Providing Access To Employee Handbooks: Using EBPs To Build Text Comprehension

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Objectives

1. Describe the key results of this research project on a technology-based adapted employee handbook for young adults with developmental disabilities.

2. List methods of applying UDL guidelines to real-life texts.

3. Discuss the importance of accessibility to workplace texts for all employees.
Purpose: This study examined effects of a Universally Designed employee handbook on the text comprehension of college students with intellectual disabilities.

Why?

- Literacy is a critical skill for successful employment (Conceição, 2016).
- Individuals with intellectual disabilities (ID) typically have very low literacy levels (Katims, 2000).
- There is limited research on literacy skill development for young adults with ID, particularly on work-related texts such as employee handbooks.
What Does That Lead To?

- Restricted access to important functional texts such as employee handbooks.
- Restricted access to important employment procedures and policies potentially affecting the employment success for young adults with ID.

Supporting Literature

- Postsecondary programs - Improves postsecondary outcomes (Gilson & Carter, 2016)
- Literacy Instruction – Systematic instruction (Allor et al., 2014), shared stories (Hudson & Test, 2011), technology (Rivera et al., 2014; Spooner et al., 2015)
- Technology - Moderate-strong evidence supporting use of technology to teach academic and functional skills (Browder et al., 2014), incorporate UDL principles (CAST, 2015)
Study Design

- Single-case design
- Multiple-probe across four participants and three sections of an employee handbook
- Four female participants from a university postsecondary education program for students with intellectual and developmental disability
- All four were interested in working at the University preschool as part of their program.
- All four scored at Preprimer or Primer level of reading/listening comprehension on the Informal Reading Inventory (Burns & Roe, 2002).

Study Design – Research Questions

1. Does the application of a multimedia literacy treatment package improve text comprehension of an adapted employee handbook for young adults with ID?

2. Does the treatment package improve employment task completion?
### Method

**Participants**
- Four college students with ID
- Part of Project Focus

**Setting**
- University preschool conference room
- Individualized schedule (min. 2 days/wk)

**Materials**
- Adapted preschool handbook on iPad
- Graphic organizers

### Adapted Text and Graphic Organizers
- Preschool handbook text reduced to Lexile level of 2.0 to 4.0 (from 10.0 or higher).
- Book designed in iBook™
- Supplemental pictures added
- One page of text followed by multiple choice question page.
- Performance task listed at the end of the section.
**Emergency Procedures - Injury**

* Emergency phone numbers are by phones.
* First Aid Kits are above children’s sink in each class.
* Ice packs are in the freezer. Always cover with a cloth or sock. Because then the ice won’t hurt or burn the children. Put ice pack on and off every minute.
* Head staff will bring child to office infirmary.

**Cuts and Scrapes**

* Put on rubber gloves
* If cut is large, report to office infirmary.
* Wash cut with warm water and soap.
* Dry well.
* Put on band aid.
* Throw away gloves in plastic bag.
* Tie bag. Put bag in plastic lined trash can.
* Write an ouch report and give to head staff

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**Review Question**

Explain why you cover the ice pack with a sock or cloth before you use it.

- [ ] A. So the ice pack stays clean.
- [ ] B. So you keep your hands warm.
- [ ] C. So you can write an Ouch report.
- [ ] D. So the ice won’t hurt/burn the children’s skin.

[Check Answer]
Performance Task: Show me the handwashing procedure.

Graphic Organizer for Questions

- When you hear
  - Why? Listen for a “because.”
  - Who? Listen for a name.
  - When? Listen for a time or date.
  - Where? Listen for a place.

Graphic Organizer for Navigation

- Tap screen once to make a selection.
- Tap screen once to stop read aloud.
- Swipe down with 2 fingers. This starts the read aloud.
- Use 3 fingers to swipe between pages.
Study Design – Method

- Adapted handbook using principles of UDL and multi-media learning.
- Developed/adapted graphic organizers to support comprehension and use of the VoiceOver tool.
- Three handbook sections, each with performance task.
- One-to-one instruction on how to use iPad in preschool conference room.
- Each session included one section of the handbook and then the associated performance task.
Research Question 1 – Dependent Variable: Text Comprehension Questions

- A functional relationship was found for three of the four participants.
- Similar results to other studies using multimedia shared stories (Rivera et al., 2014; Spooner et al., 2015) and the use of a prompting hierarchy and graphic organizers to support shared stories (Kemp-Inman, 2017; Mims, Hudson, & Browder, 2012)

### Performance Task Results

<table>
<thead>
<tr>
<th>Participant and Task</th>
<th>Baseline</th>
<th>Intervention</th>
<th>Maintenance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nancy</td>
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<td>Safety Rules</td>
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<td>67%</td>
<td>90%</td>
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</tbody>
</table>
Research Question 2 – Does the application of a multimedia literacy treatment package, using an adapted employee handbook, improve the completion of employment tasks discussed in the text?

<table>
<thead>
<tr>
<th>Tasks</th>
<th>Steps</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use of Intercom</td>
<td>1. Push the intercom button on the phone.</td>
</tr>
<tr>
<td></td>
<td>2. Dial 06 to call the Admin Office</td>
</tr>
<tr>
<td>Handwashing Demonstration</td>
<td>1. Use water</td>
</tr>
<tr>
<td></td>
<td>2. Use soap</td>
</tr>
<tr>
<td></td>
<td>3. Scrub for 20 seconds while singing ABC song.</td>
</tr>
<tr>
<td></td>
<td>4. Rinse</td>
</tr>
<tr>
<td>State Three Safety Rules</td>
<td>1. “We keep our bodies safe.”</td>
</tr>
<tr>
<td></td>
<td>2. “We keep our friends safe.”</td>
</tr>
<tr>
<td></td>
<td>3. “We keep our toys and materials safe.”</td>
</tr>
</tbody>
</table>

Benefits

- Students made gains in comprehension and performance tasks.
- Improved understanding of potential workplace duties and policies.
- Technology skills - troubleshooting
Challenges/Limitations

• Technology glitches
• Limited success in performance task
• Complications and time in adapting texts

Implications for Future Practice

• Employers and more may use results to create accessible texts that are important to workplace success.
• Using multimedia to incorporate principles of UDL allows for the information to be accessed by a diverse set of learners/workers.
• Employees can independently navigate themselves through the text, rereading/listening if necessary and periodically assessing understanding.
Future Recommendations

- Replicating this study with different interventionists, student populations, and settings. Important for the external validity.
- Exploring the effects of different components of the treatment package.
- Targeting other important real-world texts for this age group (e.g., college texts, codes of conduct, workplace memos/emails).
- Examining the effects of adding a video modeling/prompting component to support performance tasks.
- Teach comprehension strategies and support systems as early as possible.

Design Framework

UDL and Multiple means of representation – large-font text, key points emphasized and supported with pictures, read aloud, self-checks for understanding

Mayer’s Principles of Multimedia learning - reducing extraneous processing, managing essential processing, and fostering generative processing (limited text, purposefully placed pictures that highlight important topic areas, and interaction with the technology).
Text Adaptation

• Use a Lexile analyzer tool (free online) to assess current reading level.
• Work with employer to pare content down to essential pieces for the jobs your students would be working.
• Rewrite those essential components using short sentences and simple vocabulary. Use the analyzer again to see how you did.
• Reduce text to 3rd to 4th grade reading level.
• Add pictures for key ideas (approx. 1 per bullet point).
• Limit text per page.

THANK YOU

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References


Conceição, C. (2016). Competing in the world’s global education and technology arenas. New Directions for Adult & Continuing Education, 149, 63-64.


