

# sustained research programs

## Visible Language

the journal of  
visual communication  
research

### Seward

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An interview with Seward reveals diverse lines of research and their integration with entrepreneurship in a comprehensive program to use typography to help people learn to read.

### Bessemans

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Bessemans describes interdisciplinary typographic research as the future of typography, a future that integrates basic research, applied research, and experimental development.

### Schmidt et al.

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Schmidt explores the role graphic design can play as a collaborator in health research beyond a production services role.

### Peterson

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# reading

Studying  
Typography's  
Capacity to  
Improve Reading

**Reneé Seward**

*Interview by Mike Zender*

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## Introduction

For 16 years, Professor Reneé Seward has studied typography's role in learning to read. After graduating from the University of Cincinnati in 2002, she worked professionally for 3 years before going to North Carolina State University in 2005 for her graduate degree (Master of Graphic Design MGD). It was there that she formed and initially explored the parameters of the research question "In what way can mapping or visualizing phonemic sounds to typographic symbols enhance reading for dyslexic children 9 -11 years old?" under the guidance of Professor Meredith Davis. On May 9, 2022, *Visible Language* editor Mike Zender interviewed Reneé about her successful, sustained research program.

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## Keywords

*typography;  
research;  
reading;  
collaboration;  
co-design;  
entrepreneurship*

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**Please describe your  
current research.**

*Learning by Design* is a group I lead which conducts rigorous and robust research on all aspects of digital innovations to advance inclusive experiences in literacy and learning across the lifespan. From a design perspective, we conduct research at the intersection of typography, design, and the science of reading. We currently have 3 projects running in the lab plus one in a related lab.

1. *Literacy Fonts*: We are developing fonts that leverage variable font technology to embed early reading decoding skills within letterforms to allow struggling readers to decode words in the context of reading onscreen what they love. We are testing the effectiveness of these fonts in reinforcing reading skills. I am the PI on this project.
2. *See Words Anywhere* browser extension: This technology embeds the *Literacy Fonts* into an application that allows struggling readers to render digital content they love to read in our fonts which help them to decode their preferred text. Targeted for 3rd graders through adults, *See Words Anywhere* assists readers privately, eliminating any stigma associated with reading struggles. This tool also tracks specifically where a reader may be struggling due to their clicks in the text and suggests resources to help them overcome specific challenging areas. We are developing the technology and then conducting pilot testing to understand the tool's promise. I am the PI on this project.
3. Project LEARN: This program aims to build children's language skills via a series of books for Pre-K learners. It is a language development program in which informational texts on science and complementary hands-on activities provide excellent contexts for children to acquire and practice complex language skills. The results of this project will provide pilot data that will provide the basis for us to measure potential effectiveness of the program in an Initial Efficacy Project. I am a contracted designer on this project. The PI's are my co-lab leaders Dr. Allison Breit, Dr. Ying Guo, and Dr. Jo-Ann Prendeville
4. *Tongue Parts*: This project is developing and testing a gamified feedback tool to help address speech disorders. While not a project within our lab directly, I have worked with Communication Sciences and Disorder, Psychology, and Engineering researchers on this National Institutes of Health (R01 DC017301) funded project. Dr. Suzanne Boyce is the PI on this project with Dr. Doug Mast, Dr. Michael Riley and myself serving as co-PI's.

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**How is your current work  
related to where you started?**

It's directly related. I started exploring how typography could help people with dyslexia read better. The more research I did, the more I learned. The more I learned, the more I met colleagues in related disciplines, which sparked new ideas related to existing work, which led to new questions to explore. I call these "make questions" because they are founded on some existing knowledge that we put in contact with a specific problem that is best answered by making something to get the answer. You can only theorize so long. An example of a "make question" would be, can someone learn better if the animation is fast or slow? Will teachers use the tool more effectively if they can make their own stories? The best way to answer these is to make something and see! It's a very designer way to do research.

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**What makes your research  
topic sustainable?**

My undergraduate and graduate education prepared me for sustained research. From my undergraduate education, I was trained to be fearless in asking questions that could be answered through making or going out and finding the answers. I remember my professor Robert Probst encouraging me to take the mentality of just picking up the phone and call, with no fear, just asking "what if..." and using my status as a student to elicit people's help. I learned people were happy to help a curious student eager to learn. This advice and mentality served me well in graduate school and my current research. From my graduate education, I learned to develop a good research question whose hypothesized solutions could be explored by making testable things. I did this within my Master's Thesis which was crucial to my research success so far. My graduate education also prepared me to find collaborators. If I read of an important stakeholder on a project topic, I contact them. Most people have always been so kind and happy to help. Working with collaborators and testing the efficacy of our hypotheses enabled us to go after funding. My educational experiences have taught me to ask critical questions and make testable things.

Over time, I found that interesting research questions often lie where there is an existing body of research debated amongst researchers. These have proven to be great spots to ask a "make question."

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**Where did you get your  
initial funding/support?**

It came from a non-profit technology foundation. Ironically, a faculty colleague and I co-wrote a grant to them and didn't hear back for two years, so we thought the proposal was rejected. We were delighted to hear we were ultimately funded.

