iTechnology and Communicative Drawing for Individuals with Aphasia

Jennifer A. Ostergren, PhD, CCC-SLP and Jennifer Raminick, B.A.

CSHA 2013 Convention (Long Beach, California)

Literature Review*

The use of drawing in relation to aphasia has a long history in the research literature (Lyons, 1995). Drawing has been studied in the realm of augmentative and alternative communication (AAC) as a tool for enhancing functional communication in individuals with aphasia (Beeson & Ramage, 2000; Sacchett, 2002; Sacchett & Lindsay, 2007). Drawing has also been addressed relative to its de-blocking impacts on verbal output and its potential in accessing semantic networks for facilitating naming in individuals with aphasia (Davis, Farias, Baynes, 2005; Farias, Davis, Harrington, 2006). However, with the advent of smartphone technology, the study of drawing and its role in aphasia intervention has entered a new frontier.

At present, there are numerous “apps” that can be utilized for drawing purposes. Many of these drawing apps share similar features, such as the ability to: 1) change the size and color of lines drawn, 2) change the page backgrounds, 3) save and share drawings, and 3) import real color photographs into drawings. In addition, note-taking apps are also available which offer drawing functions, as well as in some cases access to a keyboard for typing messages as well. The use of this new technology for communicative purposes has the potential for some distinct advantages, including:

1) Unlimited capacity in the numbers of pages accessible without erasing.
2) The ability to save and organize drawings created for future access.
3) The ability to enhance drawings with colors, stored symbols, and backgrounds.
4) The ability to incorporate real photographs into drawings, either by taking a picture or by importing images from the internet via search engines like Google Images.
5) The potential, in some cases, to utilize a keyboard function to augment drawing with typed letters, words, or phrases.
6) The ability to export and send drawings via email for individuals who have difficulty using traditional text-based email access.

Unfortunately, there is a paucity of research on the use of this technology by individuals with aphasia. Further, there are very few apps specifically for those with aphasia (Koul & Corwin, 2011) and none designed specifically for communicative drawing. As such, speech-language pathologists (SLPs) are left with the daunting task of reviewing non-dedicated apps for this purpose. This can be very challenging, given both the large number of available apps, across a variety of platforms, but also the constantly changing nature of the app marketplace (Holland, Weinberg & Dittelman, 2012).
Clinical Applications*

Recommendations for Use of iTechnology: Lessons Learned

- Aim for communication, not perfection in drawing.
- Provide education in neuroplasticity and the positive impact of drawing on verbal expression.
- Incorporate drawing within multimodality communication (e.g., speech, writing, gestures, AND drawing).
- Assess and provide training in touch screen use.
- Experiment with different cases and stylus, as per you client’s abilities and preference.
- Consider pre-morbid technology use and comfort.
- Increase acceptance by minimizing client frustration.
- Train using barrier tasks.
- Assess using referential communication tasks.


App References and Ratings


Manufacturer Information - Top Rated Apps*

<table>
<thead>
<tr>
<th>SketchTime</th>
<th>$1.99</th>
<th>Language: English</th>
<th>Developer: Hansol Huh © 2012</th>
<th>Rated 4+</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="SketchTime Icon" /></td>
<td><img src="image" alt="SketchTime App Screenshot" /></td>
<td><a href="https://itunes.apple.com/us/app/sketchtime-quick-sketching/id500522911?mt=8">Link</a></td>
<td></td>
<td></td>
</tr>
<tr>
<td>App Name</td>
<td>Price</td>
<td>Category</td>
<td>Seller</td>
<td>Rating</td>
</tr>
<tr>
<td>---------------</td>
<td>-------</td>
<td>-------------</td>
<td>----------------------</td>
<td>--------</td>
</tr>
</tbody>
</table>
Feature Matching

Features to Consider (Match to Client’s Needs)

- Line Sizes
- Color Choices
- Background Choices
- Saving Capacity/Form and Organization of Saved Items
- Ability to Email

Additional Elements to Evaluate (Match to Client’s Need)*

<table>
<thead>
<tr>
<th></th>
<th>1 = Complex Navigation</th>
<th>5 = Minimal/Easy Navigation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ease of Navigation</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>1 = Maximal Distraction</th>
<th>5 = Minimal Distraction</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Visual Distraction</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>1 = Small Icons/Workspace</th>
<th>5 = Large Space Icons/Workspace</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Workspace</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>1 = Opaque icons</th>
<th>5 = Transparent Icons</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Iconicity</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Line Continuity/Drawing Contact and Palm Rest Options
Resources/References

Multimodality Communication


Communicative Drawing Program

Neuroplasticity and Aphasia


Drawing and Aphasia


