# Evidence-Based Approaches for Educational Use of Mobile Apps with Students with Autism

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the situation

# in the media

**Tablet-Sized Teachers**

IPads, Galaxys, and other devices are becoming staples of special-ed classrooms.

*By Gail Robinson*

**Using tablets to reach kids with autism**

By **Heather Kelly**, CNN
updated 11:25 AM EDT, Thu April 10, 2014 | Filed under: **Innovations**

**Tablet devices help kids with autism speak up**

Speech-generating iPads show promise in helping nonverbal children communicate

BY **BRUCE BOWER** 3:54PM, JULY 1, 2014

**FIRST STUDY SHOWS PROMISE FOR TABLETS TO BECOME KEY TEACHING TOOLS FOR AUTISM**

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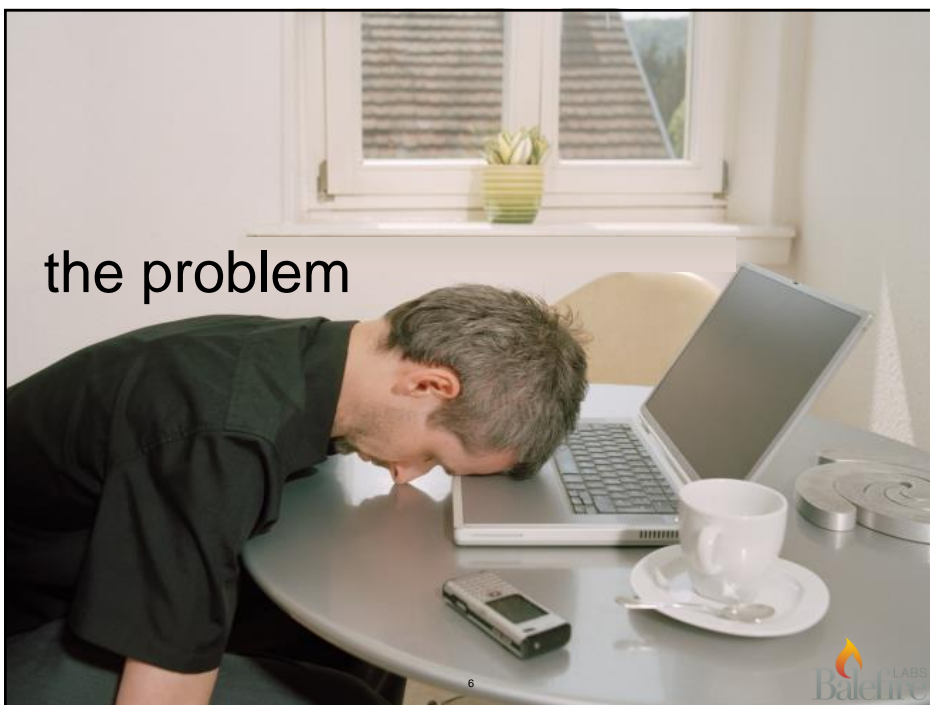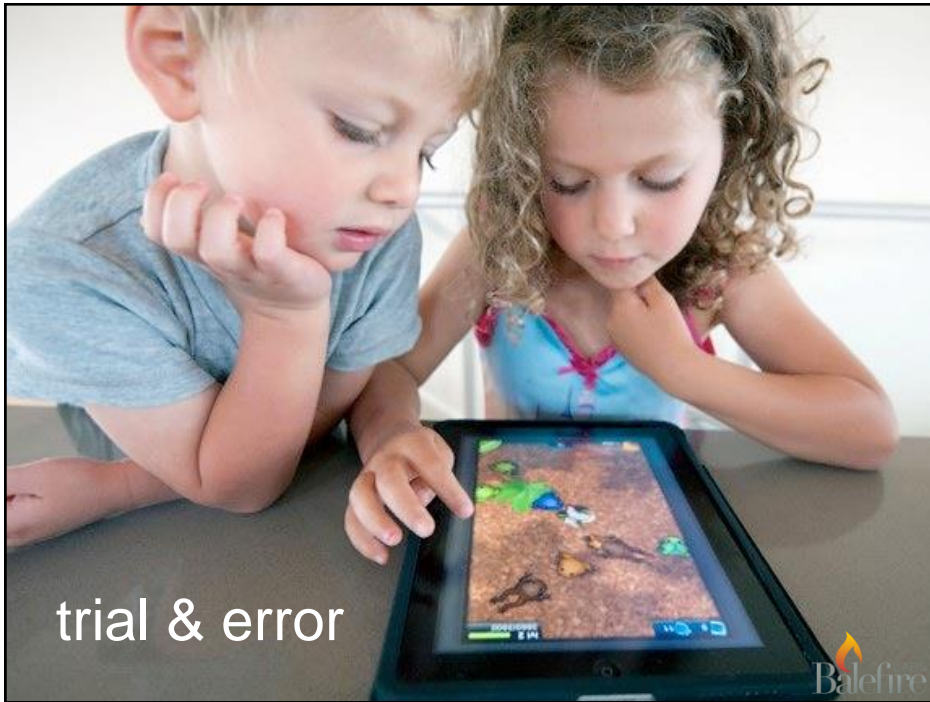# tablets in schools

