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DESIGNING SHIFTS TO POSITION TEACHER AS DESIGNER OF LEARNING

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Design the Shift (DTS) is an iterative professional learning series for educators, immersing them as learners with an emphasis on design thinking mindsets. Using DTS as the context, we juxtapose field notes, observations, participant data, and reflection with the Teaching Effectiveness Framework (Friesen, 2009) to understand the impact of design thinking on teacher practice. Implications point towards the complexities in defining our methodology as uniquely design thinking; rather it is a responsive combination of design thinking rooted in creativity and the personalization of learning.

Keywords: design thinking; personalization of learning; Teaching Effectiveness Framework; professional learning; teacher as designer

As learning specialists with the Calgary Board of Education (CBE), we noticed a growing trend in requests for professional learning from teachers about design thinking and how it fits in a classroom or school ecosystem. While curious, teachers were often unable to articulate the connection of design thinking to curricular outcomes, revealing that system professional learning was needed to make theoretical connections to the work of teaching and learning. In our work supporting innovative practice, and in an effort to respond to this gap, our team began a critical, systematic reflection exploring the human-centred component of the design process. The result was a responsive professional learning series connecting design thinking to the Teaching Effectiveness

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Framework (TEF) (Friesen, 2009) and a system focus on creating authentic learning experiences for students.

As part of a larger study, we critically analysed and responded to the needs of our teachers. Voluntary participants included twenty DTS educators who provided data through surveys. Participants responded to the questions: How has this experience impacted you as a learner? How has DTS impacted your teaching practice? How is your work in DTS impacting student learning? This paper is organized in three parts: Context, Response, and Reflection and Findings. The conclusion points to the realization that design thinking in our educational context is complex in nature, and not the same process associated with business; it is rooted in creativity and curriculum, with an emphasis on human-centred design.

THE CONTEXT

Design thinking is a term that appears frequently in popular teacher websites associated with education (For example, Edutopia (n.d.) and MindShift (n.d.)). Though popular content abounds, the context of peer-reviewed research associated with design thinking in education presents a challenge. Much of the peer-reviewed literature presents a design-thinking model that has been borrowed from the fields of business and design. Literature associated with the fields of business and design (see, for example, Martin, 2009; Dalton & Kahute, 2016) and that of education present an iterative creative problem-solving approach with several phases: discover, define, ideate, prototype, and test (Kelly, 2016, p. 8). This approach to design-thinking emerged in Stanford's *d.school* and international firm *IDEO* as an approach for creative yet capitalist purposes (Camacho, 2016). Peer-reviewed research has just begun to explore design- thinking's application in teaching and learning and has yet to explore how an economically driven approach applies in teaching and learning. Some early studies point to design-thinking empowering students to solve authentic

problems (see, for example, Watson (2015); Noweski et al. (2012); Cassim (2013)). What has not yet been explored in scholarly research is the connection between design-thinking and teachers as designers of learning. The design of our professional learning series aimed to understand this connection, and aimed to craft a version of design-thinking that applies in the field of education. This definition uses design-thinking as an analogy to teaching and learning, incorporating research of effective teaching and learning.

In planning DTS, we began by asking questions such as: how might we encourage teachers to embrace the mindsets of design-thinking to push them beyond design-thinking as a linear process? How might the design-thinking methodology empower teachers to consider themselves designers of learning so as to design work worthy of students' time and attention (Friesen, 2009)? To connect to the current work of teachers, we looked for alignment with our system priorities. Making Teaching and Learning Visible (2016a) defines the CBE's vision of personalization as learning that is "built upon a comprehensive understanding of each child;" teachers need to "know what students know, how they know it, how they show it, and what they need to learn next" (p. 2). The TEF (Friesen, 2009) has been used to inform the teaching practices necessary in designing personalized learning experiences. Together with the CBE's definition of personalized learning, the TEF (Friesen, 2009) helps teachers articulate their role as architects of learning.

While the TEF (Friesen, 2009) provides teachers with the theory *behind* teaching as designing, design-thinking gives them a methodology to *enact* this approach. Compared with other creative processes, design-thinking uses empathy as a key mindset. Design-thinking as an approach to instructional design recognizes "students as unique learners and as members of their learning communities" (Calgary Board of Education, 2016b, p. 2). The empathy in design-thinking holds

the student at the centre of the process, while the teacher sheds assumptions and considers the needs of the learner throughout.

