How Children Gauge Information Trustworthiness in Online Search: Credible or Convenience Searcher?

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This study investigates children's information search behaviour to learn about their search characteristics. The study uses a qualitative approach by observing and noting children's searching process. A total of 30 children aged 7-9 years participated in this study. The unobtrusive observation of children's searching process via the Web were recorded using Camtasia software. Probing interviews were used to gather understanding on how the children perceive information trustworthiness. The data was analysed using a thematic coding approach. The findings highlighted two main characteristics of children's search: Credible Searcher and Convenience Searcher. The children in general could gauge information trustworthiness and have confidence with regard to the relevance, reliability and the credibility of resources. The children do not consider source reputation and currency as an important criterion when seeking information. This study contributes to a better understanding of information trustworthiness as reflected in young children's information seeking and processing.

Keywords: Information trustworthiness, information credibility, credible searcher, convenience searcher, young children, information seeking, information behavior.

INTRODUCTION

Information literacy is one of the basic skills needed in the twenty-first century information environment that entails the ability to seek, assess and use information effectively. These skills are becoming more important since the Internet does not provide adequate control mechanisms that allow anyone to be able to publish almost anything regardless of its accuracy, timeliness or appropriateness. The vast and increasing amount of information published on the Web has caused searchers to be more selective particularly with regard to information quality and trustworthiness. As information quality refers to people's judgement on the

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usefulness of information, it encompasses issues on information trustworthiness and credibility. Kelton, Fleischmann, and Wallace (2008) reported that people's judgment on information trustworthiness was influenced by information quality criteria, such as accuracy, currency, coverage and believability.

Previous works on information trustworthiness mainly investigated factors that influence trust judgement (Rowley & Johnson, 2013), and criteria for assessing information trustworthiness (Pattanaphanchai, O'Hara, & Hall, 2013). Research on information trustworthiness has focused on students' information searching and use (Rowley & Johnson, 2013; Biddix, Chung, & Park, 2011; Hargittai, Fullerton, Menchen-trevino, & Thomas, 2010; Rodicio, 2015), health information (Johnson, Rowley, & Sbaffi, 2015; Rowley & Johnson, 2013; Stvilia, Mon, & Yi, 2009), and adults' and young adults' responses on online communities and social networking (Shen, Cheung, & Lee, 2013; Yaari, Baruchson-Arbib, & Bar-Ilan, 2011). There has been little study on young children's assessment of information trustworthiness.

Young children constitute a unique and interesting population since they are born into a society where locating and making judgements about the digital information they find is regarded as the norm. Adults differ considerably in their information literacy skills particularly when it comes to judging online information trustworthiness and credibility (Hargittai, Fullerton, Menchen-trevino, et al., 2010). This is also apparent amongst young children with emerging literacy skills (Given et al., 2016), who vary in their cognitive ability to make judgements about the quality of the information they find. This study aims to investigate this variability and, in particular, young children's perceptions of information trustworthiness of the Web resources they find and how this affects their information seeking behaviour. This study does not investigate factors influencing information trustworthiness among young children but focuses on how young children gauge information trustworthiness when seeking information on the Web as reflected in their searching process and the validation of the resources they find.

LITERATURE REVIEW

Children's Information Seeking Behaviour

Young children have been reported to use the Internet for several purposes, such as seeking information for school assignments, entertainment, games, and leisure activities (Jochmann-Mannak, Huibers, Lentz, & Sanders, 2010; Kammerer & Bohnacker, 2012; Large, Nesset, & Beheshti, 2008). Foss &Druin (2014) conducted a study of children's search behaviour and categorised the searching behaviour based

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on their roles. More recently (Given et al., 2016)reported a research study on everyday life information seeking of young children when they engage and play with information technology. Livingstone and Helsper (2008) listed several activities undertaken by children when using the Internet, such as using email, chat rooms, instant messaging, and playing games.

