Information Literacy in the Workplace: Early Career Advertising Professionals

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Abstract

This study used content analysis to examine job postings from advertising agencies to find how often information literacy (IL) skills were seen in the job posts and how these skills manifest themselves. Five out of the six IL skills were seen in at least 41% of the job postings, however, the skill of synthesizing information was rarely mentioned. It was also found evaluating data and using data software is performed by advertisers. It concludes by asking librarians to introduce marketing students to more data, and calls on librarians to consider the context in which IL skills are used.

Keywords: information literacy, marketing education, marketing jobs, research skills, business librarians

Introduction

The Association to Advance Collegiate Schools of Business' (AACSB) business school accreditation standards and studies of employers have identified information literacy skills and the ability to perform research in a business setting as important and valuable skills for the workplace (AACSB, 2016; Ali & Katz, 2010; Head, Van Hoeck, Eschler, & Fullerton, 2013; Sokoloff, 2012; Travis, 2011). This places business librarians in a critical role, as one of their job duties includes teaching students information literacy skills. When instructing, it is easy to focus on the resources and research skills for a specific course project, rather than the bigger picture of how skills learned through classroom activities will be used in students' careers. College programs are increasingly designed to prepare students for the "real world," and a library's information literacy instruction and resources need to be applicable not only to the academic setting, but to the workplace in order to ensure that students have the skills to gain internships and full-time jobs.

This paper uses content analysis to examine the expected information literacy skills of one type of workplace—advertising agencies. Determining which information literacy skills are seen in different types of advertising careers and how these proficiencies manifest themselves can help librarians who serve marketing students understand which resources and information literacy skills they should highlight in their instruction and library services, and hopefully play a role in preparing students for their future careers.

Literature Review

In its basic form, the definition of "literacy" is the skill set required to participate and advance in society (Association of College & Research Libraries [ACRL], 2015). As today's society and workplace are heavily dependent on information communication technologies, the

skills of using technology and working with an abundance of information have led to new types of literacy, like *information literacy*, *media literacy*, and *metaliteracy*. Academic librarians might be most familiar with the information literacy definition from the Association of College & Research Libraries (ACRL) in their *Information Literacy Competency Standards for Higher Education* (2000) and *Framework for Information Literacy for Higher Education* (2015) as these viewpoints were created by librarians working in higher education (Lloyd, 2011). ACRL (2000) defines *information literacy* as "the ability to identify an information need, access, evaluate, use information, and understand the legal and social issues surrounding the use of information," while the more recent *Framework* (2015) provides a broader, more theoretical description on information literacy, including taking into consideration creating and using information through collaboration with others and understanding the context in which information is created.

Role of context in information literacy

While librarians might refer to ACRL's information literacy definitions, many argue that the higher education context in which these definitions were created in does not carry over to other settings like the workplace. Bruce (1999), Cheuk (2002), and Lloyd and colleagues (Bonner & Lloyd, 2011; Lloyd, 2007, 2011; Lloyd & Williamson, 2008; Lloyd-Zantiotis, 2004) examined workplace literacy among different workplace environments. Although they used different methodology, they all concluded how workers use and experience information are dependent on or shaped by the user and his/her context, such as the worker's competencies, his/her duties, on-the-job experiences, and the workplace's social aspects. Additionally, Lloyd and Williamson (2008) and Lloyd (2011) argue that information literacy skills are not transferrable from context to context.

Thus, if information literacy skills are dependent on context and nontransferable, ACRL's understanding of information literacy may not be applicable in understanding information literacy in workplaces. Differences between the academic environment and workplaces include:

- The workplace has formal and informal training—including using coworkers for information (Cheuk, 2002; Lloyd, 2011).
- The workplace is faster paced than the academic setting (Head et al., 2013, p. 94).
- The workplace is less predictable than the academic setting (Head et al., 2013).
- Employees experience more collaboration and the "collective creation and use of information" than in academia (Lloyd, 2011, p. 283), while the library information literacy definition focuses on individual information use (Lloyd, 2011; Sokoloff, 2012).
- Since there is more collaboration in the workplace, reusing other people's ideas and materials is seen as effective, while in the educational setting, this can be considered plagiarism (Sokoloff, 2012).
- The determination of information need and the evaluation of information are not always performed by the user, but a manager or a client, or the information is from an internal source so the "classical evaluative criteria relating to secondary sources do not apply" (Hepworth & Smith, 2008, p. 217 as cited in Lloyd, 2011, p. 282; Cheuk, 2002; Sokoloff, 2012).

