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DISCOVERY SCHOOLS

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The Center for Secondary School Redesign

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INSIDER

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DESIGN THINKING

IN K-12 EDUCATION. AN OVERVIEW OF IMPLICATIONS AND APPLICATION.

Design thinking (DT) is both a method and a dispositional approach to problem solving, organizational development, and learning. The traditions of DT go back to the 1950's and have been used in a variety of fields. Some defining features of DT include focusing on need definition before problem solving, abdication of preconceived outcome, being situated toward ambiguity, being human-centric, and having a reflexive process that seeks to increase contextual knowledge using empathy as the basis of understanding. The use of DT in education has included applications for organizational development and the activation of constructivist pedagogy.
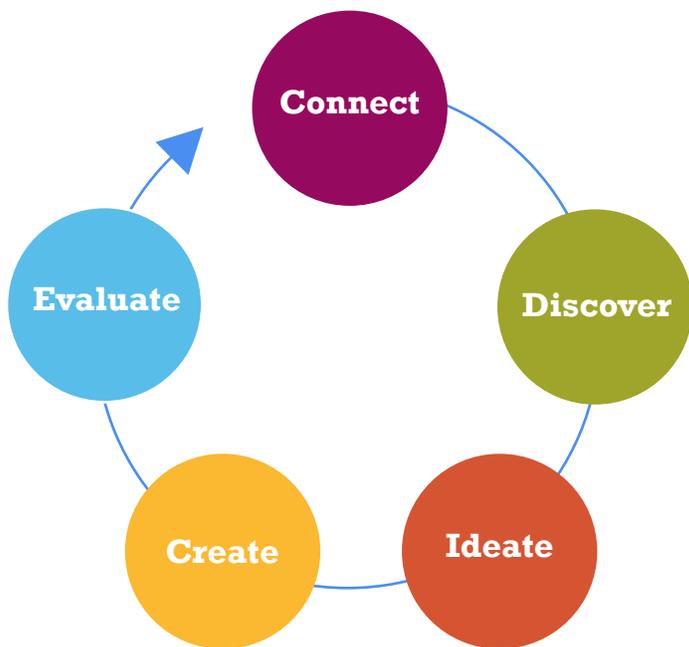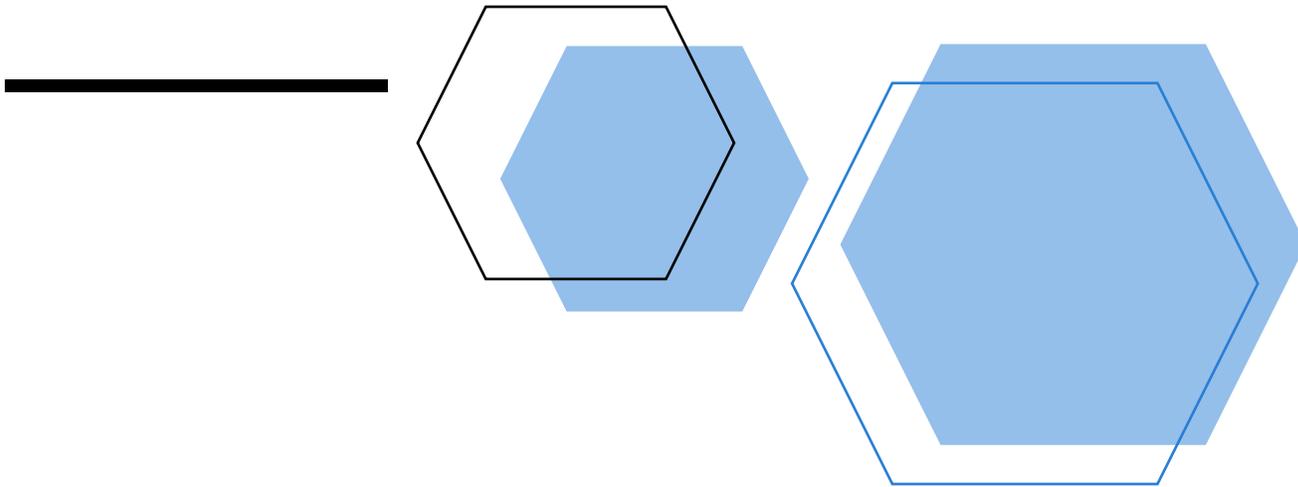
This is an overview of the findings of Loescher, Morris and Lerner (2019) with a focus on DT implications to policy, application to practice and reflections from those using DT to transform their K-12 educational institutions. These are just a few of the ways that those that are using DT are seeking to empower students, faculty, staff, and communities to develop the next generation of innovative thinkers by advancing student opportunity and achievement.

IMPLICATIONS

DT has been operationally defined as having several key components. The first set of components is that DT requires reflective practice, is a non-linear process, requires culturally responsive empathy, and uses a mix-methods approach to data gathering. There also must be modeling of prototypes of ideas, systems, or products as part of the organizational and learning growth cycle. DT is human-centric and seeks to promote the democratization of any process making it ideal for K-12 educational institutions, schools, and classrooms. DT seeks out disruptive innovations that can introduce fundamentally new systems and processes for schools. As DT seeks the reconstruction of systems, it may require policy makers and practitioners to reimagine the who, what, when, where, why, and how of nearly every aspect of the educational experience of students, faculty, staff, schools, and our communities.

