TT: Designing Innovatively

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  - Slides: t.ly/hf76 or opsrc.net/techtalks.
 - Tech tool: Coggle.

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What Are We Learning?

"After this tech talk, educators will be able integrate **Coggle** in their classroom to help solve problems by engaging in the design process."

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What Are We Doing?

- 1.4 ISTE-S standard: Innovative Designer

- "The Design Process"

- 1.4 ISTE-S standard & Coggle

- 1.4 Sub-standards Overview

- Coggle Applications & 1.4 Sub-standards

- Resources & Wrap-up

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1.4 ISTE-S: Innovative Designer

- What? "Students use a <u>variety of technologies</u> within <u>a design process</u> to **identify and solve problems** by **creating new, useful, or imaginative solutions**."
- **Why** & <u>How</u>?
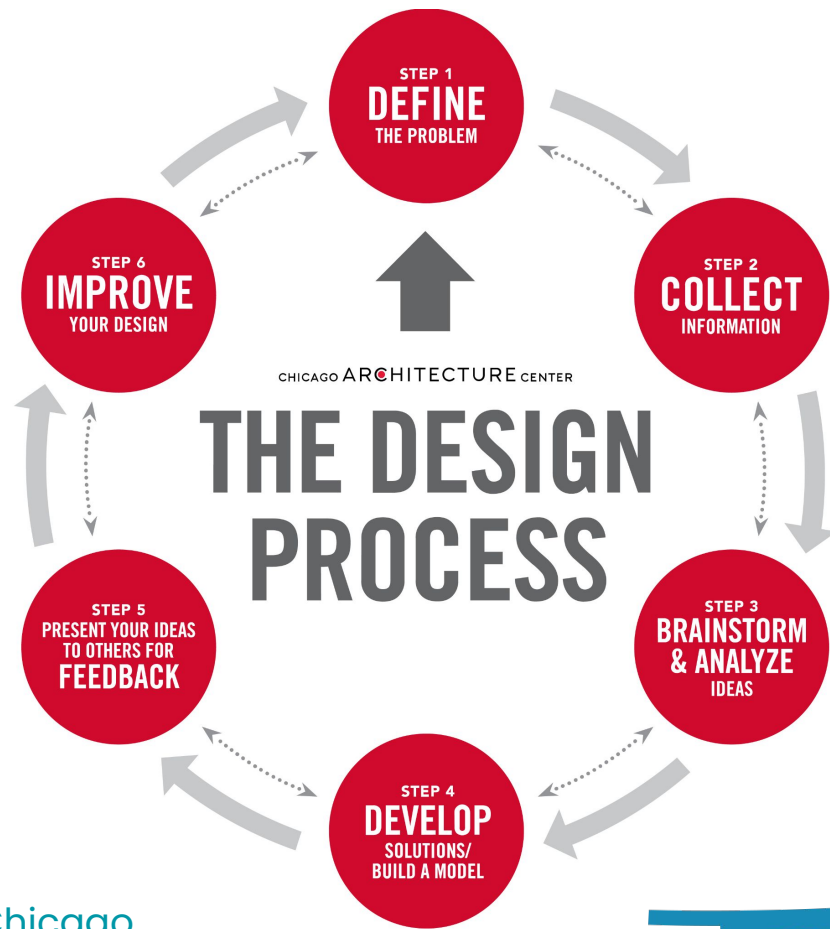
The Design Process by Chicago Architecture Center.

1.4 ISTE-S standard & Coggle

1) DEFINE (why?) & 2) COLLECT: **create a mindmap** to identify needs, what is known, and constraints.

3) BRAINSTORM & 5) FEEDBACK: **share products** with others get more ideas and feedback while testing the viability.

4) DEVELOP & 6) IMPROVE: **develop a flowchart** to identify the essential steps of ideas and reflect on and redefine any parts.

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1.4 Sub-standards Overview

- 1.4a Use a deliberate <u>design process</u> to **generate ideas**, test theories, **and create artifacts**.

- 1.4b Use <u>tools</u> to **plan, manage, and consider constraints**.

- 1.4c **Develop, test, and refine prototypes** as part of a <u>cyclical</u> design process.

- 1.4d **Exhibit tolerance** for ambiguity and capacity **to work with open-ended problems**.

ISTE Standards: Students by ISTE.

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Coggle Apps

Students...

- Create a mindmap.
- Share products.
- Develop a flowchart.

1.4 Sub-standards

- 1.4a Generate ideas and create artifacts.
- 1.4b Plan, manage, and consider constraints.
- 1.4c Develop, test, and refine prototypes.
- 1.4d Exhibit tolerance working with open-ended problems.

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Coogle & the Design Process Goodies

- [Coggle Gallery](#) - tons of examples, templates, and inspiration.

- [Coggle YouTube](#) - short videos that easily train new users.

- [Mind-Mapping & Brainstorming Using Coggle](#) by University of Puget Sound Educational Technology - great Coggle overview with examples.

- [7 Research-Backed Benefits of Mind Mapping](#) by Jessica Greene = an amazing argument for mind mapping tools.

- [What is the Design Process?](#) by Chicago Architecture Center.

- [Engineering Design Process](#) by TeachEngineeering.

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Technology Integration Goodies

- [ISTE Standards for Students](#) by [ISTE](#).

- [Refresh Your Teaching with the ISTE Standards for Students](#) by Fanny Passeport of [Common Sense Education](#).

- [TPACK Framework](#) by Punya Mishra and Matthew J. Koehler of Michigan State University - analyzes the interaction between technological, pedagogical, and content knowledge.

- [Technology Integration Matrix (TIM)](#) by Florida Center for Instructional Technology - compares 5 characteristics of meaningful learning environments to 5 levels of tech integration.

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Thank you!

- **Evaluation: t.ly/ggzK** {case sensitive}

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- Want more? opsrc.net/techtalks