Since the context matters and the university setting is different than the workplace, Lloyd (2011) argues, "…it is workplaces that should be used to inform the library and education sectors' provision of information literacy education" (p. 280). There is also a disconnect between librarians and businesses, as few employers are familiar with the term *information literacy* (Head

et al., 2013; Klusek & Bornstein, 2006; Monge & Frisicaro-Pawlowski, 2014; Sokoloff, 2012). Lloyd (2011) calls for researchers to find new ways to conceptualize information literacy besides how it is currently and frequently conceptualized in the library and education disciplines.

Information literacy skills in the workplace

While librarians and academics have taken various approaches to studying information literacy in the workplace, a review of the literature found some skills were frequently mentioned as important skills employees are expected to have. These skills included the abilities to find information using a variety of resources and tools, evaluate information, synthesize information, use information in practice, and collaborate with colleagues. However, as the workplace is dependent on context, not all of these skills are necessarily required for every work environment.

Using various information resources and tools

The ability to use information in many formats is valued by employers and human resource consultants. These formats include online sources, colleagues, and specialized databases (Ali & Katz, 2010; Head et al., 2013). Frequently used tools in the business sector include Google and social media channels (Sokoloff, 2012). Head et al. (2013) found recent graduates who are primarily knowledge workers in the workforce rely too much on technology and online sources rather than asking a colleague for help, while Lloyd's (2011) research on vocational workplaces showed these employees use social modalities of information (Lloyd, 2011). Additionally, entry-level employees are not expected to construct and implement search strategies, but are directed by their superiors on how to carry out this task (Sokoloff, 2012).

Synthesizing information

Employees synthesize information from different sources, including online sources, colleagues, and specialized databases (Bonner & Lloyd, 2011; Head et al., 2013; Lloyd, 2011; Sokoloff, 2012).

Evaluating information

Klusek and Bornstein (2006) found job descriptions call for employees to be able to analyze data or information to solve problems and make decisions. However, others noted that evaluating information does not always happen in the workplace, as employees are given the information by superiors or clients, use internally-generated reports, do not have time to fully evaluate the information, or do not have the appropriate subject knowledge and must accept the answers they have as true (Cheuk, 2002; Lloyd, 2011). Sokoloff (2012) found that junior employees in business organizations are usually given the information they need, thus they do not use evaluation skills to discriminate between which sources of information to use.

Using and creating information in practice

Employees use information on the job to make decisions, present information, and communicate with people internal and external to the organization (Bonner & Lloyd, 2011; Klusek & Bornstein, 2006; Lloyd, 2010; Sokoloff, 2012).

Collaborating with colleagues

The collaborative nature of the workplace means employees need to understand how to work in a team, manage social interactions with colleagues, and participate in the collaborative setting (Lloyd, 2010; Sokoloff, 2012). Additionally, Head et al. (2013) and Cheuk (2002) noted that employees should engage and are engaging with colleagues when performing research.

Some of these categories—like synthesizing information, evaluating information, and using information—are similar to aspects of ACRL's (2000) information literacy *Standards*. This goes against Lloyd's (2011) argument that ACRL's conceptualization of information literacy is inadequate for understanding workplace information literacy. However, Sokoloff (2012) and Klusek and Bornstein (2006) used the ACRL information literacy definition as the basis for their workplace studies, which is why this summary presents overlap with ACRL's definition.

Skills and knowledge of marketing professionals

Many studies looked at information literacy skills in a variety of employees, but to this researcher's knowledge, no studies have been conducted on the information use and the information literacy skills of marketing professionals. While little is formally known about how marketers experience information and their information literacy skills, when looking at studies on marketing professionals, it can be inferred that they do use information and some of the information literacy skills discussed in the previous section. Marketers should be able to evaluate, measure, and analyze market research data or statistics, stakeholders, an organization's marketing environment, and the performance of a marketing strategy (Pefanis Schlee & Harich, 2010; Royle & Laing, 2014; Walker et al., 2009). All of these tasks require the use of some form of information.

