APPs and EBP: How to succeed in the quest to identify research based apps.

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CEO and CoFounder of YappGuru

Disclosure:
Financial
• Receives honoraria for CE courses and seminars.
• Mai Ling’s company, YappGuru, receives an application submission payment for apps which have been designated as rating a 4 or 5 star App Excellence Award achievement based on the rubric available at yappguru.com.
• Co-author and receives royalties for a text: Exceptional M.O.B.I.L.E.

Non Financial
• Occasionally receives promotional codes for apps in order to participate in beta testing and complete reviews. Occasionally, Mai Ling’s company, YappGuru is provided with promotional codes for apps to gift to members/users.

• Personal:
  • Familiarity with application developers
Tablet History
When did we get these cool gadgets?

- 2010
  - iPad (iOS)
  - Samsung Galaxy Tab (Android)

- 2011
  - Kindle Fire (Android)
  - B&N Nook (Android)

- 2012
  - iPad 2
  - iPad Mini
  - Nexus 7
  - Samsung Galaxy Note
  - Microsoft Surface

- 2013
  - iPad Air
  - iPad Mini2

- 2014
  - Surface Pro 3
  - iPad Air2

- 2015
  - Surface Pro 4
  - iPad Pro

- 2017
  - Samsung Galaxy Tab 10.5-inch
  - iPad Pro
2010

# of Apps Available


iOS
140,000

Android
100,000
2017

# of Apps Available


iOS: 2.2
Android: 2.8
Articulation
Screenings
Aphasia
Cognition
AAC
Grid Based
Context Based
Caseload
Management
Pragmatics
Social Skills
Conversations
Language
Grammar
Sentence Structure
Verbs
Screenings
Artic
Swallow
Phonological Awareness
Language
Types of Apps
EDUCATION • MEDICAL • TOOLS
Find the BEST apps
The Challenge:
Finding the BEST apps

- Takes time to conduct research
- Expense
- Ethical responsibility
- Research based therapy

(www.asha.org/Research/EBP/)

EBP

Client/Patient/Caregiver Perspectives
External
Scientific Evidence
Expertise/Expert Opinion

(www.asha.org/Research/EBP/)
Rubrics
Rate your APP

FIVES
Critical Evaluation of A Content-Based iPad/iPod app

PICO

YappGuru Excellence Award

FIVES
PICO
CY
The FIVES Criteria

Sean Sweeney, MS, CCC-SLP

Originally designed to understand how to apply “re-purposed” apps, still applicable for evaluating ALL apps.

The FIVES Criteria

Sean Sweeney, MS, CCC-SLP

FIVES

- Fairly Priced
- Interactive
- Visual
- Educationally Relevant
- Specific or Social
## Using FIVES

**Bitsboard**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fair Price</strong></td>
<td>• $39.99 for unlimited use, free limited version available.</td>
</tr>
<tr>
<td><strong>Interactive</strong></td>
<td>• The user can customize the boards for individual use.</td>
</tr>
<tr>
<td><strong>Visual</strong></td>
<td>• Allows pictures to be used</td>
</tr>
<tr>
<td><strong>Educational Relevant</strong></td>
<td>• Can be used for a variety of purposes (flashcards, spelling words, etc.)</td>
</tr>
<tr>
<td><strong>Specific</strong></td>
<td>• Not specifically speech related, but definitely as specific as the individual cares to create the boards.</td>
</tr>
</tbody>
</table>
Originally designed to create an answerable clinical question.

http://blog.asha.org/2012/08/23/apps-and-ebp/
PICO + 5 Steps

Lara WAKEFIELD, PhD, CCC-SLP & Theresa SCHABER, MA, CCC-SLP

Population
Age, grade, gender, diagnosis, onset, demographics

Intervention
Theoretical basis, methodology, tools, settings, delivery

Comparison
Situations related to theory, setting, delivery, etc.

