Literacy Product Scan for Middle and High School with a Focus on Argumentation

For the Bill and Melinda Gates Foundation

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Introduction

- **Objective:** To conduct a literacy product scan targeting ages 9-18 to help inform the development of a game-based learning system of common core literacy/argumentation standards and skills.

- The scan focuses on **digital supplemental products** designed to teach students that can be used in classrooms and or at home: apps, websites, digital-based games, and curricula with digital components

- **Main sources**: iTunes and Google App markets, Common Sense Media (CSM), California Learning Resource Network (CLRN), Big publisher's websites (i.e. Pearson), Gates Foundation funded projects, EdSurge.com, Interviews with experts.

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Method

- There was a 3-step process.
  1. **Identify general market statistics and trends**
     1. How many apps/websites/games/curricula are there?
     2. What relevant trends are there for each market?
  2. **Conduct product scan with use of a popular and trusted filter**
     1. Filter for apps – iTunes and Android Top lists
     2. Filter for games and websites – Common Sense Media
  3. **Conduct a targeted search using key search terms for argument and related skills**

+ Method for product scan

■ Products were tagged in the following categories:

Topic	Categories
General Info	Price, Developer, Date of Release
Area of focus	Literacy, Math, Science, Social Studies, Geography, Arts& Music, Reference/Tool, Teacher Classroom Tool, Student Classroom Tool, Other Test Prep, Language, Flashcards, Other
If literacy focused, what area?	Comprehension, summarizing, vocabulary, storytelling, text analyses, writing, other genres (poetry, plays, movies, etc.), compare and contrast, forming arguments, speaking, grammar, discussion, spelling, presenting to others, using supporting evidence
If literacy focused, what specific skills?	Analyzing evidence, applying information, asking questions, defining problems, making conclusions, memorization, prediction, problem solving, strategy, thinking critically, part-whole relationships
If focus is on arguments, what type?	Facts, judgments, policy, meaning
What features are included?	Linked videos, linked dictionary, narration, word/picture labeling, graphs/maps, etc., animation, explains answers, recording, review/data, prizes, portfolio, sharing features, teacher support
Is there assessment?	Yes/no (if so, what); is it validated?
Incorporation of standards	CCSS, specific district/state curricula
Child's response	Multiple choice, fill in the blank, writing
Player modes	Multiplayer, single
Length of play	Completion in hours, days, weeks
Research	Literature/theory, usability, effectiveness

Summary of Findings

- What's out there?
  - Apps
    - With over 70,000 educational apps in the iTunes store alone, very few target literacy for ages 9 and older.
      - There were only 30 top literacy apps, which mainly focus on word-level skills.
    - The Android market focuses on an older audience (9 and older) than the iTunes market, but also targets more general topics rather than core classroom subjects.
  - Games and Websites
    - Although console-based gaming is a large business that targets children and young adults, it is slow to enter the education market
    - There are almost 6,000 educational websites, but a large portion of them is designed for teachers rather than students.
    - Only 12 relevant games and websites were identified; most linked to CCSS
  - Curricula and supplemental digital materials
    - There are now over 3,000 curricula/supplemental materials with digital component.
    - Few targeting middle and high school ELA are aligned with CCSS

Summary of Findings

- Relevant products targeting this age range are more likely to be computer-based than an app or console-based.

  - Currently, computer-based products may be more classroom ready than apps as they are more likely to be linked to CCSS, assessment, and research.

- Literacy **game** products targeting more complex and specific skills may not be reaching a wide audience.

  - Only key word searches yielded apps targeting more complex skills, but they did not appear in the "Top" lists.

    - Two top apps target story writing (*Storybuilder* and *Toontastic*), but neither assessed the writings.

  - Most of the relevant games and websites have not been reviewed by CSM (*Mission US* and *iCivics* are reviewed; *iCivics* has reached a wide audience).

   - The literacy games reviewed by CSM focused on word-level skills.

Summary of Findings: Argumentation

- Very few products *directly* target argumentation

    - Only 1 app directly targets argument (not a top app)

    - There are only a few argument-related games and websites, and they are mostly funded by the Gates Foundation

        - Only *iCivics.org* has games directly targeting argument

        - 5 other games/websites target skills related to argument where students have to understand different perspectives and make decisions.

        - *iCivics.org* and *TSN-2*, are the only products where students must ***create and actually write*** an argument or other form of persuasive writing.

        - 6 other websites target argumentation, but do not include game components and are meant to be supplemental curriculum materials

    - 6 curricula target argumentation and related skills, none linked to CCSS

Summary of Findings: Reading and Writing
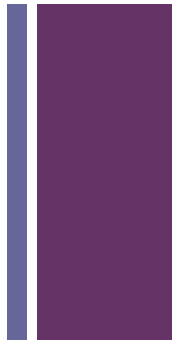
- Although the focus of this scan was argumentation, some related reading and writing products were also found.
  - Seven top apps target reading comprehension in a basic way.
  - 3 end-to-end app series target reading comprehension on a deeper level by breaking it down to specific skills.
  - Two top apps target writing, but did not assess the writings.
  - 3 websites target writing: *Digital Youth Network*, funded by the Gates Foundation and 2 websites reviewed by CSM (*Scholastic Kids Press Corp., Poetry for Kids*); no formal assessment.
- Instructional-oriented products like supplemental curricula and assessment products often target both reading close informational text and writing narrative/experiential or explanatory essays within the same product.
  - These products often provide students with feedback through:
    - Community – feedback from peers, teachers, experts (i.e. *Subtext, figment.com*)
    - Live feedback from software (i.e. *Drafting Table, W-Pal*)
    - Assessment (i.e. *Guided Literacy, CERCA*)

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APPS

App Stats and Trends

- Since July 2008, the number of apps in the iTunes market has risen to over 700,000 (http://148apps.biz/app-store-metrics/).

- The most popular categories are:
    1. Games (126,573)
    2. **Education (72,694)**
    3. Entertainment (65,547)
    4. Lifestyle (59,095)
    5. Books (52,838)

- Over 80% of top selling paid apps in the education category target children (JGCC 2011).

+ App Stats and Trends

- App usage is generally short and repeated.
  - The "passback" effect is when a parent or other adult passes their own mobile device to a child. These sessions are short, usually 5-20 minutes only (JGCC, 2011).
  - In a survey of 3,962 adults, 53% reported frequently using their apps while waiting for something or someone (Pew, 2010).
  - In a survey of 1,043 parents with children ages 0 to 14, only 1% reported abandoning apps after just one use (The NPD Group, 2010).

- Judging from this scan, apps are less likely to be plot-driven than computer-based games. They are often simple activities designed for repeated play that can fit a short session.

- Thus, usage is likely to be dictated by the player rather than by the game.

App Product Scan

+ App Sample

- Source: The "Top" free and paid lists from the iTunes and Android markets was chosen as the filter because the markets are designed for customers to browse for apps using these lists.
  - Top app factors are likely to include number of downloads, popularity, number of reviews, ratings by users.
  - The only measure of quality for Top apps would be using ratings, which often consider usability factors rather than quality of content.
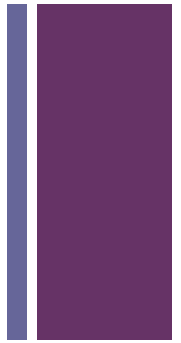
- Sample
  - iTunes Top 200 Paid Educational Apps
  - iTunes Top 200 Free Educational Apps
  - Android Top 200 Paid Educational Apps
  - Android Top 200 Free Educational Apps
  - Literacy apps through key search terms
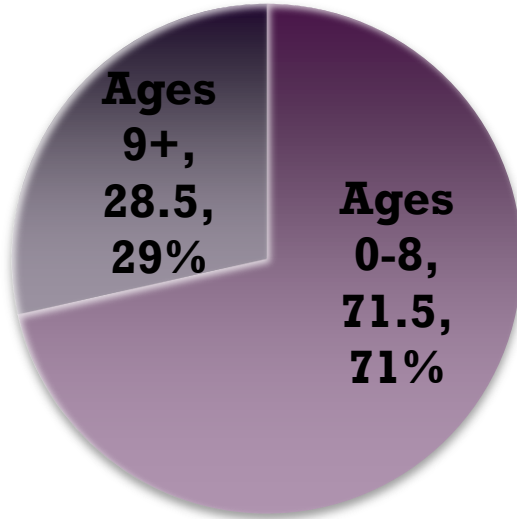   - Argument, comprehension, pros and cons, inference, deduction, reasoning

