What It Means to Be "In-Between": A Focus Group Analysis of Barriers Faced by Children Aged 7 to 11 Using Public Libraries[1]

Les obstacles auxquels sont confrontés les enfants âgés de 7 à 11 ans lors de l'utilisation des bibliothèques publiques

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Abstract: This focus group study examines the perspectives of library users aged 7 to 11. We build on the work of Large and Beheshti (2001) to evaluate the focus group as a research method for studying children in this age group. We draw from research on children's cognitive, social, and affective processes and development to determine the characteristics and problems that children in this age group identify in their information seeking and library use.

Résumé : Cette étude basée sur un groupe de discussion examine les perspectives des utilisateurs de bibliothèques âgés de sept à onze ans. Nous utilisons la recherche de Large et Beheshti pour évaluer le groupe de discussion en tant que méthode de recherche pour les enfants de ce groupe d'âge. Nous empruntons à la recherche sur les enfants, des processus et des développements cognitifs, sociaux et affectifs, afin de déterminer les caractéristiques et les problèmes que les enfants de ce groupe d'âge identifient lors de leur recherche d'information et de leur utilisation de la bibliothèque.

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Introduction

The knowledge that a large number of children have access to computers and make use of the World Wide Web, e-mail, and instant messaging often results in the assumption that access and use will create proficiency. The implication of this assumption is that any computer-based library tool (OPAC, CD-ROM, or Web-based reference tool or game) will be within the reach of child users. One can almost imagine the library racing to catch up with these children who are skateboarding along the information highway at a great clip.

Although some suggest that the World Wide Web has indeed reshaped the way children access, retrieve, and create information (Bilal and Watson 1998), it is also clear that children lack a conceptual understanding of the information-search process and that their limited knowledge base and their stage of cognitive development compound the challenge of searching. Even though children perceive themselves as motivated and competent in using technology (Watson 1998), many do not understand research processes and experience difficulties in formulating search strategies (Bilal and Watson 1998; Borgman et al. 1995; Kuhlthau 1993). Moreover, research has shown that level of domain knowledge influences the way people search for information (Hirsh 1995). This is especially true for children, whose developing cognitive ability, language acquisition, and literacy skills, as well as limited life experience, restrict the tools they can bring to the information-search process (whether on the Web or through traditional print resources). Apart from Cooper (2002a; 2002b; 2002c) and McKechnie (1996; 2002) there seems little comment in the literature about what children actually do when they use the library. In particular, most research, and indeed most library services and programs, focus either on children from birth to 18 as a generalized group or target early intervention or young adult use. We argue that this results in a gap in service for children aged 7 to 11.

This gap exists for several reasons. Firstly, younger children (from birth to six) tend to have a parent or adult supervisor accompany them who fully negotiates their reference needs. Secondly, these younger children are targeted at much higher rates by library programs such as story time or by early literacy initiatives. Thirdly, children 12 and over are considered more like adults in their information-seeking needs and behaviour and are more likely to be considered (and treated) as young adults (Bopp and Smith 2001). In fact, the range of children's services generally is modelled on adult services (Bopp and Smith 2001; Hirsh 1997; Katz 1997; Overmyer

1995). Lastly, a very subtle process appears to particularly affect these middle years (children aged 7 to 11): Children's literacy acquisition often lags behind their intellectual ability and curiosity. Thus, children in this age range are very likely to have developing literacy skills that limit their information-seeking ability—especially their success at finding different kinds of information and interpreting what they find—while they are, nevertheless, expected to negotiate a lot of information seeking independently. In other words, children in the middle years of childhood are "in-between" dependence and independence, a fact that influences their approach to information seeking, including their use of reference services.

There is little discussion, in the literature, of information seeking in the middle years of childhood. In seeking to serve child users, we argue that libraries would do well to look beyond the generalizations and explore how children really interact with computer- and print-based information sources. To this end, we conducted focus group interviews with twenty 7- to 11-year-olds, in which they described the joys and frustrations they experienced when using the library. This article provides an overview of our method and findings.