**8 Million**
tablets currently being used in US schools

**81%**
K-12 teachers believe tablets enrich education

**>70%**
US school districts have substantial tablet deployments

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trial & error



the problem

# the goal

# the solution

## 4th Grade Math: Splash Math Worksheets App [HD Lite]

**Publisher:** StudyPad, Inc.
**Platform:** iOS
**Version:** 2.2.1
**Price:** Free
**Age:** 10 yrs

### Balefire Labs Review

**B-** This app requires the students answer multiple choice math questions and manipulate objects in a variety of ways to solve problems.

**Instructional Design**
- ✔ Feedback for Correct Responses
- ✔ Error Feedback
- ✔ Adapting Difficulty
- ✖ Error Remediation
- ✖ Mastery-Based Instruction
- ✔ Frequent, Meaningful, Learner Interaction
- ✔ Clearly-Stated Learning Objectives

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**Usability Design**
- ✔ Relevant Screen & Sound Use
- ✖ Learner Support Available
- ✔ Easy-to-Use Interface
- ✔ Age-Appropriate Reading Level
- ✔ Performance Reports with Actionable Data

**Additional Data**
In-App Purchases Available

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# Learning Objectives

By the end of this workshop, each participant will be able to:

- Identify the top five most important quality criteria of educational apps
- Apply those criteria in evaluating an educational app
- Create an integration plan for an educational app
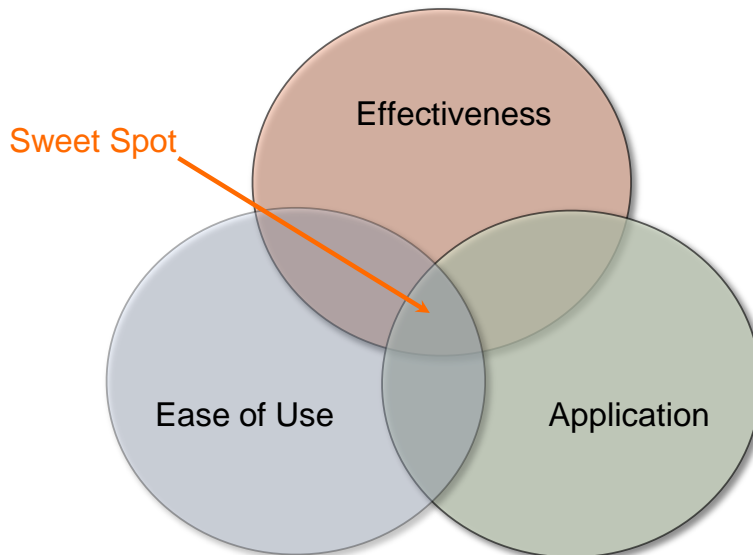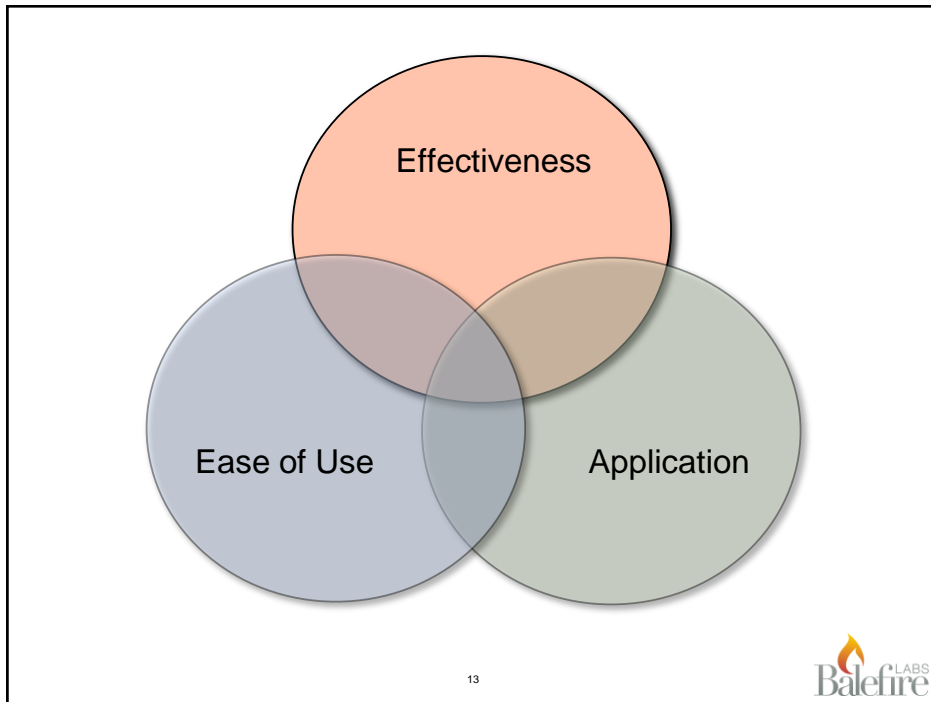- Create a job aid for students working in pairs with an app

# Agenda

1:00 - 2:15: Karen presents

2:15 - 3:15: Hands-on working in pairs (Karen roams)

