

# 建構個人資訊架構：在家教育者之資訊行為案例研究

## *Towards Building a Personal Information Architecture: A Case Study of Homeschoolers' Information Behavior*

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### 【摘要】

「在家教育」對基於不同原因而憂心傳統教育環境的家長而言，已成為受歡迎的另類教育方式。為數日漸增多的在家教育者對台灣現存教育體制和資訊相關組織已帶來不可忽視的挑戰。

本篇以個案研究為方法並將結果進行分析，提出一個人資訊架構，以期能更加了解在家教育者的資訊行為。

### 【Abstract】

Homeschooling has become one of the popular alternative options for parents in Taiwan who are concerned of the traditional school environment for varied reasons. The increasing number of homeschool families brings challenges to the existing educational system as well as information communities. To understand the fundamentals of homeschoolers' information behavior, a case study is carried out and a

personal information architecture (PIA) is proposed as the result of the analysis.

### INTRODUCTION

Human information behavior is a complex and multifaceted process that involves factors differing among various occupations and demographics. In the literature of information behavior, extensive user groups have been studied, such as students, engineers, scientists, doctors, children, managers, lawyers, etc. Different user groups exhibit varied information behavior; some slightly different, others drastically different. Over the years research results have provided information professionals and librarians of all sorts of workplace with valuable insights and helped them tailor their services to diverse groups of users. As information technology (IT) advances, human information behavior becomes even more complex. Researchers and practitioners strive to understand how IT influences people's lives in information

seeking and use. With traditional as well as novel choices of information sources and applications available, both users and information service providers become overwhelmed because we attempt to provide all and obtain all that are available, while there is in fact a certain behavior human demonstrate over and over again. In this paper we try to step back to review a user group's fundamental information behavior and attempt to propose a new perspective on the once popular term, "personal information architecture" (PIA). In this study, PIA is defined as the framework that shapes an individual's personal information environment, including social and cognitive information. Therefore, factors that affect a person's physical, emotional, intellectual, and social behavior could be a part of a PIA, such as seeking opinions or support, making recommendations, connecting with people and friends, looking for specific answers to solve problems, browsing with or without particular purposes, etc. Homeschoolers, as a user group that is rarely studied and understood from the perspective of library and information science community, could be considered as researchers and educators because of their constant needs of everyday life information seeking, receiving, and delivering. Hence, understanding their information behavior could bring insights into building a PIA that involves resolving problems related to survival, work, and everyday life (Case, 2002).

According to a special issue on homeschooling in the *Business Weekly* published in 2005, homeschooling has nearly 30 years of history in the United States and is composed of approximately 1.5% of the total population. According to the statistics from the National Home Education Research Institute (NHERI, 2006), homeschooling is growing at a rate of at least 15% and perhaps as much as 40% a year. After long struggles and many efforts of concerned parents, the government in Taiwan finally gave the permission to those who wish to educate their children at home since late 1990s. As the result of changing public school systems and policies in recent years, there is an increasing

population of homeschoolers in Taiwan. Currently, there are over 600 children who are homeschooled, which compose of less than 1% of the total Taiwanese population (Wang, 2005). However, the applications filed for homeschooling grew from 436 in 2004 to 616 in 2005. The fast growing rate shows the interests of people who want to take education into their own hands. This phenomenon draws information professionals' attention.

As a first phase of an exploratory and a longitude study, the questions under investigation are centered on the core questions of information behavior research, such as: What kind of resources do homeschoolers need and use? What are the major channels that fulfill their information needs? An ethnographic approach is used to study the social structure of homeschoolers' information seeking and use. In particular, the study uses a single-case design which focuses on a homeschool family living in Taiwan.

## **RELATED STUDIES**

### **Homeschooling**

As indicated in previous research conducted in the United States, home instruction is more prevalent in the West and the South (Madden, 1991). The generic homeschooler has the following profile: middle class; white; at least one parent with a college degree; both boys and girls taught at home; the majority of the teaching done by the mother. Madden also pointed that the research showed average homeschooled child begins around the age of six-and-a-half to eight and will continue in the program for two to three years. The reasons why people choose homeschooling are often cited in the literature, with the following being the most frequently given:

- (1) Religious and philosophical values
- (2) Avoid peer-pressure
- (3) Avoid peer competition
- (4) Greater parent-child contact
- (5) Develop better self-concept

(6) Accomplish more academically

(7) Personalized learning.

