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Educational Models in Architecture

Annotated Bibliography

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Sources and Annotations:

Webster, Helena. “Architectural Education after Schön: Cracks, Blurs, Boundaries and Beyond.” *Journal for Education in the Built Environment* 3, no. 2 (December 1, 2008): 63–74. https://doi.org/10.11120/jebe.2008.03020063.

This paper provides a summary of the lasting effects of Donald Schon, an important philosopher on the field of applied educational theory. Schon believed primarily that the way in which traditional education was delivered, through theoretical material that is memorized and reproduced, was broken and failed to provide the students with meaningful experiences that they could use to improve or innovate in the professional space, while simultaneously failing to promote creative and inventive problem saving. Architectural Education, from a historical perspective, has always straddled the line between Science and Art, dating back to the enlightenment, although this is another topic entirely.

Although the two Schon books that were referenced repeatedly throughout my research, *The Reflective Practitioner* (1983) and *Educating the Reflective Practitioner* (1987), this article was successful in bringing the reader up to speed on how to think critically about the thesis of the argument. By positing that the goal is to align "intuitive aesthetic values" of the student with the professor, the misunderstanding that is so key to the adoption of Schon’s ideas becomes clear.

The coach model of reflective learning seems to be successful and is widely employed currently. The debate if this should be the primary of Architectural Education and should be looked to for more guidance has increased since the wide adoption of Schon’s praise into the Architecture School model.

The introduction of Foucault, as a vessel for the 'micro-technologies of power' argument, is the solution presented in this paper to the above stated issue with the traditional studio/coach model that was so popularised by Schon. In the same way that Schon is limited by his scope and knowledge of Architecture itself, there is also a real confusion over the amount of possible outcomes from the design process from an Architectural point of view.

This is also the first mention of a hidden curriculum that exists outside of course objectives that we, as a design community, decide we shouldn't take control of and are comfortable not knowing everything about. There is an argument to be made that the guarding of this material and intent is one of the components that allows Architecture Education to remain exclusionary and segregated, feeding into the profession only those who have the means to spend time in pursuit of this hidden agenda.

Dickinson, Duo. “Architectural Education Will Have to Change or Risk Becoming Irrelevant.” Common Edge, January 4, 2018. Architectural Education Will Have to Change or Risk Becoming Irrelevant.

This article asks some of the important questions about tying together the prestige and experience of the Architectural Education System without thinking too deeply about how or why these are the way they are. I have chosen to include this non-scholarly article as it represents how a professional educator in this space tries to navigate the distinctions between different university systems. Educators in Architecture are almost always also practicing and have had no incentive or reason to reflect on Architecture Education overall, only in its connection to the profession.

It argues compellingly that the changes in the industry are not being well tracked in the education environment, resulting in graduates who are not prepared to work professionally.

"So, like always, students fake it, have fun and desperately defend their academic choice when it is as well branded as architecture is."

This excerpt reflects the reality of Architecture School but also frames the issue, in this case students not learning software fully, as a failure of the design of education systems or students learning, where it seems just as likely that this is the intended outcome, that students are not career professionals but instead innovative thinkers.

Architecture holds a special place in the education space, dancing between art and science, and that is stood up by the outstanding positive and serious reputation that architecture holds in the public's eye. This point of view is important to consider when coming up with a theory of education and when debating the merits of one strategy or another, as this has throughout time created a “do no wrong” environment in which students can do all manner of unprofessional and creative work and still start a professional career afterword, riding mostly on good public faith.

Hamza, Tamer S., and Doaa K. Hassan. “Consequential Creativity.” *International Journal of Technology and Design Education* 26, no. 4 (November 1, 2016): 587–612. https://doi.org/10.1007/s10798-015-9321-4.

As with many of the articles listed here, this approaches architectural education as the sort of creative gold standard that other disciplines might look to copy or emulate or order to get closer to the actual creative potential of the individual. By providing a framework for testing "creativity" this paper posits that workshops or classes might successfully train students to be more creative, thus achieving an intangible (referred to earlier as “hidden curriculum”) improvement over their contemporaries.

By providing a list of other theories of creativity, it identifies a weak spot, incubation, in which the current process is not made any more clear despite the existing literature on the subject. The concept of Lateral Thinking is also introduced as a possible way of structuring a new way of thinking about creativity.

The developed test is a quarter long experiment in analyzing creative thinking in the Architecture discipline. While the experiment as a whole has flaws, the tests used, TTCT and UUT, could be meaningful in any design studio and actually as a metric to study the creative benefit of Architecture school overall and the technique for analyzing results is compelling although limited in scale. Further research into other tests and analysis of the results could make the case that architecture can be quantified and this could be adapted as part of the measurement of student success.

Roudavski, Stanislav. “Frontier Land: The Future of Architectural Education.” ArchitectureAU, November 12, 2016. https://architectureau.com/articles/frontier-learning/.

The largest shift in Architecture Education , happening in the early 1990s, is the Academic and Professional obsession with Technologies' effect on the aesthetics of Architecture. By using computer programs to design buildings, complexity becomes the goal and students are asked to learn more and more complex tools so as to lead the future computing revolution in Architecture. This article posits that Architectural education is failing to help students innovate in this space and instead leaving them to solve problems without the support of their institution.

By arguing for the Open Source ethos for Architectural Edge Case Applications, it privileges a network of well funded schools and students with the ability to tap into these networks. While the benefit of this system is clear, providing what could be millions of dollars of value for free to any and all interested students, increasing accessibility is key to the success of this movement if it is to successfully disrupt the industry and education paradigm overall.

While this article doesn't consider the merits of the development it is encouraging, it is easy enough to say it is too early to know what the final result of the implementation of all of these tools will be in the long run. The unequal distribution of resources in regards to this paper is central to the issue at hand.