In addition to evaluating information, marketers collaborate as they are expected to work in a team and have leadership skills (Pefanis Schlee & Harich, 2010). Also, several papers heavily study marketers' technical skills like the ability to use Microsoft Office (Word, Excel, and PowerPoint) and Outlook, data and databases, and marketing tools and software (Pefanis Schlee & Harich, 2010; Royle & Laing, 2014; Walker et al., 2009). Analysis into the technologies professionals use are missing from the library discipline studies on workplace

literacy. This should not be overlooked, as today's marketing practices are heavily mediated with technology, and technological skills factor significantly into information literacy as a whole.

In summary, definitions of information literacy in the workplace should reflect the user's perspective and take into account the place of work as information is experienced differently in each context. Studies across a variety of workplaces and jobs, including marketing positions, have found that essential skills required more or less across all workplace settings include the ability to use information from a variety of resources and tools, synthesize and evaluate information, use information in practice, and collaborate with colleagues. Understanding which technologies and technological skills are utilized is also important because technology mediates the user's experience with information.

Research Questions

This paper analyzes the information literacy skills that employers require for entry and lower-level advertising professionals. Two research questions are explored:

1. Which of the following information literacy skills are seen in different types advertising careers?
    - Using various information resources and tools
    - Synthesizing information
    - Evaluating information
    - Using and creating information in practice
    - Collaborating with colleagues
    - Technologies and technological skills

2. If employers do require these proficiencies, how do these proficiencies manifest themselves in the different advertising careers?

This study fulfills a call to understand how information literacy skills are experienced in specific professions, (Head et al., 2013; Lloyd, 2011; Monge & Frisicaro-Pawlowski, 2014) and analyzes the information literacy skills of advertising professionals—a population that has not been studied.

Methodology

In order to get a foundation of knowledge as to which information literacy skills are required for advertising professionals, this study uses content analysis to examine the knowledge and skill requirements listed for advertising jobs at advertising agencies. Performing content analysis of job postings to understand the skills expected of a specific field is not new. In the marketing field, Pefanis Schlee and Harich (2010) performed a content analysis of marketing jobs on Monster.com. In the information science field, Klusek & Bornstein (2006) used content analysis of job profiles to examine the skills and work activities required in business careers.

This study's sample of job posts came from top advertising agencies in four U.S. cities: New York, NY; Los Angeles, CA; Chicago, IL; and Dallas, TX. These cities were selected because they are located in major metropolitan areas. New York and Los Angeles, in particular, are major media hubs, a driving force behind marketing. Furthermore, these cities are home to numerous advertising agencies. An Agency Spotter search for strategic and marketing agencies near these cities found that at the time of this writing New York has 215 agencies, Los Angeles has 127 agencies, Chicago has 87 agencies, and Dallas has 57 (Agency Spotter, n.d.).[1]

[1] In Agency Spotter, under "Any Service" searched for "Advertising," under "Any Location," and then searched for each city.

In order to select the sample of jobs from each city, the researcher looked up job postings from the top advertising agencies in each city. The top agencies were determined by REDBOOKS, a database that tracks marketing agencies and their clients, and creates lists of the top advertising agencies in numerous cities. The agencies were selected based on factors like how established they are, their earnings, their clients, and the work they produce (REDBOOKS, n.d.a, n.d.b, n.d.c, n.d.d). The researcher went through the list of agencies and removed any companies that did not post jobs openings or job descriptions online or were more of a public relations agency than an advertising agency. After taking these factors into account, the study used data from 68 out of the 99 companies listed as top agencies.

After the agencies were selected, the researcher collected the job advertisements. Jobs that were posted between August 1, 2015 and November 31, 2015 were included in the sample. The jobs were first checked in August, and then each company was checked three to four times for new jobs until the end of November—about once a month. When selecting new job listings, if possible, the jobs were organized by date to find the latest jobs that were added since the last review.

Sampling criteria

Selected jobs had to fit in at least one of the five advertising career tracks: account management, creative, data and analytics, interactive marketing, and media. These categories were based on the Advertising Educational Foundation's (AEF) list of agency jobs (AEF, 2009). AEF's list has an account planning or strategy category, but since few jobs were found in this category, account planning was replaced with data and analytics. Table 1 provides the categories' definition and example of job titles. Other types of advertising jobs (e.g. project manager, traffic, and research analyst) were seen on the agency's job page but there were not

enough job postings to justify creating a separate category. These jobs were not included in the study. Job listings in departments like human resources, technology support, public relations, business development, and accounting were also not included in order to focus on advertising careers.