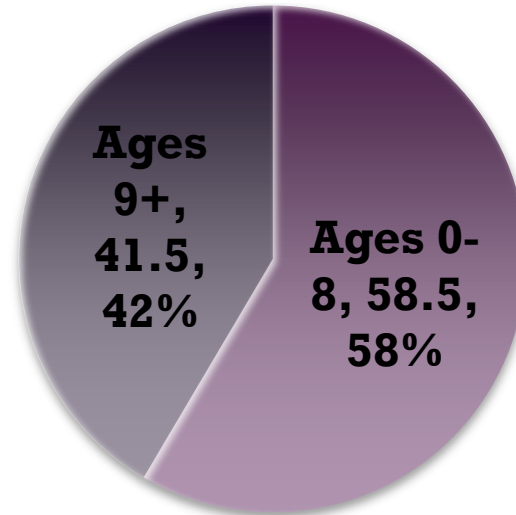# General overview of top app markets

Android market targets older market than iTunes

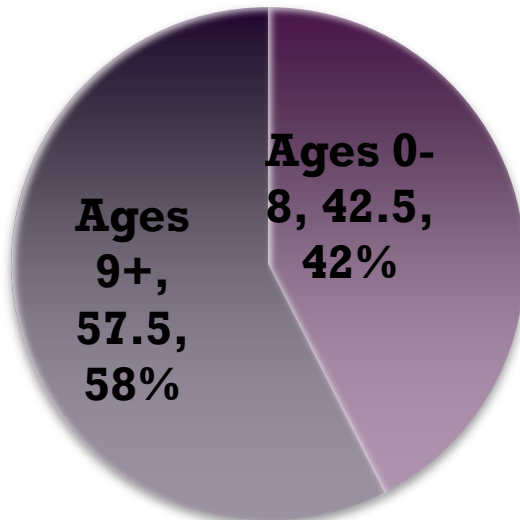**iTunes Paid n=200**

Ages 9+, 28.5, 29%

Ages 0-8, 71.5, 71%

iTunes Free n=200

Ages 9+, 41.5, 42%

Ages 0-8, 58.5, 58%

Android Paid n=200

Ages 9+, 57.5, 58%

Ages 0-8, 42.5, 42%

Android Free n=200

Ages 9+, 61.5, 62%

Ages 0-8, 38.5, 38%
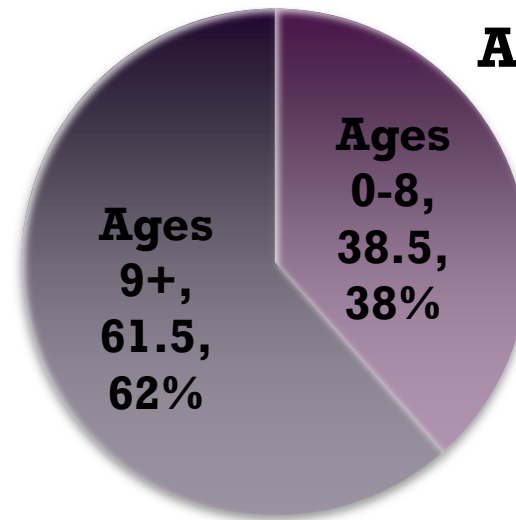
iTunes Paid 9+ market mainly targets core subject areas (n=200)

Bar chart showing percentages by subject area:
- Math: ~29.5%
- Literacy: ~17.5%
- Science: ~17%
- Teacher...: ~10%
- Reference/Tool: ~10.5%
- Art & Music: ~3%
- Student...: ~3%
- Flashcards: ~3%
- Other: ~1.5%
- Language: ~1.5%
- Social Studies: ~1.5%
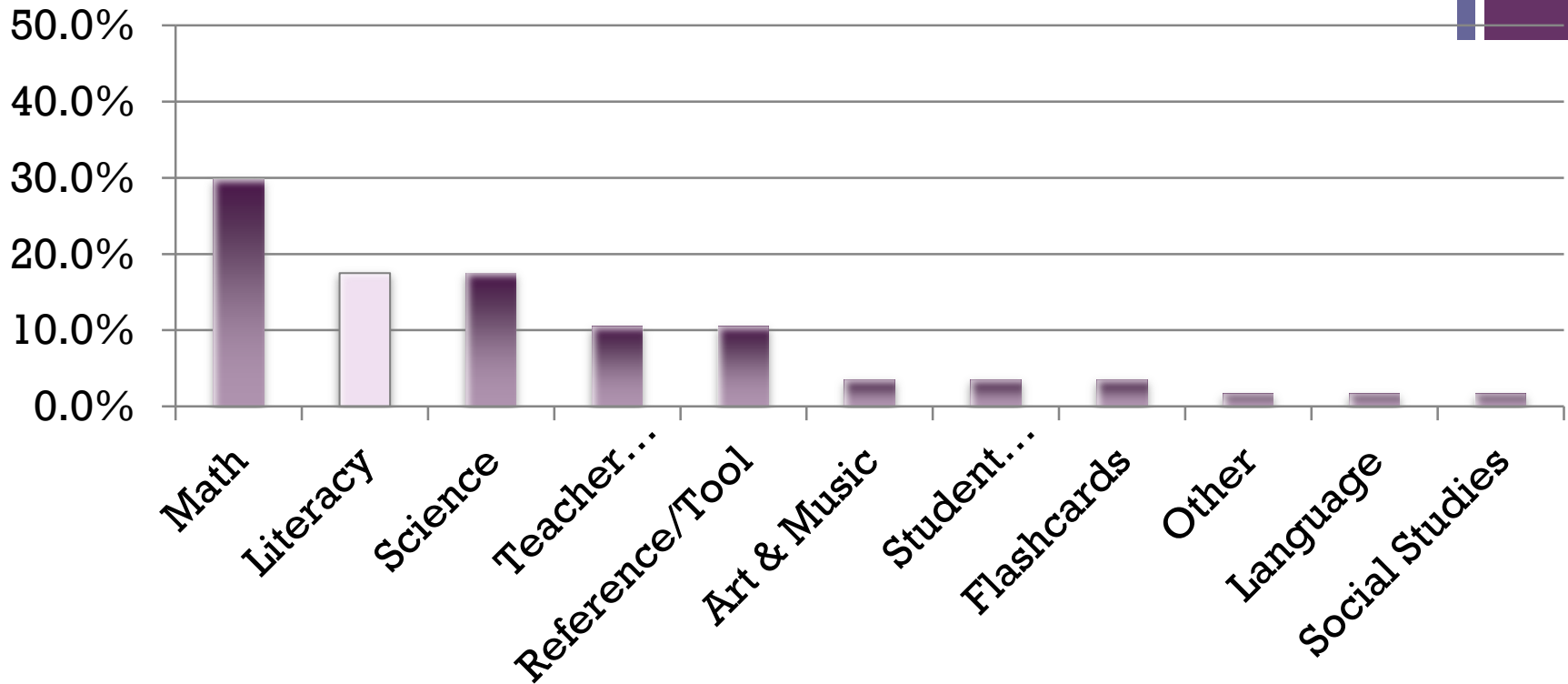
- Science: 50% subject specific, 50% Astronomy (i.e. Star Walk)
- Math: 23.5% subject specific, 23.5% tool (i.e. graphing calculator), 52.9% drill/operation (i.e. Math Bingo)

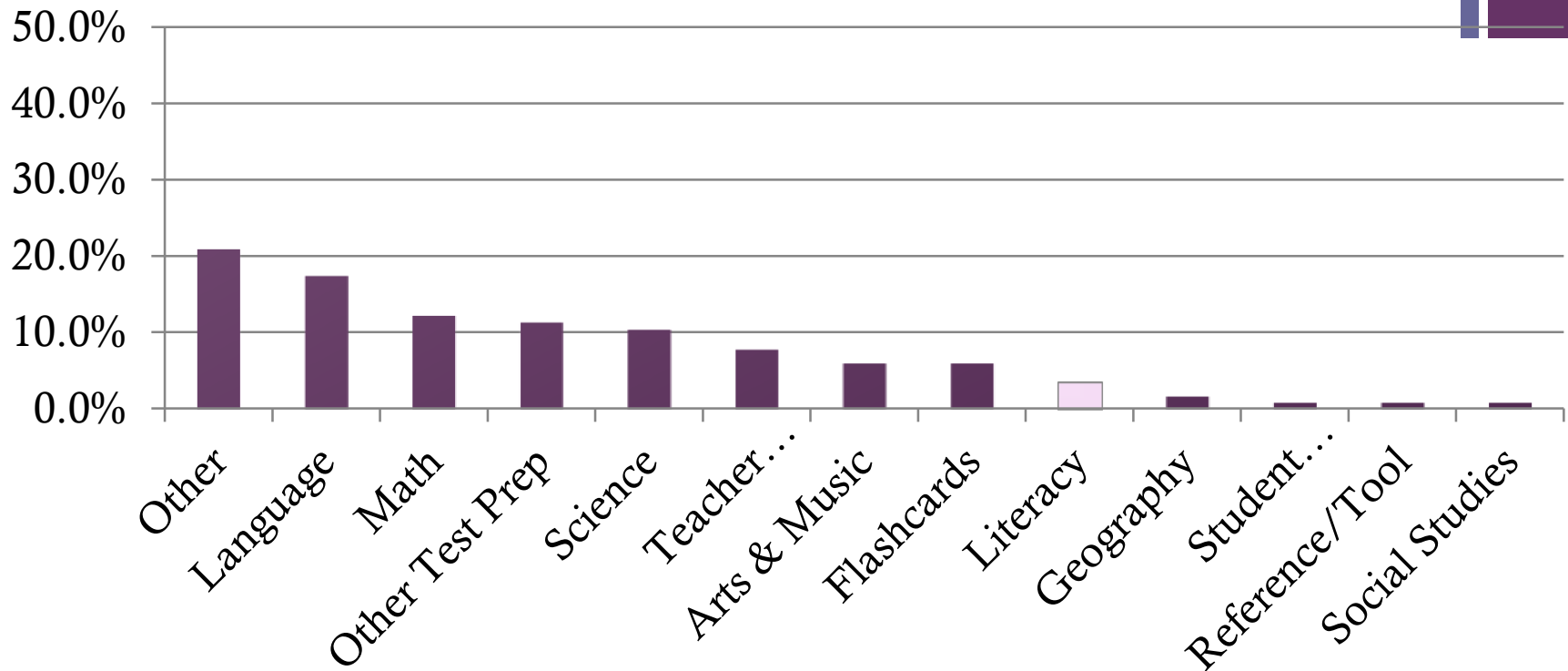# iTunes Free 9+ market mainly targets classroom and core subjects (n=200)
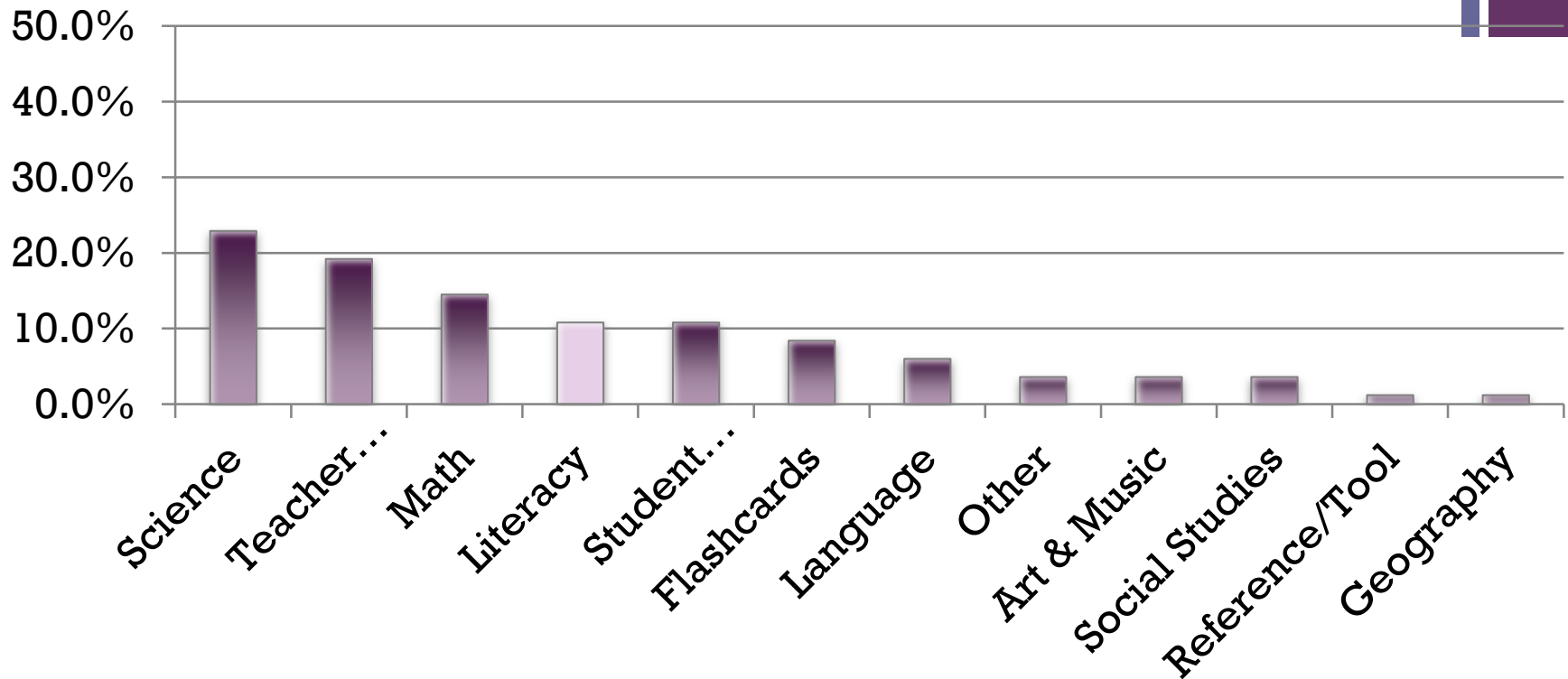
- Of the science apps: 89.5% subject specific, 10.5% Astronomy (i.e. Star Walk)
- Of the math apps: 25% subject specific, 16.7% tool (i.e. graphing calculator), 58.3% drill/operation (i.e. Math Bingo)

