide vantage points are very prevalent in this maritime culture, as our below deck experiences of containment (Sedyawati 2000 2006; Horridge 1986).

In the studio schedule, verticality was translated into design exercises where students explored layered spatial arrangements, raised work platforms and vertical circulation to negotiate environmental performance, social hierarchy and programmatic differentiation. Students engaged with intangible heritage by researching and building ritual, observation practices and craft knowledge embedded in vertical gestures, reinforcing the idea that cultural logic and spatial hierarchy co-evolve. Pedagogically, verticality encouraged students to reflect on how intangible practices, memory and environmental awareness inform the vertical ordering, as well as the feeling of elevation compared to undercroft spaces, linking embodied intangible experiences as knowledge to contribute to their maquette-making.

Confluence

Confluence is informed by Peter Zumthor's (2006) *Atmospheres: architectural environments – surrounding objects*, where his notion of atmosphere and the Indonesian term *muara* (rivers in confluence or convergence) represent sites in the landscape or, possibly, a designated meeting point where multiple flows – ecological, social and cultural – intersect. His atmospheres are material, sensory as well as emotional conditions in the architecture.

Atmosphere is the quality of a space that makes us feel a certain way. It is made up of the things we cannot name, yet which work together on the body and the senses to form an immediate, emotional perception of place. (Zumthor 2006, 13)

Zumthor's *confluence* isn't abstract; it is sensory, embodied and relational, which parallels this paper's positioning of intangible in its pedagogical employment.

In Tana Beru, the boatyard pragmatically is a confluence of labour and everyday activities, combined with less tangible aspects but highly valued expressions of ritual, ecological cycles and trade networks (Liebner, 2014) (Nurdin 2020). ICH between the maritime experiences of Indonesia and Australia was confluent in the 17th century, with the memories and relationships evident through

descendants, intermarriage and stories.

In the studio, confluence guided students to design flexible, layered spaces capable of supporting workshops, ceremonial gatherings and ecological interventions simultaneously. It emphasised relationality, showing that space is shaped by interactions among people, materials and environmental processes, not just by pre-defined architectural forms. Confluence as pedagogy encouraged students to attend to the flows of intangible heritage and translate them into spatial and material strategies, reinforcing architecture as a dynamic, socially and ecologically responsive medium. By embedding these frameworks, the intangible heritage, as a generative pedagogical tool, demonstrates that ICH is central to studio learning and design thinking and is not an afterthought or ancillary concern.

Students' engagement with ICH evolved progressively throughout the studio. Initial encounters with ICH, through lectures, language and precedent studies, often remained abstract, with students attempting to translate concepts directly into form. However, as the studio shifted towards iterative maquette-making, students began to internalise ICH through embodied processes, working through trial-and-error and material negotiation. This transition marked a shift from representational thinking to process-driven understanding, where cultural concepts such as linearity, verticality and confluence were no longer treated as metaphors but as operative design logics. By the later stages of the studio, students demonstrated an ability to embed these intangible principles into spatial sequencing, structural relationships and programmatic organisation.

Across linearity, verticality and confluence, students learned to treat architecture as culturally embedded, ecologically responsive and ethically grounded, illustrating how intangible heritage can reshape the aims and methods of architectural education in maquette-making. Through iterative making, critique and reflection, students were encouraged to co-construct design knowledge that is responsive to both the local socio-cultural milieu and broader ethical heritage considerations. The studio provides a model for intercultural, ethically engaged and heritage-informed design pedagogy, illustrating that the process of learning and making itself becomes a means of understanding, transmitting and embedding ICH within architectural practice.

Confluence Studio: intangible cultural heritage as pedagogical driver

In response to the structural and epistemic limits of architectural education in Australia, which is subjected to circumstances where neoliberal imperatives, accreditation requirements and colonial epistemologies continue to dominate, influence and typically shape curricula (Huppatz and Day 2022 2013; Soule 2025; Sassen 2014; Troiani and Dutson 2021), the Confluence Studio emerges as a critical pedagogical intervention. World-leading educational examples of best practice are evident in Aotearoa New Zealand, demonstrated by mandating adoption of bicultural frameworks in architectural education, and in the United States and Canada, which have consciously and more systematically embedded Indigenous knowledge within design curricula. Australia has been late to prioritise ICH from different cultural perspectives into the design studio. Despite *National Standards of Competency for Architects* 2021, it remains reluctant to centre Indigenous and vernacular epistemologies within its core pedagogies even if we are designing buildings on unceded First Nations territory. The Confluence Studio addresses this absence by explicitly positioning ICH not as supplementary content, but as a central epistemic driver of learning, making and design thinking.