In addition to the five advertising job categories, the following criteria were used to select the postings:

- Jobs had to be full-time, non-temporary jobs to ensure professional, long-term positions were selected.
- Jobs had to require between zero and four years of prior experience. This follows Pefanis Schlee and Harich's (2010) classification for entry and lower-level careers. By focusing on jobs that require fewer than four years of experience, the positions will be more relevant to the types of careers university students might obtain after graduation. If the job post did not specify a number for years of necessary experience, the job was not included.
- The job had to be in the city where the agency was declared to be a top agency. For example, if an agency was on the Dallas list but also had job openings in Los Angeles, only jobs in Dallas were considered.
- Duplicate job posts were not considered, which follows Pefanis Schlee and Harich's (2010) methodology.

Other methods for searching for jobs were considered. Monster.com, which was used by Pefanis Schlee and Harich (2010), and Indeed.com were tested, but these sites draw in from numerous sources, making it difficult to find advertising positions. The promoted job posts were highlighted in a way that made it difficult to spot the jobs that naturally appear. Other websites

that focus exclusively on marketing job listings were examined, such as the American Marketing Association's Job Board[2], REDBOOKS[3], American Association of Advertising Agencies[4], and Ad Age Talent Works[5]. However, these websites had a wide-range of jobs and organizations, making it difficult to find a systematic way of pulling similar job postings.

Table 1. Description of Job Categories

Job Category	Description	Example Job Titles Used in Study
Account Management	"The responsibility of the account manger is to be the client's representative at the agency, and the agency's representative at the client's organization…The effective account manager develops a thorough knowledge of the client's business, the consumer, the marketplace and all aspects of advertising, including creative, media, research, and commercial production" (AEF, 2009, Account Management section, para. 1-2).	Assistant account executive, account executive, account supervisor, account manager, team coordinator
Creative	"The creative department of an advertising agency is responsible for developing the ideas, images, and words that make up commercials and ads" (AEF, 2009, Creative section, para. 1).	Designer, producer, copywriter, art director, editor
Data and Analytics	Data and analytic positions often develop, maintain, analyze, synthesize, and report data about clients' marketing initiatives, web traffic, consumer behaviors, and more. They might create and define an analytic strategy, and then present data-driven insights and solutions to the agency teams and clients to inform marketing strategy.	Data architect, analyst, digital analyst, data analyst, data insights and innovation, analytics associate, analyst marketing science
Interactive Marketing	Interactive marketing works on non-traditional advertising vehicles like a company's website, online search engines, and mobile apps (AEF, 2009, Interactive Marketing section).	Search analyst, search planner, digital producer, user experience designer, interactive designer, software engineer, web developer
Media	"The media department of an advertising agency is responsible for placing advertising where it will reach the right people at the right time and in the right place…and do so in a cost-effective way" (AEF, 2009, Media section, para. 1)	Media planner, buyer, local investment, strategist, ad operations

[2] jobs.ama.org
[3] Accessed with Texas A&M's subscription to redbooks.com
[4] http://www.aaaa.org/careers/careers/pages/careercenter.aspx
[5] http://jobs.adagetalentworks.com

Description of the Sample

In total, the researcher viewed 583 jobs, but 114 did not meet the criteria described in the methodology section, leaving the total number of applicable jobs at 469. Table 2 compares the total population and the sample.

In order to compare the different information literacy skills used by different advertising professions, purposive sampling was applied using the sampling criteria. Purposive sampling is one of the most frequently used sampling techniques for studying job postings (Harper, 2012). After all the applicable jobs were organized into the career job type categories, stratified sampling was used. Fifty jobs in each job type category were randomly selected, bringing the sample (*n*) to 250. It is recommended that the sample size be at least 100 in job postings research (Harper, 2012). In comparison, Pefanis Schlee and Harich (2010) examined five different cities and 100 jobs per city, but they analyzed four different levels of careers and a variety of marketing careers. This study focuses on two levels of careers and only advertising careers.

The majority of jobs are from New York City (65% of the sample size), followed by Dallas (13%), Los Angeles (12%), and Chicago (4%). About two-thirds (66%) of the jobs require at least two to four years of experience, and about one-third (34%) of the jobs require at least zero to one-and-a-half years of experience.

Coding was conducted by the researcher. The code book was developed based on the information literacy skills discussed in the literature review. A pilot study was conducted to refine the code book. The final code book is listed in the Appendix.

