

# iLearn

## A Content Analysis of the iTunes App Store's Education Section



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November 2009

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Suggested citation: Shuler, C. (2009). *iLearn; A Content Analysis of the iTunes App Store's Education Section*, New York: The Joan Ganz Cooney Center at Sesame Workshop.

## ABSTRACT

With over 1 billion Apps downloaded from Apple's App Store, and major children's entertainment companies diving into this market en masse, it is important to consider the role that Apps may play in children's learning. While numerous mainstream news and industry sources have started to provide anecdotal descriptions of what is available for children in the iTunes App store, none have done a careful analysis with a focus on educational content. This short paper is a content analysis of the education section of the iTunes App Store. It seeks to provide an up-to-date, reliable and unbiased analysis, and to act as a benchmark for change as the iTunes App store continues to grow and evolve.

## INTRODUCTION

The Joan Ganz Cooney Center at Sesame Workshop, a research and policy organization dedicated to advancing children's learning through the creative deployment of digital media, recently released *Pockets of Potential* (Shuler, 2009), a study documenting the untapped potential of mobile learning. While the report focused on numerous platforms, it highlighted the iPhone and iPod Touch as having strong promise for children's mobile learning. Since *Pockets of Potential* was published, the App market has continued to grow rapidly. On April 23rd, 2009, the one-billionth App was downloaded from Apple's revolutionary iTunes App Store (Apple, 2009). This monumental App was downloaded by Connor Mulcahey, a 13-year-old boy from Weston Connecticut. Along with Connor, over 85 million iPhone and iPod touch owners have contributed to this massive influx of downloads, making iTunes a primary market for downloadable games and applications. Although the primary App consumer is likely an adult, perhaps the fact that a 13 year-old boy downloaded the one-billionth App is a telling indication of what's to come.

Over the past six months, Nickelodeon, PBS Kids Sprout and Disney have all entered the App market that is pegged to generate more than US\$1.2 billion in 2009 (Rusak, 2009), and the preschool-oriented 'Wheels on the Bus' has been the top paid education App for months. With more than 21,000 games available for the iPhone and iPod touch compared with only hundreds on the DS and PSP (Tabuchi, 2009), it is not surprising that kids developers are taking this platform very seriously. The growth of children's Apps may be counterintuitive, as it is fair to assume that most young children currently do not own their own iPhone, or even iPod Touch. However, anecdotally it is very common to observe what some call the "pass-back" effect, where a parent or adult passes their own device to a child. Parents' phones have always been among children's favorite "toys", and as mobile devices become more functional for adults, they simultaneously become more appealing to kids.

Mainstream news and industry sources such as *The New York Times* and *Kidscreen Magazine* have been documenting this trend. Though these sources provide informal descriptions of what is available for children in the iTunes App store, none have done a systematic analysis with a focus on educational content. This report is a content analysis of the App Store's education section. It provides an up-to-date, independent, unbiased analysis, and provides a benchmark for following iTunes continued growth and evolution.

## METHODS

A content analysis was conducted to analyze the educational category of the iTunes App store. The methodology for this analysis involved two key steps.