However, Madden's personal experience and observations are slightly different from what is reported in the literature. She noted the followings being the most common reasons that families choose homeschooling:

(1) Religious values

(2) Poor local schools (economically and educationally)

(3) Busing (number of hours wasted and safety factors cited rather than racial biases)

(4) "Different" kids (gifted, learning and/or physically disabled)

(5) Environmental concerns

(6) Learning styles and circadian rhythms can be fully utilized (total immersion in a subject is also possible)

(7) Family togetherness (especially with siblings)

### **Homeschooling in Taiwan**

In Taiwan, the government passed the compulsory education law in 1947 which requires every school-age child to receive education in a school environment for 9 years, from elementary school to junior high school. Not until 1999 did the Taiwanese educational policy start to loosen up to ensure children's learning rights and give parents permission for alternative education. Parents therefore started to take children out of the traditional school system and experiment with different learning methods. In June 1999, the Ministry of Education in Taiwan (MOE) passed the homeschooling policy and since then homeschooling became a legal option. In the past 7 years, the MOET has initiated educational reforms to modify and revise the educational law, in the hope of improving the overall quality of basic education, i.e., elementary and junior high school education. The changes have been reflected on elementary school teachers' teaching materials and methodology, which is also called "Curricular and Instructional Reforms."

It is approximately during this education reform process when alternative education started to flourish. Homeschooling becomes a noticeable trend because a growing number of parents are dissatisfied with the progress and the results of the education reforms. Arising out of uncertainty, concerned parents chose to teach their own children at home, and they did so even before homeschooling was a legitimate option. Homeschoolers generally fall into three categories in Taiwan (Wang, 2005). The first group represents the families who put considerable emphasis on religious, family-centered, and moral education, which falls more or less into either Christianity-based teaching or that of ancient Chinese philosophers; the second group is the parents who are discontent with current school system and believe they could provide their children with a better learning environment; the third group is mainly the families with physically or mentally challenged children. These reasons resemble more or less with Scheps' (1999) review and the report from the U.S. Department of Education (USDOE, 2003), which showed that the reasons given for homeschooling in the United States vary, but settle into three primary camps: the desire to provide religious and moral instruction, concerns over the environment of other schools, and dissatisfaction with the academic environment. An analysis also found a roughly even split between the religious and moral instruction (31%) and school environment (31%) camps, followed by the academic dissatisfaction camp (16%) (Reindl, 2005). As for the children's age is concerned, statistics offered by Chinese Christians' Home Educators Association (CCHEA, n.d.) showed that in both Taipei City and County the majority children who are homeschooled are preschool age, which is younger than the homeschooler profile in Madden's study.

It is found in the literature that homeschool family usually has strong parents, who know what is best for their children (Wang, 2005). Experience exchanged and shared on Epinions.com retrieved in April 2006 confirmed this and further indicated that strong parents build up strong families, and they are the ones who homeschool successfully. Strong families bring beneficial influence in that these children get a strong sense of self within their families.

## RESEARCH QUESTIONS

The goal of the study is to identify the fundamentals of homeschoolers' information behavior so as to construct a PIA. The research questions addressed by this exploratory study are:

1. What characteristics are revealed from the observations of the homeschool family?
2. What are the characteristics of the category of religious and family-centered education?
3. What are the homeschool family's information needs?
4. What are the sources where the homeschool family obtains information?

## RESEARCH DESIGN

It is the researcher's intention to identify an appropriate homeschooling family, to follow and to observe the long-term behavioral changes in information needs and use. As a part of a series of studies, the beginning phase of the study is to focus the investigation on one camp of homeschooling families. The X family is chosen for the potential of a longitude research for a number of reasons. The X family experiences life changes because of the moving. Information needs are often problems under a mask. Life transitions such as moving present ample opportunities for problems to occur, thus increase needs for information seeking to close the knowledge gap between what we know and what we need to know. More importantly, the X family makes the decision of homeschool when their children are at relatively young ages, compared with what is described in the literature, therefore making a good candidate for being observed in terms of behavioral changes over a period of time from the research point of view. A longitude research may shed light on how information behavior evolves both for the homeschool parents and the children, and the changes from novice to experienced information users.

