Google Technology as Inclusive Practice for Universal Design

University of Northern Iowa
Education Summit 2017

Full Version of Presentation Slides Available At
https://goo.gl/EJnZyY
Google Technology as Inclusive Practice for Universal Design

University of Northern Iowa Education Summit 2017

Go to this padlet and respond in the first column
https://goo.gl/kQn4ov
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Learning Objectives https://goo.gl/EJnZyY

1. Apply the three (3) principles of UDL to school and classroom technology policies and practices.

2. Identify and evaluate ten (10) Google technology tools that support inclusive reading, writing, and organization.

3. Connect and discuss classroom application of three (3) Google technology tools supporting inclusive learning across the classroom and community.
Universal Design for Learning & Accessibility

- Technology options can enhance opportunities for personalized learning for ALL students in the inclusive setting
  - Captioning
  - Reading and Writing Supports
- UDL is a Plan – meet the needs of and reduce barriers for all learners from the start
  - Students have options!
## Guidelines for Universal Design for Learning

**Provide Multiple Means of Engagement**  
Purposeful, motivated learners

<table>
<thead>
<tr>
<th>Provide options for self-regulation</th>
</tr>
</thead>
<tbody>
<tr>
<td>+ Promote expectations and beliefs that optimize motivation</td>
</tr>
<tr>
<td>+ Facilitate personal coping skills and strategies</td>
</tr>
<tr>
<td>+ Develop self-assessment and reflection</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>Provide options for sustaining effort and persistence</th>
</tr>
</thead>
<tbody>
<tr>
<td>+ Heighten salience of goals and objectives</td>
</tr>
<tr>
<td>+ Vary demands and resources to optimize challenge</td>
</tr>
<tr>
<td>+ Foster collaboration and community</td>
</tr>
<tr>
<td>+ Increase mastery-oriented feedback</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Provide options for recruiting interest</th>
</tr>
</thead>
<tbody>
<tr>
<td>+ Optimize individual choice and autonomy</td>
</tr>
<tr>
<td>+ Optimize relevance, value, and authenticity</td>
</tr>
<tr>
<td>+ Minimize threats and distractions</td>
</tr>
</tbody>
</table>

## Provide Multiple Means of Representation  
Resourceful, knowledgeable learners

<table>
<thead>
<tr>
<th>Provide options for comprehension</th>
</tr>
</thead>
<tbody>
<tr>
<td>+ Activate or supply background knowledge</td>
</tr>
<tr>
<td>+ Highlight patterns, critical features, big ideas, and relationships</td>
</tr>
<tr>
<td>+ Guide information processing, visualization, and manipulation</td>
</tr>
<tr>
<td>+ Maximize transfer and generalization</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Provide options for language, mathematical expressions, and symbols</th>
</tr>
</thead>
<tbody>
<tr>
<td>+ Clarify vocabulary and symbols</td>
</tr>
<tr>
<td>+ Clarify syntax and structure</td>
</tr>
<tr>
<td>+ Support decoding text, mathematical notation, and symbols</td>
</tr>
<tr>
<td>+ Promote understanding across languages</td>
</tr>
<tr>
<td>+ Illustrate through multiple media</td>
</tr>
</tbody>
</table>

## Provide Multiple Means of Action & Expression  
Strategic, goal-directed learners

<table>
<thead>
<tr>
<th>Provide options for executive functions</th>
</tr>
</thead>
<tbody>
<tr>
<td>+ Guide appropriate goal-setting</td>
</tr>
<tr>
<td>+ Support planning and strategy development</td>
</tr>
<tr>
<td>+ Enhance capacity for monitoring progress</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Provide options for expression and communication</th>
</tr>
</thead>
<tbody>
<tr>
<td>+ Use multiple media for communication</td>
</tr>
<tr>
<td>+ Use multiple tools for construction and composition</td>
</tr>
<tr>
<td>+ Build fluencies with graduated levels of support for practice and performance</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Provide options for physical action</th>
</tr>
</thead>
<tbody>
<tr>
<td>+ Vary the methods for response and navigation</td>
</tr>
<tr>
<td>+ Optimize access to tools and assistive technologies</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Provide options for perception</th>
</tr>
</thead>
<tbody>
<tr>
<td>+ Offer ways of customizing the display of information</td>
</tr>
<tr>
<td>+ Offer alternatives for auditory information</td>
</tr>
<tr>
<td>+ Offer alternatives for visual information</td>
</tr>
</tbody>
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2013 CAST, INC.  
[www.cast.org](http://www.cast.org)
Technology in Classrooms

- Various Devices
- Various Web Browsers
- Various Software
Why Google Chrome?