Our studio structure is deliberately layered to foreground ICH as a mode of inquiry. Lectures set the foundation by engaging with ICH directly, not only to provide content on craft traditions, oral histories and vernacular practices, but also to elaborate on how such knowledge systems transform the very terms of architectural pedagogy. In this sense, lectures operate as crucial moments, where students are asked to recognise ICH as an epistemic positioning rather than as peripheral or as an 'add-on' to canonical knowledge.

Language plays a pivotal role in this repositioning, rethinking and acknowledgement that English translations do not necessarily deliver the same meanings. By introducing Indonesian terms such as *muara* (meeting of rivers/confluence), *garis* (line), *jalur* (path) and *alur* (channel), students encounter spatial and environmental thinking as embedded in linguistic-cultural frameworks. These terms do not function as metaphors alone but as design categories and methods or '*taktiks*' drawn from living cultural practice and able to be applied in the creation of human environments. Here, ICH becomes a linguistic and conceptual scaffold for design, reorienting

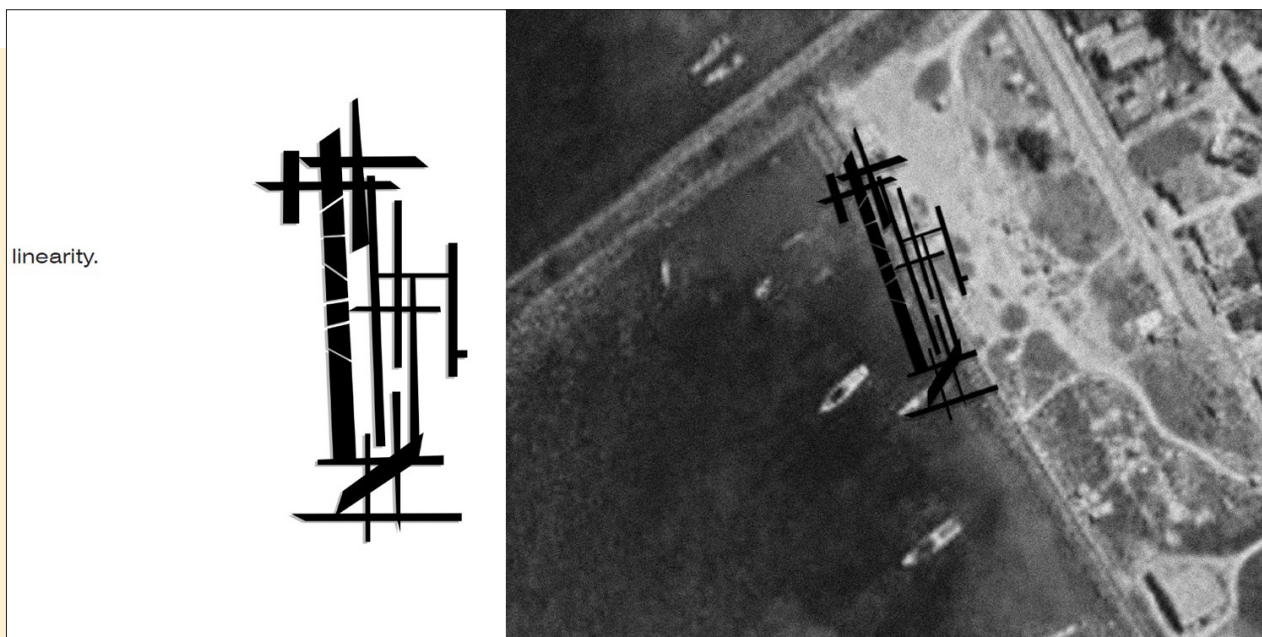


Figure 4
© Jessica Steele, DBAE student, 2025, Confluence Studio ARCH3050_maquettes_L_R_linearity + site plan.

the way students describe, analyse, conceive and imagine built form in relation to place.

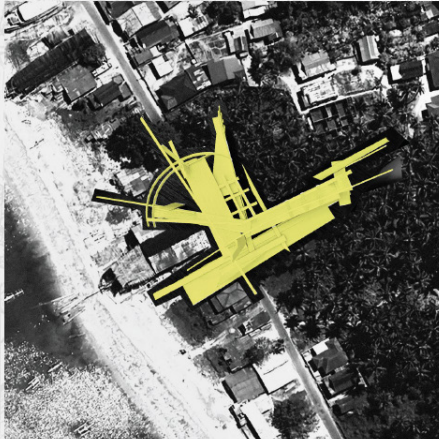
The teaching methods further embed ICH into practice. *Taktiks* and hands-on workshops (e.g. model-making, ethnographic drawing and embodied making practices) are not presented merely as skill acquisition, but as epistemic tools of learning-through-making. Drawing on Ingold's (2013) account of making as a form of correspondence and linearity, these methods situate design as an unfolding dialogue with materials, traditions and human-environment relations. In the studio, making is framed not as an aesthetic exercise but as a way of knowing: through trial, repetition and embodied engagement, students come to apprehend the intangible dimensions of heritage embedded in craft and technique. They realise they have different abilities/skills/aptitudes to make and craft three-dimensional forms, which influences their maquette-making journey differently and individually.

