

Observing Strategies Used by Children When Selecting Books to Browse, Read or Borrow

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Abstract

This paper described 1. the investigation undertaken to trace the strategies used by children in selecting books to borrow, use or browse in two children's public libraries, and 2. map the information seeking patterns adopted by the selected children. The sample comprised 43 children who used the Bayan Budiman Children's Library, Petaling Jaya and the Kuala Lumpur Children's Library. The children were randomly chosen, aged between 7 and 12 and comprised those who entered the library with the observed behaviour of selecting books to browse, use or borrow. Two stages were used to collect data; 1. observing the children's behavior as they enter the library to the point when they pick up a book to browse, read or borrow for fifteen to twenty minutes and 2. interviewing those selected with a semi-structure questionnaire. Belkin, et al's (1993) information search strategy (ISS) dimensions were used to transcribe children's browsing and selecting behavior. Based on the observations and interviews respondent's behaviour was mapped to illustrate the children's choosing process. The findings indicated that 1. browsing was the most popular method used when choosing a book combined with various strategies such as looking for a book by an author or series, finding a book by subjects, visually or physically scanning and recognizing the physical composition of the book; 2. children based their selection on the storyline, illustrations, cover designs and typography of the books; and 3. the searching behaviour is likely to be non-linear in nature. The majority of the children faced no problems in choosing or locating a book as most are regular visitors. A few indicated being overwhelmed by the library's large collection or, face initial confusion before they started to browse and interact with resources. Children used visual cues rather from textual information when searching for books, inferring that children libraries need to be supported with adequate and visually stimulating environment to make book searching fun and fruitful.

Keywords: Information seeking behaviour; Shelf browsing; Browsing behavior among children; Children's libraries; Public libraries

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Introduction

Children require specific information and reference services and because of this they seek and handle information in different ways than adults (Brown, 2004). The way children seek information and their skills in doing so is expected to affect their attitude in using or handling sources in libraries as well as subsequently in the strategies they would adopt when searching for a book to borrow or read. A number of studies equated information seeking with information searching-related actions taken to fulfill an information need. The stress was therefore on the action dimension of information seeking behaviour (Cooper, 2002; Fogget, 2003; Brown, 2004). Shenton and Dixon (2004a) observed that information seeking in children progressed from the macro to micro level actions. Macro actions involved locating information sources and in this context they would approach a range of information resources such as the library, bookshops or home collections and would subsequently locate an information source they felt to be relevant and feasible. Micro actions involved examining the source closely, perusing chapters and relevant sections to satisfy their specific needs.

Others viewed information seeking as a cognitive state where one's knowledge states are changed due to the construction of sense and understanding of a certain topic. The concept of information seeking goes beyond simply finding materials and information within them to satisfy a need. Dervin (1983), Marchionini (1985) and Kuhlthau (1999) maintained that information seeking is fundamentally a cognitive process, which involved the construction of the senses, understanding and a changing state of uncertainty to a state of certainty. This is exhibited by the studies of Bruner (1966) who observed that children would revisit the same area of interests many times to increase their understanding and enhance their knowledge state with each visit. This happened when they wanted to become more familiar with a favourite subject or when they need to understand further the content of resources for school examinations (Shenton, 2004). Belkin (1980) proposed that people indicate an information seeking behavior when they need to resolve their problematic situation or "resolve an anomalous state of knowledge" (ASK). This state would be exhibited through "their engagement with texts or collections of texts or people" who gave them access to information. In Belkin's anomalous state the interaction with resources, would result in an interpretation taking place and this interpretation changes the seekers knowledge state and this may further led to a change in the behavior of the seeking process. This situation

indicates that in the course of information seeking the seeker's knowledge state and subsequent strategy undertaken often changes as the result of the continuous interactions until the need is satisfied. In order to identify the different information seeking behaviours Belkin, Marchetti and Cool (1993) used a table displaying a small set of behavioral dimensions or facets which define a space of the ISSs (Information-seeking strategies) (subsequently referred to as Belkin et al.'s (1993) ISS or behaviour model). In this exploratory study we will apply this table when categorizing observable strategies adopted by children when searching, and browsing books to borrow or read in two public libraries. The details of this dimension will be described under Methodology and subsequently.