• Often used in general education settings
• Sync across devices
• Work offline (some)
• Use for a lifetime
Google Tools: Leveling the Playing Field for ALL Learners

Sarah Lalk | Patti Bahr | Chris Curran | Cari Teske | Lea Ann Peschong

NOTE: Click on each icon to go directly to the tool.

**Teacher Management**
- Self Regulation/Monitoring
- Student Work Flow

**Student Collaboration**
- Accessible Education Materials
- Physically Reading

**Low Vision and Color Blind**
- Text Reader & Writing Supports
- Mindfulness
- Tips and Tricks

### Teacher Management

<table>
<thead>
<tr>
<th>Tool</th>
<th>Functions</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Google Classroom</td>
<td>• Individualize instruction</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Delegate virtually</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Link to Google Drive</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Track student submissions</td>
<td></td>
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<tr>
<td></td>
<td>• Provide timely feedback</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Download scores</td>
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</tr>
<tr>
<td></td>
<td>• Link to Google Calendar</td>
<td></td>
</tr>
<tr>
<td>Google Drive</td>
<td>• Ease of organization</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Share documents and folders</td>
<td></td>
</tr>
</tbody>
</table>
Apps and Extensions

- Apps - shortcuts to websites
- Extensions - enhance your page
Google Supports . . .

Teacher Management
(Student) Self Regulation/Monitoring
Student Work
Student Collaboration
Supports for Reading and Writing

Google Technology as Inclusive Practice for Universal Design
Teacher Management
https://goo.gl/kQn4ov

Classroom
Docs
Drive
Forms
Sites
<table>
<thead>
<tr>
<th>AdBlock</th>
<th>Keep</th>
<th>Mail</th>
<th>Pizza Timer</th>
<th>TabJump</th>
<th>Wunderlist</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calendar</td>
<td>Extensity</td>
<td>Forms</td>
<td>Grammarly</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Student Work
https://goo.gl/kQn4ov
Calendar
Calculators
Connected Mind
Docs
Drawings
GMail
Screencasting
YouTube
Student Communication
https://goo.gl/kQn4ov

- Whatsapp
- Hangouts
- Snapchat
- Text Message
- Twitter
- Blogs
- FB Messenger
- Voxer
Supports for Reading & Writing
https://goo.gl/kQn4ov

• Reading
  – physically see text, text reader, simplify text

• Writing
  – physically write, increase speed, organize thoughts

• Studying
  – highlight, gather notes, make citations
Reading Supports: Physical

• BeeLine Reader
• Dyslexie
• OpenDyslexic
• Ad Block
Reading Supports: Visual

- ChromeVox (screen reader)
- Color Contrast Analyzer
- Color Enhancer
- Deluminate
- High Contrast
- Hover Zoom
- Photo Zoom for FaceBook
- Zoom
Supports for Reading, Writing, & Studying

• Access to the general education curriculum
• Access to text when the student wants to read
• Examples
  – Highlight Tools: Google Docs and Read&Write
  – Kurzweil Firefly
  – Read&Write for Google Chrome
  – Select and Speak-Text to Speech (Speak It!)
  – Snap&Read Universal
Supports for Writing

• Computer technology + writing
  – express ideas; scaffold composing
  – compensatory for producing, drafting, revising

• Physically writing, increase speed, organize thoughts, options for action and expression
Writing Supports: Physical

Device with Word Processor

• Longer length, better quality writing, fewer errors, improved engagement

• Example:
  – Docs
Voice Recognition

• Increases in content, length, complexity of writing, vocabulary, fewer “mechanical” errors; production can be faster than handwriting can be copied to other app (mail, calendar, slides)

• Examples:
  – Co:Writer Universal
  – Dragon Web
  – Google Docs - Voice typing
  – VoiceNote II
  – Read&Write for Google Chrome
Resources for Apps & Extensions

Find Apps and Extensions & Information

- [Chrome Web Store](#)
- [OTS with Apps; Common Sense Media](#)
- [Dyslexia Help (University of Michigan)](#)
- [Understood.Org Tech Finder](#)

Accessibility: [Google Accessibility](#), [National Center on AEM](#), [Center for Online Learning](#)

UDL: [UDL On Campus](#); [National UDL Center](#); [UDL TechToolKit](#)
Conversation and Questions

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