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Assessing Information Literacy: A Case Study of Primary 5 Students in Hong Kong

Samuel Kai v/b literacy information literacy assessment
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iteracy Skills (TRAILS). The ILA covered five TRAILS

educators (Darling-Hammond 2010; Dede 2010; Kay 2010; Trilling and Fadel 2009) and that have been touted to be the ones students need to succeed in learning, career, and life in this century. National governments and educational authorities around the world have recognized the importance of IL, as demonstrated by its introduction as a component of educational systems. For instance, it has become customary for university libraries to design their own IL tests to evaluate their students' IL proficiency (Mueller 2010). Beginning June 4, 2012, even the

defining the role of school libraries in IL education. It suggested that "when librarians and teachers work together, students achieve higher levels of literacy, reading, learning, problem-solving and information and communication technology skills."

In the USA the AASL/AECT information-literacy standards were incorporated into the education systems of many states at different grade levels. Oregon, for example, adopted the AASL/AECT IL standards for developing the state's curriculum and setting IL goals. Other states, such as Virginia, undertook a comprehensive review of IL and formulated their own guidelines and standards. In Montana, with the use of *Information Power* (AASL and AECT 1998) and the Big6 information problem-solving process as primary guiding documents, content and performance standards for school library programs were established in 2000 (Bartow 2009).

Other countries have also incorporated IL into their education systems to varying degrees. In Denmark IL is emphasized strongly as a student-learning outcome. In the Sultanate of Oman the development of an information-skills curriculum for grades one through six was included as part of the five-year plan for the new education policy (Moore 2002).

The Case of Hong Kong

Hong Kong has been described as a territory that has been moving rapidly towards a knowledge-based economy (Enright 2000). The publication *Hong Kong as a Knowledge-Based Economy: A Statistical Perspective* prepared by the HKSAR Census and Statistics Department pointed out that "a KBE is characterized by the need for continuous learning of both codified information and the competencies to use information" (2009, 4). In light of this reality, in 2004 the HKSAR government determined to "draw up an Information Literacy framework for primary and secondary students…so that teachers and students have a clearer picture on the learning targets of using IT in education" (HKSAR Ed. and Mnpwr Bur. 2004, 28). IL in primary education was segregated into two stages: Primary 1 (P1) to Primary 3 (P3) for Stage I, and Primary 4 (P4) to Primary 6 (P6) for Stage II. Guidelines were detailed in terms of learning targets, knowledge, skills, and attitude for each stage. A survey among school librarians, teachers, curriculum coordinators, and principals later revealed that 95 percent of the 2,608 respondents confirmed the (he)4 cer2 Prieoon wnesnatsea2]TJ T* [()ong s(Pg s(r)The pu10(I)3(L)11(i) Paced 2(o s10(r)3(i)k)-2(nt)-2(o

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Instruments

Information-Literacy Assessment

The ILA instrument for this study was modified from the Tool for Real-Time Assessment of Information Literacy Skills (TRAILS). As one of the projects of the Institute for Library and IL Education (ILILE), TRAILS was developed by Kent State University faculty with the assistance of school librarians. The goal was to assess the levels of information literacy of third-, sixth-, ninth-, and twelfth-graders (Kent State University Libraries 2010). The ILA was designed as "a class assessment tool that was standards-based; provided both class and individual outcomes; assured privacy; and was Web-based, easy-to-use, and available at no cost" (Schloman and Gedeon 2007, 45). Since its availability for public use in 2006, TRAILS has gradually been adopted within the United States. The advantage of using TRAILS is that results of the tested students can be compared to the national average in the United States. However, no study has adopted TRAILS as an assessment for non-U.S. participants. The current study would be the first to adapt and use TRAILS for a non-American population.

The IL framework set by the HKSAR government has incorporated the AASL/AECT IL standards by classifying them into four categories. The "eight IL competence dimensions" developed by CITE (2009) also correspond to these standards, except the ones (i.e. Standards 4 and 5) that fall under the affective dimension of the EDB IL framework. These three IL frameworks (HKSAR, AASL/AECT, and CITE) resemble each other to a great extent, with only minor differences regarding the degree of emphasis on students' perceptions of the inquiry process.

The ILA tool used in this study assesses the information-literacy level of students in five TRAILS categories, which correspond to the major IL standards set by AASL and AECT. The questions in TRAILS assess students' information literacy in the cognitive, meta-cognitive, and socio-cultural dimensions of the EDB IL framework, covering seven out of eight IL dimensions suggested by CITE. TRAILS encompasses most of the standards and dimensions of the three frameworks deemed relevant in this study, leaving out only the evaluation of students' level of enjoyment in finding and using information, which is beyond the scope of this study. The consistency of TRAILS components with the Hong Kong IL framework made it potentially applicable to primary school students in the territory. The TRAILS 6th General Assessment 1 consists of twenty-five questions, fourteen of which were extracted based on the expert opinion of two school librarians from the participating schools. The reasons for excluding the other questions were 1) the wording was too complicated, and 2) the context was considered remote to Hong Kong students. The relationship between the TRAILS categories and the three frameworks is summarized in table 2.

agreement or judgment from an independent third marker. All markers for the open-ended questions were research assistants pursuing undergraduate or graduate studies.

