

City University of New York (CUNY)

CUNY Academic Works

Publications and Research

Lehman College

2016

Apps in Higher Education: Criteria and Evaluation

Rebecca Arzola
CUNY Lehman College

Stefanie Havelka
CUNY Lehman College

[How does access to this work benefit you? Let us know!](#)

More information about this work at: https://academicworks.cuny.edu/le_pubs/103

Discover additional works at: <https://academicworks.cuny.edu>

This work is made publicly available by the City University of New York (CUNY).
Contact: AcademicWorks@cuny.edu



ADVISOR REPORTS FROM THE FIELD

Apps in Higher Education: Criteria and Evaluation

doi:10.5260/chara.17.3.55

By Rebecca Arzola (*Leonard Lief Library, Lehman College, City University of New York*) <rebecca.arzola@lehman.cuny.edu>
 Stefanie Havelka (*Leonard Lief Library, Lehman College, City University of New York*) <stefanie.havelka@lehman.cuny.edu>

Abstract

In this article, the authors will consider different evaluation methods for mobile applications. A closer look is taken at app criteria and benchmarks by librarians, by topic, accessibility, and rubrics.

Keeping Track of Apps

Librarians attempt to keep a finger on the pulse of change and advancements in technology, specifically apps as one of the newest, for teaching and educational applications. (Leonard Lief Library, 2014, August 25). Technology and apps are “changing the ways we consume, distribute, and create information” (Cassidy et al., 2014).

When Apple launched its App Store in July 2008, customers had the option to download 552 apps including Facebook, Yelp, Evernote, and the New York Times. Google launched its Android Market in October of the same year with only 50 apps. In 2012, the Market Store merged with Google Music and Google eBook Store, building the current Google Play Store (Chu, 2008). As of July 2015, Google Play and the Apple App Store, the top two stores, have 1.6 and 1.5 million apps, respectively. Less popular mobile operating systems still have a myriad of apps, such as Amazon (400,000), Windows (340,000), and Blackberry (130,000) (Android, Apple, Google, Microsoft, AppBrain, Blackberry, WindowsCentral.com, and Amazon, 2015).

Willse states, “Keeping track of high-quality apps across the different device platforms your library and patrons are using can feel overwhelming” (2015, p.27). We certainly can relate to Willse as we strive to find, evaluate, and maintain our app collection at the Leonard Lief Library, Lehman College. App stores, in general, do not have formal evaluation criteria; they use star ratings and reviews that sometimes seem to be uninformed (Henning, 2015). Should libraries use star ratings? How do we decide whether a new note taking app or a new database app is suitable for our students, faculty, or users? Even further, what criteria currently exist for these apps and, if so, are they suitable for libraries?

The Importance of Evaluation

Librarians historically have had to evaluate and assemble print collections to serve their constituents. With the emergence of digital collections, librarians must apply emerging technologies and research available selections and provide feedback. An essential aspect of information literacy, evaluation is an important part of the research process for students. Apps could reasonably correspond to this evaluative practice.

Librarians rely on assessed resources to work smarter, as well as introduce these resources to students. App evaluation is necessary to identify reliable, relevant, up-to-date, intuitive apps that support stu-

dents’ research needs, as well as respond to curriculum requirements. Therefore, evaluating authoritative apps help students make responsible choices. Librarians and students can evaluate apps through reliable reviews and other methods. Students can also assist with this assessment process.

Different Methods of Evaluation

When it comes to app usage, stakeholders have different viewpoints and requirements. Academic librarians may review apps for their instruction and the college curriculum, public librarians review for community programming, and education librarians may review according to state and national standards, and students evaluate apps to serve their research needs.

Librarians

The Charleston Advisor has reviewed apps since 2012. All apps are peer-reviewed by experienced librarians, providing a high standard qualitative review. Evaluation criteria for apps are similar to databases, and contain pricing options, product description, critical evaluation, contract provision, and authentication. A star-based score composite is provided for rating content, user interface/searchability, pricing, and contract options.

Henning (2015) has written about the need for more librarians reviewing apps, as “Librarians with knowledge of the capabilities of mobile devices are in a good position to evaluate apps for their communities and write well-informed reviews.”

Henning has published a review checklist online (<<http://nicolehenning.com/app-review-checklist/>>). She also devoted an entire chapter to app evaluation in her recently published November/December 2014 Library Technology Report, “Selecting and Evaluating the Best Mobile Apps for Library Services.” Her evaluation criteria, among others, includes audience, basic functionality, playfulness, visual design, and disability features, Henning also expands her criteria to include export features (text, PDF), personalization, information sharing with social networks, and syncing of apps between different devices.