Previous study has shown that the children face many problems with searching and browsing mainly due to the inadequacy of searching skill on the Web. This is supported by a study conducted byDruin, Foss, Hutchinson, Golub, and Hatley (2010) who reported 74% of children aged 8-18 years have access to the Internet but are unable to find the optimum search result.Druin, Foss, Hutchinson, Golub, and Hatley (2010) and Gwizdka and Bilal (2017) later reported children were facing issues in formulating search queries since they normally would use natural-language or full-sentence queries instead of keyword searches. Most recently Bilal and Gwizdka (2018) reported how children formulate and reformulate query in Google search and highlighted the needs of human intervention to support query formulation and reformulation when using web searching platform such as Google. Kammerer & Bohnacker (2012)found most children use only one or two unspecific search terms that automatically lead them to search results that did not match their information needs. Other issues faced by children when seeking information are that they prefer to use similar search tools as adults, experience problems in deciding the right and useful information on the Web(Jochmann-Mannak et al., 2010), and have difficulties evaluating search results (Druin, Foss, Hutchinson, Golub, & Hatley 2010).

Information Trustworthiness

Only limited research is reported in the literature on children information seeking behaviour and trustworthiness. However, Livingstone, Bober, and Helsper (2005) have mentioned that children do not trust information they find, and neither do they check the result they select Hence, no further study could be traced from the literature on this issue. Therefore, the following paragraphs discuss related studies on information trustworthiness among students and not specifically on children.

In terms of information trustworthiness, Pattanaphanchai et al. (2013) have proposedfour criteria for assessing trustworthiness of Web information derived from experts' judgment. This includes i) authoritativeness that was related to the author's identification and credentials of sources; ii) accuracy that related to the

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error-free expression of information; iii) currency that related to how up-to-date the Web information was; and iv) relevance that related to how well the content met the user's needs. They named these criteria as normative measures as opposed to descriptive measures, such as visual presentation of the website normally used by users. These criteria, however, were based on experts' judgment, provided by academic researchers and librarians, rather than views obtained from normal Web users. Johnson et al. (2015)reported a few criteria of information quality based on content and style, and peripheral clues (ease of access and brand of search engines) in assessing the usefulness and credibility of health information.

Studies on information trustworthiness and credibility in online community and social networking have been focused on Wikipedia as the information platform. This is mainly because Wikipedia is the most popular website that students use to complete their assignments (Biddix et al., 2011; Menchen-Trevino & Hargittai, 2011). The use of Wikipedia in investigations, however has caused some controversy because the accuracy and credibility of the entries is still debated given that these are created collectively by members of the online community rather than necessarily by field experts (Lichtenstein & Parker, 2009). To overcome this limitation, many researchers have tried to evaluate quality using other criteria. For example Yaari et al.(2011) used article page and revision history as a credibility measurement. The findings showed that the attributes used to measure the quality of Wikipedia were quite similar to other information quality studies on the web. This included amount of information, satisfaction with content and external links. Shen et al. (2013) reported an investigation on the effects of trust and information usefulness on students' information adoption from Wikipedia. The findings indicated that trust was a factor that mediated the relationship between information usefulness and information adoption. Information usefulness and trustworthiness were the two most important factors predicting the adoption of Wikipedia.

A number of studies on information trustworthiness were conducted in the context of everyday-life information seeking. These studies required participants to conduct several searching tasks of online web content and to examine how credibility judgments were embedded in the search process to emulate a natural setting. Hargittai, Fullerton, Menchen-Trevino, and Thomas (2010) focused their study on the initial stage of information seeking process. The findings indicated that students relied on a particular search engine brand (mainly Google), and perceived the top list of the hit results as credible materials, although they would contact

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particular institutions such as the university or government agency to seek certain information. Rieh and Hilligoss (2008)found students employed a number of different information seeking strategies that reflected their credibility judgments, and this included, i) starting information seeking at a trusted place; ii) using multiple resources and cross-referencing; and iii) compromising information credibility for speed and convenience. In addition, Rodicio (2015) investigated how undergraduate students would systematically evaluate web pages using certain cues of relevance and reliability. The systematic ways would reflect authoritativeness and reliability elements through cues from the web content and publisher, while less systematic ways would use other cues such as keywords in web title pages or page rank in the search engine results for relevancy. The findings reported that the students were able to use systematic evaluation of web resources although they were less systematic when navigating the search engine results, thus indicating less consideration for information reliability. This study was unable to mimic a natural search setting as the students were given a search engine result page and several web pages to evaluate in terms of their relevance and reliability. Biddix et al. (2011)reported on how students evaluated the information they chose to use when completing course assignments. Data were drawn from open-ended questionnaires. The findings indicated that students valued credibility but preferred efficiency. They acknowledged information from.edu sites but preferred search engines and Wikipedia for their ease of access.

