

A Preliminary Usability Study of Follett's Destiny Basic and Visual Search Functions

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Abstract

This poster examines the results of a usability study of the basic and visual search functions of Follett's Destiny catalog for K-12 schools. The study was conducted with a sample of seven middle school students. Overall, the results indicate that the participants found the system usable. Suggestions are offered for the design of the software. A larger study examining the additional features of Destiny is planned for the future.

Keywords: usability, youth, information seeking, interface design

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1 Introduction

Follett's Destiny is a library automation solution offered for K-12 schools. Many school districts purchase the program as a convenient district-wide management solution for interlibrary loan, report development, district-wide search capabilities, and easy online access for teachers and students. While the interface appears easy to use for adults, interfaces must be specially designed for the needs of children. This usability study examines the basic and visual search functions of the Follett Destiny software to determine their feasibility for students who attended a school in a low income area that performed below government mandated academic standards.

2 Methodology

Researchers note that five subjects are enough for usability testing (Barnum, 2010; Tullis, & Albert, 2013; U.S. Department of Health and Human Services, 2014). Studies with at least five participants are able to identify usability issues at a similar rate to studies with more than five participants (U.S. Department of Health and Human Services, 2014). Because this study is exploratory in nature, using a small sample was appropriate for determining the aspects of the software that worked well for the students and the common errors that they made while using the software (Tullis, & Albert, 2013).

Barnum (2010) further specifies that participants of small studies should have similar characteristics. As such, a purposive sample of seven middle school students were selected to participate in the study. Three were male and four were female. All of the students attended a school in a low income area that was considered to be performing below acceptable academic standards as mandated by the state of Florida's Department of Education. Each student used computers at school at least ten hours a week and had little experience using Destiny.

Usability testing was employed to assess how well the students were able to interact with the Destiny website. The students were given the same predefined task list to complete. However, they did have flexibility in choosing the subjects, keywords, or titles they wanted to find. This was done to make the process as realistic as possible. The students were encouraged to think aloud and share their feelings about the Destiny website as they performed the tasks while being observed. Notes on their behaviors were taken.

In addition, the participants were interviewed with pre and post tests. They were asked questions as they performed the predefined tasks to help them think aloud. The information gathered during the interviews was coded to supplement the quantitative data that was collected.

The last research method used was a brief survey. The survey was an adaption of the System Usability Scale (SUS) (Brooke, 2014). The SUS is a survey that is described as, "a reliable, low-cost usability scale that can be used for global assessments of systems usability" (Brooke, 2014). The SUS utilizes a ten-question Likert scale that allows study participants to subjectively rate their experience while using a system. The participants' responses were then calculated and used to determine a usability score.

3 Findings

3.1 Usability Scale Results

Overall, the results signify that the students enjoyed using Destiny. After calculating the scores on the usability scale, one can conclude that the website was usable to the students who participated in the study. The average usability score calculated by using the SUS was 72.8%. In reference to the website, one student remarked, "I feel like it can help me".

When asked about using the catalog in the future, 57.2% agreed or strongly agreed they would be likely to use the website frequently. These results are encouraging because 100% of the participants used browsing the library as their primary method of finding books. 28.6% asked the school librarian or clerk for assistance. Only one respondent had limited prior experience using Destiny. Thus the students were able to use the website and get minimal results without having an extensive amount of experience or training. See Figure 1 for a graphical representation of the SUS results.

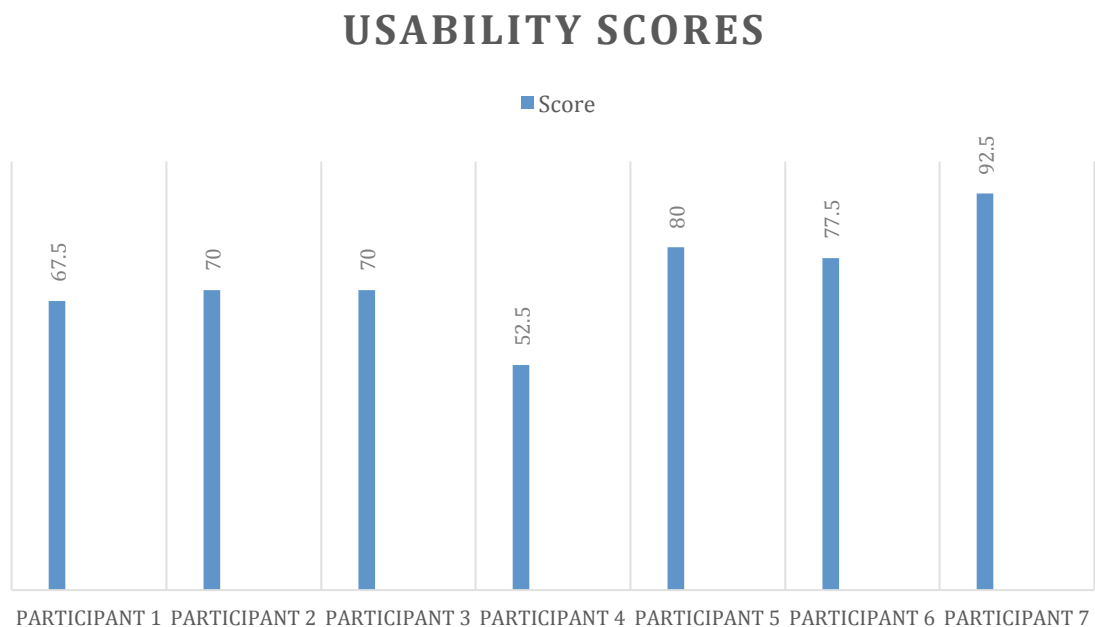


Figure 1: Usability Scores

3.2 What Participants Liked

The students were able to identify features of the Destiny visual and basic searches that they enjoyed. Overall, they communicated approval of the visual search interface. Six of the respondents concluded that the visual search page was their favorite search option. They found the visual search to be more conducive to their searching capabilities.