THE RESPONSE

We created DTS, which was composed of three immersive learning days during the summer, and four communities of practice throughout the school year (see Appendix A). 120 educators from schools ranging from Kindergarten through grade 12 participated. In order to ground teachers in the role of designer, the summer intensive immersed teachers in empathy experiences as learners in the world, one of the foundations of human-centred design (d.school, 2016). Inherent in the representation of the design-thinking process as distinct phases, is the risk in using design thinking as a procedural approach to problem solving. Wanting to safeguard against teachers adopting a rigid process, we decided to focus instead on the human-centred mindsets associated with designing, such as embracing ambiguity, learning from failure, and coming from an empathetic stance. Reflection about the connection between design and effective teaching and learning, as well as the needs of teachers, informed the design of the professional learning series, outlined in the three following sections.

Empathy Gathering

Effective teaching asks educators to design learning tasks so students can “make connections to the disciplines, students’ lives and the world” (Friesen, 2009, p. 4). Teaching with empathy at the heart of planning naturally embeds personalization, where teachers deeply consider their students. Our participants needed experiences that would demand them to walk in the shoes of the learner, so they could better gain empathy for how students connect with the disciplines, their own lives, and the world around them. We designed the river walk with empathy in mind to position teachers in the role of the learner. They met people along the walk who represented a wide variety of

perspectives, such as a water engineer, a client from the local homeless shelter, and a member of a nearby First Nation. Another experience designed to elicit empathy was the Interview for Empathy with community partners (d.school, n.d., p.10). Participant G noted the importance of finding problems in the context of community: “I have always known the impact and value, however the experience of interviewing community partners ... truly illustrated this experience for me and made these connections non-negotiable.” Reflection questions throughout asked teachers to consider how thinking of themselves as learners might help them better understand their students.

The Topic in the World

When teachers consider how to bring topics alive, they become attuned to noticing authentic opportunities for learning. Design thinking demands its practitioner to deeply consider both the user and the topic. We deliberately designed the river walk to slow us down into a reflective state, inviting teachers to see how curriculum is “deeply connected to the world in which they live” outside the school walls (Friesen, 2009, p. 4). Participants observed through their own lenses, some noticing the history of the land from its place as a traditional trading spot to its present as a space of commerce and recreation, others noticing the multiplicity of voices that make up a community. They gathered “around real problems, issues, questions or ideas that are of real concern and central to the discipline” (Friesen, 2009, p. 5). Teachers were then able to see that our topics and disciplines exist in the world, not in our textbooks, and if we are open enough, we can find them simply by looking around.

Everything Designed can be Redesigned

Based on past experiences, our team knew that barriers inherent in the school system, such as disciplinary silos, bells, standardized tests, and specific curricular outcomes, can sometimes inhibit personalized learning. DTS needed to provide space for teachers to critically examine their beliefs

about teaching and learning, and their juxtaposition against traditional systems of schooling. Our teachers connected to the idea that “anything designed can be redesigned” (S. Speicher, personal communication, October 21, 2016). Design-thinking helped teachers understand that they can redesign their response to these and other barriers, as Participant F noted: “The program structure that we developed last year posed some challenges for my students this year, so my teaching partner and I had to "redesign" our weekly schedule to accommodate their needs.” Teachers began to understand how design-thinking could disrupt old patterns. To illustrate a disruption in the summer intensive and ask teachers to react to unknown stimuli, we offered a session on improvisational theatre. In an improvisational creative space, the “deepening of trust, commitment, and shared understanding” is necessary in order to create the conditions for educators to take risks, see failure as a mechanism for learning, and be open to new experiences and ideas (Gagnon, Vough, & Nickerson, 2012, p. 302). Participant F remarked, “Improv sessions, even though I was totally dreading them at first, took me out of my comfort zone and encouraged me to trust the people I was learning with.” Improvisation emphasized an openness in thinking, which let teachers consider different possibilities in instructional design.

REFLECTIONS AND FINDINGS

The data our team collected throughout the year indicated several key findings. Firstly, the summer intensive was successful in engaging teachers as learners. Teachers expressed gratitude in having time to dwell in the role of the learner, as Participant F noted: “It was interesting to discover things about myself and how I learn best. It has also helped me empathize with my students.” The river walk, in particular, stands out as an experience where participants were so engrossed in their learning that “time itself [seemed] to disappear” (Friesen, 2009, p. 5).