Android paid 9+ market mainly targets more general skills (n=200)

- "Other" includes religious topics, apps specific to an organization, etc.
- Of the science apps: 8.3% subject specific, 91.7% Astronomy (i.e. Star Walk)
- Of the math apps: 50% subject specific, 14.3% tool (i.e. graphing calculator), 35.7% drill/operation (i.e. Math Bingo)

Android free 9+ market mainly targets more general skills (n=200)

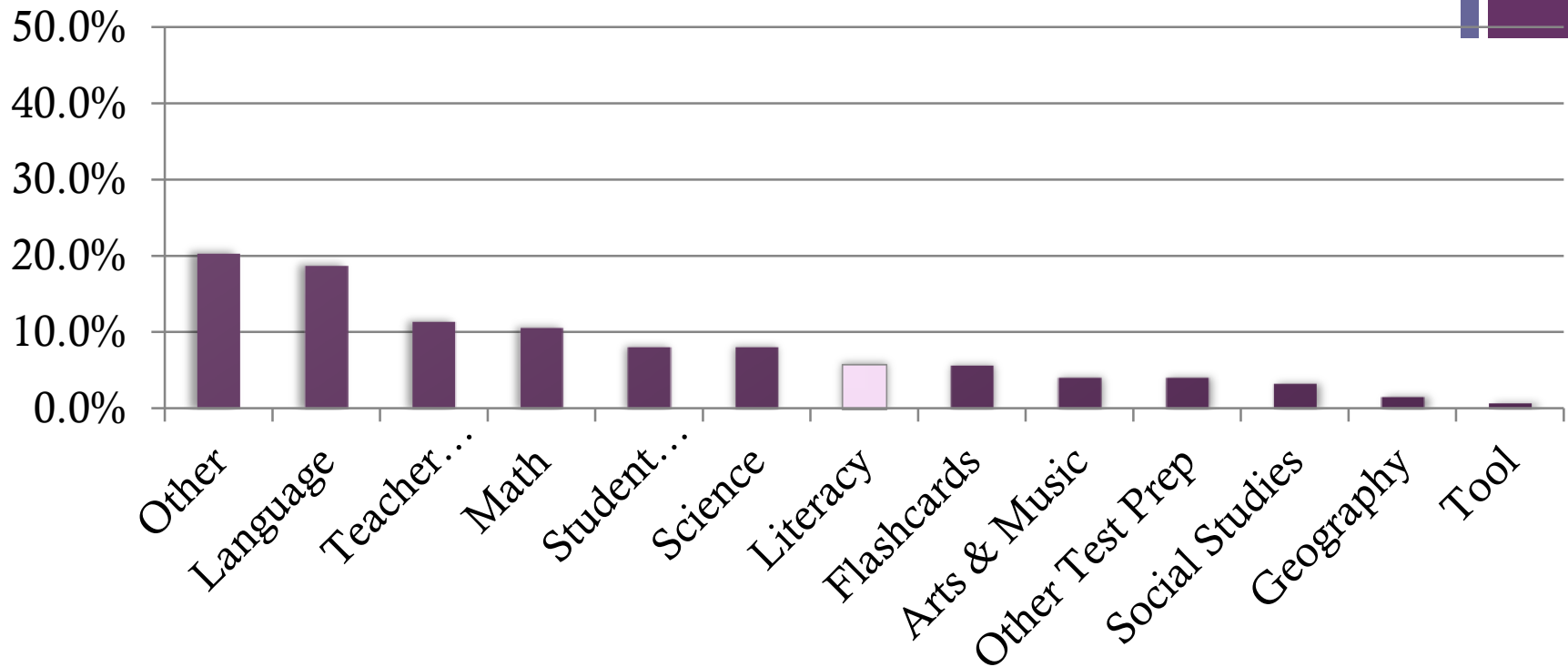- "Other" includes religious topics, apps specific to an organization, etc.
- Of the science apps: 50% subject specific, 50% Astronomy (i.e. Star Walk)
- Of the math apps: 38.5% subject specific, 38.5% tool (i.e. graphing calculator), 23.1% drill/operation (i.e. Math Bingo)

Literacy Apps

+ Top Literacy Apps

Number of Apps

Pie chart:
- iTunes Paid, 10
- Android Free, 7
- Android Paid, 4
- iTunes Free, 9
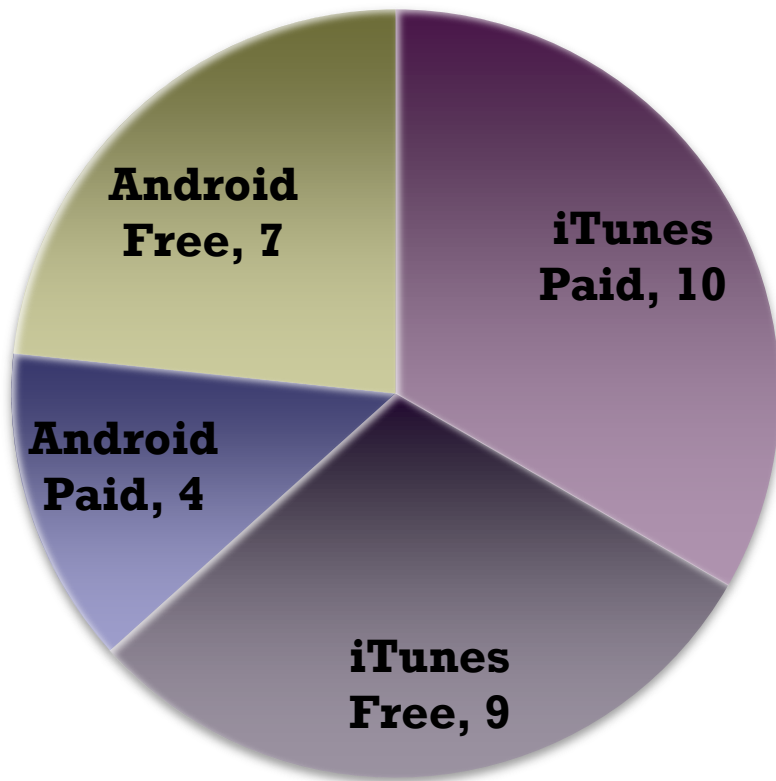
Of the Top 800 apps, only 30 targeted literacy for ages 9 and up.