Recognizing the interactions as a cognitive state in information seeking and the strategies adopted to locate and utilize the resource have resulted in the possibility of mapping or modeling information seeking behaviour. Information seeking models were often derived while observing children or students search for information to fulfill their information needs. Hayden (2001) summarizes the information seeking (IS) model developed by Wilson (1981), Krikelas (1983) and Kuhlthau (1999). The IS Models perceived the seeking process in a given environment which led the user to search for information using various sources, such as the library information systems (OPACs), the human resources (librarians, siblings, guardians, peers) and other resources (home library, mass media, bookshops). These actions in turn would lead to either a success, which resulted in satisfying the original need or non-satisfaction or a failure. Non-satisfaction may result in the process being repeated. Kuhlthau (1999)'s Information Search Process (ISP) model was developed based on a longitudinal investigation of high school students' information seeking behaviour and focused on the affective (feelings), cognitive (thoughts) and physical state (actions and strategies), which manifested during the seeking process (Lamb, 2003). Another instrumental model was the Big 6™ Skills developed by Eisenberg and Borkowitz (1990), which placed information seeking within six stages which people go through either consciously or not when searching for information to solve a problem. The stages comprised task definition, formulating seeking strategies, locating and accessing sources, using sources, synthesizing and evaluating sources (Eisenberg, 2001). One common factor indicated by the models is that the seeking process is often non-linear as users will change their actions as the interactions with resources progresses. In our study, we will map observable behavior in children's interaction with books in the library context to understand information seeking

process.

Strategies Adopted When Seeking Information

Whether it is an action process or a cognitive state, information seeking is acted out by children through several strategies or methods. Kuhlthau herself (1992) indicated that in the various cognitive stages, children would adopt a combination of strategies. An important strategy is browsing and this is the most popular method in semi-structured situations in which the search is not completely defined. This is especially adopted by children when they are continuously examining unknown items of information that surrounds them. Browsing may be a well-defined goal such as finding a book by an author or semi-defined like finding a book on a subject or ill-defined such as finding something of interest (Chang, 1995; Cooper, 2002). The latter is usually performed when children select books to read for leisure, in which case they would be browsing and selecting books based on the blurb on the cover, genre, author, series (Wicks, 1995), print size, number of pictures and pages and colourful cover illustrations (De Angelo, et al., 1997).

Another strategy, which librarians hope children would adopt is to use the library catalogue. The use of the library catalogue to locate information is usually beyond the ability of younger children (Broch, 2000). They would however, be able to utilize the catalogue when searches were framed against the search terms given by their teachers or librarians. Cooper (2002) found that 7 year olds could search a source when information is presented in a well structured format such as encyclopedias on CD-ROM where visual cues were well utilized. Children performed poorly when using library catalogues because they did not comprehend why subject headings were assigned to materials and therefore were unable to exploit catalogues when searching for information. This may be because they have not developed the ability to relate terms and concepts to the material sought after and their vocabulary pool as well as typing skills were limited to effectively use the library catalogue (Everhart and Hatcher, 2005). As a result they compensate this lack by going directly to the shelves to find books or ask their friends, guardians or a librarian (Walter, 2003).

Another strategy used by children is people as a means to locate needed information, especially those in the pre-operational stage (2 to 7 years old) (Piaget, 1969), when they have minimum reading ability and rely on other people for audio and visual information source (Shenton and Dixon, 2003). Fogget (2003) observed that children would request help from other people

such as their friends or librarians when they have exhausted their own information resource.

Previous studies on information seeking behaviour of children and young adults were mostly focused on information seeking in a school media center or school library context, where the information needs were either pre-defined by their teacher-given assignments or by tasks assigned by researcher-librarians or motivated of their own interests (Hultgren and Limberg, 2003). Shenton (2004b) described the various types of young people's information seeking studies and the methods used. More recently, insights into information seeking and use behaviours among young people emerged through national reading interests and library use surveys in Great Britain, Canada and Denmark (Stephenson and Weinreich, 2000, Haycock, 2001; Children's books Ireland, 2002; Clark, Torsi and Strong, 2005; Clark and Foster, 2005; Maynard et al, 2007). These studies were carried out in the context of children's use of either school or public libraries and revealed insights of what, why children have chosen to read certain types of books and factors related to this choice. Children who visit public libraries have different reasons for doing so and therefore have varied needs, be it for educational purposes or for leisure. Published studies in the English language on information seeking behavior of children and young adults in school and public library context were mainly carried out by in the United States, Canada, United Kingdom and Australia and our study attempts to find out whether Malaysian children using public libraries exhibit similar behaviours. One study by Mohan (1998) did study children's information needs in Malaysia but had based the investigations from the opinions of adults who worked closely with children and not the children themselves. This study attempts to observe children's interaction with sources while searching for suitable books to borrow or read and would hopefully increase the understanding about their behavior, which could be utilized when building and providing collections and services. This is in line with efforts undertaken by the National Library of Malaysia as well as Malaysian public libraries to promote reading and encourage library membership (National Library of Malaysia, 1998; 2006).