Site analysis within the studio is similarly repositioned. In [Figure 4](#), Jessica Steele's exploration of linearity through iterative maquette construction, where structural relationships emerged through repetition rather than pre-determined design, also provided its own siting logic. Rather than privileging quantitative surveys or static cartographies, students are encouraged to attend to

cultural narratives, oral histories and sensory experiences of place. The students visited a cultural centre whose uniquely landscaped environment was created and evolved from stories and First Nations engagement and brainstorming over nearly five years. This process of investment in the ephemeral but highly impactful sensibility of place echoes Zumthor's (2006) insistence on atmosphere as constitutive of architecture. It is also evident conceptually in Bachelard's (2014) (1969) phenomenology of dwelling and each student's individual experience further aligns these ways of being with vernacular epistemologies of site. In this way, ICH operates as a guide for reading and interpreting place, shaping how students come to imagine interventions that respect and extend its intangible dimensions.

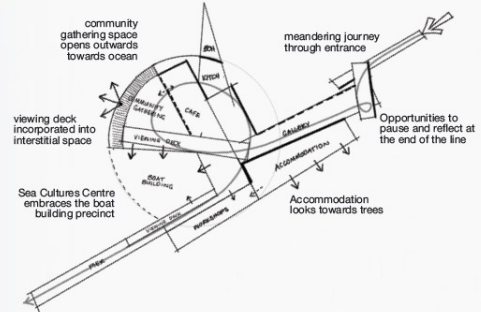
Guest lectures amplify this approach by bringing community knowledge-holders, artisans and First Nations collaborators into the pedagogical space. Their presence reconfigures authority in the studio, demonstrating to students that knowledge is not only held within institutions but also is transmitted intergenerationally through cultural practice – orally and performatively. This dialogic pedagogy underscores that ICH is not content to be observed, but is a living practice that reshapes how architecture is taught, learned and practised. [Figure 5](#) highlights how the student worked through different ICH ideas to bring them together

LEARNING FROM CONFLUENCE



ARCHITECTURE AS A METAPHOR FOR CULTURAL HYBRIDITY

ENTANGLED PROGRAMMES



A MEETING PLACE



OVERLAPPING SPACES



A MERGING OF JOURNEYS



MATERIAL LAYERING

Figure 5
© Lauren Clatworthy, DBAE student, 2025, Confluence Studio ARCH3050_maquettes_confluence.

in the 'confluence' maquette spatially, functionally and conceptually.

Taken together, these pedagogical tactics illustrate how Confluence Studio functions as more than a curriculum design; it is a pedagogical experiment that repositions ICH as a generative principle. Rather than treating heritage as something to be preserved or represented, the studio enacts it as method: a way of thinking, making and designing that disrupts the dominance of Eurocentric architectural epistemologies and market-driven pedagogical frameworks. In doing so, it offers an alternative model for architectural education in Australia, one that insists on the centrality of intangible heritage as both content and catalyst, accommodating alternative epistemologies and world views, transforming not only what is taught, but in some ways asking students to unlearn, and then regroup to come to know, make and imagine alternative modes of architectural production. The student's sectional explorations in Figure 6 depict concepts through 'verticality' maquettes employing ICH understandings of the underworld and the upperworld

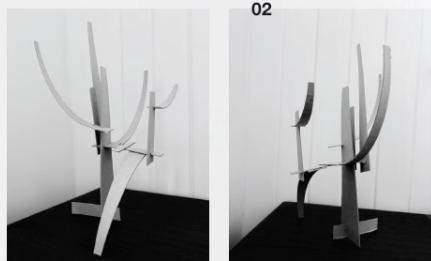
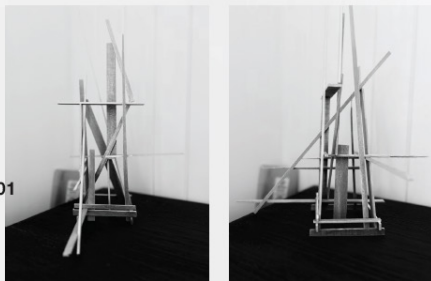
into the South Sulawesi Cultures Centre framework.

