



*Evidence Summary*

**Children Display Seven Distinct Roles When Searching Online at Home**

**A Review of:**

Foss, E., Druin, A., Brewer, R., Lo, P., Sanchez, L., Golub, E., & Hutchinson, H. (2012). Children's search roles at home: Implications for designers, researchers, educators, and parents. *Journal of the American Society for Information Science and Technology*, 63(3), 558-573. doi:10.1002/asi.21700

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**Abstract**

**Objective** – To explore children's Internet searching at home in order to make recommendations to designers, researchers, educators, and parents on how to assist children in becoming search literate through understanding children's search roles.

**Design** – Qualitative, exploratory study.

**Setting** – Children's homes in the urban areas of Maryland, Virginia, Delaware, and Pennsylvania.

**Subjects** – 83 children (28 children were age 7, 29 were age 9, and 26 were age 11). 41 of the children were female and 42 were male. Parents of the children were also included in

the study. 77% of the parent interviews were carried out with mothers, 15% were with fathers, and 8% were with both parents together.

**Methods** – The authors conducted qualitative interviews both with the parents and the children. Parents were interviewed first and the interviews were audiotaped and transcribed. The interviews covered computer rules, children's experience in searching, searching habits, and areas of frustration. Interviews with the children covered questions about frequency of computer use and reasons for searching. These interviews were video recorded and transcribed. After the interview, the children were asked to complete five search tasks, which were video recorded, and were asked if they had successfully completed

the task and why they clicked the link results. The researchers also took notes throughout the interviews and search tasks.

The researchers were able to analyze 80 transcripts from the children and 75 transcripts from the parents. The interview transcripts were coded using inductive, qualitative coding starting with open coding to identify categories of children's search roles. The transcripts from the children interviews were coded three times by one researcher and the coding was verified by another researcher. The transcripts then were coded again using the code book developed by the first researcher. The researchers completed axial and selective coding to refine their search role categories. The researchers also analyzed the data in order to identify behaviours that distinguished the categories from each other. The same coding process was used for the parent interview transcripts. The results from the analysis of the parent interviews were used to verify findings from the children transcripts.

**Main Results** – Children searching at home show seven different searching roles: developing, domain-specific, power, nonmotivated, distracted, rule-bound, and visual, with each search role being delineated by specific behaviors and/or abilities. Triggers for searching change as children age, with younger children searching based on personal interests while older children search for school-related information. Children rely on summaries shown on the results page, as well as familiarity with known websites, in deciding which links to click. Children are interested in both moving and still image results, with visual searchers, power, and distracted searchers frequently mentioning images in their interviews. Power searchers, those with the ability to use keywords and with an understanding of search engines, discussed less influence on their searches than others. Parents have more influence over younger children while school has more influence over older children. Parents helped and influenced their children's searching in varied ways including demonstrating and offering advice for searching and setting rules for searching. Children often reported

frustration with their searches, which was also reported by parents. Most of the children were unable to complete the complex search task as they were unable to separate the query into multiple parts. Few gender differences in searching were found, although researchers reported that games were a trigger for boys more often than girls, and boys declined to search more than girls. Girls were more influenced in their searching than boys and stopped searching due to boredom more often than boys.

**Conclusion** – The authors suggest that the findings can help search engine designers, researchers, educators, and parents to assist children in becoming search literate. Designers should enable scaffolded, assisted searching in order to help searchers, especially with separating out multiple parts of a complex question and with encouraging fact-checking. Educators and parents can coordinate their efforts to more effectively help children overcome searching frustrations and challenges. Researchers could replicate the study to validate the search roles discovered by the authors and also extend the study to focus on searching in regards to gender and use of other devices, such as smartphones and tablets.

### Commentary

This study adds to the large body of literature on online searching and contributes to a greater understanding of children's searching in the home. As the ability to search effectively for information online becomes more necessary at a younger age due to the increased use of computers and mobile devices in grade school and the need to search in order to complete homework assignments, understanding children's searching behaviours and roles becomes crucial in order to assist them in becoming search literate. This study should be of great interest for educators and parents who work with the children, as well as designers who are charged with improving search engines for use by children.

This study is well-written and overall well-designed, providing valuable information on the various roles children conform to while searching at home. This study's design and findings are valid according to an evaluation using the Critical Appraisal Checklist by Glynn (2006). Having multiple researchers code the transcripts increased the reliability of the results. The search roles found by the authors do appear to be supported by the data and the authors explicitly stated research limitations and data loss issues that allowed for the transcription and use of approximately 90% of the transcripts. The inclusion of the interview questions/guide would have strengthened the study; however, the inclusion of the specific search task questions should allow others to replicate the searching portion of the study if not to replicate exactly the background interview questions. Also, as the interview questions and search tasks appear to have not been previously used or validated, the use of a pilot study would have strengthened the study.

The only puzzling part of the study is that, although it obviously followed a grounded theory approach, the authors never explicitly state the use of grounded theory. However, from the references to the work of Corbin and Strauss (2008), the construction of the literature review in relation to the results of data collection and analysis, and the procedures of data analysis, the influence of grounded theory can be seen clearly. Grounded theory is a reasonable approach given the exploratory nature of the study and its use in other studies

of search behaviour and information-seeking (Ostrander, 2008).

Understanding the various search roles of children is an important contribution to the profession's knowledge of children's searching behaviours and will assist librarians, teachers, and parents in helping children learn to search more productively. As the researchers note, the findings may also help designers improve search interfaces. Continued research in this area, including the authors' follow-up study on adolescent searchers, will strengthen the research base, which practitioners can draw on as they create lessons, activities, and guidelines for helping children become search literate.

## References

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