Hiding Lack of Knowledge: Bad Words in Design Education

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This is a personal view of the nature of ignorance and intellectual laziness as they affect design education today. It is a frontal encounter with the culture of imitation, as well as a call to set the bar high when it comes to planning the education of future designers.

There is a difference between training students for entry-level positions in design offices, as happens in junior colleges, and educating designers for advanced practice and lifelong learning, as should happen in universities. This discussion is about design education in universities.

Hiding Behind "Intuition"

In the design environment, we suffer from the abuse of fuzzy words such as "intuition" and "creativity" that help to hide the inability of some university instructors to articulate concepts and to deliver actual instruction. Not being able to articulate empirical knowledge verbally leads to the acceptance of mediocrity in the university, and to the promotion of the designer as an illuminated magician in the practice.

Visual knowledge, when it exists, is evident and unique; but the reasons for its quality always can be described verbally. In some extreme cases, the attitude of the instructors is such that they let their students know that, even though they possess knowledge, they are unable to communicate it: this knowledge has to be discovered through the insistence on making things over and over again. The students are left wondering just how they are going to find and retain the Holy Grail of design knowledge. Julio Le Parc, an artist friend of mine and a schoolmate in my early years, was annoyed at how his instructors in printmaking graduate studies hid everything in locked drawers when he showed up at the studio. Eventually, he realized that those who were hiding their work did it because they did not have anything to hide.

Because universities require staff to develop research activity, it has become common to add the term "research" to the practice of design. Design instructors, hiding behind myths that exist in popular culture about art, describe their run-of-the-mill design practice as "design research." The ordinary practice of design, however, is not necessarily research.

Real visual research, when it exists, is visibly evident; and the reasons for its quality can be described verbally. It involves knowledge, craft, sensitivity, and innovation. This is the case, for

instance, with Leonardo's anatomical drawings or, just for a specific example, with the orange tree in Cima da Conegliano's *The Madonna of the Orange Tree* (Gallerie dell'Accademia, Venice), where every leaf makes sense where it is. This is not just a generic visualization of the concept "tree." Examples of similar sophistication in visual communication design abound. They can be found in visual and methodological aspects of projects in information design, graphic interfaces, advertising, teaching aids, and social marketing. However, routine practice in graphic design is not research.

It is possible that an experienced designer could work in a way that appears to be intuitive to an outsider. An experienced designer can develop a wonderful concept in a short time, but this is not intuition at work. Similarly, experience allows a professional pianist to play a concert, not only ordering his fingers and memory to carry out what would be an impossible feat for any "normal" person, but also dealing with musicality and interpreting the intentions of the composer. Of course, there are people who have more ability than others from the outset: those who are better at reasoning, accumulating knowledge, thinking fast, and executing with dexterity. But this is not intuition at work: this is a combination of knowledge, skill, sensitivity, experience, and a lot of work. This is an expression of several modes of intelligence driven by an extraordinary will. It is neither easy nor just "talent."

In the design education environment, we suffer from the "master-apprentice" model. Instructors who are extremely good at doing something, but unable to articulate the principles that guide their actions, treat students just like Pavlov's dogs. I have seen instructors judge the quality of their students' work by saying: "This one is too busy" or "This is better, it is simpler." They suggest that "busy" is bad and "simpler" is better in every situation. Context and content are alien dimensions for design instructors who work simply as "dog trainers." The students are trained to please the masters through slavish imitation, and this is the worst thing that an instructor can do to a student. Dogs and horses can be trained, but students should be educated. I will return to this later.

Imitating is easy, and the majority of people live by imitation. They walk upright, and they dress like humans, but they could never in their lives have invented culture. Many people are able to consciously adopt cultural mores, as well as intensely understand and enjoy cultural productions, even if they are not able to create them. Then there are the likes of Plato, Leonardo, Michelangelo, Shakespeare, Kant, Mozart, Kafka, Marx, Herzog, Bergman, Chaplin, Brecht, Einstein, Sartre, et al.: the culture builders. Such a list might vary from designer to designer, but I recognize people such as these within the communication design culture; whose work opened up new possibilities and created new paradigms for me to extend my understanding. Although they do not abound, many designers belong in this category.

Visual imitation is drastically different from visual research, as well as from learning by observation. Learning by observation should hinge not on copying and imitating, but on understanding the underlying principles that lead to admirable results. Early in life, around my mid-twenties, I took the annual graphic design books I had, and decided to select the pieces that I liked best. I marked the pages of a dozen or so designs, and then I engaged in an analysis of the common features that they shared. I wanted to understand why I was attracted to these works, so that I could improve mine. I learned quite a few things, and my work—at least in my judgment—took a turn for the better. This required looking closely, finding similarities, recognizing the motivations for differences, and reformulating the visual information into verbal propositions. Of course, this was a matter of aesthetic preference that only skimmed the surface of what I understand as design today! It is unfortunate that, even today, the teaching of design often concentrates almost exclusively on the visual aspect of things—worse still, without its reformulation as propositional knowledge. Proof of this is the ubiquitously exclusive use of the portfolio requirement for admission into professional programs in visual communication design.

