

Examining the Role of School Librarians in Teaching Young Children to Detect and Avoid Misinformation

Tara Zimmerman^a and Anthony Rose^a

^aTexas Woman's University, USA

tzimmerman1@twu.edu, arose2@twu.edu

ABSTRACT

This study investigates the imperative for implementing an informational literacy curriculum in K-5 school libraries to equip students with essential skills for detecting and avoiding misinformation. Using a mixed-methods approach, data were collected from 141 school librarians across the United States. Quantitative analysis revealed significant gaps in information literacy instruction frequency and resource availability. Qualitative analysis identified four overarching themes: Awareness, Identification, Resources, and Risks/Harm. Together these results highlight the pressing need for curriculum development in this area, emphasizing critical thinking skills through age-appropriate resources. The findings underscore the importance of advocating for dedicated instructional time and the creation of tailored teaching materials to empower students as discerning consumers and responsible citizens. This research contributes valuable insights to the fields of school libraries and information literacy, informing future initiatives aimed at enhancing students' ability to navigate the complexities of the digital age.

ALISE RESEARCH TAXONOMY TOPICS

Information ethics; Information literacy; Information needs; Information seeking ; Information use.

AUTHOR KEYWORDS

Misinformation; K-12 education; Information literacy; Curriculum; School libraries.

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BACKGROUND

Misinformation is a serious problem for children and young people (Picton, 2019). School-age children are especially vulnerable to misinformation and use social media at increasingly higher rates than adults (McClain, 2022). In fact, K-12 students experienced an 50% increase in exposure to misinformation from 2018-2021 (Howard et al., 2021). Contemporary studies report that 75% of K-12 students feel unable to judge the veracity of online information

(Livingstone et al., 2019), while two-thirds can not distinguish between news and sponsored content (Breakstone et al., 2019). Within the current body of literature, it is understood that children are especially vulnerable to misinformation because they are more attuned to online environments than adults, and because their critical thinking and reasoning capabilities are still developing (Howard et al., 2021). Young people generally tend to care less about the accuracy of information and are instead motivated by novelty; making them more vulnerable to spreading misinformation (Herrero-Diz et al., 2020). Unsettlingly, children from disadvantaged backgrounds are even less likely to identify misinformation than their peers (Picton, 2019).

Misinformation undermines public trust in media (Matthew, 2018), makes productive civil discourse more difficult, and influences social issues, and political attitudes (McClain, 2022). The explosion of online information has resulted in many individuals feeling information overload (Beaudoin, 2008), information anxiety (Hadavi & Farhadpoor, 2021), and even information avoidance (Case et al., 2005). Soroya et al. (2021) found that social media exposure results directly in both information overload and information anxiety; highlighting a need for the public to be trained as active information seekers. Social media has become a common platform for the public to discuss opinions on critical social and political issues, such as racial inequality, gun control, immigration, and abortion (Lin & Chung, 2020). Unfortunately, much of the information shared and encountered suffers from context collapse (Raynes-Goldie, 2010), having been separated from its original content thread and timeline. False and misleading information spreads online more extensively and more quickly than true information (Vosoughi et al., 2018). In fact, the spread of misinformation via social media is considered a threat to democratic societies (Olaniran & Williams, 2020).

Misinformation is best combated by teaching good information seeking practices, particularly by teaching from librarians whose expertise in information literacy, theory, and practice are ideal for implementing this type of instruction (Sullivan, 2019). K-12 school librarians can support the need for increased information literacy, providing students with critical skills as part of their primary and secondary education. While there are state and local programs addressing how school librarians teach their students to avoid and detect misinformation, there are no widespread, multi-state programs targeting this need. This is an important distinction because to significantly reduce the negative impact of problematic information on American society, it must be addressed at a national level. School librarians currently use a hodgepodge of assorted curricula and materials to teach information literacy skills to K-5 students; however, these resources are mainly directed toward older grade levels and are not adequate to address the needs of younger, K-5 students.