Learning through the hand: embodiment, making, and intangible heritage

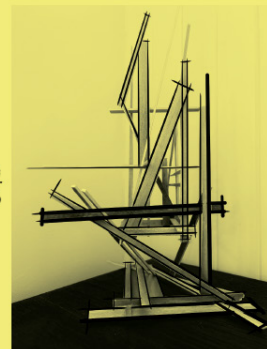
Tools have a role in the limitations of design conceptualisation. According to Chris Csikszentmihalyi, who discusses how tools and methods influence designers' cognitive processes, including how certain tools can constrain conceptual exploration and limit creativity, 'Tools are never neutral; they channel attention, constrain possibilities, and often prioritize precision over exploration, limiting conceptual breadth' (Csikszentmihalyi 2002, 241).

Intangible cultural heritage cannot be fully apprehended through conventional, screen-based or plan-centric design methods alone; it requires pedagogical approaches that prioritise embodied, material and tactile modes of learning. Bernard Tschumi proposed that '[t]he drawing instrument limits imagination; what can be represented is only a fraction of what can be conceived. Architecture's richness lies beyond the lines the tool allows' (Tschumi

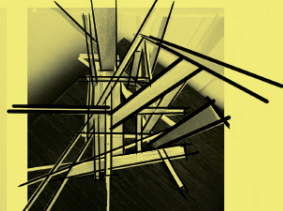
EXPLORATIONS OF VERTICALITY



ASCENDING LIGHT TAPERED



03



A VECTOR MAST

LEARNING FROM VERTICALITY

STACKING & LAYERING



Potential vertical arrangement of spaces in Sea Cultures Centre – linked to spiritual beliefs.

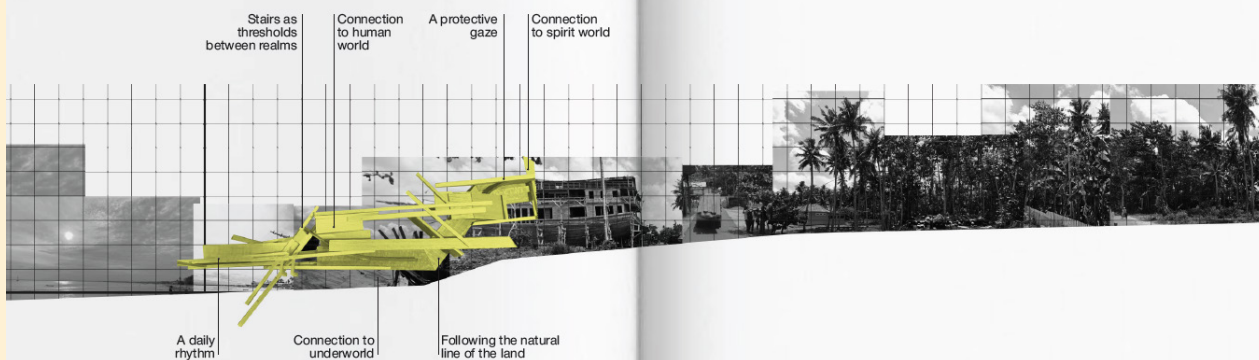


Figure 6 © Top: Lauren Clatworthy, DBAE student, 2025, Confluence Studio ARCH3050_maquettes_verticality. Bottom: Lauren Clatworthy, DBAE student, 2025, Confluence Studio ARCH3050_maquettes_elevation.

1996). The Confluence Studio was therefore structured around the premise that making is not ancillary to design, but a primary mode of knowing for ICH to translate into architecture. For instance, one student initially attempted to stabilise their linear maquette through rigid geometric control, repeatedly reconstructing the model when it failed to hold. Over successive iterations, they began to work with, rather than against, the material's behaviour, allowing slight warping and imbalance to inform spatial direction. This shift marked a transition from controlling form to engaging with process, illustrating how embodied making enabled a deeper understanding of cultural and material logics. Juhani Pallasmaa acknowledges concerns if 'we rely exclusively on abstract, eye-dominated instruments of design. The hand mediates understanding in ways that digital tools cannot replicate' (Pallasmaa 2009). Students were deliberately asked to set aside conventional architectural tools, plans, sections, renderings and computer-aided design in favour of model-making and embodied trial-and-error processes. Phoenix

Bolson's work shown in Figure 7 highlights that there were multiple iterations of each maquette, dissuading fixation on the first idea. This emphasis repositioned making as both a pedagogical strategy and a form of cultural correspondence, aligning student practice with vernacular traditions in which knowledge is transmitted orally, bodily and materially across generations (Memmott 2007; Hassanpour et al. 2011).

Embodied learning in the studio was not limited to the production of physical models, but emerged through the interaction between body, material and process. For example, in early maquette exercises, students were asked to construct linear systems without pre-defined outcomes, working only through repetition and material constraint. Many initially attempted to impose formal control but gradually shifted towards responding to the resistance and behaviour of materials. This shift revealed how knowledge could emerge through making rather than prior planning.