The mission of the Leonard Lief Library’s information literacy program is student empowerment: “We seek to teach students to teach themselves and guide students in the process of learning how to learn” (Leonard Lief Library, 2014). The English 111 workshops librarians teach at Lehman College focuses on critical thinking and evaluating information. Students consider areas where they are somewhat expert or knowledgeable, such as choosing what apps to download. **We have developed an app review checklist** (<<http://tiny.cc/appcriteria>>), which we use in our English 111 iPad classes. Criteria used in this app review include currency, relevance, authority, purpose, privacy, intuitiveness, easiness, stability, and security.

Evaluation Rubrics

Several authors from the education field have published rubrics to evaluate apps. Kathy Schlocks' "critical evaluation of a content-based iPad/iPod app" (http://www.ipads4teaching.net/uploads/3/9/2/2/392267/evalipad_content.pdf) form is a quick way to assess apps. Vincent's (2012) blog post, "Ways to Evaluate Educational Apps," refers to a list of different rubrics and/or evaluation forms. The authors especially like the "Educational App Evaluation Checklist" (https://static.squarespace.com/static/50eca855e4b0939ae8bb12d9/50ecb58ee4b0b16f176a9e7d/50ecb593e4b0b16f176aa976/1330884481041/Vincent_App_Checklist.pdf) due to its detail, simplicity in meaning, and completeness in choosing relevant, content appropriate, and functional apps. Rubrics for apps help librarians select and rate them to target their institution's population and curricular needs.

Health Apps

According to Stoyanov, et al. (2015), usage of health apps has increased substantially in recent years. Yet, besides the star rating system, no "app-quality assessment tool" (Stoyanov, et al., 2015, p. 1) has been developed or is officially used by healthcare educators or practitioners. Visser and Buijink (2012) note, that "most [apps] are not evidence-based, irrelevant, trivial, or even downright dangerous. The lack of regulation or guidance for healthcare related applications implies that the validity and reliability of their content is unknown" (p.1). As a consequence, Stoyanov, et al. developed the Mobile App Rating System (MARS) to evaluate health apps. Criteria in MARS consist of five items: engagement, functionality, aesthetics, information, and subjective quality. Each of these is further divided into subscales. The information category includes the subsets accuracy of apps description, goals, quality of information, quantity of information, visual information, and credibility. Even though MARS was developed primarily to evaluate health apps, Stoyanov, et al. suggests that the "scale can be modified to measure the quality of non-health related apps" (2015, page 6).

Another relatively new evaluation strategy is peer review of medical apps by the JMIR mHealth and uHealth Journal. Developers/manufacturers or third parties can fill out an online form available at <http://tinyurl.com/appsform>. Reviewers rate apps according to different criteria such as target audience, purpose, and privacy policy. Reviewing of apps is not free as the journal charges a fee for their peer reviewed app service.

Further, the Web site iMedical apps (<http://www.imedicalapps.com/>) for medical professionals, patients, and others interested in mobile medical technology and health care apps, offers a multitude of reviewed apps and frequently adds more. However, we could not find consistent evaluation criteria for these apps. We recommend that the creator of this helpful Web site create more consistent app evaluation criteria.

Accessibility Features for Diverse Learners

Criteria for collection development of apps should include accessibility features, compatibility of apps with built-in accessibility features of mobile devices, as well as ease of use and understanding for students. All learners can benefit from accessible features like zoom, large text, white text on black background, speaking selections, and assistive touch (Miller, Doering, 2014). Partnering with your campus Office of Student Disabilities Services or Assistive Technology Center to consider apps used by these students would be helpful.

An Evaluated App Gallery by Topic

An evaluated app gallery by topic is another way to look at and choose apps. Government information is available for the public to access on Web sites including USA.gov. Mobile apps from federal government agencies and entities are accessible in the USA.gov app gallery (<https://www.usa.gov/mobile-apps>) (USA.gov, n.d.). This site also created an apps policy demonstrating how they evaluate and accept apps (USA.gov, 2015).

Here is a modified version of the USA.gov App Policy (<http://www.usa.gov.edgesuite-staging.net/About/App-Policy.shtml>) that has been modified for academia:

1. The content of the app should be specific to a mobile device.
2. Audience: The app should provide an academic service.
3. The app should be relevant to an academic audience.
4. The app should, whenever possible, have built-in switch accessibility and/or have built-in VoiceOver support from the app developer.
5. The app must be up to date and accurate.
6. Contact information: Contact information of maintainer of app must be provided, verified, and updated. In the event of problems or questions, the library needs to be able to contact this app maintainer.
7. Privacy/Security
8. External Links/Disclaimer Endorsement/Web site Notice:
 - a. The library provides the app and information within the app for information and convenience.
 - b. Links and pointers directed outside the app indicates you are leaving the app and are subject to the privacy and security policies of the outside Web site.

