

# Using Digital Technology with ASD Learners

# NAC2015

A curated list of resources created by Janet Twyman, Ph.D., BCBA, NYSLBA  
Center on Innovations in Learning & the Univ. of Mass. Medical School

## App Review Sites

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### Autism Speaks

<https://www.autismspeaks.org/autism-apps>

Curated by Autism Speaks, this free search site geared for autism apps filters across purpose, device, age, and keyword. Apps descriptions also include a research rating and user reviews.

### AppCrawler

<http://appcrawler.com>

Free, searchable "app discovery engine" that search across devices and refines searches by price, category, topic, audience, features, and more. It includes user comments and provides results in a comparison chart.

### BaleFire Labs

<http://www.balefirelabs.com/apps/>

Free searchable website created to help teachers & parents find educational apps with great instructional and usability design. It uses scientifically validated evaluation criteria for reviewing educational apps, and provides both an overall app score as well as which research-based criteria the app does or does not use.

### Edsurge

<https://www.edsurge.com/products/curriculum-products/language-learning?category=ell>

Free, searchable EdSurge Edtech Index includes a community-driven database of edtech products that includes curriculum products and also programs, apps, and tools to support teachers and administrators.

## Lists of Reviewed or Suggested Apps

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### Free Autism Apps

Autism Plugged In

<http://www.autismpluggedin.com/category/free-apps>

### 27 visual, sensory, and augmentative apps for autism

eSchool News

<http://www.eschoolnews.com/2013/06/14/27-visual-sensory-and-augmentative-apps-for-autism/>

### 10 Best Apps for Kids With Autism

Parents

<http://www.parents.com/kids/development/intellectual/best-apps-for-kids-with-autism/>

## Recommended Publications

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Boser, K.I., Goodwin, M.S., & Wayland, S.C. (2014). Technology Tools for Students with Autism: Innovations that Enhance Independence and Learning (excerpt) Brookes Publishing.

<http://archive.brookespublishing.com/documents/boser-technology-tools.pdf>

iNACOL (2011). Online and Blended Learning: A Survey of Policy and Practice of K-12 Schools.

[http://www.inacol.org/wp-content/uploads/2012/11/iNACOL\\_IntnlReport2011.pdf](http://www.inacol.org/wp-content/uploads/2012/11/iNACOL_IntnlReport2011.pdf)

Mahon, K. (2014). Mobile Devices in the Classroom. Center on Innovations in Learning.

<http://www.centeril.org/publications/MobileAppsInTheClassroom.pdf>

Tanner, K., Dixon, R. M. & Verenikina, I. (2010). Digital Technology in the Learning of Students with Autism Spectrum Disorders (ASD) in Applied Classroom Settings.

<http://ro.uow.edu.au/cgi/viewcontent.cgi?article=1271&context=edupapers>

U.S. Department of Education. (2010). *Evaluation of Evidence-Based Practices in Online Learning: A Meta-Analysis and Review of Online Learning Studies*. Washington, DC: Office of Planning, Evaluation, and Policy Development. <https://www2.ed.gov/rschstat/eval/tech/evidence-based-practices/finalreport.pdf>

Wikibooks (nd). Issues in Digital Technology in Education/Autism and Technology.

[http://en.wikibooks.org/wiki/Issues\\_in\\_Digital\\_Technology\\_in\\_Education/Autism\\_and\\_Technology](http://en.wikibooks.org/wiki/Issues_in_Digital_Technology_in_Education/Autism_and_Technology)

# Balefire Labs App Evaluation Worksheet

## Student Feedback -

Immediate feedback is given following correct answers and errors (or series of answers as in “spelling words,” for example). Feedback for correct answers must be noticeably different from feedback given for errors. “Nothing” happening following an error is not sufficient to count as feedback. The feedback may be audio, visual, or a combination of the two.

## Adapting Difficulty -

The difficulty of the material increases and/or decreases automatically, depending on the learner’s performance. This happens on-the-fly, without the learner or an adult needing to change settings on the app.

## Mastery-Based -

The learner is required to achieve mastery of the current skill set before being allowed to progress to the next level. The switch to the next level is explicit with, for example, a visual unlocking onscreen of a new module or other similar cue.

## High Rates of Relevant Student Responding -

The app provides plenty of opportunities for the learner to practice the skills related to the learning objective. To meet this criterion, there must be a minimum of one meaningful learner interaction required on every page presented by the app.