Review of the literature

The small amount of research on children's information seeking and use of libraries is fascinating, covering at least three domain areas: reference service (Bishop and Salveggi 2001; Fitzgibbons 1983; Gross 2000; 2001; Overmyer 1995), information seeking (Cooper 2002a; 2002b; Kuhlthau 1993; Lee and Smagorinsky 2000); and information seeking specific to the Internet (Bilal 2002; Bilal and Watson 1998; Hirsh 1997; 1999; Large, Beheshti, and Rahman 2002). Three theoretical perspectives have contributed significantly to our understanding of children's information seeking: research on cognitive, social, and affective processes and development.

Research based on Piaget's theories of cognitive development defines stages of sequential development that are qualitatively different from one another (even if they may overlap or not be clearly defined) (see Sutherland and Arbuthnot 1991; Meadows 1993). Such research indicates that the period of concrete operations (occurring approximately between the ages of 7 to 11) is a special stage of development. During this period, two processes emerge in more profound ways. These are conservation (the ability to distinguish between surface characteristics and the underlying

characteristics of objects) and reversibility (understanding that events can be represented in ways that diverge from the order in which they actually occurred). Moreover, this is a transitional stage where children demonstrate differential acquisition of these skills across the defined age range (Sutherland and Arbuthnot 1991; Meadows 1993). Essentially, this means that children in this stage are developing their ability to exercise both logical and critical thought. By extension, this also means they not only can begin to apply different approaches and strategies to finding information but also can begin to critically assess what they find. Additionally, children in this phase of development are learning to categorize and use classifications—both assets in information seeking.

Bishop and Salveggi (2001) clearly indicate different needs and abilities in children's use of reference services and in their information-seeking behaviour, as suggested by their Piagetian developmental stage. Cooper (2002a; 2002b) highlights the importance of the concrete operational phase as a constraint on information seeking. She shows that children in this phase are locked into concrete, non-symbolic modes of searching for information. They are far more likely to use visual cues and prefer them over textual ones. Browsing on the shelf provides multi-sensory stimulation (looking, moving, touching), but moving from the shelf to the abstract computer screen can pose difficulties, especially if there is no intermediary. Children at this stage may have difficulties with spelling, may not use or understand Boolean logic, and may not be able to interpret the information they have found (Bilal and Watson 1998; Cooper 2002a; Laverty 2002; Walter 2001) or question the accuracy of their sources (Branch 2002; Cooper 2002a; 2002b; Gross 2001; Hirsh 1999; Schacter, Chung and Dorr 1998).

The information-search process is further complicated for children because information systems are usually designed for adults and therefore "reflect the typifications of the library and the larger culture rather than those of the information seeker" (Cooper 2002c). Cooper suggests that a library is a thought community, a cultural typification that mediates the way we understand information. A thought community has a particular way of organizing or categorizing information that members must then be able to negotiate meaningfully. For the patron or information seeker to interact successfully with the library, he or she must move from a personal to a cultural perspective. This transition becomes problematic if an individual is not able to make that leap; for example, when children are moving from visual to textual literacy and are attempting to cope with abstract versus

concrete modes of searching. Simply stated, children are required to get information from text at a time when they are still decoding that text. In a case like this, the information process breaks down unless there is assistance from an intermediary (Cooper 2002c).

McKechnie (2002) indicates that children on the cusp of independence are unlikely to seek help in their information search because their newly established independence is a point of pride for them. This "point of independence" or ability to complete tasks without support is a central component of Vygotsky's understanding of cognitive processes.

Vygotsky considered learning to be inherently social and argued that cognitive development is a collaborative process, in which interaction with more knowledgeable adults or peers is the primary vehicle for intellectual development ((NAEYC 1990; Meece 2002; Meadows 1993). Three components of Vygotsky's theory are significant in terms of library practice. These are the "zone of proximal development" (or ZPD, the gap between what children can do with assistance and what they can do on their own), "guided participation" (a process of shared and reciprocal learning, where the adult helps a child choose and structure her or his activities to fit her or his skill and interest level and monitors the child's participation and adjusts her or his own level of participation to help the child toward independence), and "scaffolding" (the process by which an adult provides support to a child who is trying to master a task; specifically, it is the ways adults direct or perform elements of the task the child cannot yet do independently) (NAEYC 1990; Meece 2002; Meadows 1993). In essence, the process is socially embedded and mutual (NAEYC 1990; Meece 2002; Meadows 1993).