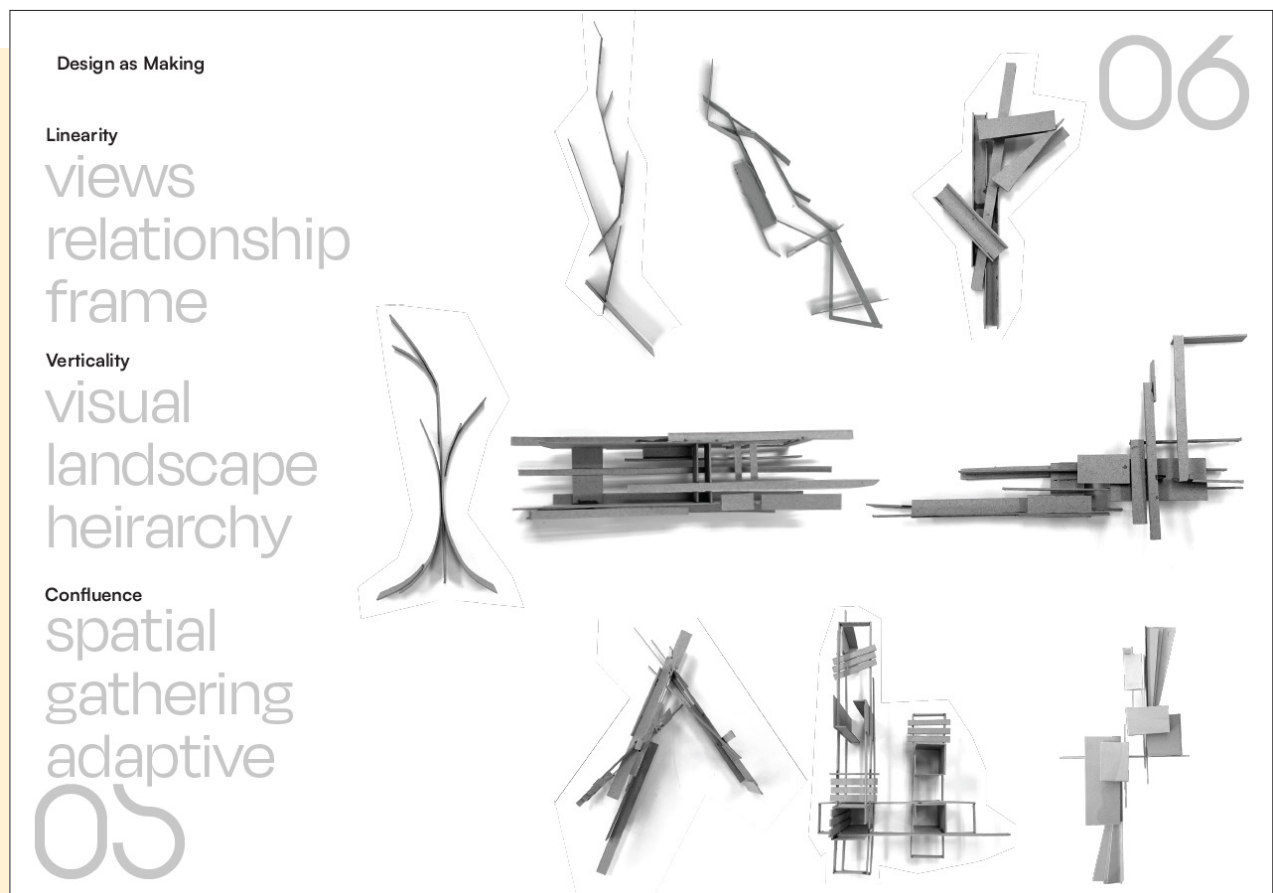


Figure 7
© Phoenix Bolson, DBAE student, 2025, Confluence Studio ARCH3050_maquettes.

Similarly, verticality studies required students to physically manipulate balance, weight and elevation, often resulting in unstable or collapsing models. Tutor instruction in these moments of failure became critical learning points, prompting students to reconsider spatial hierarchy and structural logic through bodily engagement. In this way, design decisions were not abstractly conceived but arose directly from staff encouragement, as well as from the tactile and iterative processes.

Tim Ingold (2013) describes making not as the imposition of form upon inert matter, but as a line of becoming, where maker and material move together in dialogue. Skill is not codified in written manuals but is acquired over space and time, through repetition, apprenticeship and situatedness. Tana Beru's master craftsmen and their apprentices preside meticulously over timber selection, joinery details and proportional arrangements that unfold through the tactility of hands, continuity of eyes and stories across generations, rather

than through drawings (Horridge 1986; Liebner 2014). By mirroring this pedagogy in the studio as best we could, students were asked to experience making not as an aesthetic refinement of a prior design (i.e. not to preempt or imagine the result), but to trust and embrace its unfolding and unveiling as a process through which design emerges in correspondence with material, memory and cultural meaning.