METHODOLOGY

This study seeks to address the following research questions: 1) To what extent do school libraries impart information literacy skills, specifically in the identification of misinformation, to K-5 students; and 2) What technology, information literacy skills, approaches, and teaching programs would prove most efficacious in enhancing students' awareness of misinformation and their capacity to discern it across diverse populations and lived experiences?

A national survey targeting K-5 school librarians was conducted to address the research questions. Utilizing data from the SLIDE Perspectives report (Kachel & Lance, 2021), which estimates there are a total of 42,000 school librarians nationwide, we estimated that approximately half of these professionals serve students in grades K-5, yielding an estimated total of 21,000 K-5 school librarians nationwide. A G* Power analysis determined a sample size of 200 respondents to achieve adequate statistical power. To recruit participants, the Principal Investigator (PI) leveraged professional connections and networked with key organizations representing school librarians, including the Texas Association of School Librarians, Oklahoma School Librarians, New York Library Association Section of School Librarians, American Association of School Librarians, and International Association of School Librarianship. The PI distributed individualized emails to leaders within each organization, requesting dissemination of the survey among their respective members. The survey, hosted on Qualtrics, was accessible via an embedded hyperlink in the email communication.

The survey instrument was developed based on the research questions and relevant literature on information literacy and misinformation detection. It included questions about the extent to which school libraries impart information literacy skills to K-5 students, as well as inquiries about the efficacy of various technology, skills, approaches, and teaching programs in enhancing students' awareness of misinformation. Ethical considerations were addressed by ensuring participants' anonymity and confidentiality. Informed consent was obtained from all participants prior to their participation in the survey. The study received approval from Texas Woman's University's Institutional Review Board.

Data Collection.

Data collection commenced with participants being presented with the informed consent language, which was included in the email invitation to the survey. Participants were required to provide explicit consent for survey participation and confirm their current occupation as school librarians serving K-5 students. Subsequently, participants responded to a structured survey comprising multiple-choice and open-ended questions. The survey began with inquiries regarding participants' tenure in school libraries and their current state of employment. The ensuing section comprised eight questions focused on various facets of information literacy instruction, including available time for teaching, curriculum or resources utilized, and preferred instructional approaches. Participants were also asked about key stakeholders', including classroom teachers, administrators, and parents, expressed needs regarding students' misinformation awareness.

Data Analysis.

Collected data were analyzed utilizing descriptive statistics, including frequencies and percentages, to summarize responses to multiple-choice questions (Field, 2013). Content analysis was employed to analyze qualitative responses, identifying themes and patterns in participants' open-ended responses (Glaser, 1965). This mixed-method approach will afford a comprehensive understanding and portrayal of the phenomenon under investigation (Creswell, 2008).

RESULTS

Quantitative data.

Prior to analysis, raw data from 197 initial responses was reviewed and cleaned. For each respondent, we verified that completion time exceeded 90 seconds, responses were complete, item response variance was non-zero, and respondents were currently or had worked within the past year in a school library serving students in grades K-5. The final sample consisted of 141

librarians employed either full-time or part-time in a K-5 library. Next, descriptive statistics were employed to analyze the data. Nearly half of the respondents hailed from southern states (48.9%), followed by northern states (24.8%), midwestern states (10.6%), and western states (15.6%). A substantial majority of respondents (90.8%, $n = 128$) worked full-time in a library catering to K-5 students, with an average tenure of 10.88 years. Regarding resources for teaching students to avoid misinformation, 70.2% of respondents reported possessing some resources, while only 14.2% indicated having a comprehensive range of resources. Conversely, 15.6% reported having no identified resources. Nearly half of respondents (49.6%) reported delivering instruction on informational literacy skills only once or twice per year. Additionally, nearly half (49.4%) reported having zero minutes available for teaching informational literacy skills. Comparable percentages of respondents perceived modeling behavior (49.3%), online activities (45.7%), and storytelling (45%) as highly effective methods for educating about misinformation, with offline activities being considered moderately effective..