3:15 - 3:45: Participant presentations

3:45 - 4:00: Wrap up

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Effectiveness

Sweet Spot

Ease of Use

Application

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## Slide 13

Effectiveness

Ease of Use

Application

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## Slide 14

# the solution

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### Effectiveness

- Feedback for Correct Answers

- Feedback for Errors

- Adapting Difficulty

- Error Remediation

- Mastery-Based

- High Rate of Relevant Responding

- Clearly Defined Learning Objectives

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## the solution

### Effectiveness

- Feedback for Correct Answers

- Feedback for Errors

- Adapting Difficulty

- Error Remediation

- Mastery-Based

- High Rate of Relevant Responding

- Clearly Defined Learning Objectives

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## Rhyming Words



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Math Drills Lite



Submarine Math

## the solution

### Effectiveness

- Feedback for Correct Answers

- Feedback for Errors

- Adapting Difficulty

- Error Remediation

- Mastery-Based

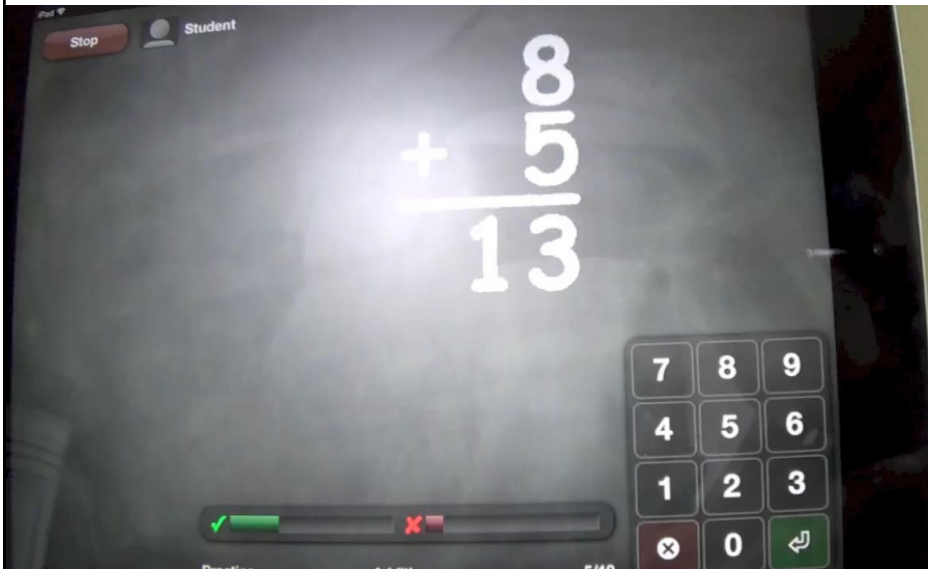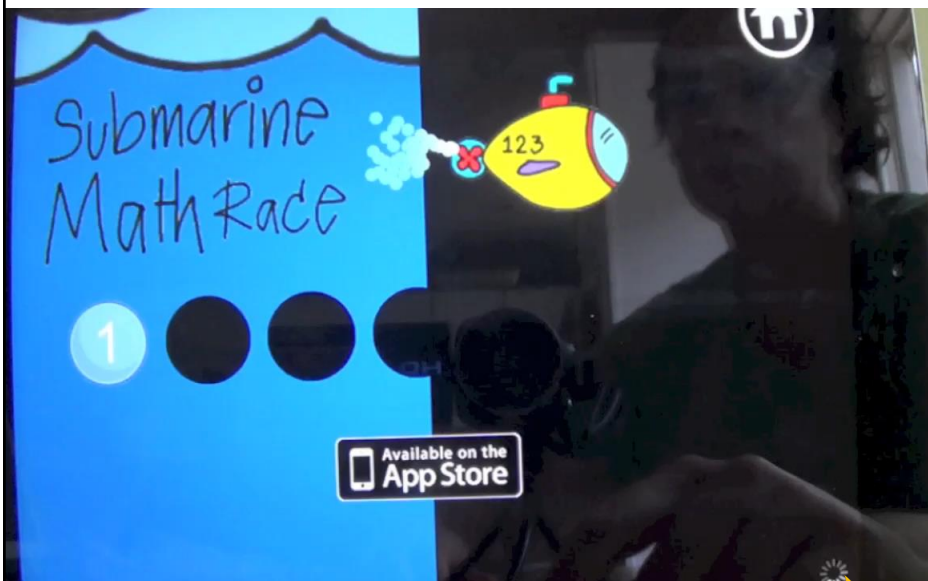- High Rate of Relevant Responding

