
We All Want High-Quality Design Education: But What Might That Mean?

1 Tim Brown, "Designers—Think Big," *TEDxGlobal*, TED video, 16:43, filmed July 2000, https://www.ted.com/talks/tim_brown_designers_think_big?utm_source=tedcomshare&utm_medium=email&utm_campaign=tedsread.

Understanding Context

In November 2018, I was a human-centered design researcher in the Faculty of Medicine & Dentistry at the University of Alberta, Canada. It was extremely difficult at that time to hire young designers that could comprehend the human part of healthcare problems, start a systematic process of inquiry, have a good capacity to grasp the complexity of the situation, find patterns in the information collected, interpret them to develop a more complete understanding of the design problem, apply the knowledge to decide how to act, and explain the approach used, the insights gained, and the design intervention plan to healthcare professionals, administrators, and non-design-oriented researchers.

Simultaneously, the Faculty of Nursing opened a new course on innovation and leadership, which explored the application of design thinking in healthcare. Administrators in the Alberta healthcare system were discovering the power of 2-day sprints to understand and solve complex healthcare issues. In parallel, I saw an old TED talk by Tim Brown¹ stating that "Design may have its greatest impact when it is taken out of the hands of designers and put in the hands of everyone." I wonder, on the hands of who else would we place it? Nurses? Lawyers? Scientists? The fact that graduates are not always ready to practice might indicate a problem with design education, but I didn't think that design, and the teaching of design, would be better off in the hands of other disciplines. If we claim that designers can solve the complex problems of the world but we cannot improve design education, then our claim cannot be sustained. At this point I started a conversation with Ken Friedman, Don Norman, and Jorge Frascara that resulted in the idea of a *She Ji* special issue on Design Education.

Copyright © 2020, Tongji University and Tongji University Press.

Publishing services by Elsevier B.V. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

<http://www.journals.elsevier.com/she-ji-the-journal-of-design-economics-and-innovation>
<https://doi.org/10.1016/j.sheji.2020.02.003>

- 2 Rosemary Sassoon, ed., *The Designer: Half a Century of Change in Image, Training, and Techniques* (Bristol: Intellect Books, 2008).
- 3 Tomás Maldonado, "How to Fight Complacency in Design Education," in *Readings from Ulm: Selected Articles from the Journal of HfG, Ulm*, ed. Kirti Trivedi (Bombay, India: Industrial Design Centre, 1989), 49.
- 4 Molly Cooke et al., "Medical Education: American Medical Education 100 Years after the Flexner Report," *New England Journal of Medicine* 355, no. 13 (2006): 1339, DOI: <https://doi.org/10.1056/NEJMra055445>.
- 5 Ken Friedman, "Models of Design: Envisioning a Future Design Education," *Visible Language* 46, no. 1/2 (2012): 132–54, <http://visiblelanguagejournal.com/issue/154/article/861>; Ken Friedman, "Design Education in the University: A Philosophical and Socio-Economic Inquiry (Hot Debate)," *Design Philosophy Papers* 1, no. 5 (2003): 243–53, DOI: <https://doi.org/10.2752/144871303x13965299302596>; Ken Friedman, "Design Science and Design Education," in *The Challenge of Complexity*, ed. Peter McGrory (Helsinki: University of Art and Design Helsinki UIAH, 1997), 54–72.
- 6 Don Norman, "Design Education: Brilliance Without Substance," *Core77.com*, October 4, 2011, <https://www.core77.com/posts/20364/Design-Education-Brilliance-Without-Substance>; Donald A. Norman, "When You Come to a Fork in the Road, Take It: The Future of Design," *She Ji: The Journal of Design, Economics, and Innovation* 2, no. 4 (2016): 343–48, DOI: <https://doi.org/10.1016/j.sheji.2017.07.003>; Don Norman, "Why Design Education Must Change," *Core77.com*, November 26, 2010, <https://www.core77.com/posts/17993/why-design-education-must-change-17993>.
- 7 Jorge Frascara, "Design, and Design Education: How Can They Get Together?," *Art, Design and Communication in Higher Education* 16, no. 1 (2017): 125–31, DOI: <https://doi.org/10.1386/adch.16.1.125.1>; Jorge Frascara, "Hiding Lack of Knowledge: Bad Words in Design Education," *Design Issues* 23, no. 4 (2007): 62–68, DOI: <https://doi.org/10.1162/desi.2007.23.4.62>; Jorge Frascara and Guillermina Noël, "What's Missing in Design Education Today?," *Visible Language* 46, no. 1/2 (2012): 36–56, <http://visiblelanguagejournal.com/issue/154/article/854>.