Qualitative Data Collection and Thematic Analysis

Qualitative data collection involved prompting participants to provide written responses to the question, "What do you see as your students' biggest needs regarding understanding the dangers of misinformation?" These responses underwent thematic coding based on content analysis. Initially, answers were categorized into five thematic domains during the initial coding phase. A subsequent round of thematic coding resulted in the identification of four overarching themes: Awareness, Identification, Resources, and Risks/Harm.

Awareness

This theme encompassed remarks from librarians concerning the imperative for young students to grasp the concept that not all information, particularly online content, is reliable. Participants emphasized the importance of instilling awareness beyond the school environment, highlighting the broader societal relevance of this knowledge. For example, librarians said students' greatest need is, "Understanding that not everything on the internet is true," and, "Understanding that anyone can create 'information' to share online or even publish in print." Focusing on social media, another participant said students need to be, "Educated that TikTok, Google, Instagram, and Facebook are not always factual and not a reliable source to use for information." Another librarian pointed out the need for awareness outside of the classroom, explaining, "The same students who dutifully tell me that they don't trust everything on the internet tell me about their interactions with others on platforms such as Roblox, where they take what they are told by other players at face value." Overall, responses labeled with this theme emphasize children's naivete and tendency to trust information implicitly.

Identification

Librarians articulated the necessity for students to possess the skills to discern misinformation across various formats and critically evaluate information reliability. Responses emphasized the importance of students being adept at identifying trustworthy sources, recognizing bias, and employing critical analysis skills. Librarian responses in this theme included, "Understanding how to spot misinformation and identify reliable sources," and "Understanding that everything, from advertising to news reports has bias and spin. Their job is detecting the bias and deciding whether that bias negates the value of the information or if the information is useful." Finding trustworthy information is another focus within this theme. For

example, “Our students’ biggest misunderstanding of information is how to know if a source is reliable, with accurate information.” Another librarian expressed their students' need for, “Critical thinking skills to analyze and be detectives to find indicators of misinformation.”

Resources

Participants advocated for the availability of age-appropriate curriculum, materials, and examples tailored to the needs of K-5 students. They emphasized the importance of providing students with access to reliable resources and the development of a comprehensive curriculum encompassing diverse media formats. A librarian responded, “I think they need to see good, age appropriate examples, and see how misinformation might impact them or their families.” Another librarian elaborated on this idea:

1) Stable curriculum. In my district, those of us who do *anything* are forced to improvise our own curriculum. 2) Access to tech. The kids have access mostly on phones and ipads, which means needing to identify misinformation on YouTube, Twitch, and TikTok... Even the ability for kids to see how *easy* it is to fake something by doing it themselves would be valuable.

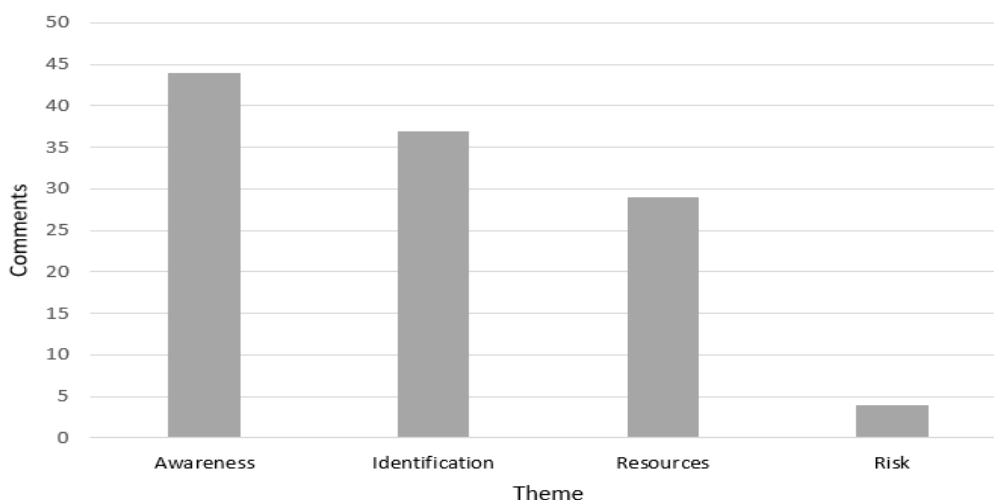
Beyond teaching materials, librarians expressed the need for more time to dedicate to this type of instruction, with responses like, “Time in the day for me to teach them.”