The App Numbers

- Average paid market price: $3.79

- 30 (all) single player apps; 4 with multiple profiles option

- 1 developer with multiple apps: Mobile Education Tools

- 1 developer with both iTunes and Android apps: BrainPop

- 7 apps also target other subject areas; most are quiz apps

- 3 mentions of CCSS; 1 mention of curricula

- 0 mentions of research

- 0 mentions of validated assessments; 0 mentions of "assessment" beyond total score progress

In addition to the 30 apps:

- 2 tool apps were not considered literacy apps, but are relevant to argument skills
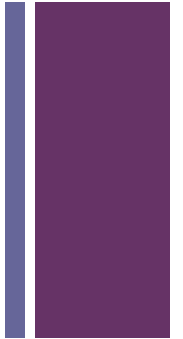
Target Age of Literacy Apps

Number of Apps

Pie chart:
- Any, 15
- Middle School, 11
- High School, 4
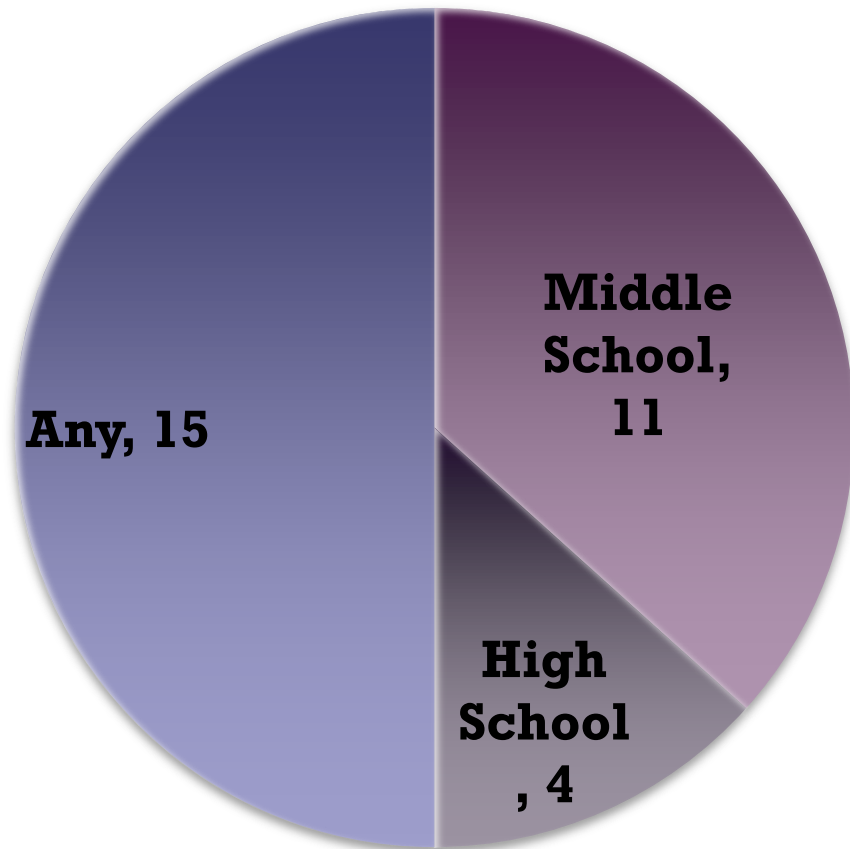
- Middle School apps tended to have a game element while targeting a specific skill (*The Opposites*).
- High School apps and apps targeting any age group 9+ tended to be more general in content and straightforward in presentation (*SAT Vocab; Word of the Day*)

Most of the literacy apps target vocabulary; 0 target "argument"
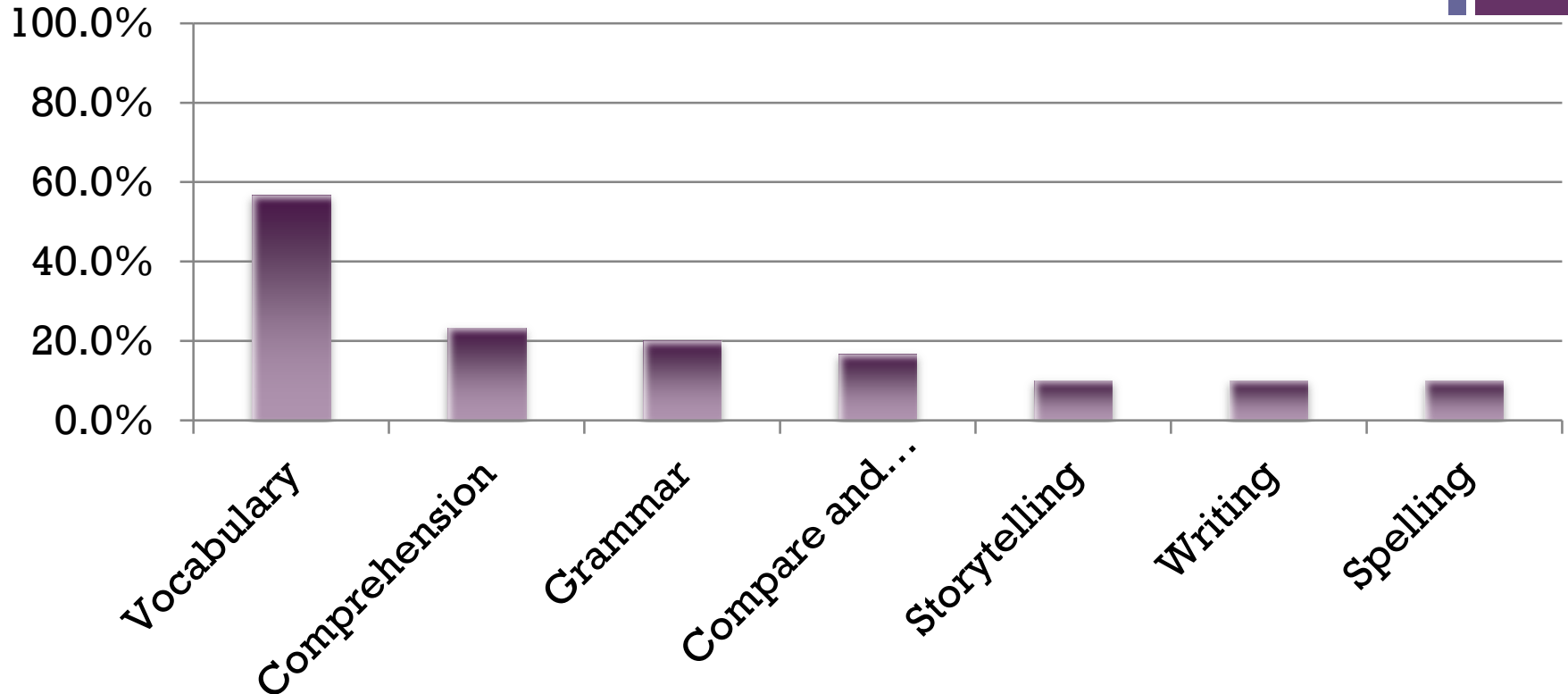
- Comprehension: All the comprehension apps were to read a passage or watch a video (BrainPop) and answer recall and general comprehension questions.
- Apps focus on knowledge building and memorization; rarely on deeper understanding skills – CSM confirms a similar pattern with their ratings.

Most apps have a review feature, but few have other features
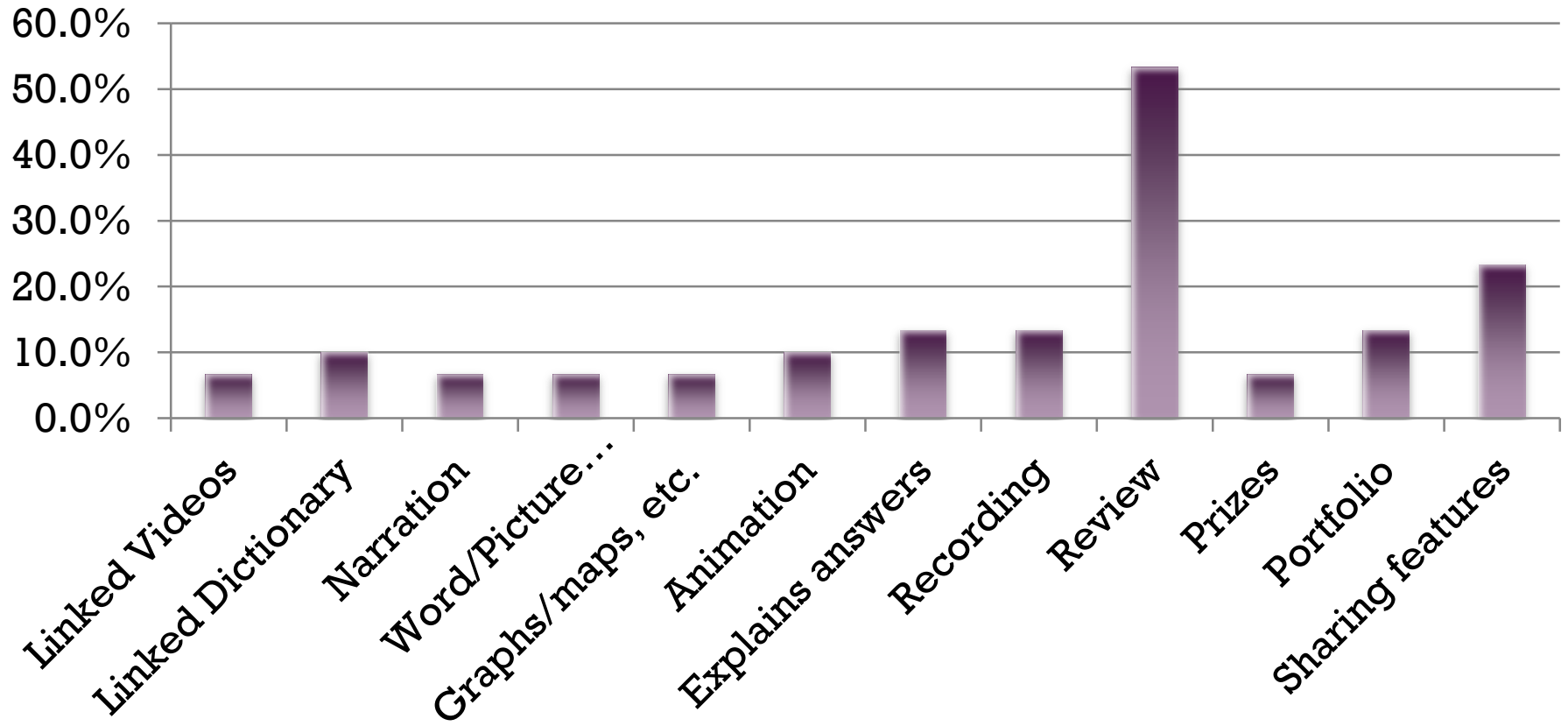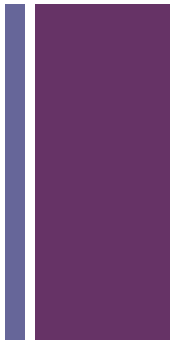
- Review features mainly include score reporting for both players and parents/teachers to see and sometimes also progress made over time.

