ESSAY

The value of sketching in the teaching of graphic design. Developing skills in a higher education institution

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Abstract

Design is a comprehensive discipline encompassing several processes, tools, and methodologies, to create and communicate solutions. This requires research, gathering evidence, creative thinking, designing, refining, testing and, foremost, conveying an idea to a specific audience with a purpose.

Over the past decades, higher education institutions and, especially, design schools have deployed Computer Aided Design (CAD) software into the curricula. This undertaking provided students with new tools to design, develop and implement in a fast-paced society. Digital technology has undoubtedly caused changes to the design process that have still to be fully understood. (Oxman, 2006, pp. 229-265).

Keywords

Creativity; drawing; graphic design; ideation; sketching

El valor del boceto en la enseñanza del diseño gráfico. Desarrollar habilidades en una institución de educación superior

Resum

El diseño es una disciplina integral que abarca varios procesos, herramientas y metodologías, para crear y comunicar soluciones. Esto requiere investigación, recopilación de evidencia, pensamiento creativo, diseño, refinamiento, prueba y, sobre todo, transmitir una idea a una audiencia específica con un propósito. En las últimas décadas, las instituciones de educación superior y, especialmente, las escuelas de diseño han implementado software de diseño asistido por computadora en los planes de estudio. Esta empresa proporcionó a los estudiantes nuevas herramientas para diseñar, desarrollar e implementar en una sociedad de ritmo rápido. Sin duda, la tecnología digital ha provocado cambios en el proceso de diseño que aún no se han entendido completamente. (Oxman, 2006, pp. 229-265).

Palabras clave

Creatividad; dibujo; diseño gráfico; ideación; boceto

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Introduction

Design has become a transdisciplinary subject in communication, products and services, creating an extensive range of cultural manifestations. These manifestations cannot be unraveled from our individual identities, cultural heritages, tribal loyalties, socio-cultural relations, and future responsibilities towards any sustainable development.

Communication design is, nowadays, about conveying intended visual representations and communicating it appropriately to the intended audience. This requires expertise and relates a series of tools and methodologies, together with visual elements, that create a layout by means of composition, focal point, information hierarchy, contrast, typeface, font, readability, emphasis, repetition, overall balance, consistency, empty space, image, texture, alignment, to communicate the right message to the intended audience.

Design manifestations exist on multiple platforms: web pages, mobile applications, business logotypes, billboards, brands, advertising, posters, commercials, signs, paper flyers, amongst others, it has become ubiquitous in our business and personal lives.

This raises issues on the design teaching process, and whether sketching is or is not a fundamental tool in the development of future design professionals. Despite the paradigm shift, pen and paper are still essential tools to develop design concepts, design thinking, generate ideas and communicate instinctively. Sketching and drawing allow students to develop their cognitive, observation, communication, and representation skills, but also to transform the perception of the surroundings.

Drawing corresponds to creativity "as a process and always in-process; thinking-in-action and action-as-thinking". However, ideational drawing is "a distinct drawing type; as raw thinking and as an artefact that is instrumental in the thinking process." So, ideational drawing is both design and thought; it is prospection; it is search; it is oscillation between possibilities. (Rosenberg, 2012, pp. 109-124).

Most graphic design schools provide students with skills to attain an understanding of the world, learn trade tools, foster collaborative work, develop empathy, and encourage individual views and expressions towards social involvement. Drawing and, particularly, sketching are intrinsically ideation tools, commonly acknowledged by designers as efficient approaches to devise ideas and visualize thought processes. However, currently, many design students lack manual aptitudes, especially freehand drawing skills - fundamental to depict ideas and further develop design concepts. A skill that

has become rather neglected in a higher education context after the introduction of digital tools and presentations. What is the importance of sketching as a design tool?

Design teaching in context

In a world with constantly changing circumstances and ambiguous socio-cultural outcomes, preparing higher education students for a future by simply teaching them current tools and subject-matter is bound to become a liability by itself.