Table 2: Comparison Between Total Applicable Jobs and Sample (*n* =250)

	City				Job Type					Years of Experience		
	Chicago	Dallas	Los Angeles	New York City	Account Management	Creative	Data & Analytics	Interactive Marketing	Media	0-1.5	2-4	Total
Total Applicable Jobs	20	54	57	338	74	66	63	63	203	166	303	469
% Breakdown of Total Applicable Jobs	4%	12%	12%	72%	16%	14%	13%	13%	43%	35%	65%	
Total Sample (*n*)	16	33	31	170	50	50	50	50	50	85	165	250
% Breakdown of Sample	6%	13%	12%	68%	20%	20%	20%	20%	20%	34%	66%	
Account Management	4	6	9	31	50	0	0	0	0	15	35	50
Creative	4	10	8	28	0	50	0	0	0	15	35	50
Data/ Analytics	3	4	1	42	0	0	50	0	0	15	35	50
Interactive Marketing	2	8	10	30	0	0	0	50	0	17	33	50
Media	3	5	3	39	0	0	0	0	50	23	27	50

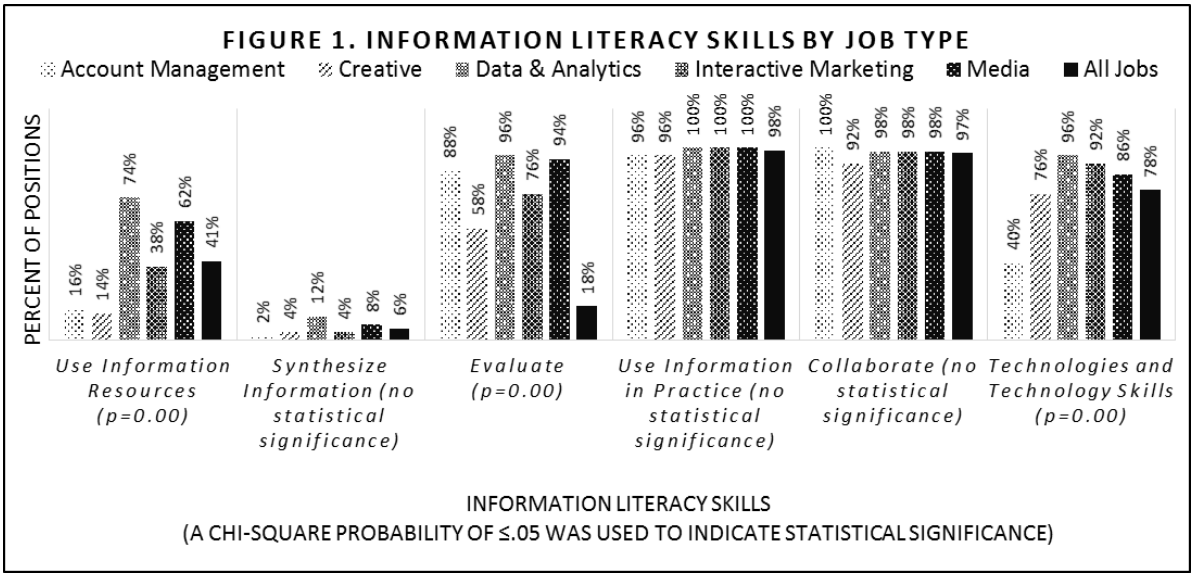
Results

The content analysis revealed which workplace information literacy skills are expected in advertising professionals and how these skills manifest themselves in the different advertising positions.

Frequently mentioned information literacy skills

In answering the first research question—how often are the information literacy skills of (1) using various resources and tools, (2) synthesizing information, (3) evaluating information, (4) using and creating information in practice, (5) collaborating with colleagues, and (6) technological skills and technologies seen in different advertising job types—collaborating and using information in practice are mentioned the most. In all the job postings, these skills appear in more than 240 out of 250 job positions. As seen in Figure 1, evaluating information is mentioned in about 82% of the job postings, followed by using information resources which is in 41% of the job postings. The skill of synthesizing information appears in 6% of the job advertisements. The data and analytics and media jobs tend to require the skill of using information resources more than all other job types. Nearly all of the data and analytics, media, and account management positions use evaluation skills, while about 75% of the interactive marketing jobs and a little more than half (58%) of the creative jobs require them.