Research Objectives

The main aim of this study was to investigate search behaviour of children through conceptualizing their search characteristic in the context of information trustworthiness. In order to address this objective, the following research question was put forward: What are the characteristics of young children's web search behaviour in relation to information trustworthiness?

METHODOLOGY

Data Collection Methods

The research sample used a purposive sampling method targeting at young children aged between 7 and 9 years old, who were familiar with computers and the Internet. A purposive sampling technique was used in which the children were anticipated to be able to formulate their own search strategies and simultaneously demonstrate their information seeking process. The children were selected based on their good performance on technology, information and communication

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subjects in school. Prior to the data collection sessions, consent letters were distributed to parents to obtain their approval for their children to participate in the study. The study involved 30 children, 14 males and 16 females from the Klang Valley residence area in the state of Selangor, Malaysia.

This study employed a qualitative research approach in a home setting involving observation sessions and critical incident approaches. The data was gathered from March to September. For the observation sessions, the children were required to conduct several prescribed web searching tasks. The children were later interviewed, using the critical incident approach, to investigate their perception of information trustworthiness and their confidence with the information sources they retrieved. Both sessions were audio and video recorded and lasted an average of 45 minutes.

Searching tasks. Initially, the children were asked to search for topics that they found interesting. They were then given a set of task statements and asked to search the Web to find out whether these were true or false. The task statements were categorised into simple fact finding and complex searching tasks. Most of the children mainly sought for information related to their favourite topics such as cartoons, general knowledge of history, images, videos, songs and movies on YouTube, and topics related to school assignments (for example in mathematics, science and language). The searching tasks were prepared in the local language (Malay language).

The simple fact-finding search-based task required the children to check the correctness of simple statements such as “The colour of Japan’s flag is red, white, yellow and blue.” The complex search task statements required children to find a combination of two or more facts, for example, “Taipei 101 is the third highest tower in the world and it is located in Taiwan.”

Data analysis methods. The observation sessions were video recorded using Camtasia software. A total of approximately 500 minutes of video observation footage and 400 minutes of interview audio records were gathered from the study. Video observation notes (90 pages) were also taken to supplement the observation session. These data, together with 50 pages of interview transcripts were analysed using NVivo 11. Thematic analysis was employed as a data analysis technique. To ensure reliability of the data analysis, two coders were used for coding the data into themes. The intercoder agreement was calculated by dividing the number of times they agreed by the total number of analysis units (Freelon, 2010). Two rounds of

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data analysis processes were conducted. The first round of intercoder agreement was 52.1% requiring a further refinement of the themes/sub-themes and removal of redundant sub-themes. After the revision, irrelevant sub-themes were removed and redundant sub-themes were merged. The second round of data analysis demonstrated an increased percentage by 78.1% of intercoder agreement. However, several occurrences of coder disagreement were resolved by assigning the data to the most appropriate theme/sub-themes as mutually agreed by both coders.

RESULTS

The findings demonstrated that children could gauge information trustworthiness as reflected through their seeking process. This is mainly indicated from their selection of information location and sources, formulation of seeking strategies, the use of information, and evaluation of the retrieved information. Throughout the seeking process the children exhibited two main categories of searcher based on the role of trust. These are credible searcher and convenience searcher.

Credible Searcher

Reliability. The finding demonstrated that children were credible searchers when they attempted to find reliable information and had a perception of quality or condition of information as being accurate, correct or precise. The reliability of information is demonstrated by the actions the children undertook, such as in browsing, scanning, reading and comparing several information sources they retrieved to ascertain its accuracy, reliability, and correctness. When examining the information for its accuracy and reliability, the children would browse the search hits, read them or listen to the audio or view the video files. The observation sessions indicated that six (6) children (Alvy-S1, Naz-S1, Mirza-S1, Noel-S2, Min-S5 and Yaqen-S5) engaged with the information they retrieved through reading the entire pages to ensure the information is accurate and correct. These children started the search task after reading the search statement properly to comprehend it, typed in the search word/phrase on Google and hit the search button. They would subsequently browse the search hits before making their selection of a particular resource to be used to further seek for information they needed.