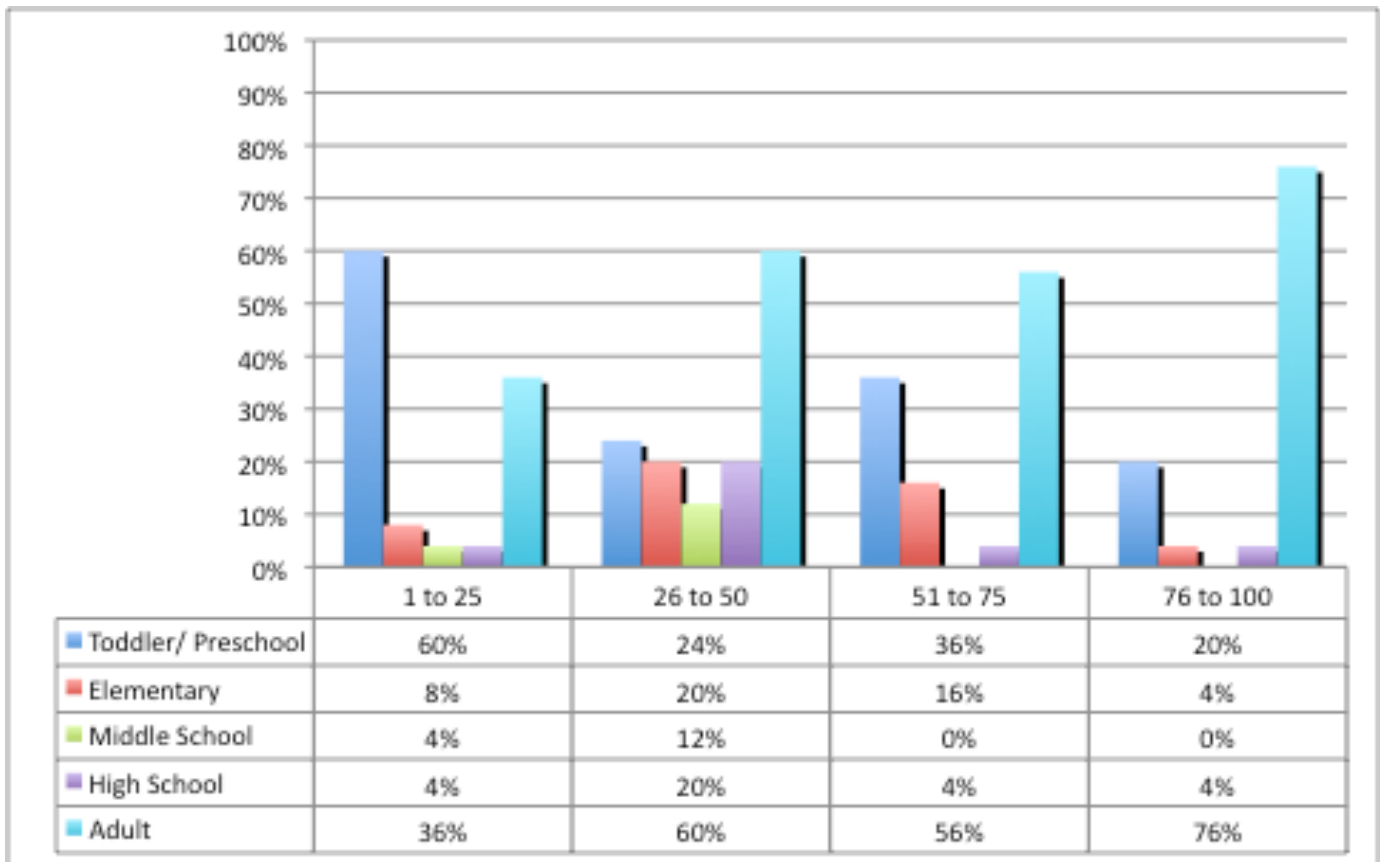
1. In late June 2009, the Cooney Center compiled a database of the 100 top-selling paid Apps in the education section of the iTunes App store. This database does not assess the quality or effectiveness of any specific product, nor does it represent an exhaustive list of every product available. Rather, it provides a basis for analyzing the kinds of educational products available and popular in the mass market.
2. All apps in the database were coded for the following characteristics:
  1. **Age:** This characteristic answers the question “What age is this App’s target user?” Target age group was determined by reading the App description, which often explicitly noted a target age. If a target age was not explicitly noted, the judge used other features such as App description, features and image to determine target age. Apps could be tagged for more than one age group (for instance one App could target both elementary and middle school age children).
  2. **Subject:** This characteristic answers the question “What subject does this App aim to teach?” Subject was often explicitly stated in the App description. If a subject was not explicitly noted, the judge used other features such as App description, features and image to determine subject. Apps could be tagged for only one subject.
  3. **Price:** This characteristic answers the question “How much does this App sell for?” Price was always explicitly noted, and list price (not sale price) was recorded.