> (…) educators who are developing design curriculums should anticipate the cultural, political, and social landscape that they are preparing their students to enter. (Tenazas, 2022).

Since the late 20th century, with the advent of the internet, the world has become intrinsically linked, information is increasingly available, and ideas disseminate instantly, changing socio-cultural paradigms and therefore leading to complex and unpredictable circumstances that require a multi-layered understanding. Global outcomes are without delay and not entirely acknowledged. Nonetheless, these always have a cost and an unpredictable set of consequences difficult to mitigate and overcome.

A higher education institution's mission is to prepare individuals towards becoming future citizens, actively taking part in society, applying tools and methodologies, consciously solving human-centred issues towards an inclusive future for mankind and sustainable development, mirroring these into the curriculum. This requires encouraging students' awareness, developing reasoning skills, fostering curiosity, applied knowledge, transdisciplinary teamwork, complex problem-solving aptitudes embedded into cognitive processes, and determination to perform positive change beyond subject-matter, as well as acknowledging careers that will not exist for another decade or so.

Sketching as a fundamental tool for design

In the early days of the digital revolution in graphic design, many designers and design teachers were convinced that the era of drawing on paper was over. It soon became apparent, however, that technological progress not only had not obviated the inherent value of drawing, when in fact, opened new opportunities for convergent and hybrid drawing practices. (Schenk, 2016).

Designers and academia still regard freehand sketching as a fundamental Design skill. Nonetheless, formal design education and, especially,

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sketching skills have, in recent times, been seen as an instrument to develop creativity, enabling students to improve observations and engage in visual explorations, towards better communication of ideas and meanings. Design is, foremost, conceptual reasoning, depicting ideas through sketches, whether on paper or digitally. Then again, CAD tools quite often hinder freehand drawing skills and, consequently, the ability to generate new ideas. This does not imply the exclusion of digital technologies and drawing media, namely its replicating ability and visual imitation potential. If possible, the merging of freehand and digital tools towards an improved approach across several media, as well as different disciplines that use sketching and drawing, may be the best outcome.

Both sketching and drawing are intuitive and spontaneous gestures that communicate meaning and instruct others within a socio-cultural background. Sketching is defined as a rapid depiction of an idea concerning complex subjects to clarify ideas. Instinctive ideation sketching contrasts with precision drawing that depicts technical specifications, consequently providing evidence of paper-based drawing application-flexibility, validating its enduring role in the overall design discipline.

> (...) the compulsive sketch, done off-the-cut to freeze in a moment, to crystalize the evolution of a thought, a form or analogy, a construction model, a joint or the movement of a geometric shape through space. (Franco Raggi, 2010, pp. 17).

On the other hand, the relation between what is observed and what is drawn represents a unique understanding of the world - the artist's point of view further creates visual representations. In western culture, the teaching of drawings has relied on imitation and copying from renowned artists, fostering students' ability to develop craft skills embodied by the drafter.

With growing globalization and idea proliferation, drawing traditions have also become increasingly visible and comprehensible to draft as other traditions. As a result, many key ideas about drawing, as well as techniques, materials, and reasons for making drawings, are shared by widely different people, and applied in widely different contexts. (Simon Grennan, 2022, pp.2).

In the context of design and cultural mobility, it is fundamental to communicate concepts and create meaning, towards solving complex issues, and to overcome these effectively, it is crucial to visualize and understand overall subtleties of a system in context.

When tutoring sketching and drawing in a higher education design course, primarily regarding observation and conceptualization sketching, we can observe that drafting skills have faded, especially with new students. Nonetheless, the development of sketching abilities in an environment that fosters individual and group learning reveals itself as a legitimate ideation and reasoning tool, especially valuable for first-year design students' development.

Sketching is an instrument that helps devise concepts and develop solutions, in the ideation phase, providing cognitive insight to the design process. Although sketching is by itself a form of visual presentation, the act of drawing towards the materialization of an idea (ideation) can generate new knowledge and new meaning within a communication, product, or service design manifestation.