A third influential theorist is Carol Kuhlthau (1993), who identified the affective element in the learning process, specifically as it applies to information-seeking behaviour. The affective dimension is the bridge that joins the cognitive (thoughts) with the physical (actions) in terms of how we feel about the process of information seeking. Kuhlthau's "information search process" (ISP) model describes the process used by information seekers to derive meaning from information and identifies the feelings, thoughts, and actions associated with each phase of the process. Kuhlthau theorizes there is a "zone of intervention" (theoretically similar to Zygotsky's "zone of proximal development"), which is "the area in which a user can do with guidance and assistance what he or she could not do alone" (Cooper 2002a).

These theories converge in an area of educational practice known as "DAP" (developmentally appropriate practice; NAEYC 1996). DAP refers to the extent to which knowledge of how children learn and develop cognitively is applied in program practice. It assumes, with Piaget, that developmental tasks differ from stage to stage and advocates, as Vygotsky would, the leadership, modelling, and mentoring associated with a more capable learner's influencing and interacting with a younger, less developed learner. The principles of DAP are congruent as well with Kuhthau's integration of the affective domain as a major area of childhood development.

So the scene for children and the special constraints they experience in information seeking is set: Children between the ages of 7 and 11 are likely to be entering, in, or moving out of the concrete-operational stage of development. They have limited literacy skills and life experience, and their learning is socially rooted, requiring a mediator. In terms of navigating a culturally typified environment such as a library, this does not bode well (Cooper 2002c). This article describes the ways that a group of 7- to 11-year-old children describe their use of libraries and the barriers they encountered.

Methods

As part of an MLIS guided research course supervised by McKenzie, Harris developed the research questions and method and took the lead in collecting and transcribing the data. McKenzie participated in the study design and the data collection, and both contributed to the analysis and writing. The length of the MLIS term put some limitations on the sampling and the number of interviews conducted. Our initial plan to recruit through public libraries did not result in any volunteers. We turned to our back-up plan of snowball–convenience sampling. Over the course of 14 weeks, ethics approval was secured; interviews were planned, completed, and transcribed; and preliminary analysis was conducted.

A primary purpose of this research was to have the opportunity to employ focus group interviews as an investigative tool. The purpose of selecting the focus group method was two-fold. Firstly, we hoped to capture the essence of children's own perceptions and understandings of their own information-seeking behaviour—do they know what's going on when they seek information? Do they know what steps to take and why? And once they find answers, what do they do with them? Do they understand the

information they found? Can they successfully apply the information they find (to a project or locating a book to read)? The second purpose of the focus group was to identify the information-seeking strategies these children thought they had and to isolate which of these search strategies, if any, were employed in the library.

Large and Beheshti (2001) suggest that focus groups comprised of children can provide an invaluable aid to researchers because they can tell us "why" as well as "what." The goal of a focus group is to elicit the ideas, attitudes, perceptions, and feelings that participants may have about a topic. Participants are encouraged to provide their own point of view. As well, the interaction between participants helps draw out the widest range of viewpoints. Overall, it is recommended that focus groups for children be small and of short duration, that groups be segregated by gender, and that the participants not know one another because knowing each other may make it harder to disclose information or express a wide range of views (Large and Beheshti 2001; Kruger and Casey 2002). On the other hand, there is also evidence showing that children are more relaxed and willing to express their opinions on sensitive topics when talking with peers and that group interaction is helped when participants know one another. In all, it appears that focus groups, as a research method, can offer children ideal circumstances for expressing their views while providing the researcher a flexible means to explore the dimensions of information seeking in children.

For this study, we conducted three focus groups in a southern Ontario city. Two interviews took place in a community space familiar to all the children. One of these had 7 participants—3 boys and 4 girls, aged 10 to 11 and in Grades 5 and 6; the second group had 10 participants—5 girls and 5 boys, aged 7 to 9 and in Grades 1 to 3. The third interview group had 3 boys, aged 7 to 9 and in Grades 2 and 4, and took place in the home of an acquaintance of the participants. All of the children could write well enough to sign at least a first name on the consent form and were all able to read their own names and in most cases the names of their friends. Children were expected to participate in the focus group independently. Their participation was voluntary, with parental consent. Participants were invited to participate and we provided them and their parents with a more detailed description of the project and gave them letters of information and consent forms. The study complied with the ethical guidelines of the Canadian Tri-Council on Research (Tri-Council policy statement 2003).