## Performance Reports with Actionable Data -

Reports are included that have learner performance data with enough detail for a parent or teacher to target problem areas off of the computer. For example, if the app targets single digit addition problems, the report should include details of accuracy with each numeral, not a simple percent correct for the whole skill category.

- ☐ Student Feedback?
- ☐ Adapting Difficulty?
- ☐ Mastery-Based?
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Name: \_\_\_\_\_ Date: \_\_\_\_\_

## CRITICAL EVALUATION OF AN CONTENT-BASED IPAD/IPOD APP



©2011-12. Kathleen Schrock ([kathy@kathyschrock.net](mailto:kathy@kathyschrock.net))

iPads in the Classroom site: <http://linkyy.com/ipad>

What is the title of the app? \_\_\_\_\_ Cost: \_\_\_\_\_

Creator of the app \_\_\_\_\_ iTunes URL: \_\_\_\_\_

Content area(s): \_\_\_\_\_ Grade level(s): \_\_\_\_\_

Content and components of the app	YES	NO
<b>Curriculum connection:</b> Are the skills reinforced connected to targeted skill/concept?		
<b>Authenticity:</b> Are skills practiced in an authentic format/problem-based environment?		
<b>Feedback:</b> Is feedback specific and result in improved student performance?		
<b>Differentiation:</b> Does the app offers flexibility to alter settings to meet student needs?		
<b>User friendliness:</b> Can students launch and navigate within the app independently?		
<b>Student motivation:</b> Are students motivated to use the app and select it to use often?		
<b>Reporting:</b> Is assessment/summary data available electronically to the student/teacher?		
<b>Sound:</b> Does the music/sound in the app add to the educational aspects of the content?		
<b>Instructions:</b> Are the instructions included within the app helpful to the student?		
<b>Support page:</b> Does the app's supporting Web page provide additional useful information?		

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

☐ Remembering ☐ Understanding ☐ Applying ☐ Analyzing ☐ Evaluating ☐ Creating

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+

## Educational App Evaluation Checklist

App Name:
Purpose for App:



<input type="checkbox"/>	Use of app is relevant to the purpose and student needs
<input type="checkbox"/>	Help or tutorial is available in the app
<input type="checkbox"/>	Content is appropriate for the student
<input type="checkbox"/>	Information is error-free, factual, and reliable
<input type="checkbox"/>	Content can be exported, copied, or printed
<input type="checkbox"/>	App's settings and/or content can be customized
<input type="checkbox"/>	Customized content can be transferred to other devices
<input type="checkbox"/>	History is kept of student use of the app
<input type="checkbox"/>	Design of app is functional and visually stimulating
<input type="checkbox"/>	Student can exit app at any time without losing progress
<input type="checkbox"/>	Works with accessibility options like VoiceOver and Speak Selection
<input type="checkbox"/>	App is free of charge
<input type="checkbox"/>	No in-app purchases are necessary for intended use of app
<input type="checkbox"/>	App loads quickly and does not crash
<input type="checkbox"/>	App contains no advertising
<input type="checkbox"/>	App has been updated in the last 6 months
<input type="checkbox"/>	App promotes creativity and imagination
<input type="checkbox"/>	App provides opportunities to use higher order thinking skills
<input type="checkbox"/>	App promotes collaboration and idea sharing
<input type="checkbox"/>	App provides useful feedback
<b>Total ✓s</b>	<i>The more checks, the better the app is for education</i>