We underestimated the amount of time needed to gain confidence in using the design-thinking process and mindsets. Based on observation and participant voice, our first two Communities of Practice focused on continuing to practice thinking like designers. When asked about next steps, Participant J requested help with "working through ideas for how design thinking might be used with students" and then pointed out that "some teachers struggle with the challenges and linking it to their work in the classroom." This feedback illuminated the continued misunderstanding that design thinking is a linear process, rather than a shift in pedagogy integrally connected to the personalization of learning. An important learning is the necessity of evolving this work with time and practice.

Another key learning is the importance of a collaborative team. When school teams attended DTS as a cohort, there are more opportunities to practice design thinking in their context. One team expressed that a cohort helped them shift entrenched traditional modes of schooling and redesign these perceived barriers, with Participant F recognizing that "our classroom environment and schedule were contributing to some of the challenges we were encountering," and a shift in organization and culture was needed to change this.

Many of our participants share stories in person and through our Twitter hashtag, #cbeshift. These stories indicate that students are engaging in learning with "an absorbing, creatively energizing focus" that demands "contemplation, interpretation, understanding, meaning-making and critique" (Friesen, 2009, p. 4). At our third Community of Practice, all teachers were successful in creating a learning task using design-thinking. Pondering the impact on student learning, Participant G noted, that the "first word that comes to mind is engagement. Students are taking up the work we are doing with focus, excitement and rigor. I believe this is due to the authenticity of our task design

which is a direct result of my work with DTS." The emerging stories indicate small but significant changes to instructional design.

CONCLUSION

Through the design of DTS, and the analysis of participant feedback and observations, we have learned the importance of distinguishing that the design-thinking process as it applies to education is a different approach than that used in the world of business. By infusing concepts related to creativity and the personalization of learning into the design thinking process, teachers are beginning to show evidence that this approach creates the conditions where meaningful, authentic learning experiences can occur, a concept that we will explore in future research. Teachers engaged in a kind of experience that drew on "the human spirit's desire to know" (Friesen, 2009, p.4). Experiencing this feeling helped them better understand how they might bring this thirst for learning to their students. Design-thinking brought a mindset of optimism, where participants could recognize that they would face barriers, but began to see challenges as opportunities for design. DTS opened a space where teachers could believe there could be another way of being in the world as educators and as humans.

References

Calgary Board of Education (2016a). *Making teaching and learning visible*. Retrieved from http://galileo.org/wp-content/uploads/2014/09/guiding_principles_assessment.pdf

Calgary Board of Education (2016b). *Three-year education plan 2016-19*. Retrieved from http://www.cbe.ab.ca/FormsManuals/Three-Year-Education-Plan.pdf

Cassim, F. (2013). Hands on, hearts on, minds on: design thinking within an educational context. *International Journal of Art & Design Education, 32* (2), 190-202.

Camacho, M. (2016). David Kelley: From design to design thinking at Sanford and IDEO. She Ji: *The Journal of Design, Economics, and Innovation 2*(1), 88-101. https://doi-org.ezproxy.lib.ucalgary.ca/10.1016/j.sheji.2016.01.009

Dalton, J., & Kahute, T. (2016). Why empathy and customer closeness is crucial for design thinking. *Design Management Institute Review, 27*(2), 20-27. doi:10.1111/drev.12004.

d.school (2016). *A d.school design project guide*. Retrieved from https://static1.squarespace.com/static/57c6b79629687fde090a0fdd/t/589ba9321b10e3beb925e044/1486596453538/DESIGN-PROJECT-GUIDE-SEPT-2016-V3.pdf

d.school (n.d.). *Bootcamp bootleg*. Retrieved from https://static1.squarespace.com/static/57c6b79629687fde090a0fdd/t/58890239db29d6cc6c3338f7/1485374014340/METHODCARDS-v3-slim.pdf

Edutopia (n.d.). *Design thinking*. Retrieved from https://www.edutopia.org/blogs/tag/design-thinking

Friesen, S. (2009). *What did you do in school today? Teaching effectiveness: A framework and rubric*. Toronto: Canadian Education Association.

Gagnon, S., Vough, H.C. & Nickerson, R. (2012). Learning to lead, unscripted: Developing affiliative leadership through improvisational theatre. *Human Resource Development Review, 11*(3), 299-325. doi: 10.1177/1534484312440566.

Kelly, R. (2016). *Creative development: Transforming education through design thinking, innovation, and invention*. Calgary: Brush Education Inc.

Martin, R.L. (2009) *The design of business: Why design thinking is the next competitive advantage*. Boston: Harvard Business Press.