The focus group sessions lasted approximately one hour each, with additional time for snacks. Each session was taped and later transcribed for analysis. Both researchers participated in the focus group process. Harris served as the group facilitator and McKenzie performed note-taking tasks and took care of such practical matters as organizing food. Two tape-recorders were used for each interview.

Each group began with general introductions (name, age, grade) and an icebreaker. The icebreaker helped to set the tone, in addition to providing general orientation for the researchers and establishing markers for the ensuing transcription notes. General background questions were asked next, such as, "How often do you visit your library?" "Do you come on your own or with a parent/guardian or older sibling?" "Why do you come?". The questions then progressed in complexity, covering several different "question domains" that we developed from the research literature and included in the interview schedule:

- dependence versus independence (e.g., "Can you tell me a bit about what kinds of things you can do in the library on your own?")
- cognitive versus practical understandings—"cognitive" refers to a child's ability to understand information seeking as a process, while "practice" refers to a child's ability to act on what she or he finds (e.g., A step-by-step walk-through of searching for information for a homework assignment)
- imposed versus self-initiated queries—in an imposed query people seek information on behalf of others (Gross, 2000), whereas self-initiated queries are those questions children pursue for their own interest (e.g., "Do you do something differently looking for homework information than you would finding something for your own interest?")
- experience with libraries both school and public
- use of library resources (both print and on-line)
- when and why a child might ask a librarian for assistance
- organizational, classification, and visual schemes of libraries—How well do these match the organizational strategies of the child (e.g., "What are the call numbers for?" "Can you find a book by using the call numbers?")?

We will describe two types of findings: our experience with the focus group method and our analysis of what the children said. Overall, our find-

ings suggest that these children experienced a number of particular barriers to using the library, corresponding to what one might expect of the concrete-operational stage of development.

You put cheese in my ear! or How not to do focus groups with young children

We faced many challenges in conducting successful focus groups with children, mostly to do with control, group size (too big), noise (too loud and/or too many conversations and laughter at once), and locale (too familiar for the children interviewed in the community setting): These children felt quite comfortable getting up and moving around or leaving the room to visit the washroom. The third group was smaller and therefore more focused, and it took place in a new environment, which effectively constrained opportunities for running about. Additional challenges were the timing and frequency of snacks and the difficulties of running an interview while snack time was going on. Two interviews had two snacks each: one to begin with and another midway as a break. We were amazed at the children's capacity to eat!

A researcher needs to be a child at heart to get through the focus group process with children. This discussion (or attempted discussion) on locating a book in the library gives a flavour of the sorts of goings on:[2]

> **Researcher:** Okay, so how do you begin looking for something? Say you have you want an answer, homework you want to do, a book or a magazine you want to find, what's the first thing you do to find it?
>
> **Angus:** Um I try to find it.
>
> **Researcher:** You just try to find it.
>
> **Angus:** You just look. I look and if I can't find it …
>
> **David:** Look for it!
>
> **Angus:** I ask the librarian.
>
> **Andy:** Same here.
>
> **Researcher:** Okay so if you can't then you ask the librarian. [*Angus loudly breaks wind*]
>
> **Andy:** Oh Angus!
>
> **Angus:** Excuse me Andy!
>
> [*Researcher chuckles*]
>
> **Andy:** That smells so disgusting! It smells, it, does somebody have a ahhh
>
> [*Darth Vader breathing*] …

Many of our most challenging moments related to the snack—waiting for it, serving it, sharing it, eating it, spilling it, and doing some unexpected things with it:

> **Researcher:** And if the library is making you feel pressured that you have to take [the book] back?
>
> **Rose:** Well I'll take it out again.
>
> **Researcher:** You'll take it out again?
>
> **Steve:** You put cheese in my ear!
>
> **Mike:** I did not put cheese in your ear.
>
> **Steve:** Where did you put it?
>
> **Researcher:** So you, [it's] kind of frustrating to have to renew your books?
>
> **Mike:** I was patting your head and you hit my hand. I put cheese in his ear! [*laughs*]

Despite a lot of spirited chaos, the interviews were rich in text and ideas. Being in a group drew these children out, excited their interest, and their innate desire to be included and part of the goings on meant that they were eager to participate and be heard. Additionally, quieter children or shyer children were able to participate at their own comfort level. We feel quite strongly that, had any of these shyer children been brought to a one-on-one interview, it would have taken a lot of interview time to coax and draw them out. In a focus group setting, these children felt like they were participating, and we're sure a sense of group belonging and rapport did the work of drawing them out: When ready, these kids made very valid and intriguing contributions to the findings overall.