Sequence of drawing exercises

In a higher education design institution context, drawing is part of the initial graphic design curriculum. To develop students' abilities, these are asked to accomplish a sequence of drawing/sketching exercises to develop observation and representation skills towards the development of perspective, proportionality, interpretation, composition, and depictions.

> The task of observing and making use of drawing, to understand what is visible is essential to activities concerned with ideas and memory. (Berger, 1972).

During the first semester, at ISEC Lisboa, drawing in the graphic design curricula explores various exercises to overcome students' heterogeneous drawing abilities and further enhance individual skills towards curricular proficiency. It is usually assumed that design students have previous formal training in sketching or observational drawing, even though some first-year students have no sketching and/or drawing background.
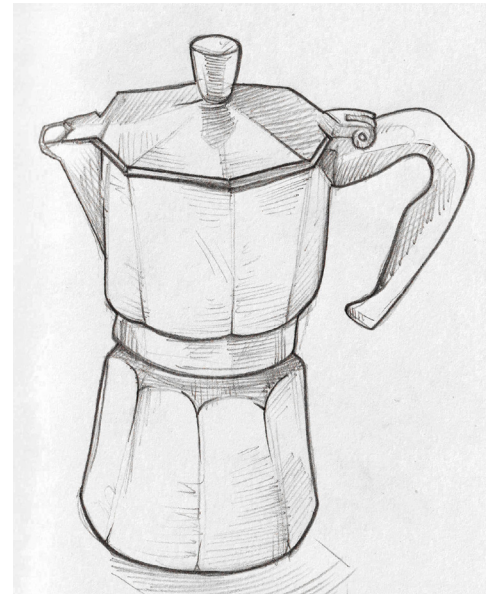
> (…) drawing is a powerful tool for thinking and communicating, regardless of the discipline (Roam, 2008, pp.269).

Sketching and drawing require practice, and this is accomplished with weekly exercises throughout a semester, in a crescendo of complexity regarding the development of observation, interpretation, and representation skills, as well as individual evolution recorded into a graphic diary (ISO A5, 110gsm paper).

Regarding design students' skills, a chronological sequence of sketching and drawing exer-

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Figure 1. Observation sketches – David Cardoso, 1st year design course student - ISEC Lisboa 2020

cises was used to encourage **observation – representation** and **observation – interpretation**. The compilation of three-dimensional forms and two-dimensional patterns improves individual drawing and sketching skills, that allows feedback on the students' work, peer review, design tools, and additional portfolio.

Teaching through sketching and drawing is fundamental to all creative practice. It starts by challenging individual perceptions of what a sketch can turn into, implying a process and not merely a design consequence - be it a communication, a product, or service. In an age of distraction, driven by rapid change, the transdisciplinary nature of design requires reasoning, as well as communication skills to creative solutions.

In a higher education context and, specifically, in a design course, sketches, and drawings (Figure 1) are part of the first-year drawing curricula. Students are asked to complete a sequence of drawings developing observational, interpretation, and representation skills.

Throughout the design course, students take advantage of acquired sketching and drawing skills, employing it as a visual thinking tool (Figure 2), demonstrating the design process, and further improving the design concept, along with reasoning and visual communication skills.

The drawing/sketching exercise sequence taught to undergraduate students was devised to mature observation, interpretation, and representation skills, and to additionally develop cre-

ativity and design thinking required in the forthcoming design curriculum of the 3-year graphic design course at ISEC Lisboa.