Juhani Pallasmaa (2009, 36) emphasises that 'the hand knows and perceives in ways that the eye cannot', highlighting the epistemic richness of haptic engagement. In Confluence Studio, this hand-based knowledge was operationalised through *taktiks* – tactical architectural devices that translate cultural knowledge into spatial, formal and material strategies.

Trial-and-error, often dismissed in Western pedagogies as inefficiency (Coates 2016; Carpo 2017), was reframed as a method of discovery. Students were

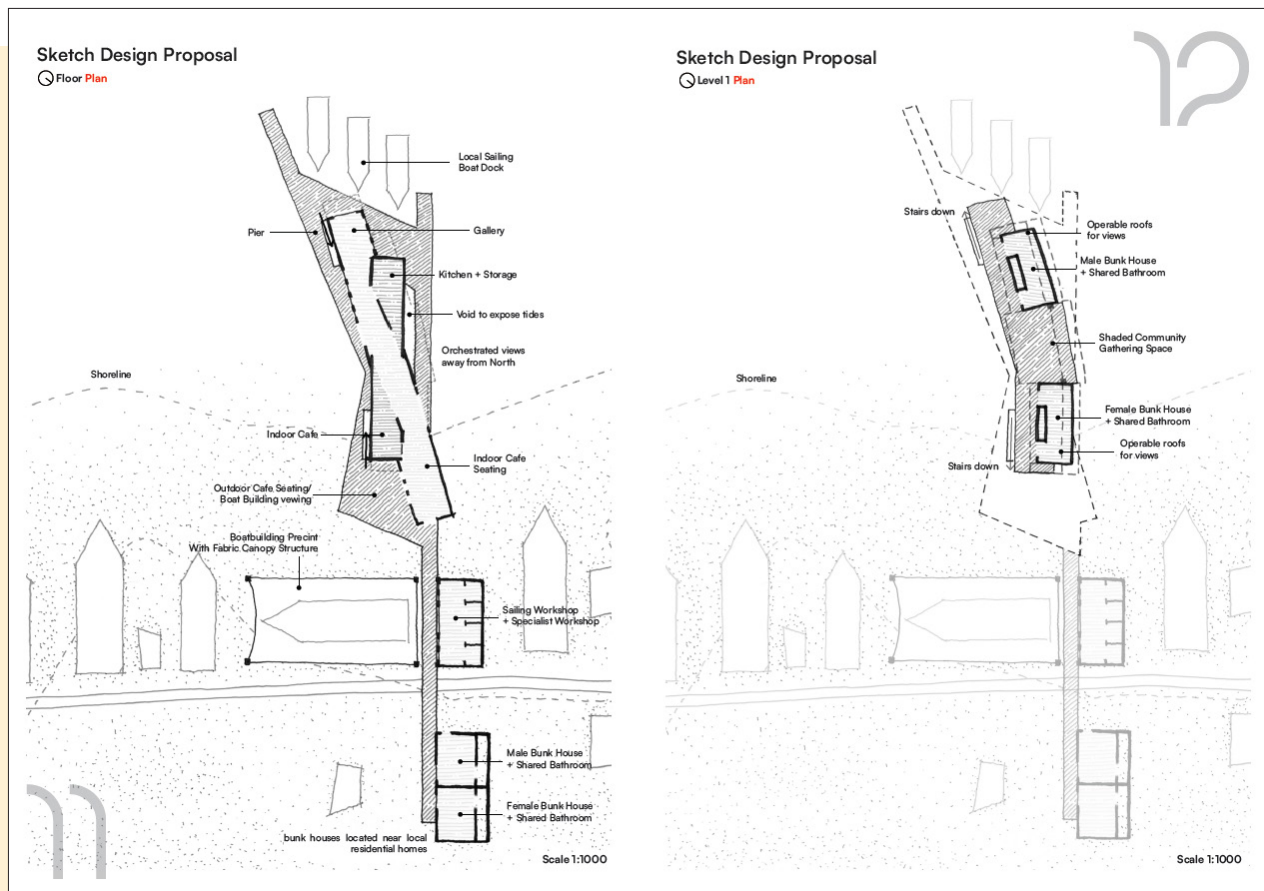


Figure 8 © Phoenix Bolson, DBAE student, 2025, Confluence Studio ARCH3050_sketch design from maquettes.

encouraged to work iteratively, testing structural balance, spatial sequences and ritual gestures through successive maquette explorations. As seen in Figure 8, the student's spatial planning and layering in section (the latter not seen here) were arguably not able to be achieved with such competency and delivery of complex spatial volumetric relationships had he relied solely on manual drawing of Revit modelling. This process reflects vernacular knowledge systems, where adaptability and resilience are key to cultural survival (Memcott 2007; Aziz et al 2021/2018). In this sense, 'failure' was not a setback, but an epistemic tool as an opportunity to understand how form might shift in response to material limits, environmental conditions or intangible cultural principles. Poor outcomes resulted from trying to fast-track the maquette-making, if the process was not embellished and invested.