Outcome
Consider long and short-term outcomes or goals
Critical Evaluation of a Content-Based iPad/iPod app

Kathy SCHROCK, M.L.S.

Comprehensive online rubric that can be completed and printed out.

http://www.ipads4teaching.net/critical-eval-of-apps.html
Critical Evaluation of a Content-Based iPad/iPod app

Kathy SCHROCK, M.L.S.
CRITICAL EVALUATION OF A CONTENT-BASED IPAD/IPOD APP  
©2011-2015 Kathleen Schrock (kathy@kathyschrock.net)  
iPads for Teaching site: http://ipads4teaching.net

What is the title of the app? __________________ Cost: ___ Size of app (MB): ________
Creator of the app______________________ iTunes URL: ________________________
Content area(s): _____________________ Grade level(s): ____________ 

<table>
<thead>
<tr>
<th>CONTENT AND COMPONENTS OF THE APP</th>
<th>YES</th>
<th>NO</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Curriculum connection: Are the skills reinforced connected to targeted skill/concept?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Authenticity: Are skills practiced in an authentic format/problem-based environment?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feedback: Is feedback specific and result in improved student performance?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Differentiation: Does the app offers flexibility to alter settings to meet student needs?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>User friendliness: Can students launch and navigate within the app independently?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student motivation: Are students motivated to use the app and select it to use often?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reporting: Is assessment/summary data available electronically to the student/teacher?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sound: Does the music/sound in the app add to the educational aspects of the content?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Instructions: Are the instructions included helpful and the correct reading level for the student?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Support page: Does the app’s supporting Web page provide additional useful information?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Navigation: Does the app use the touchscreen effectively throughout its use?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Modalities: Are multiple versions of instructions such as text, video, and audio, included?</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Level(s) of Bloom’s Taxonomy addressed with this app (check all that apply)

- Remembering
- Understanding
- Applying
- Analyzing
- Evaluating
- Creating

What CCSS or state/local standard(s) can this app address?

Summary of the app

Using the data you have collected above, explain why you would or would not recommend this application for use in the classroom. Include any specific ideas you have for its use.

iTunes Application Ratings
(click on ratings while in the App Store to learn more)

- 4+  
- 9+  
- 12+  
- 17+

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YappGuru App Excellence Award

Mary Huston, MS, CCC-SLP
& Mai Ling Chan, MS, CCC-SLP

Rewards apps which reflect best practices from creation through usage.

http://yappguru.com/excellence
YappGuru App Excellence Award

Mary HUSTON, MS, CCC-SLP & Mai Ling CHAN, MS, CCC-SLP
The following rubric defines criterion-based targets and corresponding attributes which establish YappGuru’s strict evaluation process for the YappGuru App Excellence Award distinction.

**Evidence-Based Practice**: Making the best clinical decisions based on the integration of the best evidence available via research studies, practitioner expertise, and other resources. These decisions focus on the characteristics, state, needs, values, and preferences of those who will be affected.

**Relevant**: Having direct connection with a specific target(s)

**Engaging**: Encourages interaction/utilization

**Note**: This criteria may also reflect an N/A (Not Applicable) rating when an app’s purpose is for functional use only i.e. Calculator app

**Professional Developer**: Industry professionals including educators, speech/occupational/physical therapists, assistive technology experts, psychology/behavior analysts

**Expert Approved**: Reviewed and rated by YappGuru Experts at www.yoppguru.com

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**What the Stars Mean**

- **4-stars**: An ultimate app with the highest standard of industry recognized quality, relevance, and research-based knowledge.
- **3-stars**: A great app showing high standards of quality, relevance, and research-based knowledge.
- **2-stars**: A good app with standards of quality, relevance, or research-based knowledge.
- **1-star**: A good app with elements of quality, relevance, or research-based knowledge.
What the Stars Mean:

⭐⭐⭐⭐⭐

An ultimate app with the highest standard of industry recognized quality, relevance, and research-based knowledge.