I am not suggesting that everything should be turned into words. Visual information has been used in our culture for a long time as a complement to verbal information. Moreover, for hundreds of years, architects and engineers have recognized the limitation of verbal communication when programming the construction of objects, and therefore have used drawings to communicate information to builders and manufacturers.

This proves the existence of at least two different kinds of knowledge: one articulated verbally, and another articulated visually. There are then two ways of researching knowledge, and two ways of communicating knowledge. In surgery, for example, there are texts to be studied, as well as a great number of drawings and pictures; but no one has jumped from texts to surgery without having watched a surgeon operate. Surgery always has used the master-apprentice model as *part* of the training of student surgeons. The same is true for design today. But watching alone does not do the trick, because articulated information also is indispensable. The problem is that it is easier to imitate styles than to exercise judgment. It also is easier to show designs than to explain the principles that underlie good visual decisions. This is, however, the only way that one can empower others to understand design: recognizing and articulating the principles that lead to appropriate visual design criteria. I say "visual design" and not "visual communication design" because here I am referring exclusively to the visual aspect of design. In visual design, the main principles are no mystery. To a great extent, they are Gestalt theory applied with intelligence and sensitivity. It is necessary to understand how perception works, how esthetic

pleasure can be generated, how esthetic preferences are formed, how esthetic preferences are culturally conditioned, and how aesthetic choices in design are situated, functional decisions.

In my long experience as a reflective practitioner, I have never had a case in which the decisions I made in design could not be articulated verbally. In my most recent professional project, which involved the design of an information leaflet, I made nineteen typographical decisions based on fifty bibliographical sources, and my final report to the client listed thirty-nine recommendations, all supported by specialized literature. The design prototype was used as an example of implementation and as a testing tool, and proved the validity of the recommendations made. The prototype complemented the verbal articulation, and it involved, of course, more information than what was provided verbally, because there is a point where verbal articulation is less efficient than visual presentation, and there are details that are not of interest to the client. It is one thing to conceptually frame the design decision to use a particular blue in a corporate identity, but another different and impossible thing is to communicate verbally how the blue exactly is.

I do not believe that recognition of the value of empirical knowledge escapes our culture today: it has its place in many fields, including design. Nevertheless, promoting empirical knowledge to the detriment of verbal articulation is undesirable, not only in the development of design, but particularly in design education at the university.

Hiding behind "Research"

I have discussed the use of the word "research" to refer to activities devoid of method that more appropriately could be called "explorations." Without method, there is no research. But without social relevance, however watertight the method is, research is useless. Hiding behind empty research is as bad as calling visual exploration "research," or hiding behind "intuition."

There is a move today to create doctorates in design. I have seen the promotional materials of one institution, which carried the title: "We do research!"—as if it were "We do drugs," "Elvis was here," or "We sell Ferraris." In a culture filled with imitators, however, if some institutions have doctorates in design, others will want them as well. Consequently, there is an interest in the development of formalized research. But one major flaw in this interest is the lack of ability in many people to identify just what to research. In the quest for research problems, people get engaged in impossible tasks such as defining words, as if it were possible to define them in a universally valid way. Long theses are developed about the "real" meaning of a word such as "knowledge" or "design." In other cases, theses based on field-test studies measure all kinds of useless differences. I am not opposed to the discussion of language and meaning, but these topics should be developed in a design

department in an operational sense only, and not in an absolute sense. I can choose to understand design in a given way, and act accordingly as a professional and as an educator. But if I want to engage in the problem of defining words in an absolute way, I should do it well. And that can only happen in philosophy and linguistics, not in a design department. In a philosophy department, appropriate thinking tools are discussed, and knowledge of the rich Western tradition is required. Designers doing abstract philosophy run the risk of being uninformed, opinionated, and simplistic. Reading these poor attempts at rational arguments about totally abstract problems, I feel as though I am back in medieval times, attempting to determine the sex of angels or trying to prove the existence of God by using Aristotle's syllogisms. We should recognize the limits of our territory in design education, and we should do the best we can within it. We are oriented to action and construction: reflection and conceptual discussion are necessary but, as tools, not as ends in themselves.

In my view, there are three conditions that must be met to develop useful advanced research in design: the problem should belong in the design discipline, the methods used should be a model for the profession; and the topic should be socially relevant. Sometimes this can extend the field of practice, developing interdisciplinary ways of working; however, interdisciplinary work must be based on disciplinary competence, that is, on specialized knowledge. In some cases, interdisciplinary work leads to paradigm-shifting results that make us rethink the nature of designing. This, I think, is the ideal outcome of important research in design, but it can only happen in the context of social and professional relevance. Meaningful research addresses specific problems but, at the same time, it contributes to the collective knowledge pool in visual communication design. Effective strategies developed for one problem can be extrapolated to assist future action in other situations.

