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Sam is a recognised accessibility champion and an award-winning inclusive design educator and researcher with over fifteen-years of strategic and direct operational experience in implementing inclusive design projects successfully in the non-profit, academia, and industry sectors in Canada. Sam is currently the Global Accessibility Lead at D2L Corporation, an education technology company head-quartered in Ontario, Canada. In her six years in this role, Sam has remained passionately focused on humanising online education and building an inclusive education ecosystem. Prior, Sam taught in the Master of Design program in Inclusive Design at OCAD University and worked with the Inclusive Design Research Centre in Toronto. Sam continues to supervise student research in graduate programs in Inclusive Design at three Canadian Universities.

How Inclusive Design Transformed Me

Sambhavi Chandrashekar

Abstract

Inclusive Design is a force of change. It can transform not only user experience but also the lives of those who practice it. Over the past eighteen years, I have been fortunate to work with and learn from Dr. Jutta Treviranus, Director of the Inclusive Design Research Centre in Toronto, who has been shaping and growing inclusive design in Canada and the world. This article is a string of three stories about how my life was transformed during this journey of inclusive design practice in different environments such as non-profit, academia and the industry.

Introduction

My inclusive design journey passed through three phases, as a learner at the University of Toronto, as a teacher at OCAD University, and as an industry practitioner at D2L Corporation in Toronto. I bring you three stories about how inclusive design transformed me in these three phases of my life across the non-profit, academia and the industry sectors.

Story 1: University of Toronto

This story is about my transformation from a technical IT expert with the Reserve Bank of India to an empathetic PhD student in Canada engaged in inclusive design of digital user experiences with a non-profit organisation.

I spent the first 50 years of my life in India, until I got to realise my dream of joining a PhD program. In the interim years since my graduation from the Indian Institute of Technology in 1977, I worked with the Reserve Bank of India in all possible IT roles like systems analyst, programmer, project manager, teaching faculty, and training faculty. To transition from this IT-intensive career into studying user experience design, I first did a Masters' program in Human-Computer Interaction at the University College London, UK. This is when I met Jutta. Until then, I had no clue about inclusive design.

Jutta was the Director of Adaptive Technology Resource Centre (ATRC), a non-profit organisation affiliated with the University of Toronto's iSchool. The reason I chose to join this iSchool over others for a PhD program in September 2005 was because I wanted to work with Jutta as my advisor. From my first day in the program, I started working as a research assistant with ATRC on different pan-Canadian projects focused on inclusive design of emerging information and communication technologies to include as many people as possible in the digital experience.

In the seven years that followed, I completed the PhD programi and two years of postdoctoral work on mobility technologies for pedestrians with vision loss with the University of Toronto. During this period, I worked closely with Jutta while she developed the idea of inclusive design from a concept to a course and from there to a Master of Design (MDes) program in Inclusive Design. The richness of the experience of participating in that transformation gave me a deep understanding of the subject.

Jutta's idea of inclusive design evolved over those years to increasingly embrace the complexity of designing for/in/with the real world. Her three-part article on The Three Dimensions of Inclusive Designii is a masterpiece. The three dimensions of her inclusive design framework are:

1. *Recognise, respect, and design for human uniqueness and variability.*
2. *Use inclusive, open, and transparent processes, and codesign with people who have a diversity of perspectives, including people who can't use or have difficulty using the current designs.*
3. *Realise you are designing in a complex, adaptive system.*

During those years, ATRC evolved into Inclusive Design Research Centre (IDRC) and Jutta moved along with her organisation from the University of Toronto to OCAD University. She became a full professor and Director of the MDes Inclusive Design program, which she offered through OCAD University.

My years of working with the ATRC on pan-Canadian inclusive design projects instilled in me the values of Inclusion, Diversity, Equity and Accessibility (IDEA) as a way of life. I learned about achieving Inclusion through
- *recognising the Diversity and variability in humans,*
- *enabling Equity so everyone has a chance to achieve equal outcomes, and*
- *enhancing Accessibility to optimise the impact of anything I do.*

Story 2: OCAD University

This story is about my transformation from a student of inclusive design to a teacher of inclusive design and from working with a non-profit to entering academia.