Risks/Harm

This theme encapsulated librarians' concerns regarding the potential consequences of inadequate misinformation education for students, such as falling prey to conspiracy theories or scams. For example, librarians said, “They will be sponges for conspiracy theories, if not educated,” and, “Falling for scams due to naivete and not being informed.” A common thread in many comments was potential danger, with comments like, “So they don’t get involved in believing misinformation that could hurt them,” and “They truly don’t understand the danger. Or how easy it is to be misinformed.”

Figure 1

Thematic Analysis of Misinformation Awareness Among K-5 School Librarians



DISCUSSION & CONCLUSION

The results of this mixed methods study demonstrate the critical need for an informational literacy curriculum in K-5 school libraries, as the majority of respondents reported teaching such skills less than twice a year. Quantitative data analysis shows that participating school librarians were from across the continental US and, on average, had over 10 years of experience. While the majority reported having some resources to help teach their students to detect and avoid misinformation, the situation is not ideal. Librarians are collecting lessons from a wide range of sources, most of which must be heavily edited and adapted to be suitable for the K-5 audience, creating additional labor for librarians and resulting in teaching that varies widely from school to school. The librarians expressed a belief that modeling behavior, online activities, and storytelling would be most effective for teaching this age group, with offline activities considered moderately effective. Most concerning in these quantitative responses is the fact that about half of the librarians reporting instructing their students in information literacy skills only once or twice per year and that they have no time available for teaching these skills. Beyond the dearth of instructional resources, the lack of time for teaching these critical skills is a significant challenge to be addressed.

Qualitative results indicate librarians' specific concerns for their students regarding education about misinformation. Their primary concern is awareness of misinformation, meaning that students need a basic understanding that not all information is reliable, particularly online. Second to this, librarians want students to learn skills to identify false information, as well as that which is heavily biased. Their third concern the librarians expressed was the lack of available teaching tools that address the issue of misinformation while still being developmentally appropriate for K-5 students. Finally, a few librarians expressed concern about the risk and potential negative consequences of inadequate education about misinformation for their students, including conspiracy theories and scams. These results can be used to inform the development of curriculum and teaching resources.

This research contributes significantly to the fields of school libraries and information literacy. The insights gained will be instrumental in shaping the development of teaching resources tailored specifically for K-5 students, with plans for pilot implementation in three states during the upcoming school year. Practical implications of this research include advocating for administrators to allocate more consistent time for school librarians to deliver information literacy instruction, particularly focusing on the detection and avoidance of misinformation, throughout the academic calendar. Furthermore, the creation and dissemination of age-appropriate teaching materials for young students are essential to support librarians in this endeavor.

In conclusion, while respondents expressed support for such a program, the challenge of finding additional instructional time presents a formidable obstacle. Even among older children who may be knowledgeable about internet scams, there remains a lack of sensitivity to the subtler forms of information manipulation. By equipping students with the critical thinking skills necessary to discern and navigate the vast landscape of information, particularly in their formative years, we empower them to become discerning consumers and responsible citizens. The long-term benefits of this investment in education are immeasurable and promise to positively impact the lives of students well beyond their time in the classroom.

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