The chi-square test shows that there is no statistical significance for the skills of using information, collaborating, and synthesizing across the job categories. In this paper, "no statistical significance" means these skills do not have statistically significant variation within the job categories. There is no indication that one job category performs these skills more or less than other job categories, the jobs use the skill roughly the same amount. "No statistical significance" does not mean the skills show up an insignificant amount, or these skills do not matter.



How information literacy skills manifest themselves

While all of the information literacy skills were found in at least one job posting, the advertisers applied these skills to different situations, varying how these proficiencies manifested themselves in the different advertising careers.

Using various information resources and tools

While 41% of all positions mentioned the use of information resources, some jobs used different types of resources. About 55 individual information resources were specifically named, such as Nielsen products, Google Analytics, Kantar, and Mintel. These resources exclude general information resources such as trade publications, colleagues, and resources where the title or company of the resource was not given. As seen in Table 3, the most frequently mentioned information resources were online metrics and analytics tools like Adobe Marketing Cloud, ComScore, and Google Analytics. Adobe Marketing Cloud was the most seen resource; it appears in 10% of all position descriptions, including 40% of the data and analytics positions. ComScore was the second most mentioned resource (9% of all jobs), but was in 22% of the data and analytic positions and 18% of media positions. Resources with information about

Table 3. Observed Information Resources by Job Type

Account Management	Creative	Data & Analytics	Interactive Marketing	Media	All Jobs
%	%	%	%	%	%
Databases & Electronic Resources*					
Adobe Marketing Cloud (*p* =0.00)					
0%	0%	40%	10%	0%	10%
ComScore (General/ Product not Specified) (*p* =0.00)					
0%	0%	22%	4%	18%	9%
Google Analytics (*p* =0.00)					
0%	0%	32%	8%	2%	8%
Nielsen (General/ Product not Specified) (*p* =0.00)					
0%	0%	20%	0%	14%	7%
MRI (*p* =0.00)					
0%	0%	20%	0%	12%	6%
Experian Simmons (*p* =0.00)					
0%	0%	14%	0%	2%	3%
Nielsen Scarborough (*p* =0.00)					
0%	0%	14%	0%	2%	3%
Nielsen Online @Plan (*p* =0.00)					
0%	0%	2%	0%	14%	3%
Nielsen IMS (*p* =0.00)					
0%	0%	12%	0%	4%	3%
Not Databases and Electronic Resources					
Information from Clients (no statistical significance)					
8%	6%	6%	0%	4%	5%
User Experience Tools and Information (no statistical significance)					
0%	4%	2%	6%	2%	3%
Colleagues (*p* =.03)					
0%	8%	0%	0%	4%	2%
Vendors/Media Companies (*p* =.02)					
0%	0%	2%	0%	8%	2%
Trade Publications (no statistical significance)					
2%	0%	0%	2%	6%	2%

A chi-square probability of ≤.05 was used to indicate statistical significance.
*Only includes databases with a total occurance ≥3%

consumers were also in the job posts. These resources included MRI, Experian Simmons, and Nielsen IMS, which were mostly seen in the data and analytics and media positions.

In addition to databases, job postings mentioned that employees are expected to use people and other resources as sources of information. Each category of clients, colleagues, and vendors appeared in less than 5% of all the job postings. A small number of jobs used user experience (UX) tools and documents, plus trade publications. The appearance of UX tools, clients, and trade publications categories was not statistically significant across the job categories, so no pattern of their use among these job categories can be inferred.

Synthesizing information

Only 15 jobs (6%) expected workers to synthesize information. As seen in Figure 1, the difference in the mentions of the synthesis skill was not statistically significant across the job categories, showing no one job category performs this skill more than others.