Two relevant top tool apps:

Tool apps are not content specific, but are tools that can help organize or create content.

- **Inspiration Maps** ($9.99) by Inspiration Software, Inc.
  - Help students organize thoughts, understand cause and effect
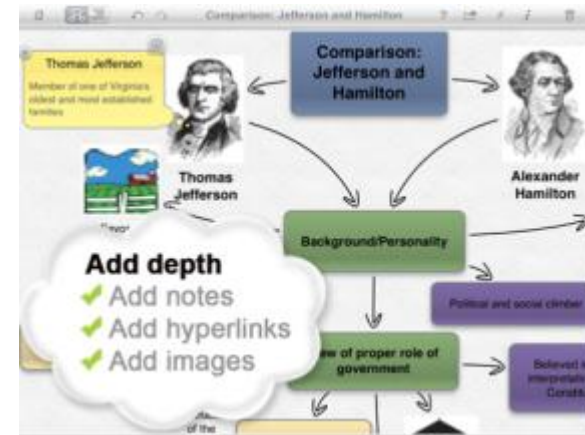
- **Tools 4 Students** ($0.99) by Mobile Learning Services
  - Help students organize thoughts for reading and writing
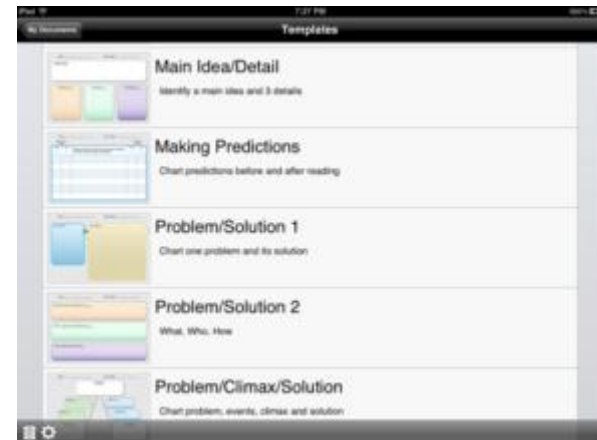
Relevant apps through key word searches

Sample

- Key search terms yielded 1 argument app, 3 end-to-end comprehension products with relevant precursor skills, 12 relevant "tool" apps

A closer look: Relevant tool apps when searching by key terms
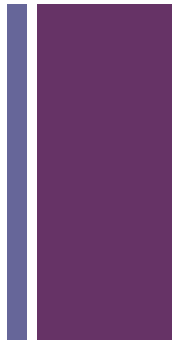
App	Description	Price	Source
Pros & Cons (e.g. *Pros & Cons; T-tables;* n=4)	Make pros and cons lists	Free - $1.99	both
Pros & Cons (e.g. *Pros & Cons V; Yay or Nay;* n=4)	Make pros and cons lists; can weight items	Free - $0.99	both
Debate Decider by Social Networking	Enter own questions and answers, friends/public can vote and comment	Free	iTunes
Was Right by PvA	Keeps track of past arguments and who was right, organized by topic	$0.99	iTunes
Oral Argument by TabLit Applications	Tools mainly for lawyers to form and organize arguments	$19.99	iTunes
Connected Mind by Keith Coughtrey	Flow charts	$2.99	Android

+ A closer look: Trends in relevant tool apps

- A few just released or upcoming apps suggest a trend of incorporating a community feel to standard apps (edsurge.com, 2012).
  - **E-readers***: Subtext* is a just released app that is an e-reader where teachers can create assessments that appear in line with the relevant text, sync notes, have discussions and more. *Price:* Free.
  - **Photo/Movie Editors:** Apps like *Voice Thread* and *Animoto* are standard apps that help users to make videos, photos and documents. What's new is that through a subscription, you can create a community for a class, school, even district to create a community for discussion and teachers can edit the works. *Price:* app itself is free.
  - **Writing tools**: There are many writing apps such as *iStoryPad* and *Toontastic*. Now, there are site and upcoming apps that allow the writings to be commented on by others, edited by experts and teachers, and where teachers and other students can write collaboratively (i.e. *Mixed Ink, Boom Writer Protagonize*).

A closer look: Relevant literacy apps when searching by key terms
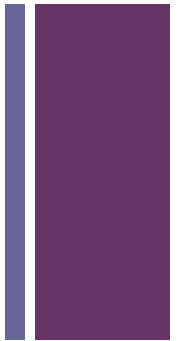
App	Developer	Description	Price	Source
Advisor to the King	PostHaste	Make judgments on arguments	Free	iTunes
"ReadingPrep" apps	Pearson Education	Series of reading comprehension apps	$2.99 each	iTunes
"Minimod" apps	E. Skills, LLC	Series of reading comprehension apps	$2.99-$8.99	iTunes
"FunDeck" apps	Super Duper Publications	Series of apps focusing on critical thinking for PreK-4th	$1.99 each	iTunes
LogiGrid Logic Problems Puzzles	Harmony Applications	Given a scenario with clues, use a grid to deduce the answer	$1.99	iTunes

Description of literacy and relevant apps

+ Advisor to the King

available on iTunes; age not specified (~6th grade?)*
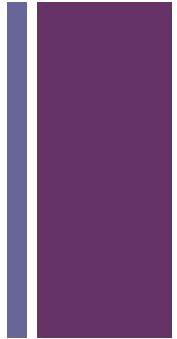
Kids are asked to be the King's advisor and are shown letters asking the King for help

There are 3 levels:

- Level 1 – Highlight the main argument
- Level 2 – Highlight the action requested of the King and decide whether is it a belief or behavior
- Level 3 – Decide if argument is:
    - Acceptable
    - No Reason
    - Bad Reason
    - Restatement
- There's a helper who provides feedback and why answers may be wrong

*This is the only app found that targets argument

Dear King Romulus,

Elizabeth, a friend of mine, is a very good horseback rider. She usually does not use a saddle when riding her horse, and people often ask her why she does this. She says that saddles are not needed when riding horses because horses eat lots of grain. Her horse, in particular, eats over five pounds of grain a day. I'm glad I don't have a horse because I could not afford to buy grain for it to eat.

-- Your serf, Aldfrid Mansel

BELIEF

ACCEPTABLE
NO REASON
BAD REASON
RESTATEMENT

+ Reading Prep

available on iTunes,
age not specified

In each, there's an overview, practice, video/text help, mini test, and scores. Students read passages and answer questions.

- ReadingPrep: Inference

- ReadingPrep: Stated Main Idea

- ReadingPrep: Vocabulary

- ReadingPrep: Outlining and Mapping

- ReadingPrep: Combined Skills (mixed)
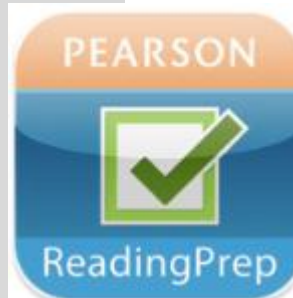
- ReadingPrep: Patterns of Organization

- ReadingPrep: Implied Main Idea

- ReadingPrep: Purpose and Tone

- ReadingPrep: Critical Thinking

- ReadingPrep: Supporting Details

PEARSON
ReadingPrep

+ Minimod Apps

available on iTunes;
age not specified

Quick Stats:	
CCSS Aligned	Yes
Assessment	No
Teacher Support	No

- Each app has 3 difficulty levels to target range of grades

- Students read sentences or short passages and answer questions

- Multiplayer mode – bingo set-up

- There is no assessment beyond score reporting.

- Reading for details

- Reading for Inferences

- Fact or Opinion

- Context Clues (4): Basic, Advanced, Science, Social Studies

- Figurative Language

- Vocabulary (2): Builder, Expander

- Persuasive Strategies

- iReadiTest: Ranching and Reading

- Drawing Conclusions

+ Minimod Persuasive Strategies

■ Students read a sentence. They choose the correct persuasive strategy from three choices.

■ Levels of Difficulty

   ■ Red: Bandwagon, loaded words, repetition

   ■ Blue: Stereotyping, name calling, celebrity endorsement

   ■ Green: Facts and statistics, peer pressure and testimonials

Repetition

Stereotyping

Celebrity Endorsement

Peer Pressure

+ Fun Deck Apps

available on iTunes

- SuperDuper StoryMaker

- Listening for Absurdities

- What Doesn't Belong

- What's Being Said?