⭐⭐⭐⭐⭐

A great app showing high standards of quality, relevance, and research-based knowledge.

⭐⭐⭐⭐

A good app with standards of quality, relevance, or research-based knowledge.

⭐⭐⭐

A good app with elements of quality, relevance, or research-based knowledge.
Evidence Based Practice

0
No connection with evidence based research.

1
Other apps by this developer are created with the knowledge of evidence based research (as evidenced by the software developer website), however, no specific references are made to the app under review for certification – either in the app description or on the software developer website.

2
This app appears to be created with the knowledge of evidence based research but EBP is not referenced in the description of the app under review for certification or in the specific app information on the software developer website.

3
Created with the knowledge of evidence based research (as mentioned in the app description and/or software developer website) OR recommends/ mentions the integration of specific evidence based strategies/techniques which have proven effectiveness based on research studies and/or demonstrated clinical expertise – in the app description, directions, or app information.

4
Created with the knowledge of evidence based research (as mentioned in the app description or software developer website), AND recommends/ mentions the integration of specific evidence based strategies/techniques which have proven effectiveness based on research studies and/or demonstrated clinical expertise – in the app description, directions, or app information.

5
Created with the knowledge of evidence based research (as mentioned in the app description or software developer website), recommends/mentions evidence based practice, AND specifically integrates techniques and/or targets academic or therapeutic skills which have proven effectiveness based on research studies and/or demonstrated clinical expertise – into the functionality of the app.
Relevant

N/A: Not meant to target any specific goals or learning (e.g. dropbox/professional tools).

0
Does not specify learning or other specific targets in the app description.

1
Does not specify learning or other specific targets in the app, but appears to have learning targets in place.

2
App specifies a target(s) in the app description, however, does not demonstrate a direct connection with its designed purpose.

3
App specifies a target(s) in the app description and demonstrates a weak connection with its designed purpose.

4
App specifies a target(s) in the app description and demonstrates some direct connection with its designed purpose.

5
App specifies a target(s) in the app description and demonstrates a strong direct connection with its designed purpose.
Engaging

N/A: This criteria is not relevant for this app. (i.e. Professional tools)

0
Not engaging and does not encourage use.

1
Parts of app are engaging for short periods of time but does not encourage use.

2
Encourages engagement for a short period of time but not sustained engagement or use.

3
Parts of app are engaging and encourages use for short periods of time.

4
Somewhat effective in encouraging engagement and use.

5
Highly effective in encouraging engagement and use.
Professional Guidance in app Development

N/A: Not meant/required to be developed this way (e.g. dropbox, calculator)

0
App does not refer to “education”, “rehabilitation”, or “therapy” in the app description, and there is no evidence of creation with industry professional guidance as reported in the app description or software developer website.

1
App refers to “education”, “rehabilitation”, or “therapy” in the app description, however, no evidence of creation with industry professional guidance in app use/lay out or as reported in the app description or software developer website.

2
App refers to “education”, “rehabilitation”, or “therapy” in the app description, and layout OR app use suggests it was created with industry professional guidance but this is not evident in the app description or software developer website.

3
App refers to “education”, “rehabilitation”, or “therapy” in the app description, and probably was created with industry professional guidance based on the app description or software developer website.

4
App does not refer to “education”, “rehabilitation”, or “therapy” in the app description, but was created with industry professional guidance as reported in the app description or software developer website.

5
App refers to “education”, “rehabilitation”, or “therapy” in the app description, and was created with industry professional guidance/authorship as reported in the app description or software developer website.
Expert Approved

0

Has not been reviewed by at least one (1) YappGuru Expert at www.yappguru.com

1

Reflects a 1-star review by at least one (1) YappGuru Expert at www.yappguru.com

2

Reflects a minimum of a 2 star review by at least one (1) YappGuru Expert at www.yappguru.com

3

Reflects a minimum of a 2 star review by at least two (2) YappGuru Experts at www.yappguru.com

4

Reflects a minimum of a 3 star review by at least one (1) YappGuru Expert at www.yappguru.com

5

Reflects a minimum of a 4-star review or higher by at least one (1) YappGuru Experts at www.yappguru.com
2 Apps

3 Rubrics

APP

FIVES

PICO

YG Excellence Award
FIVES
Articulate it! Pro

- **Fair Price**
  - $42.99 for unlimited use, includes all consonants, processes, and distinctive features. Buying sets individually would cost over $100.00.