Typically, the children were observed selecting more than one of the hit results. They would read the chosen resources properly and try to understand the content to find the required information. There were five (5) children (Alvy-S1, Naz-

https://doi.org/10.47657%2F2019211468

S1, Afis-S2, Noel-S2 and Sara-S9) who were observed comparing the information from a few Web sources before deciding to answer whether the search statement was true or false. On the other hand, eleven (11) children (Alvy-S1, Sara-S9, Alin-S1, Naz-S2, Nur-S14, Faresh-S13, Batoul-S10, Annur-S8, Asfa-S8, Noel-S2 and Afis-S2) selected Google images as the search platform. They typed the related keyword, then directly clicked on one of the Google images retrieved, and would later read the content to find the required information. These children normally did not browse and read from other sources to confirm the accuracy of the information.

The findings indicated that the children would either confirm their search findings by searching other resources that contain similar information or they were satisfied with information they got from the first search attempt. However, the interview session revealed that the children seemed aware that the information they found on the Web might not necessarily be accurate or reliable.

For example, four children (Naz-S2, Noel-S2, Min-S5 and Ihsan-S7) noted that Google images displayed various images and information but they could not completely trust them all. The children were aware that incorrect information might be uploaded on the Internet. Furthermore, the children also mentioned that they needed to compare the information with other resources to ensure its reliability and accuracy. Some examples of the children's verbatim statements related to this notion are given below."… sometimes people are not telling the truth… some information is reliable but not all"(Naz-S1), "…I do not trust every information retrieved from the web because sometimes they are not true" (Noel-S2), "I cannot believe all the information from the Internet" (Min-S5).

One child stated that she thought she would be able to find the desired information from the Web but that she could not be sure of its accuracy. Faza-S9 said, "… I could not fully trust the information stated in the blog page..." (Faza-S9). Naz-S2 explained that, *"sometimes* the information is not accurate..." and that she needed to make sure she chose the correct information.

Trustworthiness. Trustworthy information refers to whether the retrieved information is believable and credible. In this study, the children had to evaluate the trustworthiness of information retrieved in order to ascertain whether the search task statements given were "true" or "false" or "do not know". The children also had to indicate how confident they were that they had given the correct response.

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The findings demonstrated that eight (8) children (Alvy-S1, Naz-S1, Mirza-S1, Ihsan-S7, Noel-S2, Sara-S9, Min-S5 and Yaqen-S5) checked the information provided on two or more sites to ensure that the information they found was trustworthy. This behaviour was evident from the observation session, as well as from comments made by several children during the interview session. For example, from the observation session Alvy-S1 indicated that he was confident with the resources after he found similar information from Google images and blog pages.

Ain-S4 browsed and read a few web pages (from different resources) before giving her answers. She generally seemed to be more confident after reading the second resource and able to give her answer to the search statement.Some remarks from the interview sessions indicated that the children were more confident with the information if it was viewed from several resources."I am confident with my answer….. this is because I found similar information in several sources such as from images and websites" (Min-S5), "I was not convinced by the information gathered from one resource only … so I tried to search from another page or website" (Alvy-S1), "… the information in the search task statement was from a blog… and I could find similar information from Google image too" (Noel-s2).

> We need to examine the information on the Web and decide if it is believable or not… we cannot just believe it straight away…this can be done through checking similar information from television or newspapers (Naz-S1).

However, there were cases where children were confident with information taken from a single resource and this was indicated by ten (10) children (Nace-S3, Alin-S1, Waafa-S1, Shah-S6, Amar-S4, Mirza-S1, Noel-S1, Farhan-S7, Yaqen-S5 and Min-S5) For example, Amar-S4 mentioned,"All information was in the Wikipedia….. I did not check with other resources as I am confident with the answer that I found in the Wikipedia page."

Mirza-S1 explained her trust in a single resource, "I selected and chose the answer for the search task statement based on the image I retrieved from Google image… I am sure the visual content is true."

A few children could not decide if the search task statement given was "true" or "false" and chose to answer "do not know." This is mainly because they could not locate the required information from the resources. For example, Wafa-S1 browsed through the web content from four websites, and read them but she could

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not find any information related to the search statement. She decided to answer, "do not know" and then selected, "not confident."

The interview sessions indicated similar indecisive behaviour, which led to the rating of no confidence."I did not find anything related to the search task statement… after opening two websites…I then chose to answer, "do not know" and selected "not confident"(Nace-S3)."I read the information from five websites but did not find anything related to the search statement"(Noel-S2)."I have chosen to read information from the Wikipedia page… but, I did not understand them… I was confused …I selected to answer, "do not know" (Yaqen-S5).