- Let's Predict

- Compare & Contrast

- What Are They Asking?

- How?

- If…Then

- Understanding Inferences

Quick Stats:	
CCSS Aligned	Yes
Assessment	No
Teacher Support	No

- Targets **younger** kids - PreK – 4th Grade

- Designed for **teachers** to use with students one-on-one

- Students look at picture and answer questions verbally, teachers mark as correct or incorrect

- Teachers can review scores for entire class

GAMES & WEBSITES

Games Stats and Trends

- The video game industry is a $12.5 billion business (NPD, 2007)

- Children ages 8-10 spend a daily average of about an hour playing video games (Rideout et al., 2005).

- In 2007, JGCC conducted a scan of educational video games.
  - 300 games tagged as "edutainment" by the Educational Software Educational Board
  - 0 educational games were identified through Toys R Us, Best Buy, and Amazon
  - An additional 56 games were identified using CSM
  - 0 of these games targeted literacy.

- While the current scan identified more literacy games, videogames has been slow to enter the education market, despite a significant presence.

Websites Stats and Trends

- Source: CLRN.com has been identifying supplemental electronic learning resources and learning units and curricula since December of 1999.
    - CLRN has identified 5908 websites
    - More than half of them are designed for teachers as opposed to students
        - 2091 offer supplemental materials for teachers
        - 825 are considered reference websites
        - 311 offer tools for teachers
    - Of the websites for students:
        - 1145 target ELA
        - 602 target ELA for middle school
        - 571 target ELA for high school

Games and Websites Product Scan and Key Term Search

+ Games and Websites Sample
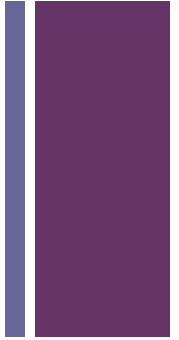
- Source: Common Sense Media was chosen as the filter because it is a popular and trusted site for parents to search for media products including games and websites.
  - Established in 2003, with more than 12,000 reviews
  - The reviewed products are selected by the editors. Factors include popularity, appropriateness, quality.

- Sample
  - Search limits: Educational, ages 9-17
  - Games Sample: 25
  - Website Sample: 115

Key Term Search Sample

- Key term search for games
  - Sources: Walmart, Target, Toys R Us, EdSurge
  - Sample: 0

- Bill & Melinda Gates Foundation:
  - Source: College Ready Learning Technologies
  - Sample: 4 websites with relevant literacy games

- Search of products by key players
  - Sources: Pearson, McGraw-Hill, Scholastic, Learning Game Network, FableVision
  - Sample: 1 website with relevant literacy game

- Key term search of CLRN
  - Sample: 6 additional websites not already found

General overview of CSM reviewed games and websites

CSM reviewed games target literacy most (n= 25)
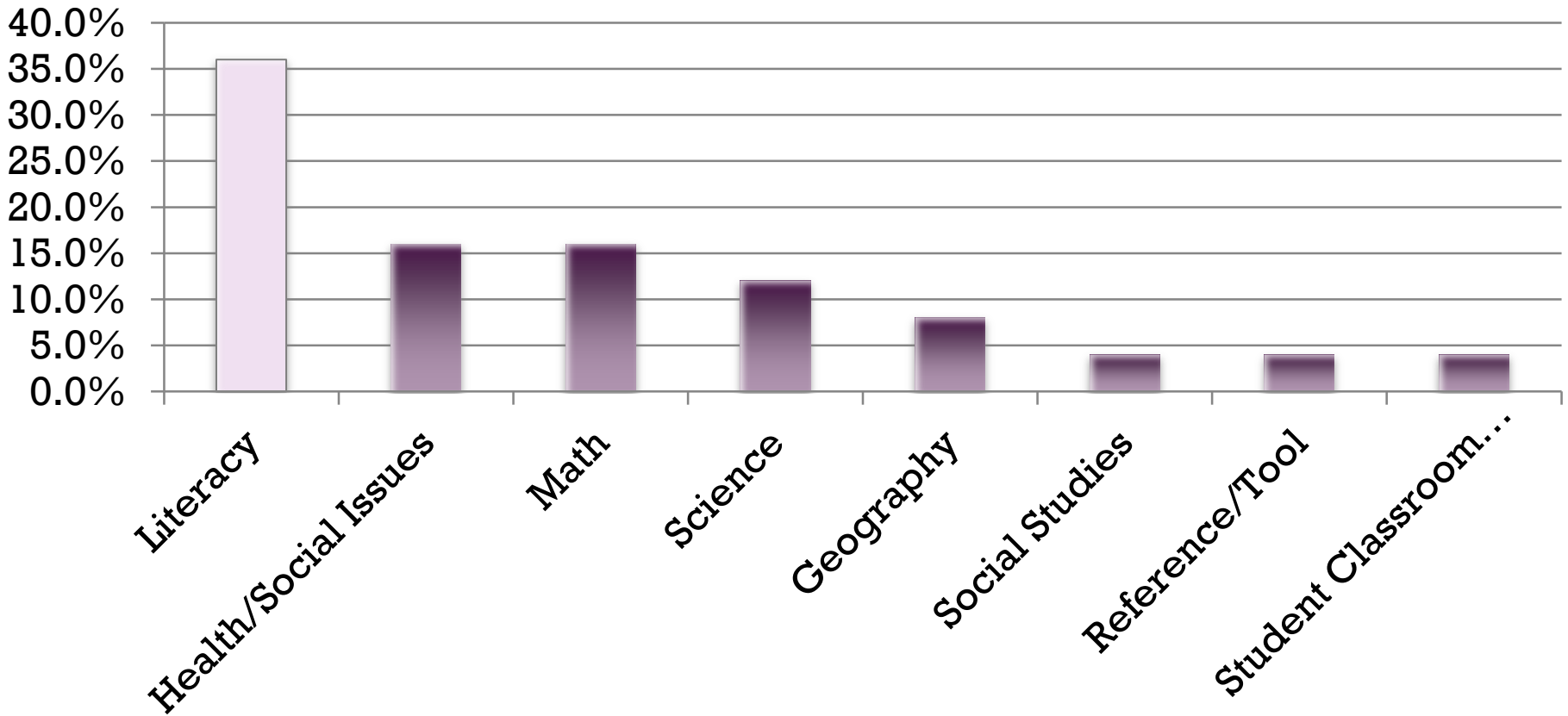
Literacy games (non-argument related)

Game	Developer	Price	Age	Main Skill
BrainQuest: Grades 5&6	EA (Nintendo)	$29.99	Mid S	Vocabulary
My Word Coach	UbiSoft (Nintendo)	$30	Mid S	Vocabulary
Scripps Spelling Bee	THQ (Nintendo)	$19.99	Any	Spelling
100 Classic Books	Nintendo	$19.99	Any	Fluency
Scrabble	EA (Nintendo)	$29.99	Any	Spelling
My SAT Coach	UbiSoft (Nintendo)	$29.99	H.S.	Vocabulary
FutureU: The Prep Game for SAT	Aspyr (Computer)	$39.99	H.S.	Vocabulary/Comprehension

- Console games are on a Nintendo platform.
- Games mostly target word-level literacy skills such as vocabulary and spelling.

CSM reviewed websites target health and social issues most (n=115)

Chart showing percentage of CSM reviewed websites by category:
- Health/Social Issues: ~34%
- Other: ~19%
- Science: ~18%
- Reference/Tool: ~13%
- Math: ~10%
- Social Studies: ~9%
- Literacy: ~3%
- Student Classroom...: ~1%
- Arts & Music: ~1%
- Geography: ~1%
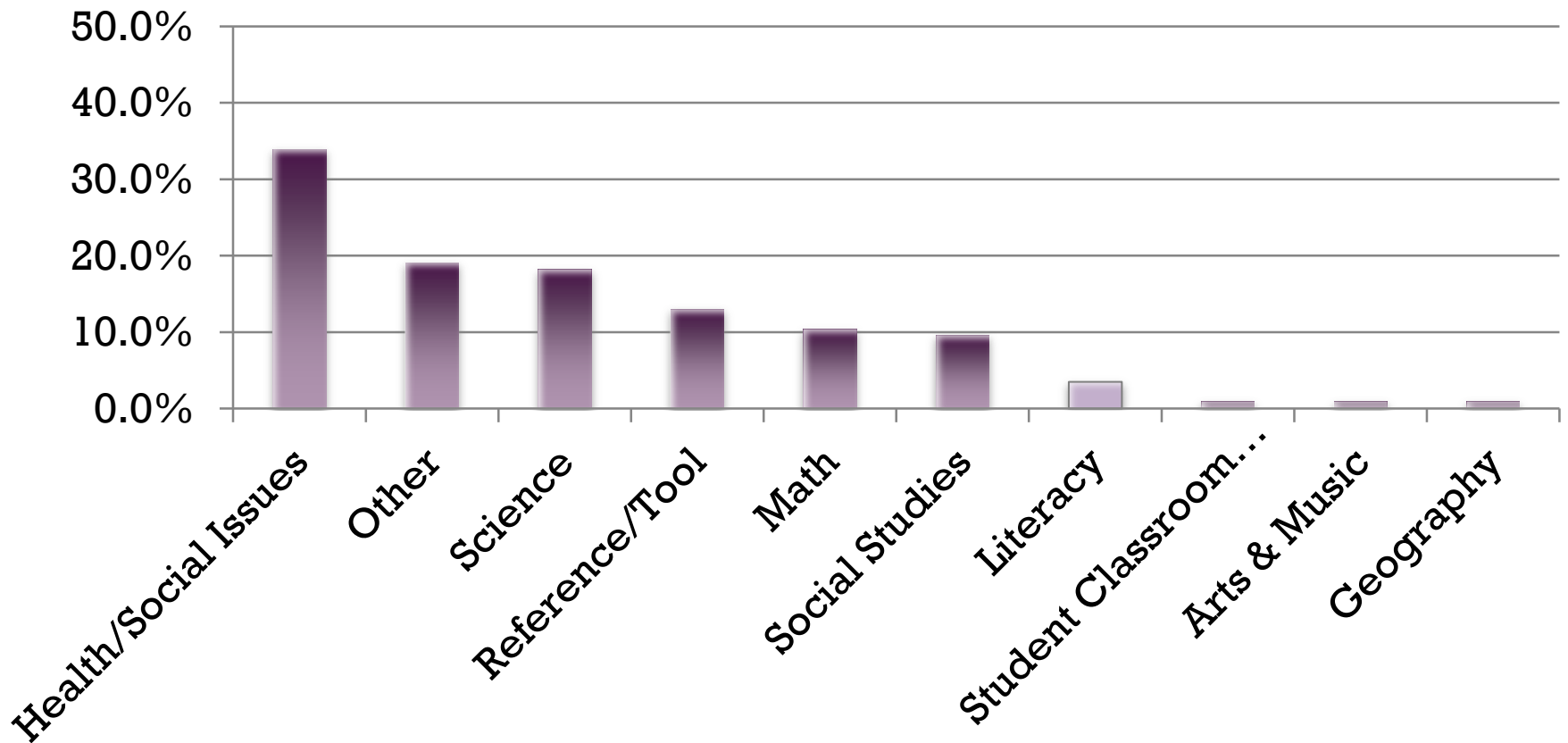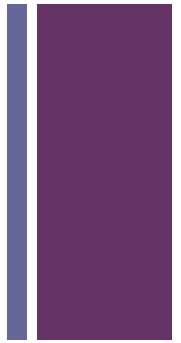
- Almost half of the websites are sponsored or developed by a university, the government, or other non-profit organization.

