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Sustainable Development

Digital Pedagogy

Design Learning Experiences



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Recap



What we did yesterday..

- Share your views, photos, work, ideas
- Create your Digital Identity
- Be mindful of the digital etiquettes
- Evaluate credibility of information online

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Day 4: Design Learning Experiences

- Agenda & Quick recap: 5 min
- How to choose tools? Honeycomb: 15 min
- Reflection: Barriers : 10 mins
- Design Cycle: 15 min
- Q&A

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How can we design learning that is impactful and engaging?

Does technology always play a role?

Which design of stadium suits most people?



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Universal Design for Learning
preempts barriers in learning



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Simple assignments like group presentations require multiple skills like research, content organization, writing / drawing, planning, team work

When learners do not have some skills, they face barriers which can disengage them

Barriers may pertain to reading, writing, planning, lack of confidence, coping with emotions, attention etc

Some of these barriers can be predicted and reduced by careful planning and design

SOME HELPFUL QUESTIONS TO IDENTIFY BARRIERS

Will learners have trouble with comprehension?

Do they need additional background information to understand the concept?

Will they experience challenges in expressing their knowledge?

Will learners feel disengaged?

How will the variability between different types of learners and their specific needs (e.g. newcomers) affect their learning and engagement?



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The UDL Design Cycle



EXAMPLE >

Rao, K., & Meo, G. J. (2016). Using universal design for learning to design standards-based lessons. *Sage Open*, 6(4), 1-12. doi:10.1177/2158244016680688. Retrieved from tinyurl.com/udidesigncycle

Reading

Common Student Challenges Related to Reading		
<ul style="list-style-type: none"> • Accessing Text • Decoding Text • Reading Fluency 	<ul style="list-style-type: none"> • Comprehension • Executive Function Skills 	
Elements	Features of Digital Environments that Support Reading	Digital Tools with these Features
 <p>Access to Text <i>(Display of Information)</i></p>	<ul style="list-style-type: none"> • Addresses student visual preferences; makes reading more comfortable by altering text and page • Provides options for changes to font size and style, text color and background color, spacing, and margins • Offers a more simplified and focused view by focusing on a particular line, paragraph, or page • Adjusting the number of words on a page; less text can be less intimidating 	<p>Integrated In OS</p> <ul style="list-style-type: none"> • Ease of Access (Windows) • Accessibility (Mac) <p>Chrome Extensions</p> <ul style="list-style-type: none"> • Mercury Reader • Just Read • Read Mode • More • Print Friendly
 <p>Decoding and Reading Fluency & Vocabulary</p>	<ul style="list-style-type: none"> • Provides synonyms, definitions, and hyperlinks to know the meanings of unknown words • Offers a reduction in difficulty level of reading text descriptions and images • Translation • Allows easy translation of the text into various languages • Offers text-to-speech option which can help with jodecoding and comprehension. When using less energy, decoding can reduce the cognitive load. 	<p>Chrome Extensions</p> <ul style="list-style-type: none"> • Read&Write for Chrome • Snap and Read • Fluency Tutor • Natural Reader <p>Integrated with OS</p> <ul style="list-style-type: none"> • How to turn on Mac TTS • How to turn on Windows Narrator
 <p>Comprehension</p>	<ul style="list-style-type: none"> • Supports note-taking and marking up the text via highlighting, bookmarking, margin notes, outlining, drawing along with a means of gathering and grouping notes for post-reading review • Teachers can leave annotated comments, provide sketches, comprehension questions, etc.; students can also annotate key areas • Students can highlight text in different colours 	<p>Chrome Extensions</p> <ul style="list-style-type: none"> • Scribl • Kami <p>Web Tools</p> <ul style="list-style-type: none"> • Newsela • TweenTribune • Wonderopolis