MindShift (n.d.). *Design thinking*. Retrieved from https://ww2.kqed.org/mindshift/tag/design-thinking/

Noweski, C., Scheer, A., Buttner, N., von Thienen, J., Erdmann, J., & Meinel, C. (2012). Toward a paradigm shift in educational practice: Developing twenty-first century skills with design thinking. In H. Plattner, C. Meinel, & L. Leifer (Eds), *Design thinking research: Making design thinking foundational* (pp. 71-94). Stanford, CA: Springer

Watson, A.D. (2015). Design thinking for life. *Art Education, 68*(3), 12-18.

APPENDIX A: ROADMAP OF DESIGN THE SHIFT

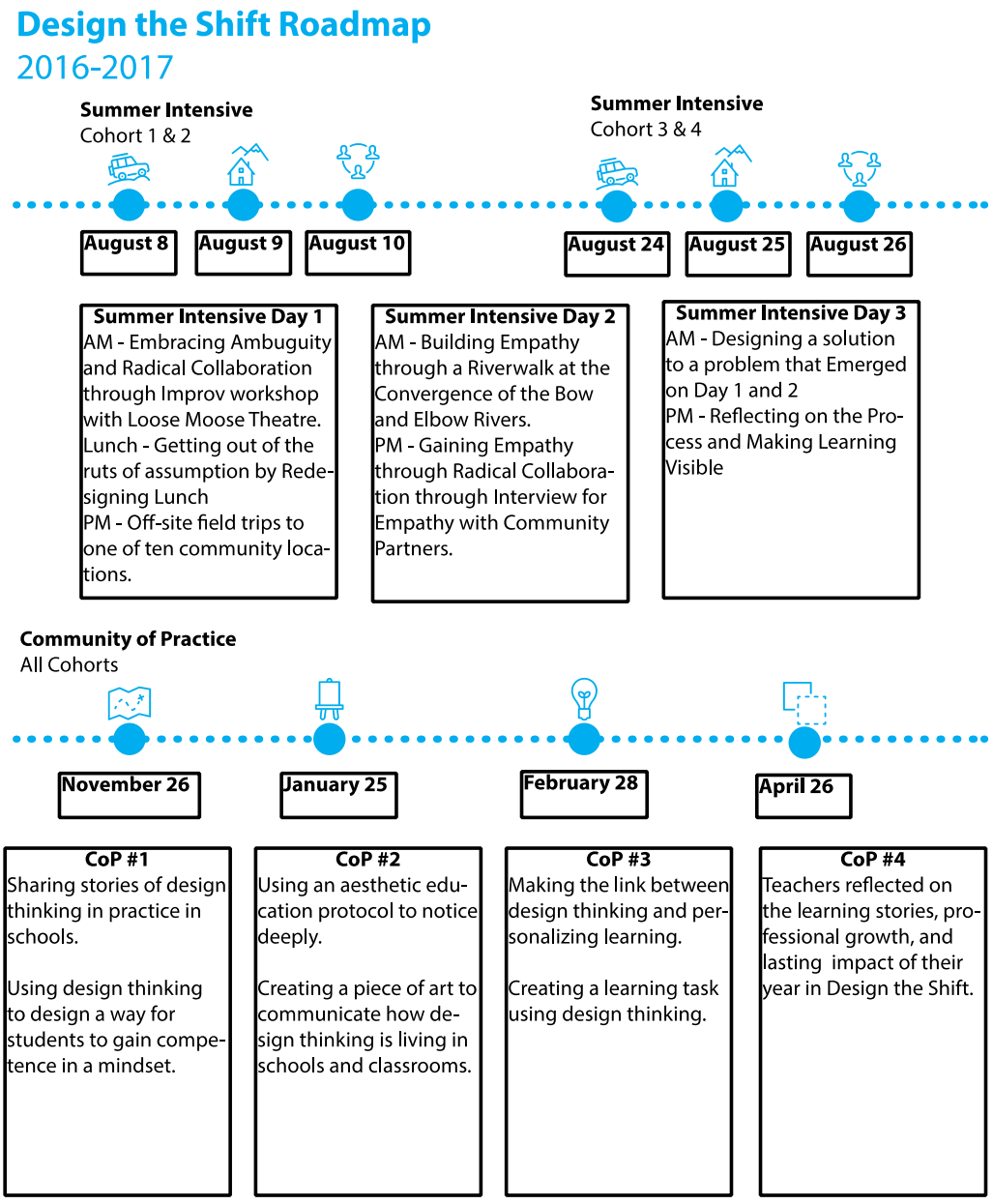

Figure 1: Design the shift roadmap 2016 - 2017