Hey! Give my shoes back! Recommendations for running focus groups with children

Our experience of doing focus groups with children was similar in many ways to that of Large and Beheshti (2001). However, the participants in their study ranged in age from 10 to 13. We would offer some recommendations for working with younger children, in addition to those they provide:

- Timing is important; as later in the day children are tired, first thing in the morning seems ideal.
- Do provide a snack, but save it to the end of the interview if possible, or have clearly defined snack times, such as before the interview or during a break mid-way.

- Make sure snack is completely cleared up before the interview continues.
- Have the snack in house—do not order out unless it can be timed to arrive at the end of the interview.
- Keep the interviews short. Although Large and Beheshti found hour-long interviews to be effective, we felt that 45 minutes for 7- to 11-year-olds is pushing it, unless a break is provided.
- Use a table and sit around it; avoid sitting on the floor.
- Because of the limited data collection time, we opted to interview single, mixed-sex groups, rather than attempting to co-ordinate further sessions. If we were doing it again, we would split our larger groups by sex. While Large and Beheshti found that six 10- to 13-year-olds worked well, we would suggest that, for younger children who know one another, smaller groups are ideal. Four is a reasonable number, and anything much more than that invites more playfulness between the children and makes transcription complex.
- Have the interviews in neutral territory, as too much familiarity with a place invites fooling around as well.
- Arrange interviews on days that are not special event days, such as school field trip days. We interviewed our large group of 7- to 9-year-olds on Valentine's Day, a Friday afternoon, after a full day of cards, sweets, and excitement.

Preliminary research findings

The children were very articulate about the kinds of challenges they associated with gaining access to and using library materials. These challenges can be thought of as of three different types, relating to intellectual access, physical access, and administrative access.

Intellectual access

The categories used by the library did not always match those used by the children. Examples of this inconsistency were identified in stories of searching the OPAC:

> **Mike:** Have you ever gone to subject? And you type it in subject?
>
> **Sam:** Yes, I've typed in subject. It's really annoying
>
> [*snoring sounds*]

> **Mike:** Ya, I typed in "airplane" and it gave me like, it gave me [*laughs*] it gave me …
>
> [*laughing*]
>
> **Steve:** Books!
>
> [*laughter*]
>
> **Mike:** … it gave me …
>
> **Sam:** I typed in "horse" and it gave me like all this whole list!
>
> **Mike:** … it gave me like air field, air port and ah like I was pressing the button and like my mom said, "We have to go!" and it said airplane and there were like ten different airplanes.
>
> **Researcher:** Okay.
>
> **Eliza:** I know that's really irritating.
>
> **Mike:** And just because I didn't put the capital letters.
>
> **Eliza:** Oh and horses and ponies, I put in "horses and ponies" and it said, "Sorry, subject does not exist!"
>
> [*laughter*]
>
> **Mike:** They want you to like put … in horses and then do it, and then go again. But ponies!

This exchange shows that participants had an understanding that there were subject words that could help them find materials, but that the library's vocabulary didn't always correspond to their own.

The idea of subject words' relating to content also emerged in relation to Internet searching, when participants described attempting to find relevant Web sites. Several children identified the World Wide Web, or at least some portion of it ("Well, I would go on to a dot.com if I knew how to get on the Internet!") as a likely source of useful information on a variety of topics. Children in all three groups described trying to figure out the URLs of possible appropriate sites. Note the relationship between subject key words and these imagined URLs, described in the interviews: www.helpmefindmybook.com; www.library.com; www.crazy.com.

Physical arrangement

Intellectual barriers were also manifested in the physical arrangement of collections. This example shows that the participants understood several components of the library's organization, and that some of these components might appear to be mutually incompatible:

Researcher: Okay. So when you're going to the library and you want to find out…

Andy: Novels!

Researcher: Say a fantasy book, how do you find it?

David: I go up to the fantasy section.

Angus: To fantasy.

