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Evaluating Actual Credibility Criteria of Internet-based Scientific Information of Adult Learners

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Abstract: Self-directed adult learners access and evaluate scientific information on the Internet. This roundtable will discuss proposed methodologies for identifying actual credibility criteria employed during these online experiences.

Keywords: self-directed adult learner, credibility criteria, Internet, science information

Evaluating Credibility of Online Information

Adult learners are engaging with Internet-based information on a daily basis. In the current times, adult learners are utilizing the Internet as a large part of their learning endeavor; yet anyone can write and post information to the Internet as there is no "universal standard" (Metzger, 2007, p. 2078). When adults engage in a self-directed online learning episode, they must sort through a large unprecedented amount of information, often times lacking author or sponsor identification (Warnick, 2004). In such instances, adult learners must decipher information from misinformation and assign credibility which can be challenging as the Internet contains a wealth of misinformation. An adult's inability to evaluate and identify credible information could adversely impact their everyday life including family, livelihood, and safety.

Previous Methodologies in Similar Studies

Schwier (2010) stated "it is time for research and educational technology to make a serious and sustained effort to understand informal learning in technology-based environments" (p. 92). While research has looked at how students engage with self-directed learning through technology use in the formal classroom setting (Jones, Scanlon, & Clough, 2013), research has neglected much investigation into how adults are navigating and learning Internet-based information in an informal autonomous context. Likewise, earlier studies have focused on identifying self-reported credibility criteria; yet, few studies have focused on capturing actual criteria observed during an adults' Internet learning endeavor, and more specifically, no research studies have been found that pertain to credibility criteria of Internet-based natural science information.

Actual criteria used in Internet based adult learning must be explored. Capturing actual search behavior and watching decisions that adults demonstrate during an online self-directed learning endeavor provides a more accurate list of criteria used to deem information credible. Therefore, this roundtable discussion will focus on methodologies proposed to identify the credibility criterion/criteria used by adults during actual self-directed online learning episodes.

Proposed Methodologies

Elicitation strategies allow researchers a glimpse into a participant's cognition and thinking during an active problem solving session (Van Den Haak, DeJong, & Schellens, 2003). First popular in the field of cognitive psychology (Sasaki, 2008), verbal protocol analysis is an elicitation strategy that has been around since the 1950s (Kucan & Beck, 1997). Also referred to as think alouds (TA), verbal protocol analysis is currently used in researching digital interactions (Van Den Haak et al., 2003), adult literacy (Berne, 2004), and adult text comprehension

(Kaakinen & Hyona, 2005). TA protocols allowed thoughts usually kept silent by participants to be voiced allowing researchers to determine a connection between the participants' thoughts and behaviors (Berne, 2004). There are two types of TA; concurrent TA and retrospective TA (Koro-Ljungberg, Douglas, Therriault, & Malcom, 2012) and both are oftentimes paired with other elicitation strategies such as interviews (Koro-Ljungberg, et al., 2012; Kragelund, 2013).

During the proposed roundtable, TA data collection strategies will be discussed pertaining to how the author will collect and identify actual credibility criteria used by the adult research participants in a science-based online learning endeavor. The author will discuss real-time data collection methods as to best capture each participants' naturalistic and unimpeded Internet search behavior when engaged in a self-directed learning endeavor. Inspired by Butefish's (1990), the post computer search interviews will target the participants' cognitive processes and decision making processes used in identifying credibility criteria of the natural science information that they encounter while online. The author hopes that the proposed research methodologies will add to the adult education literature involving TA protocols. Data collection is anticipated to begin in Fall 2016, so the author will update conference participants on research and methodological progress during the roundtable discussion.

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