Writing

Common Student Challenges Related to Writing

- Generating ideas
- Organising ideas

- Drafting a piece of writing
- Mechanics of writing

<p>Word Prediction</p>	<ul style="list-style-type: none"> ● As the student writes, he or she receives a possible list of words that they could be typing, and likely words that would follow 	<ul style="list-style-type: none"> ● Built into iPad onscreen keyboard ● Available on Read and Write Keyboard (for tablets) and Chrome extension 	<p>4.2 Optimise access to tools and assistive technologies</p> <p>5.2 Use multiple tools for construction and composition</p>
<p>Speech to Text (STT)/ Speech Recognition(SR)</p>	<ul style="list-style-type: none"> ● Converts the spoken word into text ● Helpful for students who struggle with the mechanics of 	<ul style="list-style-type: none"> ● iPad Dictation ● Voice Recognition ● Speak It 	<p>5.2 Use multiple tools for construction and composition</p>
<p>Spelling & Grammar Checkers</p>	<ul style="list-style-type: none"> ● Checks spelling, capitalisation, grammar, passive voice, sentence structure, subject-verb agreement 	<ul style="list-style-type: none"> ● Grammarly (Chrome extension) (Watch a short video of a teacher using Grammarly) ● Ginger Grammar Checker ● Read and Write 	<p>4.2 Optimise access to tools and assistive technologies</p> <p>5.2 Use multiple tools for construction and composition</p>



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Organizing & Engagement

Organizing	<ul style="list-style-type: none"> • Evernote • Google Keep 	<ul style="list-style-type: none"> • Checklists of goals and actionable to-dos • Digital notebook-style organiser for ideas • Digital portfolio for student work
	<ul style="list-style-type: none"> • Befocused • Gantt Charts 	<ul style="list-style-type: none"> • A scoreboard showing the amount of time invested in a project or in developing a skill • Track progress for multi-step progress
Engagement	<p>Digital Quiz/Game Tools</p> <ul style="list-style-type: none"> • Kahoot • Quizalize • Nearpod <p>Digital flashcards</p> <ul style="list-style-type: none"> • Quizlet • Memvrise 	<ul style="list-style-type: none"> • Students take turns answering live quiz questions for grammar patterns, vocabulary or content, including math practice • Create flashcard sets for vocabulary practice or to support recall of content

Common Challenges Faced by Students Related to Engagement

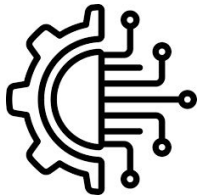
Motivation

- Engaging in tasks
- Persisting in the face of challenges
- Sustaining focus

Self-Regulation

- Developing confidence
- Coping with emotions

Consider the
Honeycomb
to identify
which tool
to use



CONSIDERATIONS TO EVALUATE DIGITAL TOOLS

User Experience Honeycomb by Peter Morville

USABLE

- Can my students and I use this tool easily?
- Does the tool work on my devices?

USEFUL

- Does this tool assist in meeting learning goals or outcomes?

DESIRABLE

- Is the visual aesthetic of the tool appealing, attractive and engaging?

FINDABLE

- Are there tutorials, help pages, and other support options?
- Does the navigational structure take users' behaviour and habits into consideration?

ACCESSIBLE

- Is the tool affordable? If the tool is free, does it have any limitations?
- Does the tool give students options and choices for their different preferences, needs, and abilities?
- Does the tool require internet access? Can the tool be used with no or low bandwidth?

CREDIBLE

- Is there a clear privacy policy that lets users maintain copyright of their creations?
- Does the tool safeguard data from unauthorised access, disclosure and use?
- Is the tool developed by a credible company?

VALUABLE

- Does the tool support save (if possible auto-save) and export content as desired in a variety of formats and platforms? Can it be embedded?



Consolidation

- Amidst information overflow: Pause!
- Use Honeycomb: 7 elements
- Use honeycomb for choosing right tool
- Design experience using tool
- Begin with Barriers first!
- Use data from Variability & Barriers for Learning design!
- Make sure to enjoy the process!