## RESULTS & DISCUSSION

### Age

- **There is a significant market for children’s educational Apps**

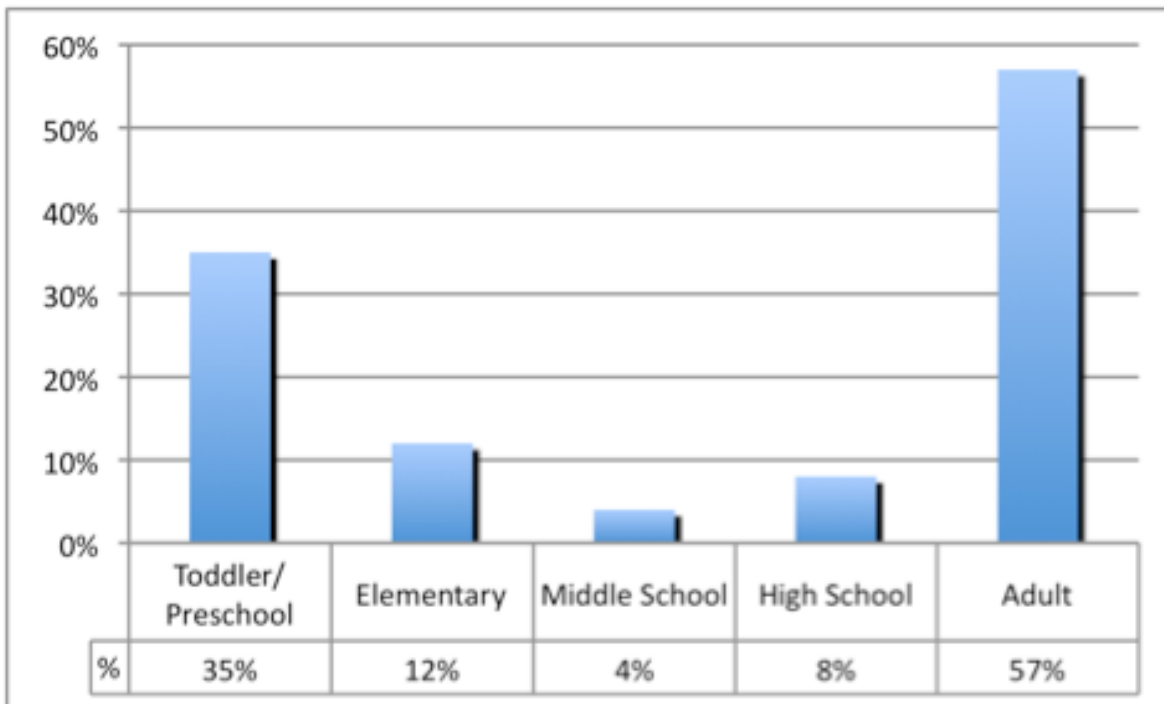
Children’s content makes up a significant proportion of the 100 top selling Apps (Figure 1). Nearly half (47%) of the top 100-selling Apps target preschool or elementary aged children. The analysis becomes even more interesting when target age is analyzed by App rank. 60% of the top 25 Apps target toddler/preschool children – almost double the number that target adults (36%). The prominence of youth-targeted Apps is striking, and thus the market for children’s educational Apps should be considered an important one.



**Figure 1. Target Age by App Ranking (N=100)**

*\*Percentages add up to more than 100% because each App could be tagged for more than one age group.*

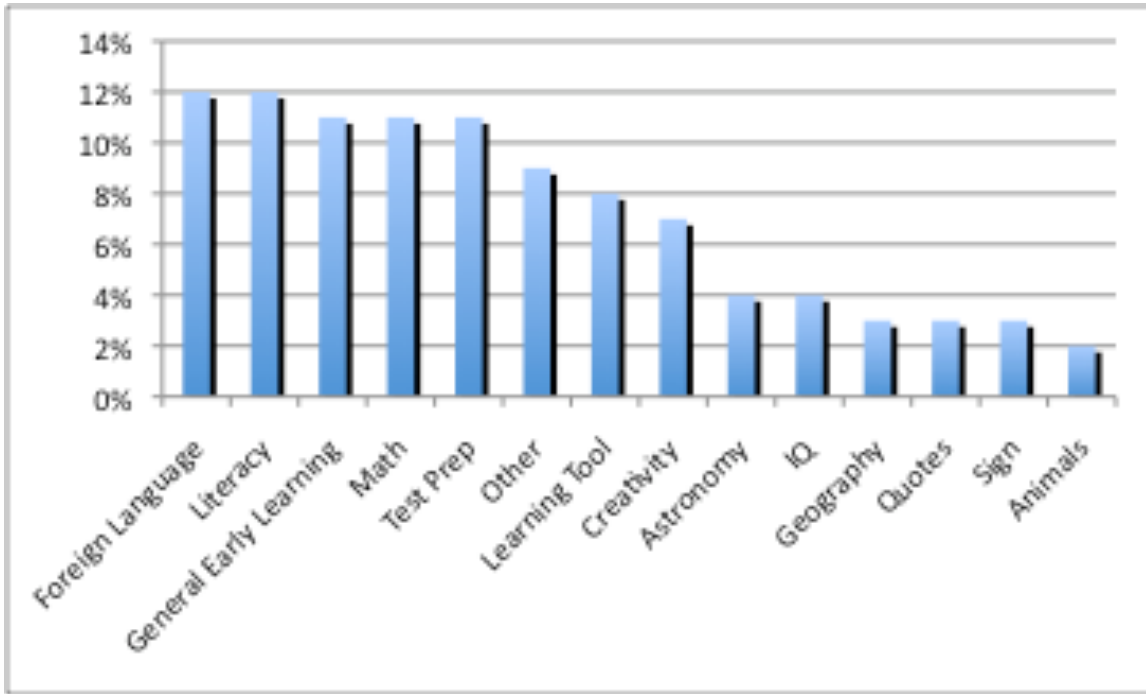
- Toddler/preschool apps are more prominent than those for older children**  
 Among experts on quality media programming for youth, there is a long-standing concern that educational television offerings for elementary and middle school children pale in comparison to offerings for their younger counterparts. Though this analysis did not assess quality, simply in terms of quantity, it appears that this trend also holds in the iTunes App Store. As indicated in Figure 2, 35% of the top paid educational Apps target preschool children, as opposed to only 12% and 4% targeting elementary and middle school students respectively.