Drawing exercise sequence
1. Toilet paper roll in three different positions
2. Outline the hand and make it into something different
3. Draw clouds using only dots
4. Insects that fill the entire area of the page
5. A flower jar with something peeking out of the top
6. Draw three different fruits on a table
7. Transform your initials into a beverage logotype
8. Use shading to outline an object (do not use lines)
9. Personify an object of your choice with details
10. Drawyour favourite childhood toy from memory
11. Several animals wearing summer clothes
12. Draw an M6 nut and bolt screw
13. Draw a pile of cars and a plane
14. Self-portrait (half a face) in summer and winter
15. Draw a face and shade it with geometric patterns
16. Create an ocean storm using splattered paint (gouache)
17. Copy an image of an old painting
18. Draw an object using only words that represent it
19. Draw an animal's silhouette with a pen and marker
20. Create underwater creatures

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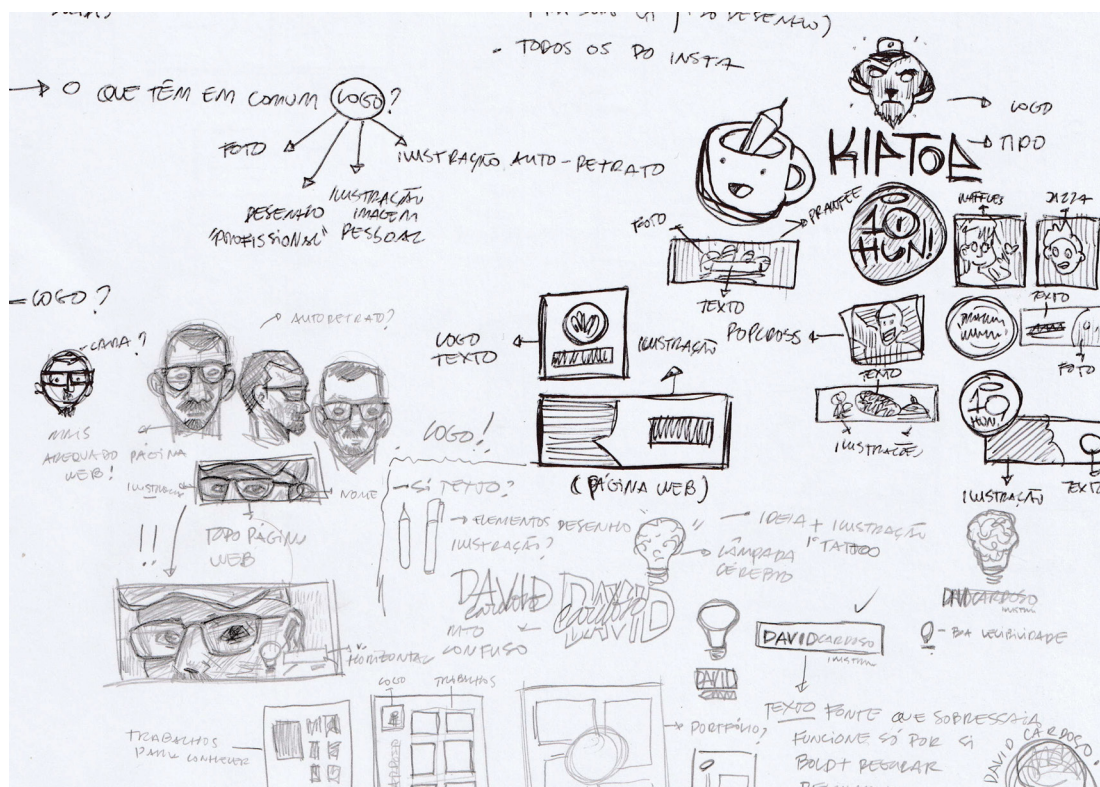▪ journal of graphic design

Figure 2. Concept Sketches – David Cardoso, 2nd year design course student - ISEC Lisboa 2021

21. Blind drawing of knives and forks (fish, meat, dessert)
22. Draw a tree without lifting the pen from the paper
23. Male & female athletes on a beach with hats
24. An urban landscape (street, train, buses, people, etc.)

Initiating a design project with a pen or a pencil, sketching ideas and depictions, is a communication tool that demonstrates the creative process, allowing visual explorations and generating multiple ideas, while also illustrating concept variations and further developing the idea, highlighting the process and, subsequently, the medium.