Equally important was the oral and dialogic dimension of the studio. Making exercises were paired with storytelling, where key concepts drawn from Indonesian language were discussed simultaneously among peers while students produced their varied array of maquettes. This pairing of word and hand reflected how vernacular knowledge is sustained: not as a static code but as a living interplay of speech, gesture and action. As Rapoport suggests, '[t]he knowledge of how to build is learned through participation in the social and practical life of a community, not from books or plans' (Rapoport 1969, 45).

Through this combination of theory, heritage research, making and reflection, students translated intangible cultural knowledge into concrete architectural interventions, integrating ecological responsiveness, social function and cultural meaning. The *taktiks* approach operationalises a research-led, process-driven pedagogy that foregrounds ICH as a generative driver of learning, making and design thinking, producing ethically and culturally embedded design practices (Salama 2016, 2015; Memcott 2007; Aziz et al 2021, Hadjiyanni and Zollinger, 2013).

Toward a pedagogy of intangible heritage

The Confluence Studio demonstrates that architectural education can actively embed intangible cultural heritage as a generative driver of design learning, rather than treating it as contextual or illustrative content. By integrating hands-on making, vernacular knowledge and oral traditions, the studio contributes to architectural pedagogy, intangible

heritage discourse and future directions for intercultural design practice. Schön's observation that 'design is a reflective conversation with the materials of a situation' (Schon 1987, 61) highlights that design knowledge emerges through iterative engagement with materials, context and constraints, reflecting the operational logic of the studio. Arnheim (1954) similarly emphasises that understanding develops through active engagement with patterns and relationships, reinforcing the value of iterative, embodied and process-driven pedagogy.

Salama (2016, 23) explains that 'the studio must operate as a research-led learning environment where making and reflection are inseparable', noting that students generate knowledge through active engagement with materials and processes (Salama 2022 2020, Ch. 3). Similarly, Memcott (2007, 110) observes that 'students engaging with Indigenous spatial knowledge learn to negotiate social, ecological, and ritual logics that inform adaptive architectural solutions'. The studio enacted these principles by guiding students to convert intangible South Sulawesi maritime traditions and ideas about interaction with the sea and vocational aspects of maritime living into articulated spatial, material and programmatic strategies through iterative making.

Acknowledging that engagement with a distant cultural context offered productive displacement from students' familiar frameworks, the studio also presented the risks of romanticising or essentialising cultural difference. To mitigate this, emphasis was placed on process over representation, encouraging students to work with cultural logics rather than reproducing formal motifs. The inclusion of guest contributors and ethnographic material further grounded the work in lived practices, reinforcing the importance of reflexive and ethically situated design engagement.

The studio also engaged alternative understandings of temporality and process. Huppertz and Day (2022, 6–7) critique the accelerated pace of Western architectural pedagogy, privileging speed and immediate production (Hassan 2009). In contrast, Confluence Studio encouraged slower, attentive and iterative design processes, reflecting and learning from Indigenous relational frameworks, including the notion of designing with and for Country (Kennedy et al. 2018). This extended temporality in the maquette-making process was invaluable for students. By slowing the design process, the studio enabled students to

engage deeply with intangible heritage, ecological patterns and social practices, resulting in architectural outcomes that were iterative, responsive and ethically grounded. Once they understood that the focus was not on producing a polished final building, but on engaging deeply with the iterative design process using a trial-and-error process and an exploratory focus, the assessment centred on how students explored, articulated and reflected on each stage of making, while the refinement of the building itself was considered a subsequent phase.

By drawing on post-human perspectives, the studio positioned humans, non-humans and ecological systems not as separate or hierarchical entities, but as interdependent actors within relational networks. Design decisions were considered in relation to material behaviour, environmental conditions, and the social and cultural practices of communities, acknowledging that architecture exists within a broader ecosystem of agents, both living and non-living. This approach challenges conventional anthropocentric frameworks, foregrounding the agency of non-human actors or sentient beings as understood in First Nations ontological thinking, such as water, wind, soil and flora, in terms of their roles in shaping spatial form, material choice and circulation. Necessarily, this approach enables embracing multiple knowledge systems and worldviews that inform how space is perceived, used and experienced (Escobar 2018, 214; Blaser 2014; Reichel and Perey 2018). Escobar highlights how Indigenous practices embed systemic knowledge across social and ecological life, a perspective disrupted by colonialism and extractivism. In the Australian context, the concept of Country similarly situates humans within relational ecosystems encompassing sea, land and sky domains of understanding (Kennedy et al. 2018). Confluence Studio sought to operationalise these insights, demonstrating how intangible heritage could guide design thinking that was simultaneously invested in ecological, cultural and ethical concerns of human environments.