Evaluation Never Ends

Librarians can successfully locate apps that support teaching, learning, and research. Apps can be reliable sources when assessed with criteria from evaluation forms and rubrics. Criteria for technology and apps are still an effort in progress development and interconnect with the needs of those who use them. Criteria are fluid and intertwine with the needs of the institutional population that uses it. As librarians we will continue to monitor apps and their different evaluation approaches.

More to Come

In an upcoming column, we will discuss statistics and apps, mobile strategies, and future developments. If you have questions about what your library needs to improve support for mobile users, please contact us Stefanie.Havelka@lehman.cuny.edu and Rebecca.Arzola@lehman.cuny.edu.

Author's References

Android, & Apple, & Google, & Microsoft, & AppBrain, & BlackBerry, & Various sources (WindowsCentral.com), & Amazon. (n.d.). Number of apps available in leading app stores as of July 2015. In Statista - The Statistics Portal. Retrieved November 28, 2015, from <http://www.statista.com/statistics/276623/number-of-apps-available-in-leading-app-stores/>.

Cassidy, E. D., Colmenares, A., Jones, G., Manolovitz, T., Shen, L., and Vieira, S. (2014). Higher Education and Emerging Technologies: Shifting Trends in Student Usage. *The Journal of Academic Librarianship*, 40(2), 124-133. doi:10.1016/j.acalib.2014.02.003

Chu, E. (2008, October 22). Android Market: Now available for users. Retrieved November 27, 2015, from <<http://android-developers.blogspot.com/memex.lehman.cuny.edu:2048/2008/10/android-market-now-available-for-users.html>>.

Green, Lucy Santos, Hechter, Richard P., Tysinger, P. Dawn, & Chasereau, Karen D. (2014). Mobile app selection for 5th through 12th grade science: The development of the MASS rubric. *Computers & Education*, 75, 65-71.

Friedman, L. (2013, July 8). The App Store turns five: A look back and forward. Retrieved November 27, 2015 from <<http://www.macworld.com/article/2043841/the-app-store-turns-five-a-look-back-and-forward.html>>.

Hennig, N. (2014). Selecting and evaluating the best mobile apps for library services. *Library Technology Reports*, 50(8), 1.

Hennig, N. (2014, May 24). What to include when reviewing mobile apps: A checklist - Nicole Hennig. Retrieved October 30, 2015, from <<http://nicolehennig.com/app-review-checklist/>>.

Hennig, N. (2015, February 24). Writing App Reviews | American Libraries Magazine. Retrieved November 10, 2015, from <<http://americanlibrariesmagazine.org/2015/02/24/writing-app-reviews-2/>>.

Leonard Lief Library. (2014, August 25). Information Literacy. Retrieved November 28, 2015, from <<http://www.lehman.edu/library/information-literacy.php>>.

Leonard Lief Library. (2014, August 20). Mission Statement. Retrieved December 1, 2015, from <<http://www.lehman.cuny.edu/library/mission-statement.php>>.

Miller, C., & Doering, A. H. (2014). *The new landscape of mobile learning: Redesigning education in an app-based world*. New York, NY: Routledge.

Stoyanov, S. R., Hides, L., Kavanagh, D. J., Zelenko, O., Tjondronegoro, D., and Mani, M. (2015). Mobile App Rating Scale: A New Tool for Assessing the Quality of Health Mobile Apps. *JMIR MHealth UHealth*, 3(1). doi:10.2196/mhealth.3422.

USA.gov. (n.d.). Federal Government Mobile Apps Directory. Retrieved December 1, 2015, from <<https://www.usa.gov/mobile-apps>>.

USA.gov. (2015, May 11). Mobile Apps Policy. Retrieved November 20, 2015, from <<http://www.usa.gov.edgesuite-staging.net/About/App-Policy.shtml>>.

Visser, B. J., & Buijink, A. W. (2012). Need to peer-review medical applications for smart phones. *Journal of Telemedicine and Telecare*. doi:10.1258/jtt.2011.110205.

About the Authors

Rebecca Arzola, Assistant Professor, Government Documents-Collection Development Librarian, Leonard Lief Library, Lehman College, City University of New York, obtained her MEd in Special Education from Lehman in 2003. She received her MSLIS with Advanced Certificate in Archives from Pratt Institute in 2009. She is a member of American Library Association, ALA's Government Documents Round Table (GODORT), and METRO's Government Documents Special Interest Group.

Stefanie Havelka, Assistant Professor, Electronic Resources-Web Service Librarian, Leonard Lief Library, Lehman College, City University of New York, obtained her MCIS from Rutgers University in 2002. In 2009, she earned her MSLIS from Syracuse University. Stefanie has been teaching Mobile Information Literacy classes since 2011. Her research interests include mobile learning and instruction, mobile privacy and security, and Web and mobile usability. ■