Engaging in Reflection to Define Purpose

We had long conversations about the main goal of this special issue—after all, design and design education has had a long history of change. Rosemary Sassoon² recalls how graphic design changed in England from 1940 to 1946. In 1940, graphic design was called *commercial art*, in 1946 during the *Britain Can Make It* exhibition, design was recognized as an important factor to increase Britain's export markets. In 1966 Tomás Maldonado³ wrote

“While design was celebrated as an art at the service of industry, as an activity destined to embellish manufactured products, design education was—as B.R. Hydson defined it in 1837—training for the lowest ‘branches of art.’ This typically Victorian concept of design is for various reasons, no longer relevant. However, this was not only a concept, but also, and principally a pedagogic system: a particular academic structure in which that concept was reflected.”

Reviewing design history, it is apparent that design education has changed through the years in an attempt to fit professional contexts and societal needs. Design education requires continuous improvement and knowledge to face new challenges, but also constant reevaluation. This requires us to be more critical about our beliefs and the evidence we use to guide our decisions.

Hence, when discussing our perspectives on design education we ended up with a reflection similar to the one Molly Cooke and her colleagues⁴ had on medical education: design education “seems to be in a perpetual state of unrest.” Designers had criticized design education for a long time, but unlike medicine and other disciplines we were missing the reports from foundations, and educational and professional bodies to guide the changes. But, like these authors, we were wondering “How did this situation arise, and what can be done about it?”

Articles about design education and the need to change it were not missing, Ken Friedman,⁵ Donald Norman,⁶ and Jorge Frascara⁷ had written extensively about it. *Visible Language* published a whole issue dedicated to the topic in 2012.⁸ Almost twenty years ago Steven Heller edited a book about graphic design education aimed at providing models to address educational concerns of that time.⁹ Perhaps the problem was the same that G. W. Pickering¹⁰ noticed regarding medical education in 1956: implementation. He stated, “no country has produced so many excellent analyses of the present defects of medical education as has Britain, and no country has done less to implement them.” Frequently it is not the knowledge we lack to be able to change but a solid implementation strategy to make the change real. Sir Muir Gray¹¹ said that “the application of what we know will have a bigger impact on health and disease than any drug or technology to be developed in the next decade.” Do we need better access to the design education knowledge that is already published? Do we need to make the knowledge more actionable? Or do we need more and stronger design education research?

What we are seeking is difficult—to change an existing reality into a better one is a long and difficult process. Robert B. Edgerton¹² reminds us that in general we complain, but seldom implement change in our beliefs or organizations. He says,

- 8 Sharon Poggenpohl, ed., "Envisioning a Future Design Education," Theme Issue, *Visible Language* 46, no. 1/2 (2012), available at <http://visiblelanguagejournal.com/issue/154>.
- 9 Steven Heller, ed., *The Education of a Graphic Designer* (New York: Allworth Press, 1998).
- 10 G. W. Pickering, "The Purpose of Medical Education," *British Medical Journal* 2, no. 4985 (1956): 113, DOI: <https://doi.org/10.1136/bmj.2.4985.113>.
- 11 Muir Gray, foreword to *Healthcare Knowledge Management Primer*, by Nilmini Wickramasinghe et al. (New York: Routledge, 2009), xx.
- 12 Robert B. Edgerton, *Sick Societies: Challenging the Myth of Primitive Harmony* (New York, NY: Free Press, 1992), 200–201. Cited in Warren D. Anderson, "Outside Looking In: Observations on Medical Education since the Flexner Report," *Medical Education* 45, no. 1 (January 2011): 30, DOI: <https://doi.org/10.1111/j.1365-2923.2010.03772.x>.

"Large changes, if they occur at all, are typically imposed by some external event or circumstance—innovation, epidemic, drought. In the absence of such events, people tend to muddle through by relying on traditional solutions; that is to say solutions that arose in response to previous circumstances."

Adapting design education to fit the current demands of society and the profession is a challenge.

Pursuing a Purpose: Information, Reflection, and Action

Through our personal networks we identified people that had implemented positive change in design education. We invited them to contribute to this issue, and provided them with a frame to write about their experiences, reflections, or cases. Some of the main points in the frame were: key competencies designers graduating in 2025 should have; the value of these competencies; concepts and skills taught to develop these competencies; and best teaching practices and current challenges.

Our goal was to provide actionable information that helps people to implement positive change in design education with models to guide decision-making processes. We want to prompt reflection and encourage people to act. We have a desire for evidence-informed design education practice.