Methodology

This paper will (a) describe the observable strategies used by Malaysian urban children in selecting books to borrow, browse or use in two public libraries; (b) identify the problems the children faced when choosing books or searching for information in the children's libraries; and (c) map the informa-

tion seeking pattern adopted by the selected children.

The study was conducted in two public libraries; the Kuala Lumpur Children's Library and the Bayan Budiman Children's Library in Petaling Jaya. Both libraries served urban dwellers. The Kuala Lumpur Children's Library had 4,015 children registered as members, is housed in a two-storey building and managed by the Kuala Lumpur City Council. The Bayan Budiman Children Library is managed by the Petaling Jaya City Council and strategically located near residential areas, schools as well as a hospital and was opened in 2000. Both libraries are selected because; (a) both are located in urban areas and are accessible by the public; (b) both libraries house a separate section for their children's collection and resources and provided basic lending and reference services; (c) both libraries hold substantial collection of both fiction and non-fiction books for children between the ages twelve and below; (d) the children's section were well signage and the layout facilitate easy observation of children as they use the library; and (e) the chief librarians of both libraries gave their consent to the study being conducted within these premises. This study was conducted during the opening hours of the libraries on every weekend for a period of one month between April to May 2006. The weekends was chosen because of the higher volume of children visiting the library either alone, with their friends or with their family members.

For this study, the population was library users who borrowed, browsed or read books from the children's section of the selected libraries. The children were aged between seven and twelve years old. A total of 43 children were randomly selected, with 25 children from the Kuala Lumpur Children's Library and 18 from the Bayan Budiman Children's Library. The respondents comprised 19 boys and 24 girls, 14 were aged between 7 to 9 and 29 were between 10 to 12 years old. This categorization of the children fits well into Piaget's middle childhood group or concrete operational stage, where the children are expected to be able to think and act based on concrete objects and experience (Piaget and Indelder, 1969; Brown, 2004) and the pre-adolescent or formal operational stage, where they are expected to show a wider range of ability, levels of maturity and personal interests. Consent was obtained from the Chief Librarians from both libraries who were approached through a letter asking for their consent before proceeding with the research. A copy of the questionnaire and observation sheet was attached to the letter.

This study involved observing children who entered the library and who indicated the behaviour or action of selecting books to borrow, read or browse. These actions were identified as the beginning of the information

seeking process. The behaviour exhibited when searching at the shelves, book display area, tables where books were left by other children as well as interactions occurring between other children, accompanying adults and reference sources was recorded in accordance with Belkin et al's (1993) ISS (Information Search Strategy) dimensions chart (Table 1). According to this chart, the variety of behaviours being exhibited while searching for information can be viewed from four dimensions. These are **goal** of the interaction, **method** of interaction, **mode** of retrieval and type of **resources** interacted with. These dimensions have been identified through observation and classification of information seeking behaviours in a variety of settings (Belkin and Cool, 1993; Belkin, Cool, Stein and Thiel, 1993). Any ISS can be grouped according to its values on these facets or dimensions. The combination of each facet therefore leads to a set of 16 prototypical ISSs. Even though Belkin, et al. (1993) has derived this dimensions from observable information retrieval situations it is felt that this dimensions can be utilized in the context of this study. The four dimensions proposed by Belkin, et al. (1993) are as follows.

- (a) The **Method of interaction** refers to the interactions children used when looking for information and this involve:
 - Scanning — looking around to visually capture the spatial information in the library, looking at signage, browsing each book shelf, familiarizing themselves with the physical layout of the library and its collection while searching for something interesting.
 - Searching — going directly to a specific shelf or location for a specifically known item.
- (b) The **Goal of interaction** refers to:
 - Learning — the act of physically inspecting items and their contents or browsing among item descriptor.
 - Selecting — the act of identifying useful items followed by immediate use (browse, read, borrow).
- (c) The **Mode of retrieval** refers to:
 - Recognition — recognizing a group of relevant items and looking around within the group of items.
 - Specifying — searching directly for items on an identifiable topic.
- (d) The **Resources** in this context refer to the handling of the items picked:
 - Information item — checking descriptors or organization scheme such as bibliographic lists, catalogues.
 - Meta information — observable items from the books itself, cover and

spine title, book blurb, words in introductory pages or sections of the book, tables of contents, book indexes, author’s name, series.

