To Learn or not to Learn? The Primary School Students’ Internet Use for Learning

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Abstract
This study explored primary school students’ usage of Internet for learning, and their attitudes towards using Internet. In this study, we recruited twenty-eight primary school students to write diaries on their Internet usage for learning and conducted focus groups to understand their thoughts and attitudes. The results showed that most primary students in our study regarded the Internet as a tool for fun rather than learning, so they rarely use Internet for learning. This study suggests that social factors like curricular requirements and parents’ attitude towards Internet have much influence on primary school students’ behaviors and attitudes towards the Internet, and provides advice for future guideline to motivate children to make better use of the Internet for their activities including learning in their everyday life.

Keywords: Internet; primary school students; learning


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1 Introduction
With the fast development of Internet and information technology, children began to get in touch with Internet early in their childhood, and took Internet as a source of information for their learning. In some developed countries students began to use Internet for class projects (Large & Beheshti, 1999). Research found that their information-seeking behaviors were often influenced by the type of tasks they pursue (fact-finding vs. research-based), cognitive developmental ability, level of research skills, and the approach they take to complete the tasks (Bilal, 2000, 2001). Research also showed that children preferred online entertainment like gathering personal-interest information, chatting, emailing, and online gaming (Burnett & Wilkinson, 2005; Attewell et al., 2003; Mumtaz, 2001; Sjöberg, 1999).

In China, the number of juvenile Internet users has been rapidly grown and reached nearly 0.3 billion (CNNIC, 2016). Among them, the number of Internet users between 6 and 11 years old was about 11.5% (CNNIC, 2016). Therefore, many primary school students have access to Internet either for fun or for learning, and can be considered as “native” Internet users (Chou et al., 2009). Quigley (2011)’s research showed that in Thailand, students used the Internet as a learning tool, and gradually became self-taught independent e-learners. However, few research has examined this issue in China. So it is necessary to examine how Chinese primary school students use Internet for learning and their attitudes. In this study, we investigated the behavior and attitudes of Chinese primary school students towards the Internet usage with the following three research questions:

- How often do Chinese students use Internet during learning?
- What do the students search on the Internet during learning?
- How do the students feel about their Internet use?

2 Methodology
We used a structured diary to examine primary school students’ attitudes and behaviors toward using Internet for learning. Participants from Yangfangdian Central Primary School, Haidian District, Beijing, China were
recruited through their science teacher. Before the formal research we conducted a pilot testing to test the initial diary design according to their feedback. The final version of the diary structure contains three parts: instruction, personal information table, and daily diary sheets (see Figure 1). For the diary study, 28 students participated and wrote diaries to record their online learning activities from December 17 to 23 in 2015. They were told that they would be rewarded if their diaries were completed, and they could quit whenever they want. We read and examined all the diaries, and found 17 participants’ diaries were continuous and complete, so we only considered these diaries in data analysis. The participants include two students in the fourth grade, three in the fifth grade and twelve in the sixth grade, aged from nine to twelve. All participants owned at least one device for Internet connection, including smartphone, tablet, desktop PC or laptop. But ten of them were restricted by their parents on Internet usage.

In order to further understand their attitudes and thoughts of Internet usage, we interviewed students from the sample who had kept continuous diaries in three focus groups. The interview questions involved their attitudes to Internet usage and the reason for their attitudes.

![Figure 1. The diary sheet](image)

3 Findings

3.1 The Frequency of Children Internet Usage for Learning

We first analyzed the frequency of Internet usage for learning from the records of participants’ diaries. Results showed that all participants recorded about at least one item per day (see Table 1). However,
students in different grades seem to vary in the frequency of using Internet for learning: fourth-grade participants used Internet for learning more frequently than fifth-grade and sixth-grade students.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Total number of records of using Internet for learning</th>
<th>Number of students</th>
<th>Average number of records of using Internet for learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>17</td>
<td>2</td>
<td>8.50</td>
</tr>
<tr>
<td>5</td>
<td>6</td>
<td>2</td>
<td>3.00</td>
</tr>
<tr>
<td>6</td>
<td>33</td>
<td>12</td>
<td>2.75</td>
</tr>
<tr>
<td>All participants</td>
<td>56</td>
<td>16</td>
<td>3.50</td>
</tr>
</tbody>
</table>

Table 1. The averages of records in different grades and all participants

3.2 The Types of Information Children Seek on the Internet

We conducted content analysis on the answers to the question “What’s the problem you want to solve this time?” in the diary. After separately coding of the answer data by three researchers, we came to an agreement on the classification scheme of participants’ online learning activities (see Table 2). The recoded data were first labeled as 24 subtypes (see the third column), which can be combined into 9 types according to the theme of the content as types (see the second column). Considering Chinese primary schools’ curriculum, we combined types of content in curricular requirements as “curricular knowledge”, while types of content beyond requirements as “extracurricular knowledge” (see Category). We also coded the answers according to Bilal’s classification of information seekers’ tasks (Bilal, 2000, 2001), and found that a majority (64%) of information search tasks in extracurricular knowledge were complex tasks, which had no target answers, requiring information seekers’ critical thinking to extract “meaning” from the information found, while over half (53.8%) of search tasks in curricular knowledge were simple tasks, which had a target answer. Such results also demonstrate that curricular homework has more percentage of simple tasks and extracurricular homework has more percentage of complex tasks.