Researcher: Okay.

Angus: Or you could just look up fantasy, section "F".

David: Section "F"? How are you going to know what's fantasy?

Angus: Becauuuuuse it all starts with "F".

[*pause*]

David: So!

Researcher: And Andy what do you do?

David: What, does a fantasy look like Harry Potter? It, it's a a fantasy book but it doesn't start with "F".

Angus: No. "F" …

David: How are you going to find it?

Angus: … for fantasy. "F" for fantasy.

David: Ya, but wouldn't Harry Potter be in the "H" column?

Angus: No, no, no.

David: Ya, it would. But how many …

Angus: No, but they are in columns but it's still under fantasy.

David: But then what about the fictions, the non-fictions! There will be a whole bunch of "F"s right?

Angus: I know.

David: So it's not all going to be in one little shelf!

This passage identifies at least three distinct physical components of the library's organization (column, shelf, and section) and an understanding that there are a variety of ways that books might be arranged within each: alphabetically, by fiction/non-fiction, by fictional genre. However, it is evident from this passage that the specifics of figuring out where a particular book is shelved are not so straightforward for these participants.

The following dialogue is from the oldest group interviewed (ages 10 and 11) and, although it shows greater sophistication and greater recognition of different sections and different materials in the library, it also suggests

that this group is still struggling conceptually with the organization of information:

> **Researcher:** Okay Rose.
>
> **Rose:** First of all, there is lots of books and everything is in alphabetical order and um …
>
> [*paper rustling*]
>
> **Rose:** … they put, the, the, the librarian puts on the, the um the like labels on the books?
>
> **Mia:** The librarian[s]!
>
> **Rose:** Ya. They put like the first three letters of the author's name there.
>
> **Researcher:** Okay. So it's alphabetical and they put the first three letters? And why do they do that?
>
> **Eliza:** I know!
>
> **Steve:** Easier to find
>
> **Researcher:** Easier to find.
>
> **Sandy:** I know something else about the library.
>
> [*laughing*]
>
> **Researcher:** Do you?
>
> [*rustling about*]
>
> **Unidentified girl:** Hey!
>
> **Eliza:** Instead of putting it all in alphabetical order, there's a picture book section; it's also by the call number, and alphabetical order.
>
> **Researcher:** Okay.
>
> **Eliza:** So it's like if juvenile 900
>
> **Researcher:** Okay, so a call number
>
> **Eliza:** Juvenile 900

In this case, at least one child, Eliza, showed an understanding of two different arrangements, one for fiction (picture books) and another for non-fiction (juvenile 900s). Group discussions (and often problem solving) about the organization of the collection were an important part of the interviews. There is clear evidence to show that these children were working to sort out all the nuances of location (shelf, column, row), genre (fiction/non-fiction; fantasy, horror, and so on), and format (juvenile fiction / chapter books, easy readers, picture books, board books, audio-books, or video/DVD). However, from our participants' point of view, the library's classification was simply not consistent and the categories were not mutu-

ally exclusive. The following excerpt highlights some of this confusion. Here, a young user is thinking about a particular book as an information book, but the library, using such features as format (lots of pictures) and size (larger) locates it in the picture book section:

> **Eliza:** And it, it was not a picture book, it was, I can't remember what it was. But it was shaped, it was about as big as a picture book?
>
> **Researcher:** Okay.
>
> **Eliza:** It was on, it had horses. I think it was *The Eyewitness Horse Book*.
>
> **Researcher:** Okay.
>
> **Eliza:** And it was under the picture book section, it was kind of crazy.

Eliza was identifying a way of distinguishing picture books from other library materials: Although this book shared the size and illustrations common to a picture book, in her understanding of the library, picture books were suitable for younger children. An illustrated non-fiction book written for older children should, therefore, be shelved with other books for her age range.

Given a confusing, and possibly inconsistent, set of categorizations, it is not surprising that several children identified browsing as a strategy for getting around the library's organization: "… I throw all the books around until I find that book"; or "You go on the shelf and you read all the titles and when you find an interesting one you pull it out and if it's not interesting you either dump it in the book slot or put it back."

Finally, focus group participants described the physical barriers imposed by parents (such as restricting types of library materials or needing to leave the library too soon). These also clearly constrain how a child of this age may use a library.