These dimensions were also used by Cooper (2002) in her study of the behaviour of 7-year old children in a semi-structured situation. Using the dimensions table actions indicated when choosing items could be checked under the various dimensions and when information seeking ends the checked constructs could be grouped to indicate a typical strategic action. Hypothetically, any search strategy can be described using a combination of these dimensions. The information search strategies recorded in the columns represent the behaviours being exhibited at least once by the various respondents during their search. The adopted behavioural sequence on the far left column combined with similar types of strategic dimensions used form the basis of grouping respondents. In this context, each child was observed for fifteen to twenty minutes before being approached for the focus interview, which would take another five to ten minutes. The interview used a structured questionnaire to solicit responses. The sample of children in this study comprises only those children who agreed to be interviewed or consent was obtained from their accompanying adults.

Table 1 Belkin, et al’s (1993) ISS Indicating 16 Possible Behavioural Combinations

Behaviour type [detail behavior descriptions]	Strategies							
	Method		Goal		Mode	Resource		
	Scan	Search	Learn	Select	Recognize	Specify	Infor	Meta
1	x		x		x		x	
2	x		x		x			x
3	x		x			x	x	
4	x		x			x		x
5	x			x	x		x	
6	x			x	x			x
7	x			x		x	x	
8	x			x		x		x
9		x	x		x		x	
10		x	x		x			x
11		x	x			x	x	
12		x	x			x		x
13		x		x	x		x	
14		x		x	x			x
15		x		x		x	x	
16		x		x		x		x

Note: This template is used to rate observable children’s behaviour in the study

The interview sessions was personally administered by the researcher.

The researcher reads out questions and choice of answers and the answers chosen would be ticked. The questionnaire elicit the following information; (a) demographic data of the respondents (age and gender), (b) verify book selection criteria (method for choosing books, characteristics of the books selected; and (c) the types of problems frequently experienced when choosing a book or searching for information. Based on the ISS categorization of behaviours and the interviews, the respondents information seeking is mapped to illustrate the information seeking process, based on Hayden's (2001) proposed model. It assumes that when choosing books users will perceive information need, which would initiate them to adopt several strategies in the process of choosing, which includes the library's information systems, human resources and other resources (home library or mass media). This will lead to either a success or a failure in satisfying the information need.

Results

(a) Observed Sequence of Behaviour Exhibited by Respondents

The information search strategies recorded in the rating sheet (Table 1) represented the behaviours that were exhibited at least once by the respondents during their searching process. Due to the large number of participants in the study, the number of times a strategy was used or repeatedly performed was recorded as a single tick. The groupings were based on the pattern of ticks displayed in the behavioral column on the left combined with the ticks on the various types of strategic dimensions used. The ratings started with the respondents approaching the shelves, tables, display areas to browse the collection. Browsing in this context refers to movements from one location to another or a direct approach to the intended location. The children's searching behaviour in this study are grouped into four searching categories similar to those used by Chang (1995), who proposed that searching behaviours may be categorized as ill-defined, semi-defined, defined and well-defined.

(i) Ill-defined searching behaviour

Ill-defined searching behavior indicates a behavior having no specific purpose as children in this category seems to have not decided on the books they wish to borrow, read or browse. A total of 16 children (37.2%) showed sequences of these behaviours (Table 2).

In this situation every book approached has a chance of being chosen as the children's behavior seems unfocused. However, what is finally chosen depends on the character of items itself or the placing of the items, which may have triggered the child's interest to pick it up and subsequently choose it. Ill-

defined searching behaviour therefore seemed to the observer unfocused. This group of children browsed briskly from one shelf to another, looking at items lying on tables, books on display and would select books based on their cover which appeared interesting to them.

Table 2 Category 1: Ill-Defined Searching Behaviour for Children

Behaviour	Strategies								
	Method		Goal		Mode		Resource		Belkin's
Category 1	Scan	Search	Learn	Select	Recognize	Specify	Infor	Meta	ISS
Look at signage	×		×		×			×	ISS-2
Browse from one shelf, table to another, browse book displays	×		×		×		×		ISS-1
Select book by cover which appears interesting	×			×	×		×		ISS-5
Flip the pages to specify the content	×		×		×		×		ISS-1
Closely examines pages and pictures	×			×	×		×		ISS-5
Directly approach a shelf to select book based on specific characteristics from the cover/author/title/series)		×		×		×	×		ISS-15
Total	5	1	3	3	5	1	5	1	