**Figure 2: Target Age (N=100)**

### Subject

- The top educational apps cover a variety of different subjects, with foreign language and literacy being the most popular categories**  
 As indicated in Figure 3, Apps are available in a variety of different subjects, including: Foreign language, literacy, general early learning, math, test prep, learning tools, creativity, astronomy, IQ, geography, quotes, sign language, animals, and other. Foreign language and literacy are the most popular subjects overall, however, other topics including general early learning, math and test prep are also amongst the most popular subjects in the top 25 ranked apps, supporting the conclusion that children’s educational Apps is an important market.



**Figure 3: Subject (N=100)**

**Price**

- Children’s Apps are significantly cheaper than adult-targeted Apps.**  
 As indicated in Table 1, child-targeted Apps are significantly cheaper than those targeting adults, with most child Apps being priced at \$0.99. The weighted average price for a child’s App is \$1.14, as compared to \$5.77 for adults. Furthermore, the top 100 selling apps range from 0.99 - \$149.99, however no child-targeted app exceeds \$2.99. From this analysis it was not possible to discern whether there are fewer expensive children’s Apps offered at the higher price points, or if there are Apps available that are not being purchased. Regardless, it is reasonable to conclude that higher-priced educational Apps for children could be an underserved market, presenting an opportunity for producers of high-quality, entertaining and educational Apps.

	Child (N=51)	Adult (N=59)
\$ 0.99	88%	47%
\$ 1.99	10%	8%
\$ 2.99	2%	8%
\$ 4.99	0%	17%
\$ 5.99	0%	3%
\$ 7.99	0%	5%
\$ 9.99	0%	7%
\$ 11.99	0%	2%
\$ 149.99	0%	2%

**Table 1. Price by Age Group**



## RECOMENDATIONS

It is striking that such a significant proportion of the top-selling paid Apps in the education section of iTunes are child-focused, particularly considering that children are not a primary market for either the iPhone or iPod Touch devices. In the Joan Ganz Cooney Center's recent report, *Pockets of Potential*, we argued that mobile devices have significant potential to be a key ally in supporting learning experiences. While gaming devices such as Nintendo's DSi still command the bulk of attention when it comes to kids and all things mobile, this short paper makes it clear Apps are unquestionably a new medium for providing educational content to children nationwide, both in terms of their availability and popularity.

Below are high-level recommendations to help Apps become a dynamic force for children's learning:

- Producers should develop Apps that take advantage of the unique affordances of the iPhone and iPod Touch. Currently, many of the Apps available are simply 'mini' versions of what one might find on a larger screen like a computer, however it is ineffective to take educational applications that have been developed for a big screen and simply shrink them down to be used on mobile devices (see *Pockets of Potential* for a fuller discussion). Developers need to discern what is special about the iPhone and iPod Touch devices and design interventions that take advantage of those attributes.
- The academic community should pay attention to Apps as an important potential factor in children's mobile learning. Researchers should investigate the implications of the current environment, and recognize "what works" in educating children through Apps. These learnings should be disseminated to industry.
- Policy-makers should work with Apple and other mobile industry leaders to engage in consumer protection initiatives to ensure that educational claims are accurate. The children's digital media market is replete with products that advertise unsubstantiated educational claims (Shuler, 2007). iTunes currently risks reinforcing this practice as there is currently no way for parents or children to tell if an App is truly educational, or simply marketed as such. If Apps are to be a new medium for learning, industry standards should be established around marketing products to children.
- Parent magazines, websites and watchdog groups such as Common Sense Media, Consumer Reports' and Parent's Choice should monitor this growing industry to provide consumer information and guidance.

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