Another feature the participants enjoyed was the details page. This feature gives site users a variety of information such as book publication dates, similar titles, and book summaries. Students felt the information provided on the details page could be used to help them choose books and write reports. See Figure 2 for a list of features that the participants liked.

FEATURES PARTICIPANTS LIKED

■ Visual Search ■ Faster than browsing ■ Mostly easy ■ Information about books

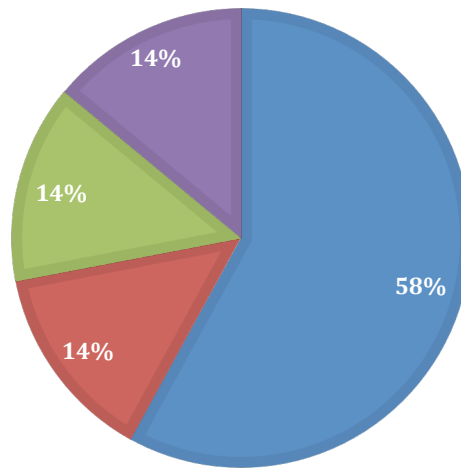


Figure 2: Features Participants Liked

3.3 What Participants Did Not Like

The students identified several changes that can be implemented to make Destiny more user friendly. When asked what would be the first aspect of Destiny that they would change as web designers, graphics was the answer submitted the most. There was one area of the website all of the students agreed was visually pleasing. This was the visual search. Overall, the students did not find the interface of Destiny to be welcoming. The website did not “grab their attention”.

The next area students suggested should change is the “Power Search” screen. 85.3% of the participants thought that this part of the website looked confusing. While viewing the students’ interaction with the screen, it was evident that most of them did not understand how to use the “Power Search” feature. A student said, “I don’t know what it’s about. There is no title to tell me what it does.”

Despite liking the visual search the most, the students still voiced some concerns about the search interface. It had limited search capabilities requiring the students to search predetermined categories. They were pleased with the accuracy of the books retrieved. Yet they were simultaneously disappointed when they found the results to be limited because there were only a few search categories available. One respondent commented, “I can only see a few books because I have to search using these subjects.”

There were two instances where students were unable to complete their initial queries because they did not use the correct punctuation and/ or spelling. For example, a student tried to search for the term football. Instead of typing football, the student typed foot ball. The search did not yield any results. The system sent the message, “No matches found. Try using search terms or browse subject.”

Destiny does have a mechanism to help with incorrect spelling that is not an “obvious” feature. It appears as a drop down menu that students may not understand how to use. One participant navigated to the drop down menu and did not appear to notice it. In addition, the drop down menu may not always appear. Sometimes the system indicate that there are no search results.

FEATURES PARTICIPANTS LIKED THE LEAST

■ Power Search ■ Appearance ■ Visual Search ■ Inapplicable

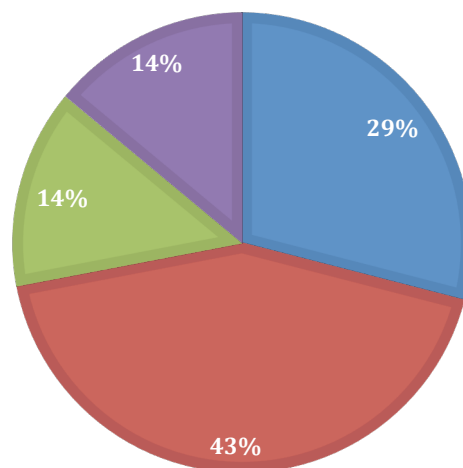


Figure 3: Features Participants Liked the Least

4 Conclusion

Today's children are brought up in an environment where the use of computers is second nature (Cooper, 2005, Dresang, 1999). Yet like the Internet, the Destiny catalog presents a wealth of information that students may not understand how to access. What is one to think when the digital generation cannot fully manipulate their school library's catalog website?

While Destiny provides robust solutions for school librarians, there are still some usability issues for students. Simple adjustments such as automatic correction for misspelled words, explanations for drop down menus, and more categories in the visual search can improve the experiences of students. While the system does produce results, it is not completely intuitive. Students need to be introduced to the catalog to fully benefit from the system.

There are also issues that go beyond the basic use of Destiny functions. All of the students that participated in this study attended a school that performed below the academic standards set by the state of Florida. These students can be considered a subgroup because of their experience with Destiny and location and academic standing of their school. Other subgroups might include students in middle and upper class neighborhood schools that perform well according to state standards.

Although the students had access to computers at school, one wonders if the presence of information poverty contributed to their difficulties with using the basic search features in Destiny. It is possible that students in another school with a better academic standing or wealthier location may have manifested different results. In the future, researching the differences in results can help to determine how to modify information retrieval systems and create differentiated information literacy curriculums to prepare students for college. Moreover, school librarians can incorporate usability testing strategies as a way to explore the information literacy skills of youth and for collecting data that can be provided to Follett for improving Destiny features. This is important because a student's ability to perform basic information seeking tasks can have a direct impact on their academic success in college (Latham & Gross, 2011).

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