

# **Learning Through Making: Analog Processes as Pedagogical Tools in Graphic Design Education**

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## **Abstract**

This paper examines how analog making can function as a pedagogical tool within contemporary graphic design education. Responding to increasingly screen-first design workflows, the study investigates what students learn when typographic work moves from digital composition into physical production. The paper draws on a classroom-based analog typography project with undergraduate graphic design students at Zayed University in Abu Dhabi, developed in relation to the UAE Year of Community initiative. Students collected material references connected to community life, including traditional crafts, domestic objects, family games, wedding traditions, and maritime heritage, and translated these references into typographic compositions through a hybrid process of research, sketching, digital preparation, silkscreen printing, testing, adjustment, documentation, and reflection. Evidence was gathered through classroom observation, student reflections, project outcomes, and a post-project survey of twenty-one students. The findings suggest that analog production increased motivation, strengthened students' awareness of ink, surface, pressure, registration, and type reproduction, and reframed mistakes as prompts for creative problem solving. The project also offered a refreshing counterbalance to screen-based work and encouraged students to recognize the value of hybrid pedagogy rather than choosing between analog and digital methods. The paper argues that learning through making should not be treated as nostalgia or craft demonstration, but as a critical educational strategy that helps students become more reflective, materially aware, and culturally engaged designers.

*Keywords:* graphic design education, analog typography, hybrid pedagogy, materiality, experiential learning

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## **Introduction**

Graphic design education is increasingly mediated through digital tools. Students compose, test, revise, and present typographic ideas through software environments that allow speed, precision, reversibility, and extensive visual experimentation. These capacities are essential to contemporary design practice, yet they can also make design appear frictionless. When typography is experienced mainly through a screen, students may understand letterforms as editable objects detached from the conditions of production: paper texture, ink absorption, pressure, scale, registration, drying time, and the labour of repeated making.

This paper responds to that tension by examining the pedagogical value of analog processes in typography education. Its central question is: what happens when students move from screen to surface? The study does not position analog making as a rejection of technology. Rather, it argues that physical production can help students understand digital tools more critically by making visible the material conditions that software often conceals. In this context, learning through making becomes a way to connect typographic form, embodied action, cultural memory, and reflective practice.

The argument is particularly relevant at a moment when design students are also encountering increasingly automated and template-driven creative environments. Fast production can support experimentation, but it can also reduce students' awareness of sequence, consequence, and production responsibility. Analog interruption offers a temporary change of pace. It asks students to prepare before acting, to wait for results, to accept that not every decision can be instantly undone, and to read the traces left by materials. These slower conditions make making itself visible as a form of knowledge.

## **Literature Review**

The theoretical framing draws on experiential learning, reflective practice, craft, and typographic materiality. Dewey (1938) emphasized the educational value of experience when it leads to reflection and further inquiry, while Kolb (1984) described learning as a cycle of concrete experience, reflective observation, conceptualization, and experimentation. These ideas align closely with studio pedagogy, where students learn by testing, revising, discussing, and making decisions in response to visible outcomes.

Design education also depends on reflective practice. Schön (1983) described professional practice as a conversation with the situation, while Cross (2006) argued that design involves distinctive ways of knowing that are visual, procedural, and solution-oriented. Analog typography makes this conversation especially direct: when ink bleeds, registration shifts, or details disappear, students must observe, interpret, adjust, and test again. The process turns error into an active site of inquiry rather than a failure to be hidden.

Craft theory further supports the value of tactile work in a technological age. Sennett (2008) connects craft to attention and commitment, Pallasmaa (2009) emphasizes the intelligence of the hand, and McCullough (1996) argues that digital work also depends on skilled action and judgment. In typography, Bringhurst (2012), Lupton (2010), Kinross (2004), and Meggs and Purvis (2016) remind us that letterforms carry historical, technical, and cultural meanings. A hybrid approach therefore treats digital fluency and material experience as mutually reinforcing dimensions of design learning.

The study is also informed by practice-based research. Frayling (1993) distinguishes forms of research in, for, and through art and design, a distinction that is useful for understanding studio learning. In an analog typography project, knowledge is not produced only after the work is complete. It emerges through the act of preparing, printing, failing, adjusting, and explaining. Dourish (2001) similarly frames interaction as embodied action, suggesting that tools and bodies participate in cognition. These perspectives support a pedagogy in which students learn not only about typography, but through typographic action.