The children in this group tended to move around a lot while browsing (thus, seeming unfocused). The sequence of behaviour adopted, depending on their initial move (to the shelf or tables or display area) were **Scanning** available books, which involved picking up any book which they perceived as being of interest and flipping the pages in order to gauge the content. In doing so they may learn that the book is of interest or relevant to their need and they would **Select** the book. They would examine the content more carefully, checking the pictures and pages. This would subsequently lead to **recognition** that the topic is of interest as a result of identifying the **Information** in the book. They would also choose different books with similar characteristics by **Searching** for a specific book, make a **selection** based on **specified** characteristics and identify the relevant **information** within the book. These behaviours are similar to 4 of Belkin, et al.'s (1993) behavioural dimensions (ISS-1, ISS-2, ISS-5, ISS-15). In summary, children in this category commonly used scanning as a method, recognition as the mode with the goal to learn and select the book of their choice. The chosen resources were those

which the children recognized as having relevant information when visually scanning the books. The browsing behaviour for this group of children took a longer period of time and was more intense, as they took longer to decide and was not looking for anything specific.

(ii) Semi-defined searching behaviour

Semi-defined searching behavior refers to actions which are semi-focused, initially unfocused and as the result of interactions began to show specific interests. A total of 8 children (18.6%) showed sequences of these behaviours (Table 3).

Table 3 Category 2: Semi-Defined Searching Behaviour of Children

Behaviour	Strategies								
	Method		Goal		Mode		Resource		Belkin's
Category 2	Scan	Search	Learn	Select	Recognize	Specify	Infor	Meta	ISS
Look at signage	×		×		×			×	ISS-2
Browse from one shelf, table to another, brows book displays	×		×		×		×		ISS-1
Select book (by cover) on specific subject, topic, genre	×			×		×	×		ISS-7
Flip the pages, search for words representing topic of interest	×			×	×		×		ISS-5
Check the table of contents, index, search for words associated with topic wanted		×		×		×		×	ISS-16
Directly approach a shelf to select book based on specific characteristics from the cover/author/title/series		×		×		×	×		ISS-15
Total	4	2	2	4	3	3	4	2	

This group of children would exhibit browsing behaviour of moving from one shelf to another, looking and picking books at random. However, when they select their books, they tend to purposely focus on certain topic, subject or genre for which they may have preference for such as in these cases forensic science, airplanes and mystery novels. This behavior is clarified during the interview sessions. They would purposely focus their attention longer at certain shelves. The strategy sequence adopted were **scanning** the collection of books on the shelves, **selecting** a book, **specifying** selection to certain

topics, subject and identifying relevance from the **information** on the book. They scan the pages of the selected book, flip the pages to ensure the book contains the specified subject, adopt the word selection strategy, picking out words associated with the specified topic, genre and subsequently identify the information in the book. Additionally, they would check the front and back cover of books, look at tables of content, search for certain words on the topic, subject or genre, look for meta-information from the table of contents or index. For those who spent more time at certain shelves checking the contents of a book for a topic related to their interest, they would scan the shelf; select a book when they recognize the topic. Having done this the respondent might choose another book with similar characteristics be it similar titles, same authors or same series. The children in this group would commonly use the **scanning** method with equal use of **recognition** and **specification** as the mode and **selection** is based mainly on focused **information** found on the book. These behaviours were similar to 6 of Belkin, et al.'s (1993) behavioural dimensions.

(iii) Defined searching behaviour

Defined searching behavior refers to actions which are observed to have specific intention. There were 8 children (18.6%) who select books purposively in certain focused areas. This group of children seemed to know what they want. They would search for books based on specific title, author, series, looking for this information as they scan the shelves (Table 4). As books were retrieved they would **scan** the contents by flipping the pages and reading the blurb, **select** an interesting storyline, chapter, **recognize** something of interest and looked for **information** from the book to decide whether they were relevant to their specific interests. This group of children used equal amount of **scanning** and **searching** as a method, with the main goal of **selecting** a

Table 4 Category 3: Defined Searching Behaviour of Children

Behaviour	Strategies								
	Method		Goal		Mode		Resource		Belkin's
Category 3	Scan	Search	Learn	Select	Recognize	Specify	Infor	Meta	ISS
Directly approach a shelf to select a book based on specific characteristics, author, title, series		×		×		×	×		ISS-15
Check the content for relevancy by flipping the pages or read blurbs	×			×	×		×		ISS-5
Total	1	1	0	2	1	1	2	0	

book and used both mode of **recognition** and **specification** when deciding to choose a book and gauge relevance level of the book based on **information** directly obtained from the book’s blurb or selected chapters. The behaviours exhibited is similar to Belkin, et al’s (1093) ISS-15 and ISS-5.