Emerging Themes: Ten Suggestions for Quality in Design Education

This special issue resulted in a broad perspective on contemporary practices and ways of thinking. Its hallmark is, perhaps, *plurality*—a variety of histories, learning goals, values, educational approaches, design perspectives, learning priorities, management styles, teaching teams, and strategies to achieve quality in design education. Diverse factors and views to reach the extraordinary. Despite this plurality, all authors pursue a common goal: quality in design education.

Although it is usual in an introduction to a special issue for an editor to provide a summary of the content, I have focused instead on the emerging themes. These are short pieces of practical advice to start taking action: to reflect, identify, select, apply, rethink, iterate, and mindfully respond to the current situation.

The main focus of these hints is on how and what design instructors could do to ensure high quality. The ultimate goal of design education is to provide society with responsible, knowledgeable, and skilled professionals that can help people better achieve their goals.

A note of caution: these hints are not recipes. They only offer practical advice. Each school has diverse circumstances, and diverse answers to the question, "What are we educating for?" Diverse teams of instructors, diverse profiles of learners, diverse sets of pedagogical methods, diverse leadership, diverse sets of measurable learning goals to achieve a profile of a graduate that has the ability to change existing realities into better ones. But which realities? What level of complexity should they be able to address? How much

should they be able to change? And with which other disciplines should they engage to achieve the desired change?

1 *Train & Educate: Moving beyond Know-How*

The purpose of design programs is both to train and to educate. We need to help students not only to find jobs, but to thrive as designers as the discipline evolves. We also need to help them grow as human beings. We need to prepare students for what the practice requires now, but also to develop the design discipline forward. We need to prepare students to make things and build culture. We need to enable them to pursue a constant path of learning, a lifelong learning path, to engage in a continuing quest for understanding.

2 *Create a Context for Inquiry: From Objects to Problems*

Make use of problems to create a context in which to exercise inquiry, exploration, and the seeking of understanding. Some decades ago, the teaching of design was focused on objects: the design of the book, the design of the chair. Today we begin with problems. Who will be reading the book? What should this person achieve through the reading: learning, enjoying, cooking, or other how-to activity? If learning is the goal, then how can a book foster learning? The learning of what? Learning by whom? Where would this person read the book? How do people read? The problem is not to design a book, but to help people read it, comprehend it, remember it, and apply its content. The need to draw upon knowledge developed in other disciplines to guide the design decisions on evidence will be imminent.

3 *Change the Conceptual Network: Identifying the Problems' Components*

Let the students research the problem, define it, and create their own redefinition of it. Problems are frequently parts of larger problems, connected to other problems; train students to identify as much as possible the problem's ecosystem. Chills and shivering are symptoms of fever, fever is a symptom of being ill. But which is the disease, what is causing it, and what can be done about it?

Break the thinking habit. Guide students to move beyond the surface, to turn things over, to look for signs, to seek what is not there but also for errors in the thinking. Train students to ensure conclusions are well informed, by reading, by mapping, by trying, testing, questioning, consulting. Engage in a long exploration: to whom this is a problem, what is the problem for the different people involved in it, what is the problem causing, why does this problem matter, is the problem perceived as such, which is the human situation that requires care?

4 *Broaden the Scope: From Designing Solutions to Implementing Change*

Introduce projects that include implementation as part of the learning exercise. The implementation of a design solution is a design problem. Implementation is a complex process with multiple stakeholders, goals, interests and other variables coming into play. Even when the design research process to

develop the proposal is flawless, reality is inherently complex and uncertain, and changing a reality is difficult.

Incorporate the need to reason and plan the implementation of a design intervention to promote change. Train students to discern what it takes for a solution to be adopted, to think about the people that will be doing the implementation, to map their relationship and the context of implementation: in which organizations is this change going to be implemented, which tasks will need to be performed differently, which behaviors would change, what learning will be necessary for the adoption, how would the change be measured? Is a new policy or a change in policy necessary for the adoption of the solution? This thinking exercise is key for the accountability of the design discipline.

5 *Figure out the Subdisciplines: What Are We Educating for?*

Identify the profiles of graduates you are trying to train. What kind of problems will students be dealing with? Are the problems closer to the product or to the system level spectrum? Which are the different skills and competencies necessary to deal with these problems? In which context do students need to learn about human cognition and behavior—technology and human computer interaction? Or sustainability and adopting new ways of doing? What about business and economics? What ethical problems will these future designers encounter? What pedagogies will better support the teaching of these competencies? Answering these sorts of questions will help you develop a frame to guide curricula decisions.

6 *Encourage Teamwork to Foster Collective Thinking*

Break the old habit of individuality by prompting students to work productively with others. Given changes in the working environment today, designers work in intercultural, interdisciplinary, intergenerational, and even remote and digital teams.