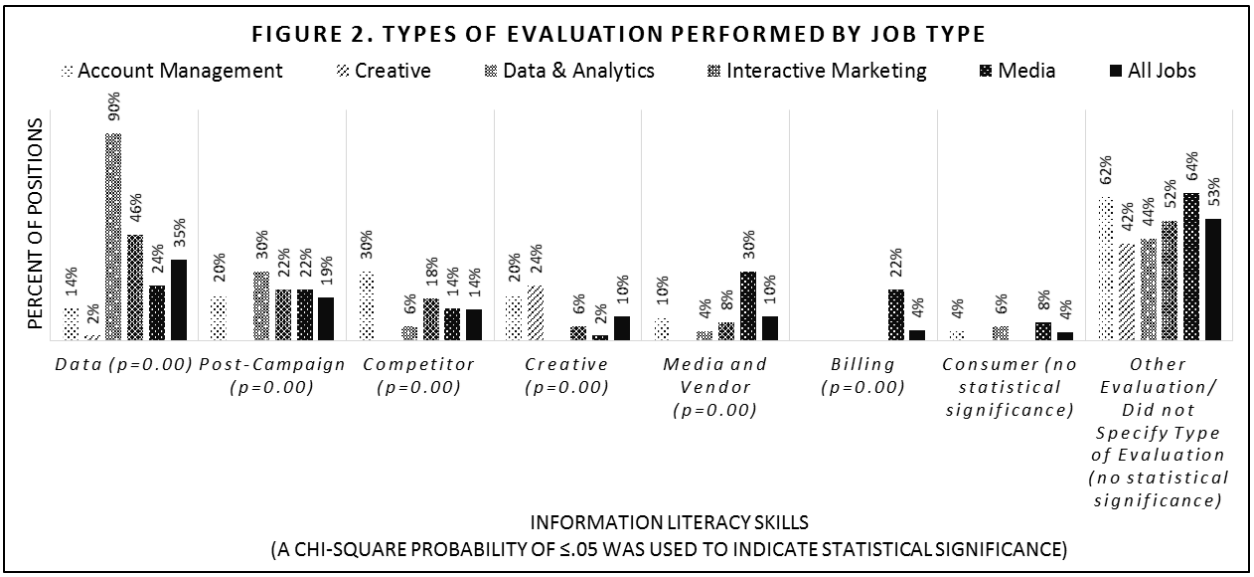
This skill was usually phrased in job postings as "the ability to synthesize information." Less frequently, synthesizing was not described with the word "synthesize," but instead described in action. For example, it was phrased as "the ability to take raw material and craft content" or "aggregate information from multiple sources."

Evaluating information

This study found advertisers evaluate data including post-marketing campaign information, their clients' competitors, creative materials, media companies and vendors, billing issues, and consumer information.

About half (53%) of the job postings did not specify what type of evaluation occurs. The majority of data and analytics positions (90%), nearly half of interactive marketing positions (46%), and less than one third of the media positions (24%) mentioned evaluating data. All job

types had general descriptions of data analysis, which was described as, "analyze data," and "excellent data and analytical skills." Data and analytics, interactive marketing, and media positions occasionally used the word "quantitative," suggesting some positions within these fields require a higher-level of data analytics. Unlike the other job types, some data and analytics positions used phrases like "data mine," "build economic models," and "big data," perhaps showing people in data and analytics work with bigger datasets and are required to perform more advance data analytics than other positions. Besides evaluating data, 19% of the jobs alluded to evaluating post-campaign information. A little less than one-third of the data and analytics (30%), interactive marketing (22%), media (22%), and account management (20%) jobs involved post-campaign analysis. As seen in Figure 2, the job postings also mentioned evaluating creatives, media companies and vendors, billing, and consumer information.



Using and creating information in practice

The information literacy skill of using and creating information in practice also manifested itself across all of the job types. Six distinct types of information use emerged: (1) interpersonal, written, oral, presentation, and communication skills; (2) making documents and

reports; (3) creating campaign briefs and campaign tests; (4) maintaining budgets and charts; (5) developing creatives and writing search engine optimization (SEO) words; and (6) creating data and database applications and systems. A seventh category included other information use or items where the information use was not specific enough to categorize. Figure 3 details the frequency of each type of information use.