Organizational/administrative barriers to access

In addition to barriers related to finding or locating materials, our participants described some confusion about how the library worked; for example, how to place holds and wait for them, or what order to use for inputting the author's name. One interesting set of descriptions involved working out the differences and similarities between the library and other kinds of information providers, particularly bookstores, and the role of the library card hinged on that distinction:

Researcher: If you went into the library and the librarian or the person who works in the library gives you a call number, do you know what that is?

Andy: A call number? I think so.

Researcher: Can you tell me a bit about that?

Andy: Mmmmmm, no.

David: It's a number you get on your …

Angus: … library card.

David: … library card.

Researcher: Okay, it's what's on your card.

Angus: I'm not, only me, my mom and my dad know mine.

David: Like a hospital card.

[*paper rustles*]

Angus: My number.

Researcher: Your card number.

Andy: I have no idea what these cards are for!

David: It's like having a VISA card you have to, or like a credit card, you have to hide it.

Andy: I don't get what VISA cards and credit cards are.

David: Well, credit you have a certain amount of credit?

Angus: And calling cards, you have ah um a certain amount of calling time.

Researcher: Okay. A certain amount of time on your calling card.

David: And ah a credit is like a type of you can only have up to a certain amount of money?

Researcher: Okay.

David: … and then a VISA card is to take out the money in the bank.

Researcher: And a library card?

David: …a library card …

Angus: … is to take out books …

Andy: … books out of the library …

David: Obvious. Ha.

Having observed both credit/debit card and library card transactions, these children were clearly identifying the card as an important part of the library transaction, though the discussion indicated that they might not be clear on all the details. Similar episodes of group discussion arose in regard to the similarities and differences between the library and a bookstore.

Milly: Um, the downtown [library] and …

Researcher: The downtown one?

Meg: Chapters!

Milly: Both …

Heidi: Hey Chapters is not a library!

Researcher: It's like a library. It has lots of books in it.

Unidentified child: Ya that you can read.

Although these children were clearly experienced users of their public libraries and had a deep awareness of many aspects of library service and function, there is still evidence of confusion.

Conclusions and recommendations

While we did not set out to demonstrate the superiority of any theory or model of child development, we found that all three models provided us with insights about what our participants said about using the library. Some question domains clearly related best to the frameworks from which they were derived: Organizational, classification, and visual schemes of libraries related best to Piaget, dependence versus independence to Vygotsky, and cognitive versus practical understandings to Kuhlthau.

First, our findings suggest that our 7- to 11-year-old participants exhibited some of the characteristics associated with Piaget's concrete-operational stage. A child in the concrete-operations phase of cognitive development can be expected to think more logically and critically and to manipulate concrete objects by categorizing several groups of objects into larger classifications or rearranging objects in any order. However, the key characteristic of this phase is that the multiple classification of concrete objects is emerging; that is, children are starting to manipulate objects—but by one or two key characteristics only, say shape or size (Sutherland and Arbuthnot 1991; Meadows 1993). This was especially evident among our respondents in their discussion of subject headings, the distinguishing characteristics of a library card, the difference between the library and Chapters, or the characteristics of a book (shape, size, illustrations, content) that determine its location in the library. In these examples, our respondents were only able to juggle a couple of features, at once exemplifying the constraints of the concrete-operational phase of development and highlighting the particular problems such children face when entering

the library—specifically, that library organization is an adult thought community outside the cognitive reach of children of a certain age.

Second, our participants gave evidence consistent with Vygotsky's ZPD. They described the contributions of a more experienced person, who either directly or indirectly scaffolded their library use—for example, going to the library with parents and siblings; getting homework and general library help from parents, friends, and library staff; or being read to by someone:

> **David:** I'm reading Harry Potter and the Goblet of Fire.
>
> **Researcher:** Are you really?
>
> **David:** Ya!
>
> **Angus:** And I've read all of them and I've already commanded …
>
> **David:** You haven't read yourself!
>
> **Angus:** No, no, no.
>
> **David:** I'm reading myself.

The children's identification of the library staff as either directly ("I ask the librarian") or indirectly ("The librarian puts the labels on the books …") helpful indicates some awareness of staff members as potential intermediaries.