Convenience Searcher

Authoritativeness. Authoritativeness refers to influential and reputable web sources or channels as perceived by the children. This was reflected on the selection of location and sources or channels when the children conducted the searching tasks. The children usually used the Google search engine when starting their searching tasks. Based on the retrieved hit list, they typically chose information from Wikipedia and Blog pages first, although some children selected Google images in preference.

Table 1 summarizes the observation sessions reported from fifteen (15) children (Alvy-S1, Wafa-S1, Nur-S14, Sara-S9, Alin-S1, Siti-S14, Danesh-S12, Arie-S12, Faza-S9, Asfa-S8, Ihsan-S7, Shah-S6, Yaqeen-S5, Min-S5 and Noel-S2) all of whom opted and searched for information from Wikipedia pages, which turned up as the first hits on their search results. As Danesh-S12 declared, "I am confident with the information retrieved because it is from a Wikipedia page. The Wiki page has included a biography of Tony Fernandez [referring to a search task statement]".

Table 1

Information Channels/ Resources by the Participants

Information Channels/ Resources	Participants	Example of Instances
Wikipedia	Fifteen (15) children (Alvy-S1, Wafa-S1, Nur-S14, Sara-S9, Alin-S1, Siti-S14, Danesh-S12, Arie-S12, Faza-S9, Asfa-S8, Ihsan-S7, Shah-S6, Yaqeen-S5, Min-S5 and Noel-S2)	To answer a question on the colour of the flag of Thailand, Siti-S14 visited Wikipedia available at, "http://id.wikipedia.org/wiki/Bendera_Thailand" and similarly she opted to find information on a desert from,"http://id.wikipedia.org/wiki/Daftar_gurun_di_dunia".

https://doi.org/10.47657%2F2019211468

Information Channels/ Resources	Participants	Example of Instances
		To answer a question on the colour of the flag of Thailand, Danesh-S12 selected to view the page at "http://en.wikipedia.org/wiki/Flag_of_Thailand" and visited Wikipedia at "http://ms.wikipedia.org/wiki/Tony_Fernandes" to find information on Tony Fernandez.
Blogs or Forum	Nineteen (19) children (Alvy- S1, Waafa-S1, Ain-S4, Nur-S14, Sufiyya-S12, Danesh-S12, Sara-S9)	Hakimi-S10 selected a blog page to find information on the highest building in the world available at, http://gadgetgukawe.blogspot.com/2012/01/senarai-10-bangunan-tertinggi-di-dunia.html#.VRzPkvyUdmg. Ain-S4 chose a blog from "(http://herbal-obat.blogspot.com/2013/03/jenis-gigi-dan-struktur-gigi-pada.html)" to find information on tooth structure.
Google Images	Eleven (11) children (Alvy-S1, Sara-S9, Alin-S1, Naz-S2, Nur-S14, Faresh-S13, Batoul-S10, Annur-S8, Asfa-S8, Noel-S2 and Afis-S2)	Afisya-S2, Nur-S14, Annur-S8, Batoul-S10conducted search using Google image and selected an image of a flag to answer a question on the flag of a particular country. Sara-S9 clicked on the image (of a building tower) she retrieved from Google Image and she was directed to a Blog page http://this1sblog.blogspot.com/2012/08/5-gedung-tertinggi-di-dunia.html#.VRy6hPyUdmg.

In addition, the children often sought information from Blog pages or related forums. For examples, seven (7) children (Alvy-S1, Waafa-S1, Ain-S4, Nur-S14, Sufiyya-S12, Danesh-S12, and Sara-S9) preferred to browse information from Blog pages and forums because these contained both text and visual images. The rest of

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the children (Noel-S2, Ihsan-S7, Annur-S8, Faza-S9, Asfa-S8, Farhan-S7, Min-S5, Amar-S4, Nace-S3, Arie-S12 and Hakimi-S10) extracted information from Blog pages because the search terms or keywords they used matched the contents found in the Blogs. This is revealed by Arie-S12 who visited a blog and explained that, "the page contained information about Tony Fernandes [as in the search task statement] and it also includes information on the owner of Air Asia." Ihsan-S7 further explained that, "I prefer to read information from a Blog rather than Wikipedia … because sometimes it is difficult to understand [referring to Wikipedia] … and it confuses me."