- **Interactive**
  - The user can customize the words, includes recording feature, keeps data.

- **Visual**
  - Uses pictures and themes

- **Educational Relevant**
  - Speech therapy, includes a language component with reading also.

- **Specific**
  - Specifically for articulation therapy, keeps data, individual or group.
<table>
<thead>
<tr>
<th>Population</th>
<th>School-aged children.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intervention</td>
<td>Vertical treatment strategy with articulation application four 15-minute sessions per week.</td>
</tr>
<tr>
<td>Comparison</td>
<td>Vertical treatment strategy with articulation drill flashcards for two 30-minute sessions per week.</td>
</tr>
<tr>
<td>Outcome</td>
<td>Help students become more intelligible.</td>
</tr>
</tbody>
</table>
### Step 2: Find evidence
- ASHA Practice Portal & Evidence Maps for Speech-Sound Disorders.

### Step 3: Assess evidence
- Research articles and a Systematic Review.

### Step 4: Search app store
- “articulation” apps search = 65+ results. This app had one of the highest ratings.

### Step 5: Clinical decision
- Developed by SLP, vertical treatment approach, distinctive feature therapy, cyclical approach, visual feedback, data collection, REMLE project.
### Evidence Based Practice
- Appears to be based on traditional articulation therapy as recognized by professionals.

### Professional Guidance
- “designed by a certified speech-language pathologist.” Barbara Fernandes, MS CCC-SLP.

### Relevant
- Designed for speech-therapy. States this on the website.

### Engaging
- Has fun themes, limited games, and fun pictures.

### Expert Approved
- 7 reviews have been completed by YappGuru App Review Experts.
**FIVES**  
Language Therapy: Aphasia & Stroke

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fair Price</td>
<td>$59.99. Four different apps in one. Definitely a fair price.</td>
</tr>
<tr>
<td>Interactive</td>
<td>Individuals select choices. App can be customized.</td>
</tr>
<tr>
<td>Visual</td>
<td>Uses real images.</td>
</tr>
<tr>
<td>Educational Relevant</td>
<td>Rehabilitation relevant. States it is for speech-language therapy.</td>
</tr>
<tr>
<td>Specific</td>
<td>Specifically for treatment of Aphasia.</td>
</tr>
</tbody>
</table>
Adults with chronic aphasia.

Using language-impairment based treatment to improve language expression, spoken language comprehension, written expression, & reading comprehension.

Using an application for therapy versus no treatment.

See improvement in language-impairment over a year’s time.
Step 2: Find evidence
- ASHA Practice Portal & Evidence Maps for Speech-Sound Disorders.

Step 3: Assess evidence
- Effect of Computer Therapy in Aphasia: A Systematic Review.

Step 4: Search app store
- “aphasia” apps search = 77+ results. This app had one of the highest ratings and includes 4 apps.

Step 5: Clinical decision
- Developed by SLP, research on website, word-retrieval cueing, semantic approaches for anomia, cues for reading, verb network, etc.
Evidence Based Practice

- Created by Megan S. Sutton, MS, RSLP, CCC-SLP (C)

Professional Guidance

- Designed for speech-therapy, combining two receptive and two expressive aphasia apps in one.

Relevant

- Completely customizable with words, pictures, prompts, & sounds.

Engaging

- 1 review has been completed by YappGuru App Review Experts.
Conclusion

The quest is complete!
QUESTIONS?
THANK YOU