The X family chooses to homeschool in order

to provide their children with religious and family-centered value and education, which is one of the major reasons of homeschooling both in Taiwan and the United States. The method of investigation selected is case study. The body of literature in case study research is "primitive and limited" (Yin, 1994), comparing to that of experimental or quasi-experimental research. According to Yin (1994), case studies do not have to have a minimum number of cases, or to "randomly" select cases. The researcher is called upon to work with each case as it presents. Also, Yin pointed out that "generalization of results, from either single or multiple designs, is made to theory and not to population." Tellis (1997) asserted that the goal of the case study should establish the parameters, and should be applied to all research. In this way, even a single case could be considered acceptable, provided it met the established objective. The single case study methodology is adopted in this study and the detailed case profile is described in the following section.

## Data Collection

In this study the researcher investigated a homeschool family, the X family. Paul and Valerie are parents to four children with ages 6, 5, 3, and 18 months. The X family moved back to Taiwan in 2005 after living in the United States for the past 5 years. The father is a Taiwanese and the mother is an American, who used to be a college-level English teacher in Taiwan before married and speaks fluent Mandarin. Both parents are in their mid-thirties. The mother was raised and educated in the United States with a B.S. degree in Combined Science (chemistry, biology, and physics) and a master's degree in Teaching English as a Foreign Language (TEFL) and Intercultural Studies. The father was majored in Architecture and received a B.A. degree from a university in Taiwan. Later, he obtained a master's degree in General Theological Studies in the United States. The father worked as an architect both in Taiwan and the United States. Currently the father is pursuing his second master's degree in

a seminary in Taiwan, while the mother stays at home and is responsible for homeschooling the three preschoolers and taking care of a 18-month old toddler.

As a preliminary study, the researcher planned intensive visits to the X family in April 2006. Phone contacts made before the first interview helped the researcher learn about the weekly schedule Valerie usually plans for her children: Adam, age 6; Betty, age 5, and Cathy, age 3. With flexibility in planning out the weekly class schedule, Valerie usually teaches four days a week. Being a stay-at-home mother with four children, Valerie does house chore on one of the two days of which she does not teach and takes the other day for field trips with the children. Overall, Valerie purposefully designs a week so that she teaches two days in a row, let the children have a one-day break, and teaches another two days. Sunday is a rest day in the X family, which is a family tradition.

The initial visit to the X family started with an introduction of the research project, including the researcher's intention of carrying out a long term case study. The main method of data collection is a series of in-depth interviews and observations. In addition, documents such as the mother's teaching plans and calendar, teaching artifacts, reference books and magazines, and the children's workbooks were collected and examined. Yin (1994) listed six sources of evidence for data collection in the case study protocol: documentation, archival records, interviews, direct observation, participant observation, and physical artifacts. Although Yin stated that not all need to be used in every study, this study employed all the six sources.

## **RESULTS**

After finishing each interview session, the researcher transcribed the verbal data into textual data. While absorbing and immersing in the data, the researcher took three steps in analyzing the textual data, adopted from literary analysis, including: 1) finding occurrences of keywords and

phrases; 2) marking individual features, and 3) developing and discovering the themes. The followings are the findings from the interviews and observations.

### **1. What characteristics are revealed from the observations of the homeschool family?**

#### **a. Fulltime teaching**

Homeschooling is a fulltime job, Valerie asserted. There is no actual end of the teaching time, although the homeschool mother has clear schedules as to when to proceed a class session and when to stop. Unlike other homeschool parents in the literature, Valerie does not like the idea of having her children separate her roles of "teacher" and "mother". Virtually, Valerie believes that homeschool is a one-on-one teaching method; therefore, there are many times when they have deep and meaningful conversations that do not occur during a class session. They call this "teachable moments."