Literacy websites (non-argument related)

Website/Game	Developer	Price	Grade	Main Skill
Word Play Games	CCT/EDC	Free	7th	Vocabulary (Science, S.S.)
Digital Youth Network	DePaul University	Paid	6th-8th	Writing
Scholastic Kids Press Corp	Scholastic	Free	4th -8th	Writing
Poetry4Kids	Poetry4kids.com	Free	5th-8th	Writing
Poets.org	Academy of American Poets	Free	H.S.	Fluency

- With the exception of Word Play Games, these websites incorporate a community feel where kids can read other's works and share their own.

Reading and Writing Website Resources

- There are many literacy-related websites that do not produce their own content, but are good resources.
  - **Book/content recommenders:** These sites recommend books based on students' interests.
    - Examples: *goodreads.com, whatshouldireadnext.com, scholastic SRC*
  - **Writing communities:** These sites let you share your writing and comment and edit.
    - Examples: *myaccess.com, joyrite.com, figment.com*

Argument related literacy games and websites

Game	Developer	Cost	Age	Main Skill	CCSS	Assessment	Teacher Support
Mission US	Thirteen/WNET	$0	Mid S	Comp/ Decision			✔
iCivics.org	iCivics, Inc.	$0	6th-8th	Argument	✔	✔	✔
The Sports Network	Classroom, Inc.	$0	8th-9th	Persuasion	✔	✔	
Crystal Island	NCSU	n/a	8th	Comp/ (Science)	✔	✔	
Quandary	Learning Games Net./ FableVision	$0	3rd -8th	Moral dev. Decision	✔		✔
Atlantis Remixed	ARX Team	n/a	4th – 10th	Decision/ Scientific thinking	✔		✔

Descriptions of relevant games and websites

+ Mission US: Flight to Freedom and For Crown or Colony mission-us.org

- Two computer-based games that also target social studies (pre-Civil War era of slavery and events leading to the Revolutionary War).

- Choose-your-own-adventure style. Kids follow a main character and make decisions that decide the character's path.

- Kids encounter other characters who give them information, targeting reading comprehension and vocabulary. Kids can ask questions and then make decisions that decide the next course of action.

- Badges are awarded – but there are no right or wrong answers – they get badges for both rebellious decisions and for following rules.

- Through the course of the game, kids will have been presented information from both sides and will have decided which side they agree with.

- More games planned for release in 2013 and 2014.

mission US A REVOLUTIONARY WAY TO LEARN HISTORY

+ iCivics.org

Argument Wars
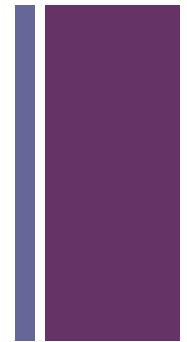
- Collection of 16 games on civic issues. Learn about the government and the law

- Games are short (<1 hour) and are computer-based.

- Depending on the game, students are awarded points or they can just see if they won the case/election.

- Reached an estimated 1 million students and 40,000-60,000 teachers

Examples:	Description	Main Skills
Argument Wars	Be a lawyer and argue real Supreme Court cases.	Form arguments, use supporting evidence, analyze evidence
We the Jury	Choose from real cases, weigh testimony and use the right arguments to reach a verdict.	Analyze evidence, form arguments, make decisions
Drafting Table- upcoming	Teaches students to write a good argument, includes live feedback, teacher reports	Analyze evidence, form arguments, writing

The Sports Network - TSN-2

classroominc.org/TSN2_launch

- Students are executives at the Sports Network and attend meetings, conduct research, and prepare a pitch for a new show.

- Skills: weigh pros and cons, compare and contrast text, analyze evidence

- Receive stars that accumulate to virtual bonus

- 20 one hour sessions, which include both computer-based online and also offline, in-person team sessions

Crystal Island: Lost Investigation

http://ci-lostinvestigation.appspot.com

- Students have to solve a science mystery about an epidemic that's affected a team of scientists on Crystal Island.

- Students encounter other evidence and characters who provide information and need to diagnose the illness by analyzing texts.

- Mixed method model – live support and feedback; formative and summative assessment

- Skills: Analyzing evidence, drawing conclusions

Quandary

quandarygame.org

- Kids are presented situations about how to build a new colony on the planet Braxos.

- Encounter characters who have opinions, ideas, and responses to situations

- Kids have to separate fact from opinion, investigate possible solutions and outcomes, and understand the different perspectives of the characters to make a final ethical decision.

- Three 10-30 minute computer-based episodes

- Was released September 5th, 2012 and had 12,000 visitors and 1,300 registered users in first month.

Atlantis Remixed & Quest Atlantis

questatlantis.org

- Targets math, science, and literacy through social issues and real-world action

- Kids are presented with different real-world scenarios and make decisions based on the information presented. The scenarios then flash forward to the future to see how their decisions have affected the scenario.

- Transformational play – both computer-based online and offline activities

- Targets decision making and scientific thinking (hypothesizing, interpreting data, analyzing evidence, cause and effect)

Relevant websites from CLRN through key term search; but are not games

Website	Subject	CCSS	Grades	Publisher
A Brief Guide to Writing Argumentative Essays	ELA	✔	6th - 12th	Roane State Community College
Founders' Constitution (focuses on law and constitutional arguments)	Social Studies			The University of Chicago
IDEA Debateabase (focuses on debate)	ELA	✔	9th -12th	IDEA
Internet Encyclopedia of Philosophy (focuses on philosophical issues and moral arguments such as abortion)	ELA, Social Studies	✔	9th -12th	
Landmark Supreme Court Cases: Roe v. Wade	Social Studies		9th - 12th	Street Law and The Supreme Court Historical Society
Slaves and the Courts	Social Studies		5th , 8th , 11th	

Curricula

+ Curricula Stats and Trends

- CLRN has identified 3196 curricula or supplemental materials for classroom use with digital components

- 877 target ELA

- 82 target ELA and are aligned with CCSS

- 187 target ELA for middle school
  - 7 target ELA with CCSS for middle school*

- 87 target ELA for high school
  - 3 target ELA with CCSS for high school*

* These are described in a later slide

Curricula Stats and Trends

- In 2008, Slavin, Cheung, Groff, & Lake, 2008 conducted an extensive search for literacy curricula for middle and high school students that was linked to rigorous research.
  - Only 4 identified curricula incorporated digital components.