A total of eleven (11) children (Alvy-S1, Sara-S9, Alin-S1, Naz-S2, Nur-S14, Faresh-S13, Batoul-S10, Annur-S8, Asfa-S8, Noel-S2 and Afis-S2) elected to seek information using Google images in order to complete their search tasks. For example, Alvy-S1, Sara-S9, Nur-S14, Faresh-S13 and Batoul-S10 conducted their search tasks directly from Google images. Others, such as Alin-S1, Annur-S8, Asfa-S8, Noel-S2, Naz-S2 and Afis-S2 preferred to select an image from their search session that later directed them to Wikipedia or Blog pages. This behaviour was supported by Nace-S3 in the interview session: "I visited a page that directed me from a Google image to find information related to the search task statement…."

Relevance. In order to find relevant information to meet an information need triggered by the given search tasks, the children opted to formulate strategies by using terms they perceived to be the most relevant. The findings revealed that the children normally formulated three types of search strategies, which included the use of keyword(s), natural language and exact phrases to find relevance answer.

Keyword(s). Some children (Sara-9, Asfa-S8, Annur-S8 and Faza-S8) typed the keywords taken from the search task statement itself such as "Air Asia Airlines" formulated from the search task statement, "Air Asia Airline is a Malaysian airline. The founder of the airline is Tony Fernandez." The use of keywords was reflected in all three types of the search tasks given that included free searching, simple fact, and complex fact searches. As example of a free searching task, Asfa-S8 typed the search word "strawberry" on Google Web as his favourite topic, while Ainur-S8 typed the keyword "historical building in Kelantan" on Google to seek information about historical buildings in a particular state. The children also preferred to choose and select a YouTube channel to search for movies, as shown by Fahan-S8 who typed the keyword, "UpinIpin" (cartoon characters), and Suffiya-S12 used the keyword "princess" on Google to find movies related to princesses.

https://doi.org/10.47657%2F2019211468

For simple fact-finding tasks, the children generally simplify the search statement to formulate a relevant keyword. For example, one child typed "Flag of Thailand" on Google to confirm information for a search statement “The flag of Thailand is in red, white, yellow and blue colour.”This type of behaviour, formulating keywords taken from the search task statement itself, was also typical when trying to find information that involved more complex searching.

Similarly, for complex search tasks, the children formulated keywords taken from the search task statement itself. For example, Afis-S2 typed the search word "Rafflesia flower" on Google to seek information on the second largest flower that grows in the Southeast Asia’s rainforest. Nace-S3 typed the keyword “grape” on Google to seek information on the efficacy of grapes for asthmatic treatment. Danish-S12 typed the search word "Air Asia" to seek information on Air Asia Airlines and Tony Fernandez as the founder.

Natural language. Questions formulated in natural language were often used to help and minimize the searching effort. The children in this study often formulated search phrases based on their natural language, which is easier for them to construct. At times the children used words taken from the task statement itself and modified the words by adding a few related terms. In general, the children were likely to use a simple word or phrase to search for any information of their interest for the free search task. Some children used natural language in the form of questions as a basis of their search strategy. This is illustrated in the following examples:

- In the simple fact-finding task, Siti-S14 typed a question on Google search, “What is the largest dessert in the world?” She formulated the question based on the search task statement.
- Putra-S11 typed the question, “Is Tony Fernandez the founder of Air Asia airlines?” as the search strategy. Also, Awza-S9 used a question, “Is Thailand flag in red, white, yellow and blue?” as his search strategy.
- For the complex fact-finding tasks, which entailed findings two facts, Ihsan-S7 formulated a question-based sentence and included the question mark at the end of it, “Is Sahara Dessert the largest dessert in the world?” Similarly, Shah-S6 typed a question, “How large is the Sahara Dessert?”
- Siti-S14 directly typed a question on the Google web as follows, “What is the largest dessert in the world?” She formulated the question-based

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statement to seek the information needed and assumed that the search hits would display the answer that she was looking for.