- Clearly Defined Learning Objectives

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## Letter School



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## Bunny Bus Lite



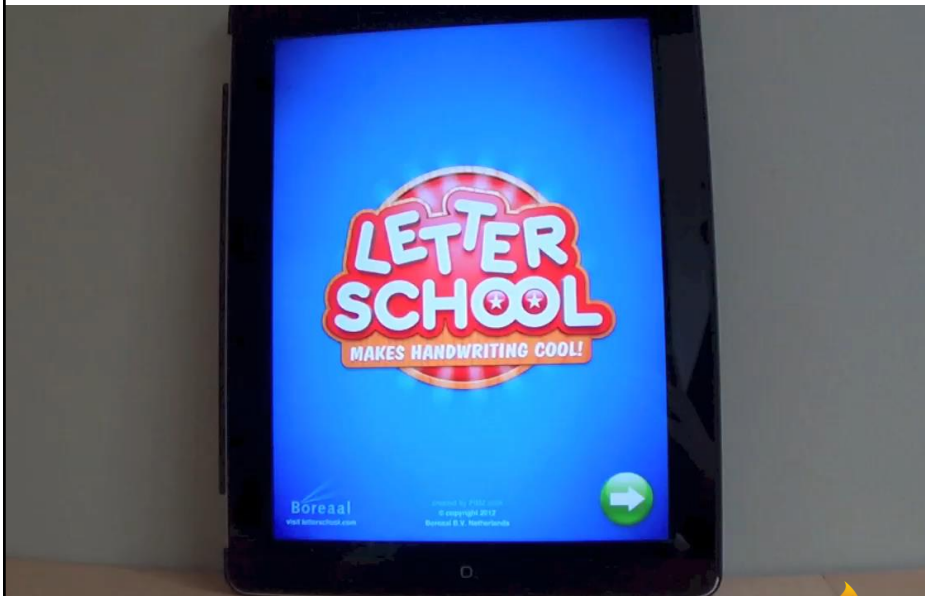21

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# the solution

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### Effectiveness

- Feedback for Correct Answers

- Feedback for Errors

- Adapting Difficulty

- Error Remediation

- Mastery-Based

- High Rate of Relevant Responding

- Clearly Defined Learning Objectives

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## Grammar Pop



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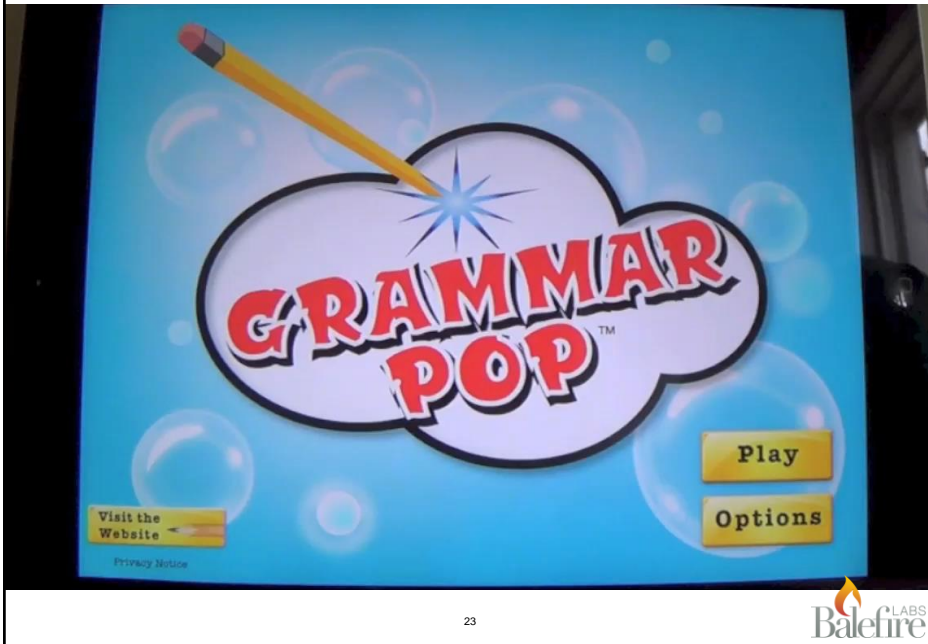
## The Opposites