(iv) Well-defined searching behaviour

Well-defined searching behavior refers to actions which are clearly focused and purposeful where they children seem to know what they want and purposefully search for the items wanted. There were 11 children (25.5%) who would make their choices based on selected stratum or category and within the chosen category purposively approach certain shelf directly and quickly browse the books on the shelf. In this instance, the book on the shelf they have chosen might be from the same series or written by an author (Table 5).

Table 5 Category 4: Well-Define Searching Behaviour

Behaviour	Strategies								Belkin’s ISS
	Method		Goal		Mode		Resource		
Category 4	Scan	Search	Learn	Select	Recognize	Specify	Infor.	Meta	
Browse the shelf quickly to select books of specific characteristics, author, title, series		×		×	×		×		ISS-13
Check the content for relevancy by flipping the pages or read blurbs	×			×	×		×		ISS-5
Total	1	1	0	2	2	0	2	0	

The sequence of the strategy adopted were **searching** for specific title, **select** a book, **recognize** the book upon sight from information available on the book itself. As they retrieve the book they might examine the content to ascertain relevancy to their interest. The behavioural dimensions indicated by this group is similar to 2 of Belkin, et al’s (1993) dimensions (ISS-13, ISS-5).

Comparisons with Belkin’s et al’s Information Seeking Strategies indicated that the children in this study used a variety of strategies matching 7 out of the 16 types of behaviours recorded in the ISSs dimension table. When a respondent enters the library he or she would browse with either a defined goal (to find a book by an author or series or title) or semi-defined goal (find a book by a subject or genre) or an ill-defined goal (not particularly looking for something specific but hoping to find something of interest). This is similarly found by Chang (1995) who studied people’s browsing behavior. Examples of browsing with defined or well-defined goals are respondents in categories 3

and 4 where the respondents directly approached the intended shelf or exhibit minimal browsing when selecting books based on the author or series.

(b) Observed Emotional State Exhibited by Respondents

The respondents had expressed some emotions during the different stages of the book selection process. During the initial stage, they would exhibit excitement upon seeing the large collections of books to choose from. This could be observed from the way they explore one shelf to another and calling their companions (parents, sibling or friends) upon seeing something of interest to them. Some respondents would look at the signage to help them understand the location or organization of books. Those from group 1 and 2 would show signs of uncertainty or confusion in the midst of the scanning process and were pacified after consulting with their companions, which helped them focus on their search. Some confusion were also displayed when making decisions on which book to borrow since they were allowed to borrow a maximum of 2 books (Bayan Budiman Library, Petaling Jaya) and 5 books (Kuala Lumpur Children's Library). On rare occasions, they would approach the librarian behind the circulation counter for information.

(c) Validating the Method Used to Select Through Interviews

Each of the observed respondents was interviewed as soon as they pick up a book to browse or borrow. The interview would take place when the respondents or the accompanying adults gave their consents. The interview was conducted using a structured questionnaire and among the questions asked was recalling the method they have used to locate their books. A total of 30 out of 43 children (69.8%) indicated that they located their books using the shelves browsing technique. This strategy involves the respondents constantly moving and browsing from one shelf to another in order to find the books which would suit their requirements. They would decide which book to choose as they go along. Other methods used to choose books were through their companion's help (9, 20.9%) and looking for books by its call number (2, 5%). This usually occurred when the children have used a call number to locate books during previous visits indicating that past library experience may influence book choice. Other methods used include selecting any books left on the table by previous users or from the 'New book' display area.

(d) Validating the Characteristics of Selected Books

Six characteristics of the selected books which children preferred have been identified based on the interviews. A total of 24 (55.6%) out of 43 children have chosen books, because of their attractive covers. This was followed by the interesting storyline of the book, which was discovered during the