Currently, sketching and drawing are more than the representation of the visible world. They are applied as problem-solving tools, especially valuable in project-based learning contexts, further developing design skills, with noticeable implications in the design output, as pointed out by Pamela Schenk in her work: Drawing in the Design Process (2016).

Future problems will be distinct and merge multiple areas of knowledge, requiring creative stimuli and design thinking, essential for innovative solutions. Always-never dilemmas will occur, but so will opportunities to devise efficient solutions, requiring flexibility and understanding, critical thinking, intuitive problem-solving, purpose-driven solutions, and transdisciplinary collaboration towards flexible and sustainable solutions.

The teacher's role is to share knowledge, to reason and inspire, motivating students to orchestrate the learning process, and challenging individual student's output, providing guidance, explanations, and practical knowledge. Overall, making students accountable for their own learnings and upcoming social insertion. This requires specific knowledge, understanding the audience, and the ability to communicate clearly, motivating students' interest in the subject matter.

Overall, higher-education requires critical-thinking skills, curiosity, problem-solving skills, exploration through trial and error, research, reflection, and applied work to overcome challenges. Sketching, as a critical-thinking tool, enables reasoning and design-thinking, consolidates learning outcomes, and enhances individual cognitive and emotional development, be it an online platform or a classroom.

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Through sketching and drawing, the designer can depict an idea on paper, illustrating the proposed concept in a tangible manner. Sketching explores design options concerning a particular design concept testing, through schematics, illustrations, patterns, and various representation proposals towards a creative output.

(…) evidence both from research in cognitive psychology and from studies of designer's points to the importance of drawing in the design process beyond the documentation of final designs. (David Ullman, 1990, pp. 274).

The significance of sketching in the design process is beyond the final designs. Not only are sketches and drawings the preferred form to present information, but they are also a necessary part of the cognitive process used by designers in problem solving and further design manifestations. Design solutions that communicate added value require creativity, talent, and an awareness of reality.

The design process itself is limited by the ability to use sketching as a cognitive extension. This implies the need for training basic drawing skills (perspective, proportionality, interpretation, and composition), but also for training the ability to ideate and represent abstract concepts and depictions, rapidly illustrated with sketches. Consequently, the training of designers is interdependent, with formal drawing training and informal sketching training.

Conclusions

Sketches and drawings have been influenced throughout time by distinct cultural circumstances for many purposes in different socio-cultural contexts, consequently displaying a variety of manifestations, usually existing as a representation of the surrounding world. This allowed artists and designers to learn from previous manifestations and create new ones, devising concepts and illustrating ideas in a tangible manner, whether on paper or digital media.

Design, whatever the medium, depicts ideas through sketches, devising concepts, schematics, illustrations, patterns, representations, and depictions that convey creative proposals towards an output. Regarding design, sketching is a reasoning and exploration tool that conveys an idea towards a specific intent. On the other hand, with the advent of CAD tools, many designers neglected initial freehand ideation sketches and drawing practice, favouring digital tools, often delivering an unvarying output consequence of software algorithms.

In a fast-paced era, where flexibility and resilience are embedded learning requirements, it is essential to prepare higher education design students towards real-life issues, encouraging project-based learning methodologies and reasoning, thus conveying the need to foster sketching and drawing as an ideation and reasoning instrument, especially in design studies. In a world of algorithms and images, the creative nature of sketching enables mental exploration, mediating ideas and creating depictions.

The ability to generate high-quality ideas starts with curiosity, and creative thinking aimed at solving real-world issues. In a design school context, being able to share ideas successfully requires empathy, along with verbal and visual communications skills that include sketching, illustration, and depiction, towards an understanding of an idea.

Drawing can be taught and further trained individually, helping to understand the environment more accurately, conveying ideas and creating new meanings. Nonetheless, the perception of a drawing and sketching is intrinsically dependent on the individual's socio-cultural background, along with their understanding and interpretation of manifestations. Ultimately, the best software is still our brain, shaped by what we listen, observe, touch, smell, taste, read, and question, but also when we think with a pencil and paper, adapting to constraints and overcoming issues.

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