The studio's hands-on, making-led pedagogy responded deliberately to Tim Ingold's (2013, 23) assertion that 'knowledge is not a commodity to be transferred from one mind to another, but something that is lived in and through practical engagement with the world'. Pallasmaa's (2009, 29) observation that 'the hand is the principal mediator between the mind and the world' gave emphasis to developing the maquettes over an intensive four weeks of commitment. According to Pallasmaa,

'the thinking hand is capable of grasping reality and imagination simultaneously' (2009, 29). Through these frameworks, students developed embodied, existential knowledge, perceiving intangible qualities of space utilising memory, their research, as well as their learned cultural logic, expressed while directly engaging with materials and maquette-making process (Pallasmaa 2009, 21). Ethnographic observation, maquettes and sketch studies enabled students to bridge cultural knowledge and architectural production, embedding intangible heritage in process-driven, reflective learning (Hadjiyanni and Zollinger 2013 2019, 214).

In doing so, Confluence Studio provides a focused contribution to strategies through which architectural education might integrate research-led, culturally embedded and making-focused pedagogy, offering insight into how intangible cultural heritage can be translated into tangible design outcomes. The studio demonstrates how oral, ritual and craft knowledge can actively inform spatial, formal and material decisions, while also suggesting approaches for translating distant or cross-cultural knowledge systems into ethically and ecologically responsive architecture. By embedding intangible heritage as a central driver of design, rather than treating it as contextual or illustrative, the studio shows that such approaches are not merely aspirational but operationally achievable, offering a framework for further exploration of intercultural, vernacular-informed and process-driven architectural pedagogy.

Conclusion: carrying forward the intangible

Analysis of Confluence Studio demonstrated how intangible cultural heritage could inform architectural pedagogy, revealing both the potential and the challenges of translating oral, ritual and craft-based knowledge into design learning. Through hands-on making, iterative processes that anchored relational engagement with materials and ideas orally and physically in class, students negotiated cross-cultural and ecological systems thinking. Their imagined approaches to studio strategies that embraced linearity, verticality and confluence appeared to reflect South Sulawesi vernacular and maritime traditions. These findings highlighted how studio teaching could be enriched by experiential, culturally embedded and process-driven approaches. It also exposed the structural and practical limitations of remote, intercultural and heritage-informed learning contexts. The insights gained from this


case study point to avenues for future research, including the refinement of assessment methods, adaptation of ICH-informed approaches across diverse institutions, and the long-term impact of such pedagogies on professional design practice.

While it is acknowledged that there have been incremental steps towards integrating First Nations knowledge in architectural education, significant structural and epistemic barriers remained (Huppatz and Day 2022). Limited numbers of First Nations architects, cultural custodians, alongside curricular, budgetary and staffing constraints, restricted students' access to authentic perspectives from Traditional Knowledge holders and embodied heritage practices (Russell 2020). The Confluence Studio responded to these gaps within its capabilities by incorporating First Nations experiences of intangible cultural heritage, vernacular knowledge and South Sulawesi maritime traditions into studio pedagogy, offering a practical model for embedding intangible knowledge in architectural education.

The translation of oral histories, ritual practices and craft-based skills into architectural strategies of linearity, verticality and confluence saw students produce designs that were culturally informed, ecologically responsive and socially engaged. The use of Bahasa Indonesian terms illustrated how language mediated cultural meaning

and spatial logic, enabling students to understand how one might work ethically across distant and intercultural contexts.

The studio confirmed that intangible heritage was not merely inspirational but could directly shape design decision-making. Hands-on, iterative making, guided by embodied and relational frameworks, enabled students to engage ethically with cultural memory. By bridging research, practice and pedagogy, the studio exemplified how process-driven, culturally attuned and reflective learning environments might assist generational change in the cultivation of architects capable of navigating complex, intercultural and climate-sensitive design challenges.

Looking forward, future research could explore how ICH-informed studios might be adapted and scaled across different cultural and institutional contexts, potentially using hybrid forms of engagement. Investigations into assessment methods that capture iterative, embodied and intangible-knowledge-based learning, as well as longitudinal studies tracking how students carry these experiences into professional practice, would further strengthen understanding. Cross-cultural applications, incorporating multiple vernacular knowledge systems, could also provide insight into how relational and ecological design strategies might be embedded within broader architectural curricula. 

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