<table>
<thead>
<tr>
<th>Category</th>
<th>Type</th>
<th>Subtype</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extracurricular Knowledge</td>
<td>Encyclopedic Knowledge</td>
<td>Person, History, Biology, Festival, Traffic, City, Literature, Music</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Practical Knowledge</td>
<td>Computer, Activity, Everyday Life</td>
<td>How to write a speech in New Year’s party</td>
</tr>
<tr>
<td>Curricular Knowledge</td>
<td>Homework</td>
<td>homework from the school and extracurricular classes</td>
<td>Do schoolwork</td>
</tr>
<tr>
<td></td>
<td>Vocabulary</td>
<td>Vocabulary</td>
<td>Find a word</td>
</tr>
<tr>
<td></td>
<td>Chinese(Except Vocabulary)</td>
<td>Chinese(Except Vocabulary), Poetry, Composition</td>
<td>Chinese</td>
</tr>
<tr>
<td></td>
<td>Math</td>
<td>Math</td>
<td>Math</td>
</tr>
<tr>
<td>Information</td>
<td>Information</td>
<td>Address, Social Learning, News</td>
<td>Where is the place for oral defense?</td>
</tr>
<tr>
<td>Material</td>
<td>Material</td>
<td>Material</td>
<td>Find material</td>
</tr>
<tr>
<td>Others</td>
<td>Others</td>
<td>Others</td>
<td>Play games</td>
</tr>
</tbody>
</table>

Table 2. The classification scheme of participants’ online learning activities
Further, the records showed that seeking extracurricular and curricular knowledge occupied 91% of all learning-related records in average. Interestingly, participants in grade four sought more extracurricular knowledge, while participants in grade 5 and 6 sought more curricular knowledge.

<table>
<thead>
<tr>
<th>Category</th>
<th>Extracurricular Knowledge</th>
<th>Curricular Knowledge</th>
<th>Information</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>0.76</td>
<td>0.24</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>5</td>
<td>0.33</td>
<td>0.67</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>6</td>
<td>0.30</td>
<td>0.55</td>
<td>0.12</td>
<td>0.03</td>
</tr>
<tr>
<td>All Participants</td>
<td>0.45</td>
<td>0.46</td>
<td>0.07</td>
<td>0.02</td>
</tr>
</tbody>
</table>

Table 3. The average percentages for types of information with participants’ grades. Percentages are marked orange if exceeding 0.5, red if between 0.3–0.5, white if under 0.3.

3.3 The Attitude Children Hold Towards Internet Usage

The results presented in this part came from focus group interviews, to address children’s’ attitudes towards Internet usage. In general, participants’ attitudes could be summarized into two points:

(1) Internet is not the primary source for learning.

When asked how they solved learning problems, most participants said they would ask parents, relatives or other people for help at first. Only when these people didn’t know the answers, they turned to Internet for help. Some participants thought asking people was more convenient than the Internet (W09: “The translation or answer is not right on Internet, I have to redo it.”). Besides, children are often restricted to the Internet usage by their parents and teachers (W09: “Our teacher don’t recommend us to use Internet, it can be a distraction for study and bad for eyesight.”), but even for children who did not have restrictions, someone still prefer to ask people close to them for help (W03: “I’d like to ask my cousin for help, he’s a top student!”).

(2) Internet can be helpful for learning but mostly for fun.

Participants told us if they wanted to broaden their horizons, they would choose the Internet. They also talked about Internet addiction, agreeing that there should be restrictions for their Internet usage (A09: “It prevents me from wasting too much time playing on the Internet”). In their eyes, Internet is more for fun rather than study (W09: “It’s all about relaxing, playing, and searching for materials.”)

4 Discussion and Future Work

The results from this study revealed that few children in Chinese primary school regarded the Internet as a main source for learning, which is consistent with some previous research (Chou et al., 2009; Quigley et al., 2011; Cheng, 2008). In addition, we found fourth-grade students used Internet to learn more frequently than students in higher grades. The reason for this might be that they have more spare time to participate in multiple activities like scientific groups and clubs, which required knowledge beyond the people surrounded knew, so they would like to turned to the Internet (e.g. W07 said “because she (my mother) ask me to use the Internet”). Even though students in higher grades sought more curricular knowledge on the Internet, more than half of them belong to simple-tasks. Students in higher grades were burdened with middle school entrance examinations, which focus mainly on how much students learned rather than how they learned, so they should follow what teachers say about curricular knowledge. During that period, most parents worried that the Internet could be a distraction for learning and discourage their children to use it,
and this also influenced the children’s’ attitudes towards Internet, and they held similar opinions as their parents. Such results demonstrated that two social factors had prevent children from using Internet as a learning tool: first, few curricular homework requires Internet search or information gathering; second, parents and teachers did not encourage them to learn to use Internet. This leads to our suggestion to educators in primary school: first, they should teach students how to make use of the Internet for learning like how to search on the Internet, and what information resources are available; second, they could assign some homework that requires students to search and integrate information from the Internet.

The results of this study explored the current situation of Internet usage for learning among Chinese primary school students through the diary and focus group. We acknowledge several limitations in this study. The school we selected is located in the capital of China and participants were randomly selected through advertisements. But the sample size is small and may not be able to represent the overall situation of all primary school students in China. We did not consider other factors that may influence children’s study behaviors, such as parents’ education background and children’s hobbies. We will further examine these factors and identify whether they have effects on children’s attitude and behaviors on the Internet using for learning later. Besides, the knowledge children receive from Internet is scattered, future studies should focus on the effects these information fragments bring to the children and how to lead children to take advantage of Internet needs to be further studied.

5 Reference


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