I learned to do field research from a conversation with Herbert Spencer about his research on readability, and in a review of his reports on the studies. I enjoy theory that is anchored in action and oriented to action. It is not my priority to dedicate time to defining the word "design" when every ten minutes, day and night, thirty-five people are hospitalized in the United States as the result of a traffic accident. This is a country in which 500 million working days are lost to injuries every year. The cost is staggering. The human suffering is unthinkable. Good communication design oriented to deal with problems that affect the whole of society is urgently needed. Whether dealing with safety, nutrition, ecology, literacy, health, discrimination, unemployment, social justice, tolerance, administration, business, peace, training, education, or whatever other human need, design has a role to play. This is not just adolescent romanticism: everything that does not work well in society costs lots of money. Traffic injuries cost the health care system in North America (excluding Mexico) 150 billion dollars a year. One

day, governments will note the staggering cost of having done nothing about this, and will then invest resources in public education. But simply identifying the problems is not enough. When opportunity knocks, designers will need to have the knowledge and the skills to produce successful communication strategies.

What is design education doing about this?

Educating or Training?

Educating requires a partnership between instructor and learner, and it aims at total personal development. Education should create intelligent, integrated, sensitive, and productive members of society.

Teaching is based on transmitting information; learning on searching and discovering. Teaching and learning are both fundamental in the educational process. Students should be instructed, but they also should be taught how to learn on their own, both from others and from their environment. Education should be oriented to fostering the acquisition of fundamental skills and independent judgment. Without forming, informing does not make sense. Informing prepares people to know *how* to do something, but not *why* or *what for*. Informed people are followers and imitators: they do not contribute to the development of knowledge or to a new understanding of existing knowledge.

There is a primary learning aspect in education that is both connected to the acquisition of information and conscious; and there is a secondary learning aspect (technically called "deutero-learning") that relates to the development of skills, but it is an automatic and unconscious effect of primary learning. If I learn how to plan a project carefully, I also learn how to plan anything carefully: if I learn a foreign language, I also become better at learning foreign languages. This concept of secondary learning should serve as a focus for educational programs. It is necessary to identify the skills that the students should develop, and to plan the projects for studio courses to support that development. The opposite of this is to mechanically line up a series of projects just because they have been done before and students liked them. Thus, we have "the page layout project," "the expressive typography project," or "the identity project": all mini-representations of the exterior aspects of professional practice. This is done instead of dealing with problem areas such as understanding the reading comprehension process; understanding the language of the public to be addressed; understanding the human factors involved in relations between people, things, and environments; understanding working methods; developing planning and visualization skills; and so on. In sum, the aim of design education should be to foster the development of thinking, judging, collecting information, organizing it, managing resources, and producing visual communications that are effective and sensitive to users, contents, and contexts. The design projects should not be the focus, but rather the means to achieve these goals.

To instruct relates to training. To educate is to foster the development of judgment, personal initiative, and the conscious adoption of values. This distinction is essential. To be a good designer in the broadest professional sense, in addition to the technical knowledge, one has to be a good citizen, that is, a socially responsible person. For this, technical instruction, however good, is insufficient, let alone faith in intuition.

Personal Style/Personal Expression

Personal expression and style are unavoidable, but they are not to be sought. Nor should style be forced to be different. One is who one is; not who one wishes to be. In a profession grounded in interpreting the communicational needs of a client in relation to a sector of the public, the client and the public form the two poles that must be integrated by the designer in a communicational act, with the aim of generating a desired response. Any recognizable presence of the designer in the middle of that point of encounter between client and public is "noise," and thus detrimental to the purpose of the effort. Leonardo Da Vinci was expressing himself when he did his scientific illustrations, but he also was pursuing his keen interest in understanding how things work. He was promoting a value system that guided his life; demonstrating his extreme sensitivity to nuances of form, and using his best ability to store knowledge and to communicate it visually. Was he trying to express his feelings? No. This was not the type of activity in which this could be entertained. Was he trying to be unique? No. He was unique. For better or worse, everyone is unique. The majority of people create the norm; however, some people move away from the norm. These people include the misfits and the culture builders. Most people are imitators. In an education dominated by imitation, it is understandable that many young people develop an urgent need to be different. The lack of intellectual tools, however, reduces these attempts to the superficial aspects of design, and results in different "looks," but in useless learning results. The form of the language is important, but only when it is sensitive to context and content, and only when the content has significance.

A Final Word

Either for a commercial purpose or for any other type of need, the problem of design education remains. Hiding behind the abuse of words such as "creativity" and "intuition," and perpetuating the master-apprentice tradition, will neither help society nor design. Perfectly careful and methodical research, without relevance, will not help either. We have to set the bar high enough that we abandon the idea of training designers, and get on with the practice of educating them, even if, in the end, they begin to think differently than us. At least they will think, and will not just copy, like trained monkeys, the miserably superficial look of things.