- According to the numbers from CLRN, the number of curricula incorporating digital components has dramatically risen.
  - Although many of the ELA curricula are not linked to research, almost all of the ELA curricula that is linked to CCSS *are.*

- Thus, curricula now is a viable resource to incorporate educational games

Key Literacy Curricula

- Sample
  - Limit to established curricula
    - Available in classrooms and or
    - Published efficacy study
  - Limit: Curricula must include digital component
    - Digital component must include more than just e-texts for students and assessment reporting for teachers.
  - Scan of big publishers: Scholastic, Pearson, McGraw-Hill, Houghton Mifflin Harcourt
  - Curricula identified as ELA with CCSS from CLRN
  - Search on EdSurge
  - Scan of curricula listed from Slavin, Cheung, Groff, & Lake, 2008.
    - Analysis of reading programs targeting middle and high school with efficacy research

  - Additional, a key term search was done on CLRN yielding 6 curricula not already identified
  - These sources cover a wide range of instructional methods
    - CLRN – tags for 11 different instruction modes (i.e. Tutorial, educational games)
    - Slavin et al – categorized into 4 methods: Reading curricula, Mixed models (blended), computer-assisted, instructional-process (lots of PD for teachers)

+ Key Curricula – mostly computer-based
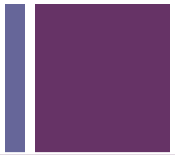
Product	Developer	Age	CCSS	Assessment	Research	Digital Components	Source
Classworks	Curriculum Advantage	K-10th	✔	✔	✔	Computer, online activities	CLRN
Easy Tech	Learning.com	K-8th	✔	✔	✔	Online activities	CLRN
Exam View Learning	eInstruction	K-10th	✔	✔	✔	Computer activities	CLRN
Foundations Courses	Apex Learning	3rd-8th	✔	✔	✔	Online-curriculum	Edsurge
Holt McDougal Literature 2012 the CCSS Edition	Houghton Mifflin Harcourt	K-12th	✔	✔		Interactive reader, online tutor and videos	Publisher website
iStation (RTI)	iStation	PreK-12		✔	✔	Computer activities, animation	Publisher website
KidBiz, TeenBiz, Empower3000	Achieve 3000	2nd-12th	✔	✔	✔	Online classroom, individualized assignments	CLRN, edsurge
Measuring Up Insight	Peoples Education	1st-8th	✔	✔	✔	Online activities	CLRN
Odyssey	Compass Learning	K-12th	✔	✔		Computer activities	Slavin, Edsurge
Read180	Scholastic	4th-12th	✔	✔	✔	Whiteboards, computer activities	all
Reader Plus	Taylor Associates	K-12th	✔	✔	✔	Computer activities	Publisher website
Reading Street	Pearson	K-6th	✔	✔	✔	Apps, games, animations, videos	Publisher website
Revolution K12	Revolution K12	6th-8th	✔	✔	✔	Computer activities, adaptive	Publisher website
Scola Nova	Houghlin Mifflin	K-12th	✔	✔	✔	Online	CLRN
SuccessMaker	Pearson	K-8th	✔	✔	✔	Computer activities	Publisher website
Voyager Passport	Voyager Learning	K-5th		✔	✔	Computer activities	Slavin, Edsurge
WritetoLearn	Pearson	4th-12th		✔	✔	Computer provides feedback	Publisher website

Relevant curricula/supplemental materials from CLRN through key term search

Curricula	Subject	Description	Grade	Developer
Bill of Rights (series of 3)	Social Studies	Video resource on learning Amendments. Includes the history and arguments for why the amendments were created.	5th , 11th , 12th	Benchmark Media
Decisions, Decisions: The Immigration	Social Studies	Students learn about immigration issues and must analyze and decide how the president should proceed.	8th , 11th , 12th	Tom Snyder Productions
English 9A, 9B, 10B	ELA	Students learn to analyze different texts including persuasive writing and also learn to write	8th -10th	Class.com
Essay Writing Techniques in English	ELA	Students learn to write, including arguments	9th -12th	Learn 360
LawClass.net	Social Studies	Learn about the law and how to make cases	11th -12th	LawClass.net, LLC
Organizing Research	ELA	Teaches scientific thinking and how to support a finding or argument	7th -12th	Schlessinger Media

* Note that none of these mention being aligned with CCSS

Products/Projects to Keep an Eye On

Upcoming products

- Pearson
    - Literacy products targeting K-12 grades with a focus on CCSS
    - Textbook format using iPad with videos and animations; includes teacher portal
    - Status: in pre-production

- Amplify
    - Amplify Learning: products that combine interactive, game-like experiences with rigorous analytics that align to the CCSS, driven by adaptive technologies
    - Will target K-12; currently focusing on 4th-10th grades in ELA, Math, Science
    - On tablets, iOS and Android, possibly more; partnered with AT&T
    - Suite of games that students can play from primary to secondary grades.
    - Status: in planning and production

- iCivics
    - Planning multiple new games targeting middle school including:
        - Game that integrates reading and writing through document exploration
        - Game about civil rights movement
        - Tablet based games targeting speaking and listening skills

+ Upcoming projects from universities/government grants

While this scan focused on commercially available products, there are many projects in development at universities and other government funded organizations. Here are a few examples:

- **W-Pal:** An Intelligent Tutoring System that Provides Interactive Writing Strategy Training – PI: Danielle McNamara, Learning Sciences Institute, ASU
  - Provides writing strategy instruction, game-based strategy practice, and individualized formative feedback for both middle school to college students and teacher
    - Instruction: Pre-writing (free-writing and planning) Drafting (introduction, body, conclusion), and revising (paraphrasing, cohesion building).
    - Game-based strategy: Reinforcement through games and quiz format.
    - All feedback targets writing strategies rather than editing (grammar, spelling).
    - **Status:** Completed development grant and made revisions to reflect findings from usability studies.
      - Received new exploration grant from IES to test with over 2,000 students in the next year.
    - Other similar projects: iStart – reading tutoring system; cohMetrix – system for teachers to analyze text cohesion.

Upcoming projects, con't

Here are related literacy grants awarded from IES in 2010-2012:

Title	Program	PI	Grantee	Goal
Dialogic Teaching: Professional Development in Classroom Discussion to Improve Students' Argument Literacy	Effective Teachers and Effective Teaching	Wilkinson, Ian	Ohio State University	Development
Peer Assisted Writing Strategies (PAWS)	Reading and Writing	Puranik, Cynthia	University of Pittsburgh	Exploration
Development and Validation of Online Adaptive Reading Motivation Measures	Reading and Writing	Hock, Michael	University of Kansas	Measurement
Assessing Reading for Understanding: A Theory-based, Developmental Approach	Reading for Understanding Research Initiative	Sabatini, John	ETS	No Goal
Assessment of Comprehension in Older Struggling Readers	Interventions for Struggling Adolescent and Adult Readers and Writers	Waters, Gloria	Boston University	Measurement
Reading for Understanding Across Grades 6-12: Evidence-Based Argumentation for Disciplinary Learning	Reading for Understanding Research Initiative	Goldman, Susan	Board of Trustees of U of I	No Goal

Embedded Assessments

While assessments were not included in this product scan as they do not provide content for instruction, some assessment products are taking it to the next level by integrating assessment with instruction.

- **Learning Oasis, MetaMetrics, all ages** (based on lexiles instead of grade level)
  - Embedded assessment in reading and writing activities. Also includes a vocabulary game that can only be assessed during school hours with credits earned from doing the main activities.
  - Currently has over 40,000 users.
  - St**atus:** updating to be more student-friendly; taking components and transferring to different platforms

- **Guided Literacy, MetaMetrics** (upcoming; pilot study to begin 2013)
  - Takes Learning Oasis a step further – two applications: one for teacher use to assign individualized activities and design lessons based on assessment reports and one for students to engage in reading and writing activities and manage their assignments.
  - Students read passages or are given a topic to write an essay; no game components.
  - Will be web-based application that scaffolds students by providing live feedback using assessment; Linked to CCSS

Embedded Assessments

- **CERCA – new company led by Eileen Murphy**
  - Uses assessment to design close reading and argumentation lessons to implement CCSS.
  - Designed for school-wide use to produce coordinated and differentiated instruction in close reading, traditional writing, and multimedia formats.

- **Burst: Reading Literacy Intervention, Wireless Generation, K-6th**
  - Takes reading assessment data every 10 days to create targeted 30- minute reading instruction lessons.
  - Received a grant from IES to conduct a longitudinal efficacy study, 2012

Trends

Teachers and Classrooms

"Designing games that are fun and engaging for kids is important, but so is designing for teachers." Gene Koo, icivics.org

- Trend: Moving into the classroom and incorporating features for teachers
  - Examples: Drafting Table, TSN-2
    - Obstacles (Sharp, Bransford, & Lee, 2012)
      - Availability of technology
        - Trend of BYOD – Bring Your Own Device
        - "Although teachers may not have a device for each student, they can use one table/console and project it on a screen, which can be a great entry point into lessons." (Shira Lee Katz, Common Sense Media)
      - Incorporating CCSS/curriculum standards
      - Fitting into the school day
      - Providing teachers with *useful* assessments/progress reports

Real-World Relevance

"It is important to see [CCSS and standards] applied in a way that students want to incorporate in everyday life."
Carrie Ray-Hill – icivics.org

- Trend: Important to have a high degree of relevancy
  - Examples: Drafting Table, Quandary

"… app and game developers can create more concrete activities to extend what's happening within apps to offline settings." Shira Lee Katz, Common Sense Media

- Trend: Incorporate off-line activities
  - Examples: TSN-2, Atlantis Remixed

+ Tablets

"**…having a different vision of the use of tablets in the classrooms. The greatest potential is in the students.**" Gene Koo, icivics.org

- Trend: Currently, computers are more widely used in classrooms than tablets, but upcoming products suggest a focus to tablets.
  - Interactivity of the tablets may lead to more active, mixed-method instruction. (JGCC, 2011)
  - "…get students to look up from the screen." Gene Koo, icivics.org
  - However, products where students have to write essays may not be optimal for tablets (Carl Swartz, Metametrics).

The Final Numbers

- This product scan identified:
  - **30** literacy apps in the 800 scanned "top" apps
  - **2** relevant tool apps from the "top" apps
  - An additional **12** tool apps (key term search)
  - **3** end-to-end comprehension app series (key term search)
  - Only **1** argument app (key term search)
  - **8** literacy games out of 25
    - Only **1** of the literacy games was argument related (*Mission US*)
  - **5** non-argument related literacy websites with games out of 121
  - **5** argument related websites with games out of 120
    - **4** of them are funded by the Gates Foundation
  - **6** additional argument related websites, but not games
  - **17** key literacy curricula with digital components
  - **6** additional argument related curricula/supplemental materials
  - **3** upcoming lines of relevant products, **6** IES funded grant projects, **4** embedded assessment products
  - **3** trends