Adapting to diverse working and thinking habits and approaches is key. Make use of team activities to engage students in stating and communicating clear goals, planning stages and processes to achieve them, fostering motivation, articulating the meaning of words precisely, identifying mental models, and promoting positive norms. Introduce the notion that adversity might arise; hence it is essential to know one another's roles, responsibilities, and ways of interaction to overcome difficulties. Learning to foster collaboration and cultivating a cooperative mindset is part of being a human-centered designer.

7 *Equip for Life: From Learning to Do to Learning to Learn*

Changes in technology and working demands require the need to learn new skills and engage in a continuing process of professional development. Provide a space and support students to identify their goals, to articulate the career path they are passionate about. Prompt reflection on learning while having a busy work schedule.

Discuss knowledge and learning, for each student how is the process of acquiring new knowledge? What are the students learning beliefs? Ask

students to monitor their attention during class, the thinking process and progress toward achieving their learning goals. Encourage students to reflect about their thinking: How well informed are their arguments? On what basis are they making assumptions? Metacognition, the act of being aware about one's own thinking and knowing, is a key skill to help students learn to be in charge of their own learning.

8 *Engage Students in Their Learning, They No Longer Sit Still*

Teaching has changed, and students' profiles, expectations, and learning styles are different. The role of the instructor is no longer to give long lectures showing as many slides as possible, but to create a stimulating environment. We have learned that teaching is not about what we say, but what the students get.

Raise students' curiosity about the content, engage them in wondering about the implication of the content for the field, and guide them as they start to apply the content to their work. Work closer to students, sit at their tables, be more approachable. Address diversity, present material in different formats. Encourage students to share their understanding in different ways. Transform the classroom into a lab, to better support students' content engagement. Ideally, integrate research and evidence with studio practice. Explore, evolve, and iterate your teaching approach to find what works best.

9 *Foster Reflection and Build Capacity to Incorporate a Sustainable Lens*

Include the issue of sustainability as much as possible. Ideally across the program—and not just in a couple of courses. Encourage students to reflect on production and consumption patterns. What does it imply to grow? Can we continue to grow? What are the risks? What are the signs of these risks? Engage them in discussion about their consumption, regardless of product and object. Where does it come from? How was it produced? What will happen when we stop using the product?

Introduce students to the United Nations Sustainable Development Goals to be achieved by 2030. Discuss with your team of instructors what it will take to teach students how to try to tackle these complex, sizeable problems. What skills and knowledge would some of the instructors need to acquire or further expand on themselves? Building capacity is indispensable to better plan, develop, and apply change to achieve the Sustainable Development Goals.

10 *Promote Inquiry from Different Angles: Where You Begin Affects Where You End*

Shift the focus of the inquiry when seeking to understand a problem from a design perspective. Engage students in a process of discovery and reflection. Ask them to start exploring a problem from different angles. What happens if they start with what? And if they start with whom? And with where? Does it affect the understanding of the problem? Does it change the proposed scenarios to improve the situation? In which way?

Combine this reflection with different well known design processes. Is the process helping the inquiry? Does it need to be adapted? Why is the selected

process not working? How could we change it? Different types and sizes of problems require diverse thinking processes, approaches, patterns, ways of organizing information, generation of alternatives to reduce the problems, and even diverse options to test appropriateness. Help students be comfortable dealing with uncertainty.

Acting Together to Achieve High Quality

Some time ago, we started a conversation and engaged in reflection about current design education. We now encourage others to do the same. If you take action by forming a journal club with colleagues and students, initiating discussions with your network, sharing articles with your leaders to offer new models, or any other initiative connected with this special issue, please share your activities and experiences with *She Ji*, so that we can assess the value of this editorial effort.

This theme issue on design education started as an informal, lively conversation. It widened, formalized, and took shape as two issues of *She Ji*, the current issue and the next.

This issue demonstrates that design education is full of potential. There are plenty of opportunities for faculty and administrators to implement positive change to address present challenges. To do this requires knowledge, commitment, and support at the leadership level. Hopefully, the information in this volume can help with the first requirement: access to actionable knowledge and best practices.

We need more than solid evidence to make the best decisions and achieve high quality design education. Each of us has the power, the opportunity, and the responsibility to re-examine what we are doing. Let's take action!

Acknowledgments

I would like to end by thanking all the authors and reviewers who have made this contribution possible. They have kindly given us their ideas, knowledge, experience, time, and support.

I would also like to thank Don Norman and Jorge Frascara for their constructive feedback and guidance.