#### **b. Teachable moments**

As stated, teachable moments oftentimes does not occur during a particular class session; instead, they could happen anytime throughout the day. The X family believes that catching the teachable moments is critical and much effective from the educational point of view. Most of the time, Paul is the one who teaches at those teachable moments. According to Valerie, those conversations could happen at the dinner table, when the children are outside riding bikes, or sometimes when the family is taking a taxi to the Grandmother's house.

#### **c. Teamwork**

Teamwork in the X family is an interesting phenomenon. The researcher observed that the children enjoy teamwork, or simply "do something together." There was one time when Valerie was almost finishing teaching Betty (age 5) one of the scheduled lessons on phonics and was giving her a drawing assignment. Adam (age 6), sitting in another corner of the room doing his homework,

asked if he could join the drawing task with Betty. Valerie agreed and decided to ask Cathy (age 3) to come and draw with the other children as well. The drawing task was to follow Valerie's step-by-step instructions as to how and where to draw on a piece of blank paper. While giving the instructions, Valerie also drew on a whiteboard on the wall. The task needed the children to listen to Valerie's order as well as to mimic her drawing. After each picture was completed, a word describing that picture was given, which was the word Betty learned earlier in that lesson. The children enjoyed drawing together and the time spent with their siblings.

## **2. What are the characteristics of the category of religious and family-centered education?**

### **a. Discipline**

The most obvious characteristic of the X family is that Valerie has a fairly fixed schedule for homeschooling. There are also schedules for other activities, such as time for housework, nap time, sit time, and play time. Valerie expressed that discipline is the key in homeschooling, and a rather fixed schedule with all the different tasks arranged accordingly eases her mind. She believes that having a fixed schedule is also beneficial for the children, because they can predict what is coming next. Valerie stressed that "order brings security."

### **b. Flexibility**

Valerie makes all course plans for her three homeschooled children in the beginning of a school year, which is usually in mid-August. She then follows the course plans for different subjects throughout the year. In spite of the predetermined class schedules, Valerie emphasized that there still is flexibility. She weighs in factors such as friends' visits or sickness of a child, when conflicts with her teaching time occur.

### **c. Contentment and assurance**

Valerie often appeared content and assured when expressing their decision of educating their children at home. She revealed their religious

foundation helps them be certain that they are on the right path and feel less anxious about things they do not know yet. They are confident that teaching their children religious-based and family-centered values is the right choice. Valerie considered them being strong parents who know what is best for their children, as well as what kind of materials are appropriate for the learning purposes and what are not.

## **3. What are the homeschool family's information needs?**

### **a. Teaching and learning materials**

Teaching and learning materials are the most important information need for the X family. Being a homeschool parent, Valerie noted she is in a constant search for good quality teaching and learning materials. Most often she takes opportunities to talk to friends who share similar background to gather such information, in addition to browse the shelves in a children's bookstore.

### **b. Activities in and outside the local community**

Valerie pays special attention on information regarding activities that her children can participate in and outside of the local community, especially for her six-year-old Adam. Churches have been great resources in obtaining this kind of information. An elementary school located next to the X family's residence in Taipei also provides a network for Valerie. She shared that the school welcomes children who live in the neighborhood to use its sports facility during the after-school hours. Furthermore, the school explicitly welcomes homeschool children to join different sports activities with its students.

### **c. Medical information**

A third type of information is health related. Valerie's children are mostly very young; therefore, current, accurate, and reliable medical information related to vaccination and immunization has always been important for the X family. In addition, obtaining general pediatric-related information is much needed for Valerie as well.

## **4. What are the sources where the homeschool family obtains information?**

#### **a. Friends**

Valerie shared one episode of information seeking. Because of the busy schedule, Valerie did not have a lot of time doing online research when a math program was needed for Adam. She later found a friend who also homeschool her son has the same need for math materials and had already done plenty of research. She shared the information with Valerie, including the pros and cons of each math program she had found. What Valerie did in the end was to present the results to Paul and discussed with him. Paul made the final decision as to which math program they would use for Adam.