Saliklis, Edmond, Robert Arens, and Joseph Hanus. “Teaching Architects and Engineers: Up and Down the Taxonomy.” *Proceedings of the 2009 ASEE Annual Conference & Exposition: Austin, TX*, June 14, 2009. https://digitalcommons.calpoly.edu/aen_fac/33.

Although this paper was written more than 10 years ago, both of the authors are still instructors and the lessons gleaned seem to have become the dominant technique for information delivery at Cal Poly and beyond. Because a majority of the material on Architectural Education Theory is focused on the most well funded and famous institutions around the world, mostly private schools with histories of experimentation, considering the state school and community college approach to the same questions is key to understanding the global picture. Students' experiences vary greatly between institutions, across regions and even studio to studio.

By leaning on Schon for the development of the conclusion that Engineering should collaborate and be closer to Architecture, this article fails to register any issues with the Architecture Studio model or display any real areas for growth within Architecture. This is a shortcoming that I think is based on the lack of history of publication in the education space for Architecture overall and the limited scope of the thesis of the paper.

Much thought, at Cal Poly and beyond, has been put towards this notion of tightening the Engineer and Architect so as to reduce friction and improve the product that often arises from their collaborations. While this may be noble, it also puts education squarely on the back burner to professional goals. It also does not reflect the wider sentiment about creating more equity and creativity in the architecture environment and making it more accessible as an education technique, not more professionally minded. By framing the issue in this way, the students' success is measured against pragmatism, which is a moving target that does not have the students at the center of its agenda.

Gross, Mark D., and Ellen Yi-Luen Do Do. “The Design Studio Approach.” University of Washington,1997.http://code.arc.cmu.edu/archive/dmgftp/public_html/publications/pdfs/edutech97-eyd.pdf

In an effort to find a guiding document with which to define the design of the studio model, this short document from University of Washington proves helpful, if considered a primary source. Although these documents are presumably published internally for many schools, this provides a 20-30 year vision for the application of technology into Architectural Education without spending time fretting over the implications in the professional environment. There is a lot to learn about the way in which individual schools conduct themselves, but this document is generic enough to be able to debate the merits of it.

Compared to other similar documents, such as course syllabi or conference documents, this does not spend any time covering the NAAB (National Architectural Accrediting Board) requirements, which are the single largest tie to the profession itself. While it would be helpful to see the educational theories that backed up each idea, it may also be illuminating that there are not any and this document may arise from unknown origins.

It also aims to define a system in which other teaching theories, such as the simulation model, can be integrated in without disrupting the overall structure of the school itself. Education experience is not a prerequisite in Higher Education Architecture Instruction and this document could easily be paired with a schools Education Department/Faculty to develop compelling experiments in architectural thinking that align with new innovations in the education space.

While this document is limited in many ways it does frame the questions that students may consider in a clear and defined way, and gives a framework for understanding what the larger goal of Architectural Education may be. It involves direct rebuttals to the Schon thinking, about the correct answer being delivered to the students from the expert coach and instead claims that all students are involved in an experiment to find out what sort of thinking and creativity is natural and productive for them. While no evidence is provided, I think it is important to consider this document as a primary source, similar frameworks touching the lives of millions of students across the country, to price clearly that what and how schools choose to deliver information affects the students' learning experience.

Conclusion:

While there is much written and debated about Architecture Education, much of which is not even touched by this annotated bibliography, a few blank areas seem to have arisen, in which professional needs and desires have filled in and opportunities arise for a change in the education system.

In place of a robust education-thinking/education design ecosystem, outside pressures have made their presence known. A critique of the roll of professional skills, examined in the *TEACHING ARCHITECTS AND ENGINEERS: UP AND DOWN THE TAXONOMY* by Saliklis and Aren and Hanus and *Architectural Education Will Have to Change or Risk Becoming Irrelevant* by Do & Gross papers primarily, show the need for a reexamination, at the university level. Questions arise about how much curriculum should cater to the future professional needs of its students. These sources could be used to argue that the system is failing students and that professional practices exert an outsize pressure on faculty and institutions, to save firms money by doing training and skill building that focus on industry, instead of education. Other sources, such as *Architectural Education after Schon: Cracks, Blurs, Boundaries and Beyond* by Webster, clearly show the model that is being pressured is not capable of taking on these outside forces due to its lack of considerations for students' non-tangible learning outcomes. The models proposed in the above paper could give an outline of how Architecture Schools could shift away from Schon and towards a more evidence based system fostering creativity, which one could try to measure by some of the techniques outlined in *Consequential Creativity* by Hamza and Hassan.

This paper would point it's criticisms squarely at Polytechnic/Practical Architecture Institutions, which is likely a result of these institutions not having the financial means to reinvent and innovate due to outsized pressures. The thesis of this paper might be that these schools can rid themselves of the pressures of the professional without suffering consequences and actively work to create more creative students who will be capable of going on to do amazing things that might be limited by the current model. It is possible that these schools are not capable of changing, for whatever litany of reasons and that it might be better to take aim at private institutions that misunder the kind of creativity they are fostering, instead leaning on a cult of personality.

The *Consequential Creativity* article provides a framework for reanalyzing the studio model as a whole, another way to combine these sources into a new thesis. Some of the lessons from *Frontier land: the future of architectural education* by Roudavski re already in practice at institutions like M.I.T. and a paper built from these sources could argue that the studio environment itself needs to be retrofitted to help adapt students to more engaged thinking and deeper knowledge, and away from professional knowledge.

Further interactions and explorations on these basic concepts would be needed once more information was gathered and a better understanding of the existing system was established from further research but the amount of information on the matter shows that there have not been as many developments as possible in Architectural Education and the sources of this stagnation are worth investigating.