Above all, I would like to thank Ken Friedman for having the courage to propose this special issue, for his constant advice and wisdom. And Jin Ma for her permanent assistance, professionalism, and good disposition.

My gratitude also goes to Sabine Junginger, Head of the Competence Center for Design and Management, and to my boss, Martin Wiedmer, Vice Dean and Head of Research at the Lucerne School of Art & Design, Lucerne University of Applied Sciences and Arts, for their support and the time allowed to guest edit this *She Ji* special issue on design education.

Guillermina Noël
Guest Editor

References

- Anderson, Warren D. "Outside Looking In: Observations on Medical Education since the Flexner Report." *Medical Education* 45, no. 1 (January 2011): 29–35. DOI: <https://doi.org/10.1111/j.1365-2923.2010.03772.x>.
- Brown, Tim. "Designers—Think Big." *TEDxGlobal*, TED video, 16:43, filmed July 2000. https://www.ted.com/talks/tim_brown_designers_think_big?utm_source=ted-comshare&utm_medium=email&utm_campaign=tedsread.
- Cooke, Molly, David M. Irby, William Sullivan, and Kenneth M. Ludmerer. "Medical Education: American Medical Education 100 Years after the Flexner Report." *New England Journal of Medicine* 355, no. 13 (2006): 1339–44. DOI: <https://doi.org/10.1056/NEJMra055445>.
- Edgerton, Robert B. *Sick Societies: Challenging the Myth of Primitive Harmony*. New York, NY: Free Press, 1992.
- Frascara, Jorge. "Hiding Lack of Knowledge: Bad Words in Design Education." *Design Issues* 23, no. 4 (2007): 62–68. DOI: <https://doi.org/10.1162/desi.2007.23.4.62>.
- Frascara, Jorge, and Guillermina Noël. "What's Missing in Design Education Today?" *Visible Language* 46, no. 1/2 (2012): 36–56. <http://visiblelanguagejournal.com/issue/154/article/854>.
- Frascara, Jorge. "Design, and Design Education: How Can They Get Together?" *Art, Design and Communication in Higher Education* 16, no. 1 (2017): 125–31. DOI: https://doi.org/10.1386/adch.16.1.125_1.
- Friedman, Ken. "Design Science and Design Education." In *The Challenge of Complexity*, edited by Peter McGrory, 54–72. Helsinki: University of Art and Design Helsinki UIAH, 1997.
- Friedman, Ken. "Design Education in the University: A Philosophical and Socio-Economic Inquiry (Hot Debate)." *Design Philosophy Papers* 1, no. 5 (2003): 243–53. DOI: <https://doi.org/10.2752/144871303x13965299302596>.
- Friedman, Ken. "Models of Design: Envisioning a Future Design Education." *Visible Language* 46, no. 1/2 (2012): 132–54. <http://visiblelanguagejournal.com/issue/154/article/861>.
- Gray, Muir. Foreword to *Healthcare Knowledge Management Primer*, xx. By Nilmini Wickramasinghe, Rajeev K. Bali, Brian Lehaney, Jonathan L. Schaffer, and M. Chris Gibbons. New York: Routledge, 2009.
- Heller, Steven, ed. *The Education of a Graphic Designer*. New York: Allworth Press, 1998.
- Maldonado, Tomás. "How to Fight Complacency in Design Education." In *Readings from Ulm: Selected Articles from the Journal of HfG, Ulm*, edited by Kirti Trivedi, 49–55. Bombay, India: Industrial Design Centre, 1989.
- Norman, Don. "Why Design Education Must Change." *Core77.com*, November 26, 2010. <https://www.core77.com/posts/17993/why-design-education-must-change-17993>.
- Norman, Don. "Design Education: Brilliance Without Substance." *Core77.com*, October 4, 2011. <https://www.core77.com/posts/20364/Design-Education-Brilliance-Without-Substance>.
- Norman, Donald A. "When You Come to a Fork in the Road, Take It: The Future of Design." *She Ji: The Journal of Design, Economics, and Innovation* 2, no. 4 (2016): 343–48. DOI: <https://doi.org/10.1016/j.sheji.2017.07.003>.
- Pickering, G. W. "The Purpose of Medical Education." *British Medical Journal* 2, no. 4985 (1956): 113–16. DOI: <https://doi.org/10.1136/bmj.2.4985.113>.
- Poggenpohl, Sharon, ed. "Envisioning a Future Design Education." Theme Issue, *Visible Language* 46, no. 1/2 (2012). <http://visiblelanguagejournal.com/issue/154>.
- Sassoon, Rosemary, ed. *The Designer: Half a Century of Change in Image, Training, and Techniques*. Bristol: Intellect Books, 2008.