Results

Overall ILA Performance

Table 3 summarizes the descriptive statistics of the participants' ILA scores. Out of the fourteen questions, the mean correct number of questions was 9.12 (SD = 2.56). No significant difference in the level of information literacy among the four schools was observed [$F(3, 195) = 2.481$, $p = .062$], so the subsequent analyses were performed on the entire sample.

Table 3. **Descriptive statistics of ILA scores for the participating schools.**

School	n	Mean (SD)	Median	Max	Min
A	46	9.54 (2.49)	10	14	3
B	58	8.48 (2.69)	9	13	3
C	42	8.88 (2.59)	9	14	4
D	53	9.62 (2.32)	10	13	4

Table 4. Comparison between the observed and expected numbers of students for each ILA question.

Question number	Observed number (%) of students answering correctly	Expected number (%) of students

The second issue relates to difficulty distinguishing fact from opinion. Although questions 9 and 10 are similar in nature, students performed worse in question 10. Almost all students could tell that "smoking is bad for health" is a fact, yet 30 percent of students also believed "smoking *should* be banned" is a fact. This result implies that the current education system does not provide sufficient training for students on differentiating between an opinion and a fact.

Another related issue is the extent to which moral understanding is linked to the ethical use of information. Understanding about moral values is of course the basis of any social behavior, yet many factors are involved in determining whether an understanding can lead to corresponding action. Frameworks like the Four-Component Model of Morality try to explain important stages of a moral action (Rest, Bebeau, and Volker 1986; Rest et al. 1999; Moores and Chang 2006). First, a person must have the *moral sensitivity* to tell how different actions will affect the welfare of others. Then, *moral judgment* is needed to tell which action is the most justified. The judgment can never be realized unless one has the *moral motivation* to do so. However, even if one is motivated to behave morally, *moral characteristics* like self-efficacy (to what extent one believes he/she can achieve the desired outcome) will be the final determinant of whether one actually behaves morally.

Based on the Four-Component Model, Trevor T. Moores and Jerry C.-J. Chang (2006) tried to study Hong Kong residents' ethical decision making in relation to software piracy. These researchers came to the conclusion that recognition does not lead to judgment, and gender plays no role in ethical decision-making. Therefore, even if students have high levels of information literacy in the ethical domain, they may not make corresponding decisions. Elements supporting students' judgment, motivation, and characters should also be included in the teaching of information literacy.

Limitations to Consider

Although the results reported serve as important precursors for future research, limitations of the study should be considered in interpreting the results. First, the participating schools were selected based on convenience sampling. Nevertheless, the participating schools' characteristics, such as curriculum and teacher-to-student ratio, were similar to those of any local primary schools of average academic standing. With further revision of the ILA tool, future studies should aim to administer the instrument to a larger sample population, thereby improving the validity and utility of the instrument for evaluating IL knowledge of primary school students in Hong Kong.

Second, both the ILA tool and the CRC test were modified from questions of TRAILS and TSA, both of which were designed for Primary 6 students. It is hard to judge whether the poor performance in certain questions was due to the difficulty in comprehension, or whether students had not yet been exposed to knowledge about the topic.

Third, the ILA did not fully cover all the AASL/AECT IL standards. In future studies, additional questions, for example on assessing the understanding of intellectual-property rights, could be included to improve the scope of the assessment tool.

Usefulness of Study

Despite its limitations, however, the current study is the first to measure the IL of Hong Kong primary school students using a standardized testing procedure. It is also the first to investigate

Question 4 (TRAILS, Sixth Grade General Assessment 1, Q6)
The assignment for health class is to find facts on childhood obesity. You want to save time. Before typing "childhood obesity" into the Google search engine, which website should you check first?

A. "Healthy Adults"—www.healthyliving.org—health information for adults
B. "Lose Weight Now"—www.dietnow.com—several diet plans are explained
C. "Kid's Health"—www.kidshealth.org—children's health topics are discussed
D. "Food For Life"—www.foodgoodforyou—healthy food choices

Question 5 (TRAILS, Sixth Grade General Assessment 1, Q9)
If you want to find books by Cha Leung Yung, what kind of catalogue search should you try?

A. Title search
B. Author search
C. Subject search

Question 6 (TRAILS, Sixth Grade General Assessment 1, Q12)
Your friend tells you about a website where you can download the latest songs that you hear on the radio for free. If you use this website for this purpose, which of the following will you violate?

A. Right of privacy
B. Copyright
C. Freedom of information

Question 7 (TRAILS, Sixth General Assessment 1, Q10)
You are asked to create an informational pamphlet on animals. Your topic is giraffes. Select

Question 10 (TRAILS, Sixth General Assessment 1 Q16)
Read over the sentence and select whether the sentence is Fact or Opinion.
"Smoking should be banned."

A. Fact
B. Opinion

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