## **Methodology**

The study used a small-scale classroom-based research design. Twenty-one undergraduate graphic design students completed an analog typography project involving silkscreen printing and related tactile processes. The project asked students to move beyond screen-based composition and work with physical materials, including ink, paper, screens, registration marks, repeated printing, drying, cleaning, and manual adjustment. The educational aim was not only to produce a final printed poster, but to create a learning situation in which typography could be experienced as a process of making.

The assignment was deliberately connected to the UAE Year of Community initiative (Emirates News Agency, 2025). Before designing their typographic compositions, students collected objects and material references that represented community for them. These included traditional crafts, old family games, domestic objects, wedding-related items, perfume, oud, prayer beads, maritime references, ropes, dhow imagery, and oyster shells. Students then translated these references into typographic compositions through research, hand sketching, digital file preparation, screen preparation, test printing, adjustment, reprinting, documentation, and reflection.

Evidence came from four sources: classroom observations, student reflections, project outcomes, and a post-project survey. The survey addressed motivation, creativity, problem solving, screen fatigue, material awareness, ownership, and preferences for analog, digital, or hybrid methods. The study is exploratory and institution-specific. It does not claim to represent all design programs, but it identifies patterns that are useful for discussing how analog interruption can enrich screen-dominant design curricula.

The project sequence was important to the learning design. Students did not begin with printing as a separate technical exercise. They first researched the theme, selected references, sketched by hand, developed digital compositions, and prepared files for screen production. The digital file therefore became a threshold rather than an endpoint. Once the file entered the print process, students had to negotiate registration, density, scale, and surface. The final documentation then asked them to connect visual outcomes to process decisions, allowing reflection to become part of assessment rather than an afterthought.

## **Findings and Discussion**

The findings suggest that analog production changed students' relationship to their work in five connected ways: it increased motivation, deepened material and typographic awareness, transformed limitation into a creative prompt, rebalanced attention, and strengthened students' preference for hybrid pedagogy. These categories overlap in practice. For example, a failed print could increase material awareness, demand problem solving, and generate more personal

investment at the same time. The value of the project lies in this interaction between technical, emotional, and reflective learning.

**Table 1**

*Selected Survey Findings From the Analog Typography Project*

| Survey statement                                                           | Result               |
|----------------------------------------------------------------------------|----------------------|
| More motivated to refine because the work was physically produced          | 21/21 agreed (100%)  |
| Project felt like a refreshing change from screen-based work               | 20/21 agreed (95.2%) |
| Felt more personally involved than in typical digital projects             | 17/21 agreed (81.0%) |
| More aware of ink, texture, pressure, and registration                     | 20/21 agreed (95.2%) |
| Changed understanding of type construction and reproduction                | 20/21 agreed (95.2%) |
| Thought more deeply about letterforms and composition                      | 19/21 agreed (90.5%) |
| Limitations pushed creativity                                              | 18/21 agreed (85.7%) |
| Working by hand changed the approach to problem solving                    | 19/21 agreed (90.5%) |
| Often feel creatively tired when working only on screens for long periods  | 14/21 agreed (66.7%) |
| Design courses should include more analog work alongside digital work      | 19/21 agreed (90.5%) |
| A mix of digital and analog methods would make students stronger designers | 18/21 agreed (85.7%) |
| Would like similar projects in future courses                              | 21/21 agreed (100%)  |

### **Motivation and Ownership**

All twenty-one respondents agreed that they were more motivated to refine their work because it would be physically produced, and all agreed that they would like to see similar projects in future design courses. Twenty of twenty-one described the project as a refreshing change from screen-based work, while seventeen of twenty-one felt more personally involved than in typical digital projects. These findings suggest that physical production increased emotional investment. The work was no longer only a file awaiting export; it became an object carrying evidence of time, effort, material decisions, and repeated refinement.

### **Material and Typographic Awareness**

Twenty of twenty-one students agreed that handling physical materials made them more aware of ink, texture, pressure, and registration. Twenty also agreed that the process changed how they think about the construction and reproduction of type, while nineteen reported thinking more deeply about letterforms and composition. Typography was therefore experienced not only as a digital arrangement, but as something affected by surface, pressure, ink density, scale, and reproduction. This shift is important because it connects formal typographic decisions to the realities of production and reading.