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## the solution

### Effectiveness

- Feedback for Correct Answers

- Feedback for Errors

- Adapting Difficulty

- Error Remediation

- Mastery-Based

- High Rate of Relevant Responding
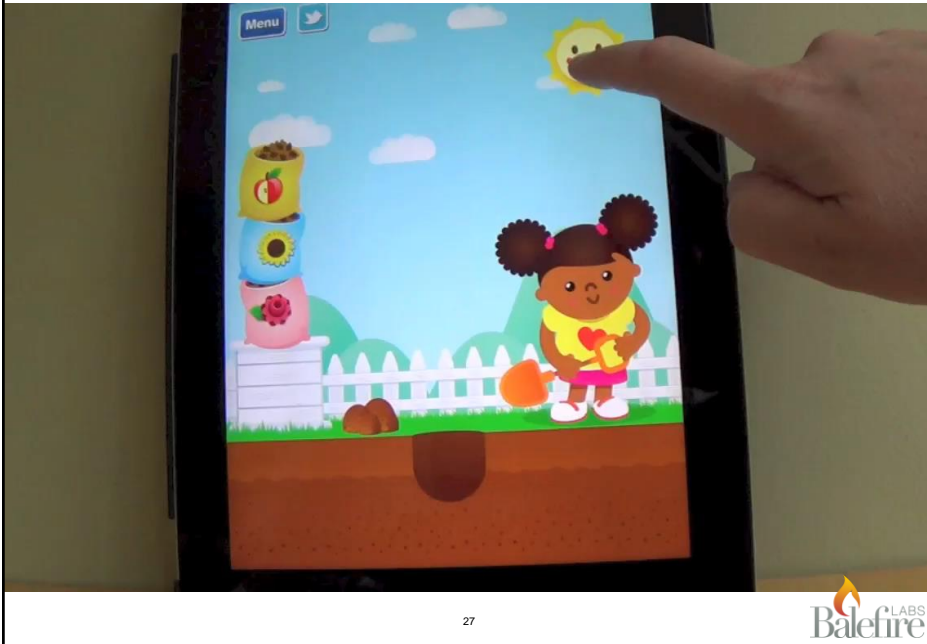
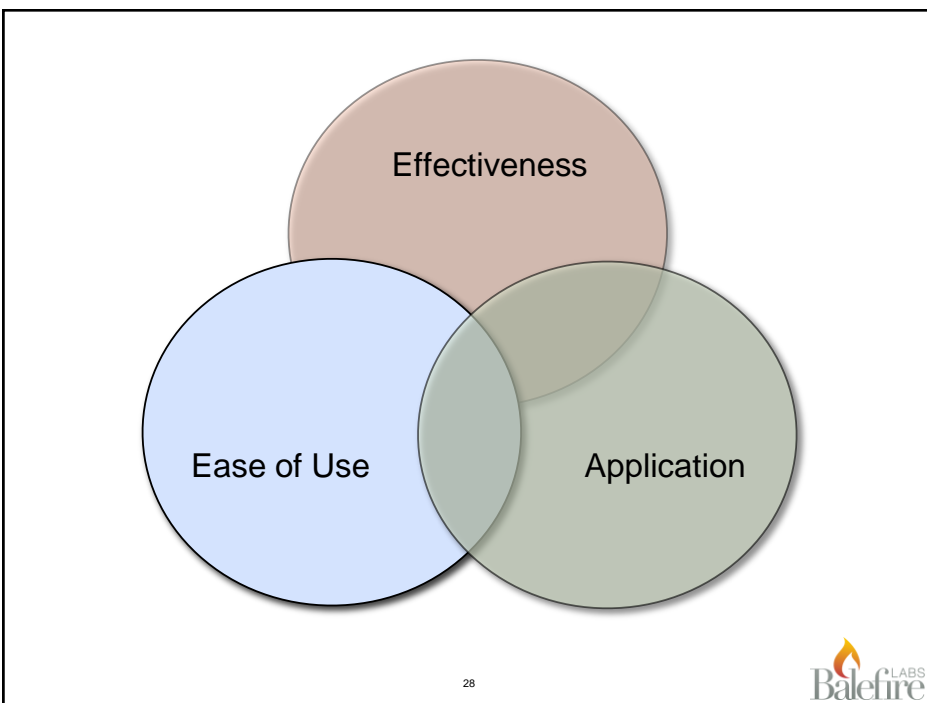- Clearly Defined Learning Objectives

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## Whack-a-Bone



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Kids Farmer Lite (S-)