As soon as I finished my postdoctoral work with the University of Toronto in 2012, I joined OCAD University as an Adjunct Professor and started teaching in the MDes Inclusive Design program along with Jutta. The next five years of my teaching in the program and supervising graduate research projects turned out to be some of the most fruitful years in my life. I enjoyed working with students coming into the program with a diversity of core skills and enabling them to understand and apply the principles of inclusive design to their own area of expertise so they could practice it more inclusively.

I got to teach in state-of-the-art classrooms set up with the best of technologies organised by Jutta. It was a hyflex environment, unheard of in those days but which became popular during and after Covid. Students were freely able to join the class either in person or remotely in real time through a video call. For those who could not join either, each class was recorded and posted to the learning management system for asynchronous access any time.

Every cohort was intentionally chosen to be as diverse as possible. There were students from other countries, and young as well as mature students. At least fifty percent of the students identified with some form of disability. Everyone in the class learned about accessibility as a natural part of sharing time and space with other students who needed different ways to communicate and to

consume or produce content. Community support was a critical part of the learning process.

I brought my experience of working with people with disabilities during my time with the University of Toronto and the ATRC to help students learn how to include extreme users in their research and practice. I supervised over fifty inclusive design student projects, many of which are listed on my website. This experience gave me an excellent hold over applying inclusive design principles in academia, which came in handy when I was invited later by my alma mater to design and teach a course on inclusive design.

In my journey, applying inclusive design in academia was mainly about inspiring students to embrace the 'idea' of inclusive design, providing them the know-how and the tools to implement it in their work, and helping them understand that inclusive design could be applied to any area they wished to apply it to. The bonding that happened with students lasts till today. Several of them started their own 'inclusive' business or used inclusive design in their work, some are teaching it, and a few have gone on to do doctoral work in the field.

Story 3: D2L Corporation

This story is about my transformation from an academician teaching and supervising research in inclusive design to a success promoter and practitioner of inclusive design in the industry.

In 2017, I chose to move from academia to the software industry. This was a challenge I posed to myself, of making accessibility and inclusive design succeed in a commercial environment. Joining D2L

put me in a privileged position because the company was already managing the accessibility of their products and services well, primarily their learning management system called *Brightspace*. I found empathy and inclusion to be part of the company culture, and the senior leadership fully vested in promoting accessibility.

At D2L, I introduced the concept of inclusive design and eventually our product process fully aligned with those principles. An important aspect is how we involve people with disabilities throughout the product development process from research to design, engineering, testing and release. We even involve them in customer support to triage issues raised by customers. We are able to keep this up successfully through our partnership with a company called Fable.

Fable provides the services of a community of assistive technology users as consultants and testers. It provides a dashboard through which our teams can book a variety of tests, including zoom calls, with a screen reader user, screen magnifier user, speech input user, or switch device user. Fable was founded by two students from the MDes Inclusive Design program. As their teacher and supervisor of their research projects, I find their contribution immensely gratifying.

In 2020, University of Toronto's iSchool invited me to design and teach a course on Accessibility and Inclusive Design to students in their Masters' program specialising in User Experience Design (UXD). I designed and taught the course in the Fall 2020 semester. Since then, the course is being taught across three semesters to three cohorts by three faculty members. Since the UXD students were industry-focused, this experience further honed my skills in applying inclusive design in the industry.

The essence of succeeding in the practice of inclusive design in the industry lies in ensuring:

- *the product teams are enabled to design and develop inclusively with empathy and awareness towards the needs of users with disabilities,*
- *the sales teams are equipped to understand, narrate, and demo the inclusive design stories to illustrate how the company cares about accessibility and inclusion, and*
- *the support teams are trained to help the client in extending inclusion to their users.*

As I work further on maturing the practice of inclusive design in the company, I feel increasingly convinced 'doing well by doing good' in the industry is a possibility. Inclusive design of a product or service is about recognising the diversity of its users and their unique needs. It is about enabling equity by designing choices to meet those unique needs by working with users with disabilities all through the process. It is about enhancing accessibility to broaden the impact of the product or service.

Conclusion

Inclusive design is a philosophy, a process, a journey. To me, it is a way of life which continuously transforms how I think, work and live, and leads me into a future full of possibilities for further success.

In the words of Dr. Jutta Treviranus, 'Inclusive design begins with no predetermined end point and no generalised success criteria, but arrives at greater innovation, flexibility, and general usability'.

It is a message worth spreading to make the world a better place for everyone.

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Sambhavi Chandrashekar's inclusive design research projects: http://sambhavi.com/research/

Fable's website: http://makeitfable.com