The material dimension also shaped students' engagement with cultural content. Because the project began with objects associated with community, students were not simply representing heritage through images on a screen. They were handling, observing, translating, and printing references connected to family memory, shared practices, and local material culture. The analog process gave each student a different way to interpret community through typographic form.

### **Creativity Through Limitation**

Analog production also changed students' relationship with mistakes. Eighteen of twenty-one agreed that the limitations of the process pushed them to become more creative, and nineteen agreed that working by hand changed their approach to problem solving. Students encountered misregistration, uneven pressure, ink bleed, failed prints, and loss of fine detail. These challenges required observation and adjustment. In this sense, imperfection became pedagogically productive. It slowed the process and encouraged students to ask why something happened, what could be changed, and how the next print might improve.

### **Attention, Fatigue, and Classroom Rhythm**

The findings also point to the role of bodily attention in studio learning. Fourteen of twenty-one students agreed that they often feel creatively tired when working only on screens for long periods, and seventeen agreed that working away from the screen helped them focus differently on the design process. Although not all students described screen fatigue in the same way, the analog project introduced a different classroom rhythm. Students moved between tables, collaborated, waited for prints to dry, compared tests, cleaned tools, and discussed results. This movement created pauses that allowed reflection to occur naturally. The slower rhythm did not reduce productivity; it redirected attention toward observation and decision making.

### **Hybrid Pedagogy and Curriculum Implications**

The study does not suggest replacing digital tools with analog methods. Students valued the analog project because it expanded their understanding of digital work. Nineteen of twenty-one agreed that design courses should include more analog or hands-on projects alongside digital ones, and eighteen agreed that combining digital and analog methods would make them stronger designers. The strongest curriculum model is therefore hybrid: students move from contextual research and hand sketching to digital composition, then to physical production, and finally to documentation and reflection.

This has practical implications for design teaching. First, analog production should be integrated intentionally into typography and foundation studios, not added as an isolated craft demonstration. Second, assessment should value process as well as final polish. Failed tests, material trials, documentation, and reflective adjustment can become evidence of learning. Third, courses should help students notice how tools, materials, time, and bodily experience shape design decisions. Such experiences prepare students to become more than competent software users; they prepare them to become reflective practitioners capable of questioning how technologies shape visual communication.

For curriculum planning, the key is intentional sequencing. Analog work should be connected to conceptual research, digital preparation, technical experimentation, and final reflection. It should also be assessed through criteria that make process visible: quality of research, range of

trials, responsiveness to material feedback, clarity of documentation, and ability to articulate design decisions. This prevents analog learning from being misunderstood as merely decorative or nostalgic. Instead, it becomes a structured method for teaching students how meaning changes as design moves across media.

## **Conclusion**

Learning through making remains highly relevant in contemporary graphic design education. In a period dominated by digital tools, tactile processes such as silkscreen printing can help students understand typography as material, embodied, historical, and reflective. The study indicates that analog production increased motivation, strengthened awareness of production conditions, supported creative problem solving, and offered a refreshing counterbalance to screen-based work. The UAE Year of Community framework added another layer by connecting material process to cultural references drawn from crafts, family life, celebration, maritime heritage, and shared memory.

The contribution of this paper lies in reframing analog typography not as nostalgia, but as a critical pedagogical method. Its value is not that it replaces digital tools, but that it helps students use them with greater awareness. When students engage with ink, surface, pressure, error, repetition, and culturally meaningful objects, typography becomes more than a visual arrangement on a screen. It becomes a process through which meaning is made across technologies, materials, bodies, and contexts.

The study is limited by its small sample size, single institutional setting, and immediate post-project responses. Future research could compare multiple cohorts, examine different analog processes, or investigate whether students who complete tactile projects later return to digital typography with greater attention to surface, texture, hierarchy, scale, and reproduction. Nevertheless, the findings suggest that the future of design pedagogy should not be understood as a linear movement from analog to digital. It should involve meaningful movement between screen and surface, precision and imperfection, technology and craft.

## **Declaration of Generative AI and AI-Assisted Technologies in the Writing Process**

OpenAI's ChatGPT was used to assist with summarising existing draft material, reorganising the manuscript into the IAFOR proceedings structure, and proofreading for clarity and formatting consistency. The author should review, verify, and approve the final manuscript before submission.

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