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App Name: \_\_\_\_\_

## Educational App Evaluation Rubric

Purpose for App: \_\_\_\_\_

	4	3	2	1
<b>Relevance</b>	The app's focus has a strong connection to the purpose for the app and appropriate for the student	The app's focus is related to the purpose for the app and mostly appropriate for the student	Limited connection to the purpose for the app and may not be appropriate for the student	Does not connect to the purpose for the app and not appropriate for the student
<b>Customization</b>	App offers complete flexibility to alter content and settings to meet student needs	App offers some flexibility to alter content and settings to meet student needs	App offers limited flexibility to adjust content and settings to meet student needs	App offers no flexibility to meet student needs
<b>Feedback</b>	Student is provided specific feedback	Student is provided feedback	Student is provided limited feedback	Student is not provided feedback
<b>Thinking Skills</b>	App encourages the use of higher order thinking skills including creating, evaluating, and analyzing	App facilitates the use of higher order thinking skills including evaluating, analyzing, and applying	App facilitates the use of mostly lower order thinking skills like understanding and remembering	App is limited to the use of lower order thinking skills like understanding and remembering
<b>Usability</b>	Student can launch and operate the app independently	Student needs to have a teacher show or model how to operate the app	Student needs to be cued each time the app is used	App is difficult to operate or crashes often
<b>Engagement</b>	Student is highly motivated to use the app	Student uses the app as directed by the teacher	Student perceives app as "more schoolwork" and may be off-task when directed to use the app	Student avoids the use of the app and might complain when its use is required
<b>Sharing</b>	Specific performance summary or student product is saved in app and can be exported to the teacher or for an audience	Performance data or student product is available in app but exporting is limited and may require a screenshot	Limited performance data or student product is not accessible	No performance summary or student product is saved

**ievaluate app Rubric**

**Goal: What goal from students IEP/504 does this app need to support?**

<b>Name of App:</b>			<b>developer</b>	
<b>Content / Topic</b>			<b>developer Website:</b>	
<b>Date reviewed</b>		<b>Version:</b>	<b>Last up date:</b>	
<b>Review by:</b>			<b>Date:</b>	<b>Cost:</b>
<b>Domain</b>	<b>1 Weak Quality</b>	<b>2 Quality</b> Fair	<b>3 Good Quality</b>	<b>4 High Quality</b>
Curriculum Connection	Does not meet expectation	Limited or narrow scope of the topic. Under developed.	Skills or concept are practiced and reinforced. Limited level of consideration.	Very strong connection to the skill or concept being practiced. Levels of consideration offered.
Type of Skills practices	No skill practice only "flashcard" drill	Skills are practiced in gaming format.	Simulated learning environment (virtual tasks). Scaffolds activities (Beginner - Advance)	Problem based learning with simulated environment. Program monitors and advances difficulty.
Age and Grade Level	Level is not appropriate for audience. Not suitable for age or grade level. Directions are incomplete or inadequate	Level is often too easy or difficult for target audience. Features unsuitable material. Directions are unclear.	Level is appropriate but some portions maybe to easy or difficult. Most directions are clear but some are confusing.	Level is appropriate for target audience (age and grade). Directions are clear and complete.
Languages	More than one language	2-3 languages	4-5 languages	6 or more languages
Adjustable levels	Only 1 level	2 -3 levels	4-5 levels	More than 5 levels
Prompts	No feedback offered moves forward with correct or incorrect responses	Prompt is limited to indicating wrong answer. Student needs to get it right to move forward	Prompt is specific - pre-set number of tries (can't edit) before student moves forward	Prompt is specific - can set number of tries - there is a tutorial to help student
Ease of Use	Very difficult to use. Limited or no instructions. Student needs support on every use	Student needs to be cued through the process.	Student needs support (model) from adult or another peer	Intuitive student can figure out independently
Engagement	Does not meet expectation	Held the individual attention for more than 2-3 minutes	Held the individual attention for more than 5 minutes	Held the individual attention for more than 10 minutes
<b>Sub total</b>				
<b>Domain</b>	<b>1 Weak Quality</b>	<b>2 Quality</b> Fair	<b>3 Good Quality</b>	<b>4 High Quality</b>
Customization	None	Can turn prompts off and music	Add your own items and prompts	All features are customizable including fonts.
Alternative Access	Has no access to alternative sources	Specific interface access and works consistently	App works with at least 2 access tools works consistently	App works with 3 or more access tools. Is consistent.
Data Collected	No data offered.	Data is collected in percentage only. Data cannot be printed or stored.	Data is collected. Number of correct against total attempts. Can be printed.	Data is collected. Number of correct and incorrect responses against total attempts. Can be stored and printed.
National Curriculum	No			Yes
Gender Neutral	No			Yes
When was the app updated	a year or more	within the last 9 months	within the last 6 months	within the last 3 months
<b>Sub total from this page 1</b>		<b>Sub total from this page</b>		<b>TOTAL ____/14</b>
Count the total of points divide by 14				
<b>Rating:</b>	Suitable for specific use	Satisfactory	Highly recommend	Exceeds expectations

**Strengths of the APP:**

**Weakness of the APP:**

**Skills individual needs to have or learn before use:**

**Alternative apps to consider**