In addition to asking advice about teaching materials, Valerie shared that she keeps close contacts with other homeschool families, and with those who do not homeschool, but have children at similar ages. This approach makes Valerie feels “connected.” She noted that there are times when she just needed a friend to talk to, and she considered the friends who listen to her or give advice as one of her information sources

#### **b. Resource center**

A resource center located on the campus where Paul and Valerie studied in the United States served great needs for the X family’s early homeschool years. When describing the resource center and its facility, Valerie noted that the resource center was similar to a library, or an educational resource center. In particular, when it was going through a remodeling process, Valerie purchased a number of teaching materials at the clearance sale held by the resource center. Up to today, after three years of homeschooling, she still uses the teaching materials purchased at the resource center.

#### **c. Children’s bookstore**

On the days when teaching is not scheduled, Valerie often takes the children to a children’s bookstore nearby. Valerie stated that there are several reasons for going to the children’s bookstore. The main reason is because the

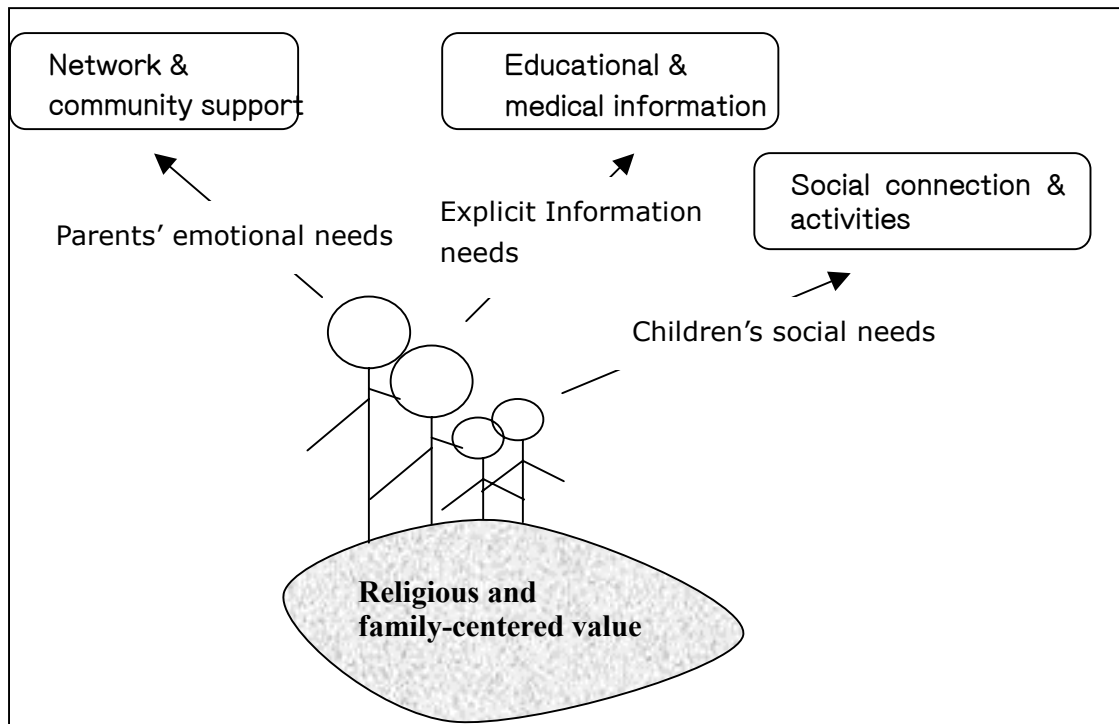
bookstore has regular schedules for story time, her children can take the benefit of the service and she can browse the shelves for learning materials at the same time. She noted that even in the children’s bookstore, there are no particular shelves or collection labeled as “homeschooling materials.” Being aware of that fact, she spends a lot time browsing the collections and flipping through book pages. When asked about whether she had ever asked help or suggestions from the bookstore staff, she replied that she had never asked any staff questions, because she considered herself being more knowledgeable than the staff when it comes to selecting learning materials suitable for homeschooling. Finally, Valerie stated that taking the trips to children’s bookstore is one of the good opportunities for her children to “get out” and socialize with other children and adults.