process of flipping through the pages of the books or reading the blurb at the back of the book (22, 51.2%). The children have also chosen books which they were familiar with or books which cover their favourite subject such as in this case mystery stories or written by their favourite author such as Enid Blyton or because they liked books published in a certain series such as “The Bookworm Club” and “Eyewitness Series”. Six (14%) children prefer books with attractive illustrations, while only a small number (3, 7%) select books which they perceived to contain information needed for revision purposes. However, regardless of the purpose (whether for leisure or study) both types of respondents adopted fairly similar searching strategies depending more on whether their goals were focused or ill-defined. When responses on book choice were cross-tabulated with age of the respondents, it was found that the older group of children, ages between 10 to 12 years old were more likely to choose books based on interesting storyline (18, 62.1%) than younger children ages 7 to 9 years old (4, 28.6%) ($\chi^2 = 4.240$, $p = 0.039$). There was also significant difference between children’s ages and the selection of books based on attractive illustrations. None of the older children indicated yes to choosing books based on attractive illustrations compared with the younger children, ages 7 to 9 years old (6, 42.9%) ($\chi^2 = 11.095$, $p = 0.0001$). The results also indicated that respondents who visit the library to borrow books for study were more likely to select books which contain relevant information ($\chi^2 = 12.578$, $p = 0.001$), while those who visit the library for leisure reading materials would more likely opt for items with attractive front cover or interesting storyline ($\chi^2 = 5.571$, $p = 0.018$).

(e) Problems Faced by Children When Choosing Books

The majority of the children interviewed indicated that they have no problems in choosing books to borrow or read (34 out of 43, 79%). The rest indicated that they do not know where to start searching (7) or were overwhelmed by the huge collection and felt that the books were unorganized (2). The lack of problems in choosing books may be because the majority visited the library on the weekends to borrow books for leisure reading and were mainly looking for something interesting to read, browse or borrow. Also, the majority of respondents made regular library visits. A third of respondents (15, 34.9%) made weekly weekend visits to the library and the rest visited either every two or three weeks or once a month. Only 5 respondents were first-time visitors. Cross tabulating gender and age with frequency of visits did not show significant differences.

(f) Mapping the Searching Behaviour

The mapping of observable strategies and actions taken when searching for information and respondents' responses during the interview resulted in a model which illustrates the relationship between user, the event, needs, user behavior (strategies) and use of information sources (Figure 1).

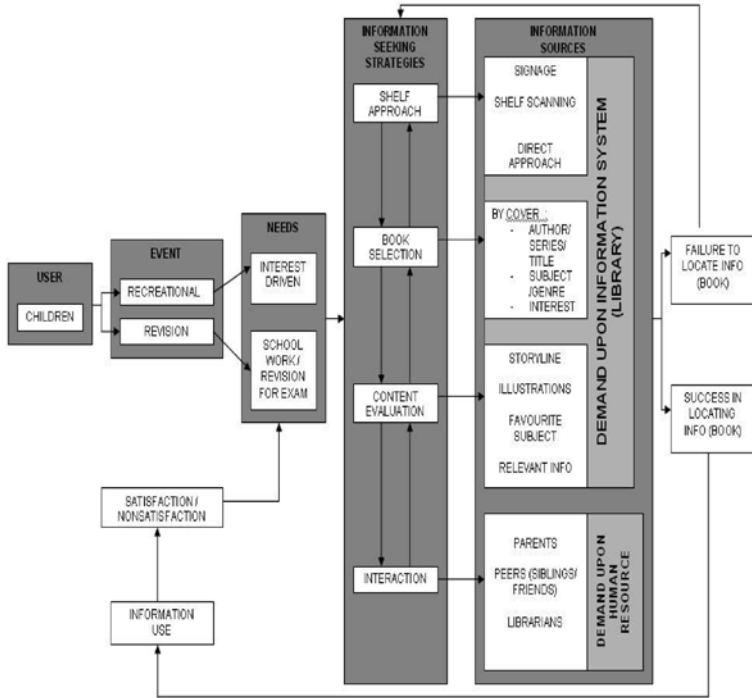


Figure 1 The Non-Linear Information Strategy Model

This is based on the information seeking mapping proposed by Hayden (2001). It illustrates observable behavior related to locating, accessing and using sources. The illustration mapped from children's behavior from all categories in this study suggests that children perceived a need in two contextual situations that is, searching for books for recreational reading and finding books for study purposes, with the former being the majority of cases. The children who visited the library for recreational reading materials will exhibit interest-driven actions. This interest refers to wanting to find a book to read for leisure and in meeting this need the children exhibit all four types of behaviours from randomly searching for items and browsing until they find a book that trigger their interests (ill-defined, semi-defined) or browsing and purposely searching for books written by known authors or series (defined and well-defined). Children who visited the library to find books for study will be those searching for materials related to the topic of their school work. Their

searching strategy is therefore defined which typify those in Category 3.