TO POLICY

DRIVING CHANGES IN OUR SCHOOLS

Policies to support DT at schools should focus on: (a) creating systems for organizational growth through prototyping; (b) seek to disrupt current educational funding models that rely upon seat time for school funding; (c) include assessment systems that apply a mixed methods approach, and (d) the formation of regional or national networks. In creating systems for organizational growth, policy makers should allow for human resource development systems that promote innovations by supporting faculty and staff through multiyear cycles of evaluation. Policies that allow for flexibility of seat time and the master schedule should be established to allow educators to implement DT in schools. Policies for assessing school progress may need to look at mixed-methods approaches to examine the depth of adaptive learning and creative thought students are engaged in. To drive policy initiatives, regional or national networks and partnerships comprised of public universities, T/K-12 innovation zones and centers that specialize in school redesign would advance policy coordination and initiatives.

Figure 1. Urban Discovery Schools adaptive DT model for organizational development and learning.

APPLICATIONS

FOCUS ON ORGANIZATIONAL DEVELOPMENT

It has been recommended that the adoption of DT in K-12 educational institutions should occur at all levels of the organization. This includes the use of DT outside of the classroom. As DT is based in a culturally responsive empathetic process, it may be ideally situated to advance a more inclusive school culture to engage a wide variety of stakeholders. For example, at Urban Discovery Schools they have established Community Design Sessions as a DT forum for parents and students to engage in complex social issues such as racism, human sexuality, substance abuse and how cultural biases are formed.

Within human resource development this has included systems that focus on embracing change, tolerating ambiguity, and engaging in new practice. Evaluation systems have been created that have these core attributes as part of the evaluation cycle. Therefore, employees are evaluated on their teamwork and willingness to try new innovations and learning from them rather than on the success of the innovation. School and district leaders need to be prepared to strike a delicate balance between establishing the expectation for DT while allowing for the co-creation of the processes and practices that operationalize DT within the institution.

TO PRACTICE

FOCUS ON INSTRUCTION, CURRICULUM AND ASSESSMENT.

Recent research has cited DT as a model that provides a methodology to activate constructivist practice. This has specific implications for instruction, curriculum and assessment. The primary implication to classroom practice is that DT moves beyond progressive project-based learning methodologies to a system of exploring complex socio-technical real-world problems with no fixed solutions. This is part of the embracing of ambiguity which requires teachers and students to look not only at the problem as presented, but to their contextualization and positionality within a wider ecosystem. Within DT, teachers are engaged in Freirean models of learning whereby they explore an overarching topic by learning with students.

While systems such as Wiggins & McTighe's Understanding by Design have introduced frameworks that can be adopted within DT, the curriculum model may require further considerations. For example, essential questions need to be carefully framed to set parameters to the learning activities, embrace ambiguity, and allow for a dynamic and generative process of facilitated learning. Curriculum development and refinements should be inclusive of students to ensure that their experience is added in the process of empathetic reflection.

For assessment, DT uses a mixed methods approach. Practitioners of DT utilize current assessment systems as part of the multiple modalities required for interpretations of results. Rather than solely relying upon test data, DT layers on qualitative data, feedback loop cycles, empirical observations, and written reflections as part of the process of evaluating a student's learning. It is the collective data set that establishes student achievement and demonstrations of the desired outcome of continuous learning patterns.

REFLECTIONS

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FROM PRACTITIONERS IMPLEMENTING DESIGN THINKING IN K-12 SCHOOLS

The purpose of implementing DT in K-12 educational institutions is to foster environments of dynamic change that will drive innovation cycles to advance student achievement and address equity, access, and opportunity gaps. From classroom application to whole systems redesign, the human-centered process supports new ways to approach complex problems and a framework to reimagine the educational experience for all those involved in it.

A science teacher that has implemented DT in their classroom and leads student design teams for curriculum refinements stated: *"I feel like as teachers we sometimes fall into thinking about what works for us rather than what works for students. Design thinking helps us get out of our comfort zone with systems that make is safe to try new things. This is important as if you want to fully embrace design thinking you will be taking chances and need to know that failure is part of the process of learning."*

A humanities teacher that has implemented DT challenges as part of their interdisciplinary design shared changes they found in students: *"What I like about using design thinking in my classes is that it provides a meaningful way for students to get outside of their own perspective. They explore the world in a deeper more meaningful way through learning by engaging in an empathetic process that explores cultural attributes."*

A school leader that is transforming their school with DT by promoting higher levels of engagement observed:

"WE ARE INNOVATING EDUCATION AND SEEING STUDENT RESULTS IN OUR CLASSROOMS."

"As a Principal, what design thinking has done is increased the possibility for solving problems and meaningfully engaging in organizational development. It has made it possible to approach problems with fresh eyes and come up with solution that we would not have previously considered."

A director of operations that utilizes DT for systems design noted: *"Design thinking has supported us in us redesigning our service delivery systems. It has allowed for us to look across our entire ecosystem, understand our user experience and develop infrastructure to serve them. It has helped us create new ways to maximize supports in the service of our students, teachers, families, and communities."*

A curriculum design and lead teacher that has experience in a DT approach to organizational development, leading and learning, revealed: *"The ability to design, implement prototypes and to learn from experimentation is the most important gift that you can give a teacher or student. We are innovating education and seeing student results in our classrooms."*

For more information about design thinking in T/K-12 education visit www.sloescher.com, www.urbansd.com, www.id8high.com, or www.dtecsd.com. © Shawn Thomas Loescher. Based upon:
Loescher, S. T., Morris, M., & Lerner, T. (2019, February). *An introduction to Design Thinking: Implications and applications in K-12 educational institutions*. A conference paper session presented at the Center for Secondary School Redesign annual meeting, San Diego, CA.