#### **d. Homeschool association**

Valerie pointed out one of the homeschool associations located outside of Taipei as an information source. She learned about the association from a friend who also homeschools, but has not gotten a chance to visit the association yet because of the distance. However, she has made a number of phone calls with the association to acquire test information for Adam. She also received news and book information through mails. Valerie expressed that institutional wise, the educational resource center, children’s bookstore, and the homeschool association have provided her with needed information regarding homeschool materials.

## **DISCUSSIONS**

By examining the results from the case analysis, a theoretical framework is constructed. This section presents a proposed homeschoolers’ PIA (Figure 1) explaining both information needs and information channels covering a homeschool family’s everyday life information behavior.



**Figure 1. PIA of A Religious and Family-centered Homeschool Family**

Three major elements of the framework are identified through the case study of the X family: parents' emotional needs for network and community support, explicit educational and medical information needs, and children's social needs for social connections and activities. It is worth noted that the PIA of a religious and family-value centered homeschool family, such as the X family, is established on a foundation that guides how decisions are made, problems are solved, and information is needed and sought in their day-to-day life. In other words, a deep root in the parents' belief and moral system serves as a critical foundation of their PIA, which has strong influence on their everyday life information behavior. The following section explains the three components of the PIA respectively.

1. Homeschool parents' emotional needs for network and community support: friends, other

homeschooling families, church, and homeschool associations.

The emotional aspect of information seeking and use is nowadays discussed by researchers of information behavior. This study shows that the X family seeks network and community support to feel connected and release day-to-day tension. Such a support system is comprised of friends, other homeschooling families, church, and homeschool associations. On the other hand, to ease the concern of homeschool children's social ability, the X family actively looks for information regarding social programs and activities for their children.

2. Homeschool children's social needs for social connection and activities: school, church, children's bookstore

Although the information behavior of homeschool children is not the immediate focus of the study, it could be easily identified that their information



behavior is mainly directed by their parents, especially for small children. Essentially, the X family is aware of the heated discussions for homeschool children's social development; therefore they pay special attention to this area. Homeschool parents' concerns over children's socialization drive how children are associated with information. More specifically, homeschool parents encourage their children to seek social connections direct and indirectly from nearby school, church, and children's bookstores.

3. Homeschoolers' explicit information needs: educational materials, medical information

In addition to everyday life information seeking, educational and medical information is sought after purposefully and specifically in the case being studied. Educational information includes teaching and learning materials. Browsing the shelves and checking new materials in the bookstore while the children attending the story time is the most economical and beneficial way for the X family to keep up to date and gives the children opportunities to socialize with other children and adults. On the other hand, the X family frequently seeks specific medical information for child-care, such as vaccination and immunization. An educational resource center located on a university campus is reported by the X family to be highly valuable because the center provided opportunities for purchasing inexpensive materials as homeschoolers' teaching and learning aids. However, the X family has not yet found a comparable setting in Taipei. Instead, a children's bookstore plays a similar role as an educational resource center.

The framework of PIA in the context of homeschoolers provides us with a picture of how their information environment is constructed. As a preliminary and exploratory study, the proposed PIA deserves further research and deeper examination. Nevertheless, the PIA serves as the foundation of understanding homeschool family, in particular in the category that emphasizes on religious and family-centered education.

## CONCLUSIONS AND FUTURE RESEARCH

This case study focuses on a single homeschool family, which falls into the category of religious and family-centered education. An ethnographic approach was used in this study, which incorporated field work and in-depth interviews with a homeschool family living in Taiwan. The homeschool family being studied has three years of homeschooling history and shared their experiences and insights into homeschooling as well as usage related to information. A Personal Information Architecture is proposed, based on the analysis of interviews and observations, to explain homeschoolers' fundamental information behavior, which includes emotional, intellectual, and social aspects of everyday information seeking as well as problem solving. The researcher is aware that the generalization of a case study is made to the theory; therefore, this study sets the ground for a beginning framework and for continuing studies to be built upon. For future research, it is necessary to investigate all three camps of homeschool families as mentioned in the section of Related Studies. It is essential to examine whether the characteristics found in the case study can also be found in other types of homeschoolers and whether the PIA has the potential for moving to a digital information environment.

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