Whatever the situation that trigger the need, respondents would search for information by browsing, scanning and selecting a variety of information sources which includes the information systems (in this case the children's libraries and the materials within it) and human resources (peers, parents and librarians). Information seeking strategies in the model suggests a non-linear approach adopted by the children, accommodating branching in and out of the normal sequence. The information seeking strategies selected would lead to a success or failure. If successful, the items is will be borrowed or used. This may result in satisfaction or non-satisfaction of the originally perceived need. When non-satisfaction occurred, the information seeking may be repeated until satisfaction occurred.

Conclusion

Shelve browsing seemed to be the most popular strategy used when locating books to read, browse or borrow. This observation is supported by the findings obtained from the structured interviews as well as previous studies conducted by Wicks (1995) and DeAngelo, et al. (1997). This imply that organization of books on the shelves, clear shelf signage, highlighting books of interest are important strategies that children's library could adopt to encourage use or trigger interests. The Malaysian children studied seemed to adopt a combination of strategies which were acted out from both macro to micro levels (Shenton and Dixon, 2004b).

The behavioural strategy exhibited by children in the present study correspond with the categorization proposed by Chang (1995) who indicated that children would browse with either a well-defined goal (to find a book by an author, title, series, behavioral strategy in Category 3 and 4) or semi-defined (to find a book on a subject or genre (behavioural strategy in Category 2), or an ill-defined goal (looking for something interesting but not sure what, behavioural strategy Category 1). The behavioural strategies of the present study matched 7 out of 16 behavioural traits indicated by Belkin, et al's (1993) behavioural table. The Category 3 and 4 of the present study is similar to the ISS-15, ISS-5 and ISS-13 dimensions, which is associated with a concrete rather than abstract browsing approach. The children visually scan purposefully to recognize and physically select books. This is especially exhibited by older children (ages 10 to 12 years old) who would more likely select books by specific author (Machet, 2002; Wicks, 1995). However, children of all ages tended to choose books by certain series. This may imply that children's

strategies may be influenced by their previous reading experience and visits to the library. Those who have visited the library previously would be able to browse more effectively, wasting less time in the browsing process. Special induction programmes may therefore be useful for “new visitors” to ensure a pleasant first time experience.

Children who browse for books by subject or genre were those grouped in Category 4. In this study these children were mainly between the ages 7 to 12 and in the context of these children indicated preference for adventure and mystery books or non-fiction, especially books on forensic science, airplanes and world wars or books on specific subject for study. In this instance the organization and display of books on the shelves is important. The children who are browsing books on a particular subject could be enticed to look at other related books which can be visually visible in the neighbouring shelves close to their subject of interest. Fogget’s study (2003) on primary school students’ searching and locating strategies in their school libraries found that children use visual cues such as checking the front cover for relevant pictures on a topic, the title page, skimming through the books and scanning the index in order to judge the relevancy. The chances of books being picked and read without it necessarily being looked out for will more likely occur in this situation.

Ill-defined browsing was mainly indicated by younger children (ages between 7 to 9) and these children tended to read more diversely, since they were not looking for anything in particular but would pickup books that they perceived to be interesting. Machet (2002) indicated this group of shelf browsers like to experiment and it is useful to expose them to larger genre of books to develop their reading habits and interests. This young children most likely lack experience with textual information and browsing at the shelves, tables and display areas become a necessary alternative action. This intense browsing behavior in younger children is referred to by Hyman (1972) as “grazing”. Libraries could utilize this ill-defined behaviour by putting-up interesting book displays or purposely placing books on tables in the hope that they will be picked-up.

The use of call numbers to locate books was utilized by a very small number of children in this study who were older, between the ages of 10 to 12 year old and were frequent library users. Children in this middle childhood to pre-adolescent stage (Brown, 2004) were capable of assimilating or receiving instruction to locate items using the catalogue. This would help facilitate their transition to adult reading area where the use of the catalogue becomes quite

necessary in a library with large collections.

Even though the children in this study faced little problem in locating the book they want in the library it does not negate the role of the children's librarians in helping to resolve any uncertainty and anxiety which may have arisen when visiting the library. A pleasant experience would likely result in library returnees. The experiences children have in the library between the ages of 7 and 12 years old would affect the way they use the libraries in adolescence and adulthood (Kuhlthau, 1986). Professional help would be most helpful especially among younger children who lacked the experience and have limited vocabulary to interact effectively with sources they are choosing especially in cases when they might be overwhelmed with large collection of books. Exhibitions, informal, impromptu and personal information literacy instructions would help acquaint children with the organization of the library, the arrangement of the collection, the facilities to enable effective use.

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