Finally, our participants' descriptions of frustration ("That's really irritating"; "Yes, I've typed in subject. It's really annoying.") indicate that the affective dimension of Kuhlthau's (1993) information-search process may have been at play.

Our findings indicate that the work of such researchers and theorists as Piaget, Vygotsky (especially his zone of proximal development and scaffolding), and Kuhlthau (zone of intervention and affective influence in searching and thinking about a library's organization) would be useful in further analysing children's library use. In particular, Cooper's (2002a; 20002b; 2002c) work on concrete/abstract constructs of information seeking and on how these factors impinge on understanding the "thought community" of the library will be important for further study of the physical layout of the library or accessing Web resources, in the context of information seeking. Short of completely re-organizing the children's section of the library, the work of these theorists all points to a need for an intermediary bridge to help 7- to-11-year-old children navigate the library.

Our exploration suggests some elements of developmentally appropriate practice that might directly or indirectly assist these "in-between" children in negotiating the library and, particularly, in making sense of the library's various ways of classifying and locating children's materials:

1. *Point-of-use labelling*—In creating shelf labels, staff could attend to the categories requested by child users rather than simply applying adult-generated vocabulary. Cooper's (2003c) example of children's categorizations of a single book as "animal," "dog," "cartoon," and "story" are particularly relevant here, as is our "horses and ponies" example.
2. *Book lists and other finding tools that explicitly transcend genre and format*—These would be particularly useful for children interested in a single topic. For example,
    a. If you like horses you might want to try these:
        i. *stories about horses*—Subdivisions by format could use statements to remind young readers that relevant materials may be found in juvenile fiction, easy reading, and so on (If you like reading long chapter books on your own or with someone else …; if you're starting to read on your own and like short chapter books …; if you like picture books …; if you like listening to horse stories on tape or CD …; if you like watching movies about horses …).
        ii. *places to get more information about what horses are like*—This section could refer to non-fiction and factual picture books, or audio and video materials, and could include URLs or bookmarks from the library's home page.
3. *Spine labels*—These graphic labels are commonly used in juvenile fiction, (for example, a picture of a unicorn with the label "fantasy") but are not always used for picture books or non-fiction. More extensive use of graphic spine labels across formats could assist children in cross-format grouping of materials on like themes or topics.
4. *Adaptations could be made to our library catalogues and homepages*—judicious use of key words and subject headings sensitive to child classifications would greatly facilitate children's access to our information resources. As the concrete-operational stage is defined as transitional (differential rates of acquisition across the age span), icons for both key words and subject headings are recommended.
5. *Web bookmarks*—Rather than using the URL or formal title of the Web site, we should think carefully about the keywords we use to label and categorize individual hotlinks, and if possible, we should attend to the

ways that our search engines allow for these to be searched. Allowing for selections from a menu of topics, which includes an iconography as well as a vocabulary, might allow for a child user to select "horses" and "ponies" without having to negotiate the Boolean AND or OR.

6. *Library buddies*—Part of excellent service to children, attending to the theoretical elements from such theorists as Piaget, Vygotsky, Kuhlthau, and Cooper could include "library buddies," young individuals acting as ambassadors, helping these children navigate the complexities of library organization, while also providing the necessary scaffolding by modelling a variety of information-seeking behaviours.
7. *Library orientation*—Reminding ourselves about the basics of and the best of the reference interview: simply, walk with a child and help her or him find or select materials. Library service could be extended to include regular orientation tours of the library for both children and their parents or family members, to ensure that all pathways to finding information are available.

Overall, then, we argue that focus groups are an effective way to converse with library users in middle childhood. They are also a useful means for us to gain an appreciation of children's understanding of the library, its resources, and its organization. Our work firmly identifies children aged 7 to 11 as a distinct user group of the library. However, there is still much work to be done if we are to improve library services and accessibility for these children "in-between." Looking beyond the developmental stages and situational needs of individual users is the first step. At a time when public libraries are facing tremendous pressure to recreate themselves in light of a surfeit of alternative information providers and the Internet, it is even more imperative that we establish a means to connect especially with these children, to ensure that we build a library environment that is both comfortable and accessible.

Notes

1 The first author presented an earlier version of this article at the Library Research Round Table Graduate Research Forum at the joint conference of the American Library Association and the Canadian Library Association, June 22, 2003.

3 All children are referred to by a pseudonym.

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