Exact phrase(s). This category refers to the case when the children copied and used the whole search task statement as their search terms. The children who did this were either lazy, lacked confidence in their own searching skills or had difficulty in formulating the right keyword themselves to begin their search. Therefore, they copied the exact phrase from the search task statement either in a simple or complex fact-finding task and used the phrases as their search strategy. Examples of such behaviour are illustrated in the following paragraphs.

For example, Amar-S4 and Sufy-S12 typed, "The colour of Thailand's flag is red, white and yellow" (exact search task statement). Another example from a complex fact-finding task similarly shows the copying behaviour as Shah-S13 typed, "Taipei 101 is the tallest tower in the world and it is located in Taiwan." Ain-S4 copied the following exact task statement, "Dragonflies only live for twenty-four hours" when searching for information. She repeated the same strategy for the other search tasks.

DISCUSSION

The findings report two characteristics of young children's web search behaviour reflecting information trustworthiness: i) Credible Searcher and ii) Convenient Searcher. The findings showed that young children do recognise the need to evaluate the trustworthiness of the information sources they find on the Web. It was apparent from the observations that they gauged the trustworthiness of the information retrieved mainly based on their choice of search engine and selection of site (mostly Wikipedia).

In essence, the findings indicated that the children were not aware of the need to look for information from authoritative resources such as the library or education web pages. Rather they chose Wikipedia, Blog pages, forums and images from Google image. This might be due to the fact that Wikipedia and Blog were among the first few search hits retrieved. This type of behaviour has also been reported as typical by Hargittai, Fullerton, Menchen-trevino, et al. (2010). They found that students relied on a particular search engine (mainly Google), and perceived that the most credible material were at the top of retrieved list. Similarly, Liyana and Noorhidawati (2014) and Biddix et al. (2011) also found that graduates opted for popular search engines such as Google and websites such as the Wikipedia.

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Most of the children were able to find relevant information by using an appropriate search strategy and using sensible search terms (using exact word or phrase). The majority of the children observed were able to formulate an appropriate search strategy mainly by using keyword(s) or by using natural language to successfully find the relevant information. There were a few children who had difficulties in formulating the right keywords and preferred to copy the whole search task statement and use this as their search phrase.

The act of ascertaining the accuracy and reliability of information retrieved was reflected in children's behaviour when browsing, scanning, and reading the material. The findings indicated that only a small number of children used several resources to confirm the reliability of the information they retrieved. The majority used only a single resource to complete their search tasks. However, the interview sessions revealed that the children acknowledged that information on the Web might not necessarily be accurate and reliable and that they should ideally verify their findings with other resources.

The children were observed to be able to evaluate and judge if the information they retrieved was trustworthy before making a decision to answer whether the search statement was true, false, or do not know, and subsequently state their confidence level. Some children were only convinced that the search findings were trustworthy after comparing different resources, while the majority were satisfied and convinced about the credibility of their findings by just using a single resource.

To conclude, the findings in general have revealed that young children were aware that they should assess trustworthiness of information they obtain. This confirmed the findings of Rieh and Hilligoss (2008)who found that children are not so "naïve" while assessing online information credibility, although they often choose information based on what they find from the first search hit. In the study reported here, the children frequently trusted and assumed they could find the information in visual form such as from images and videos. The findings in addition showed that the children were able to gauge reliability and credibility of the information by comparing information from several sources. They were able to find relevant information through the use of an appropriate search strategy. However, the children in this study did not consider the channel/source reputation as an important criterion when seeking information. They seemed to disregard information currency as one of the conditions to gauge information trustworthiness. This is not unusual as Hampton-Reeves et al. (2009) similarly

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reported that students rarely employed more than two criteria when evaluating information trustworthiness and credibility.

CONCLUSIONS

This study contributes to an understanding of information search behaviour as reflected in young children's information seeking process. The strength of the work relies on the method used as children are given critical incidence situations in the form of search statements that prompted their search behaviour which, and are closely observed. This is useful as young children often have difficulties in articulating and discussing their trust and credibility judgements openly through interviews or by means of a survey. Therefore, it is rational to embed implicitly their judgement on trust and credible in the information searching process and gather the data through observation techniques.

The study is exploratory, in which only thirty (30) young children participated. Consequently, further work is needed to verify the findings among a larger population, incorporating various contexts such as using a variety of information tasks and information-seeking activities, including those related to personal life, schools, news, health, hobby, entertainment, and social media, in order to better understand young people's trust and credibility assessments in the digital environment.

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