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Effectiveness

Ease of Use

Application

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# the solution

## Ease of Use

- Relevant Screen & Sound Use

- Learner Help Available

- Easy to Use Interface

- Age Appropriate Reading Level

- Performance Reports with Actionable Data

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Cut the Rope

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Handwriting Without Tears



# Hands-On Evaluating

Effectiveness

Ease of Use

Application

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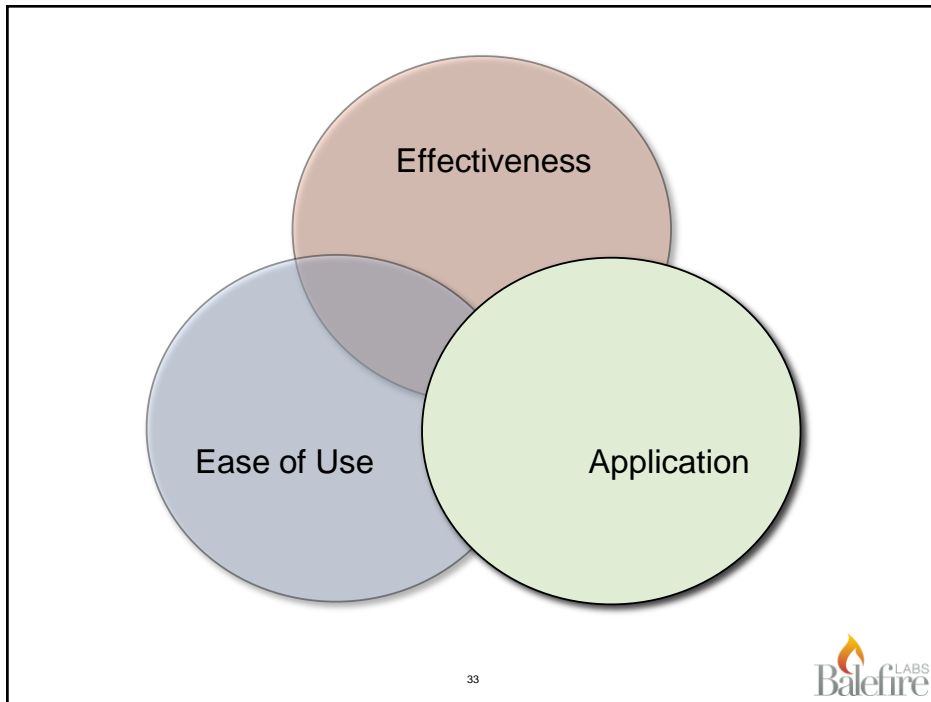


## Application

- Alignment to Common Core State Standards

- Accessibility

- Integration plan
  - use in different instructional arrangements
  - role of peers
  - extension of skills

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## Alignment to Common Core

**Reading: Foundational Skills**

**Kindergarten**
⊙ Show Standards

**Grade 1**
⊙ Show Standards

**Grade 2**

**Phonics and Word Recognition**

CCSS.ELA-Literacy.RF.2.3 – Know and apply grade-level phonics and word analysis skills in decoding words.
CCSS.ELA-Literacy.RF.2.3a – Distinguish long and short vowels when reading regularly spelled one-syllable words.
CCSS.ELA-Literacy.RF.2.3b – Know spelling-sound correspondences for additional common vowel teams.
CCSS.ELA-Literacy.RF.2.3c – Decode regularly spelled two-syllable words with long vowels.
CCSS.ELA-Literacy.RF.2.3d – Decode words with common prefixes and suffixes.
CCSS.ELA-Literacy.RF.2.3e – Identify words with inconsistent but common spelling-sound correspondences.
CCSS.ELA-Literacy.RF.2.3f – Recognize and read grade-appropriate irregularly spelled words.

**Fluency**

CCSS.ELA-Literacy.RF.2.4 – Read with sufficient accuracy and fluency to support comprehension.
CCSS.ELA-Literacy.RF.2.4a – Read grade-level text with purpose and understanding.
CCSS.ELA-Literacy.RF.2.4b – Read grade-level text orally with accuracy, appropriate rate, and expression on successive readings.
CCSS.ELA-Literacy.RF.2.4c – Use context to confirm or self-correct word recognition and understanding, rereading as necessary.

⊙ Hide Standards

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## Accessibility

- Visual Impairment
- Hearing Impairment
- Motor Difficulties

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## Integration Plan

### Classroom Arrangements

- 1:1
- Working in Pairs
- Small Groups

### Role of Peers

- Data Collectors?
- Coaches?

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## Skill Extension

- Component Skills
- Composite Skills
- Generalization
- Application

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# Hands-On Implementation

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# Presentations by Participants

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## What about YOU?

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**FREE**

# Free School Site License
# Fall Semester 2014
# Discount Code: **NAC14SiteFall**
(must enroll by 8/1/2014)

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# Q & A

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