Another boost came from Craig Vogel, the Associate Dean for Research, who put me in touch with the research dean at the College of Education, who ultimately introduced me to many of my current research collaborators who shared my interest.

Another critical moment of support was collaborating with a colleague who ran a grant-funded after-school program in the local public school system. Her credibility with the schools and her endorsement of my research literally opened the doors to the local schools to me for testing our prototypes. Initially, it was difficult to find any school willing to allow a designer to come into schools to test educational interventions without an educational degree. I also found that many of the local schools and community have a lot of skepticism of 'University Researchers' who are motivated more by collecting data for a publication than they are in truly working with educators, students, and community members to address problems. This was a large barrier at first, but we eventually overcame this barrier with my colleague's help and my commitment to the schools.

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### **Does collaboration play much of a role?**

Collaboration is key. I figured this out while developing my thesis. Initially, I thought I could just design a font to fix dyslexia. When that design was not working, I realized I had to reach out to experts in other fields to get closer to addressing core issues that a design needed to consider. Through the process of finding collaborators, I have learned about the depth and focus of several fields I didn't even know existed, like Communication Science and Disorders, literacy specialists, and educational psychology. From them, I learned new research methods for investigation in the field and gained a deeper understanding of the science of reading. I have also learned how to engage with these collaborators and community partners in co-design methods to develop testable tools.

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### *How did you find collaborators?*

The Associate Deans in each of the Colleges and the Office of Research within my institution have been incredibly helpful in identifying other faculty who share similar interests to me. Typically, when I connect with a colleague who may be a collaborator, we get together for coffee and let that conversation guide our next steps.

In terms of finding great research assistants, it is super helpful when my colleagues invite me to speak in their lecture class. It is also beneficial to have the privilege of teaching great undergraduate and graduate design students and trusting my collaborators in finding students in their area of expertise.

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### **Do you support a research team? Who are they?**

Oh yes! Over the years, I have had a large number of undergraduate and graduate students working on research with me from the field of speech pathology, computer science, education, and design. Currently, among the 4 projects I am involved in, we have 2 Ph.D. students in education and communication sciences and disorders, 1 project manager, 2 graduate design students, 7 undergraduate design students. These researchers are supported in various ways: fellowships, endowment funding, grants, college credit, and volunteering. I enjoy working with research assistants. They are so enthusiastic and passionate about our work. I believe these experiences offer them a great experience in an alternative area of professional design practice. It builds their resume. It teaches them research skills. It builds their design skills. It opens their minds to how design can positively impact society through collaborating, making, and research.

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### **Most design researchers started their career as designers or design educators and shifted to research. What piqued your interest in research?**

My heart is in this. I want to help black and brown kids learn to read. I want to make a difference starting in my community and hoping it can impact the world.

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### **What is the relationship between your research and your continuing education / growth as an academic: your teaching; your design?**

Through research I am constantly learning. It drives my reading and exploration of a lot of related topics. And research increasingly dominates my teaching. Every Friday now is devoted to teaching research. Some of Friday is devoted to meeting with graduate research fellows, some is spent with mostly undergraduate students who voluntarily meet with me to work on research, some time is meeting with co-op students I employ, sometime is spent in lab meetings for my on-going projects. I believe my teaching and research have made me a better designer.

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### Do you find research rewarding, or not?

Yes! I can't wait for my Friday time every week! That's not to say there aren't challenges. Rejection happens. It's part of the process. I learned that when something like a grant is rejected, just to re-write it. My attitude is "Oh well, revise it." A colleague once said successful people are ball throwers and that you have to throw out multiple balls, a lot of balls, to have some hits. Sometimes I need to ask new questions, re-orient my work for the audience. You have to know when to pivot. When something's not working you must ask hard questions including revising your basic research question.

Collaboration is challenging and rewarding too. Having a shared vision and a shared vocabulary are keys. Then you must consciously work to build trust and let the outcome be driven by the co-design process with your collaborators. I've learned that good potential collaborators are curious and open to engaging in a process of discover. So am I. That's important common ground.

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### Researcher

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*Reneé Seward, MGD*

Reneé Seward is an Endowed Associate Professor and Program Coordinator of the Communication Design program at the University of Cincinnati's College of Design, Architecture, Art, and Planning.

Reneé has been teaching typography and graphic design for the last fifteen years. Her students have won numerous awards from *Graphis*, *Graphic Design USA*, and *Creative Communication Award (C<sup>2</sup>A)* design competitions.

Her research focuses on developing digital and physical tools that seek to address our society's literacy problem. She currently is a co-founder in *See Word Design LLC* which sells two reading tools called *See Words School*® and *See Words Home*®. Renee was a *Cincy Innovates* winner, has been acknowledged as a Rising Tech Star by *ComSpark*, and was awarded by the *Business Courier* Best Software of the Year. The *SeeType* font her team designed recently won an *STA* award, and the *SEGD Global Design Merit Award*. She gave a TEDx talk on "Eradication Literacy Through the Power of a Font."