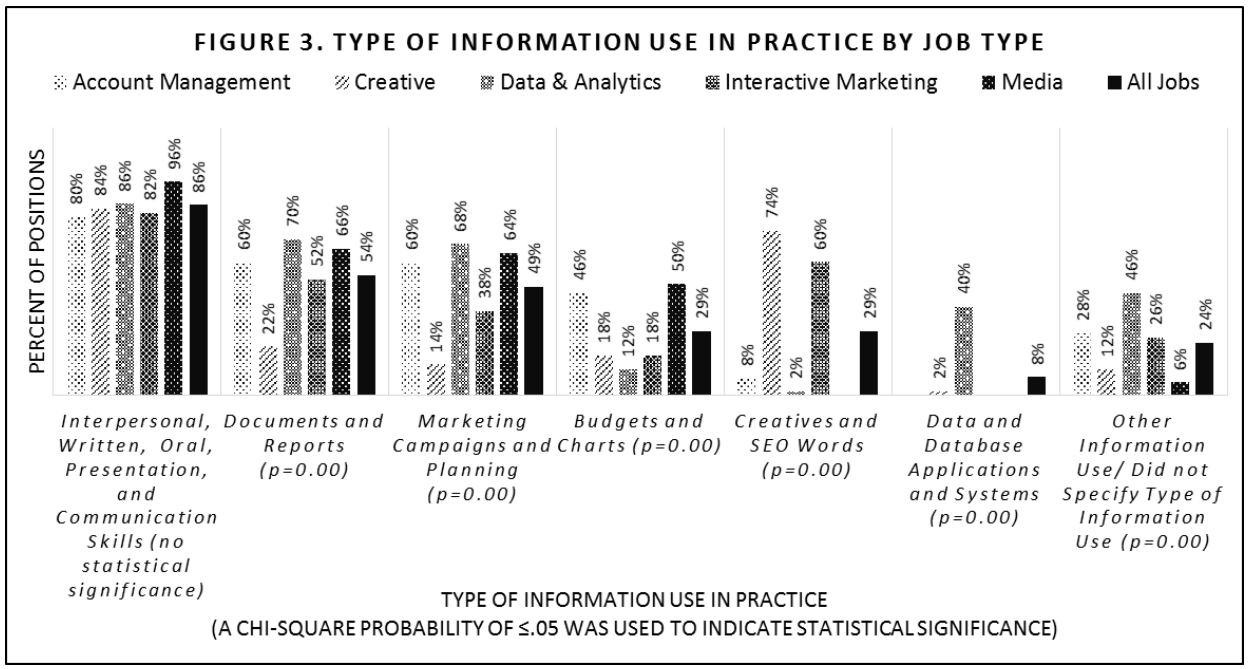
Interpersonal, written, oral, presentation, and communication skills appeared in 86% of all of the job postings. This skill is often phrased as "excellent oral and written communication skills," "ability to present orally and in writing," "communicate effectively," "express oneself clearly," and "strong interpersonal skills."

The second most cited use of information in the job postings was creating documents and reports (54%), which was classified as creating written materials for the agency and clients. Project management documents like status reports (documents that describe the progress of a project) and scope of work documents were mentioned in listings for all of the job categories. Competitive reports, POVs (point-of-view documents that evaluate marketing opportunities), and campaign performance reports (e.g. campaign metrics, post-performance analysis, goals, and so on) were found in all jobs except creative positions. Data and analytics positions (70%), media positions (66%), and account management positions (60%) mentioned creating documents and reports the most. Table 4 summarizes the different types of documents created by job type.

The marketing strategy and planning category refers to developing and maintaining a campaign, which may not necessarily be documented in a report. This includes contributing to strategy planning meetings, creating media plans, and creating a strategy to test campaigns. As summarized in Table 4, of all the job categories, data and analytics positions mentioned this type

of information use the most (68%), followed by media positions (64%) and account management positions (60%).

Information is also used to create budgets and charts, creatives and SEO words, and data and database applications and systems. *Creatives* is the term used in marketing to describe the product, or creative work, of an advertising campaign, such as print and television advertisements, websites, and so on. Generally, each job category's information use aligned with the positions' duties. For example, more than half of the creative positions (74%) and interactive marketing positions (60%) mentioned making creatives and writing SEO words. Forty-percent of data and analytics careers developed data solutions and applications. There were no distinctions between the different types of charts and budgets created by account managers and media positions.



Numerous job postings did not describe in detail how the position used the information in practice, or an information use was not repeated across all the jobs often enough to warrant its own category. Jobs in all of the categories asked for the ability to provide insights, contribute

ideas, and make recommendations, but did not describe a context or the type of insights which made them difficult to classify; these descriptions are included in the "other" category. The vague phrase of "providing insights" was most frequently seen in data and analytics positions, which had the highest percent of unspecified information use (46%).

Table 4: Key Descriptions of Information Use by Job Type

	Account Management	Creative	Data & Analytics	Interactive Marketing	Media
Documents and Reports	Project management documents; creative briefs; POVs	Project management documents; contracts and other forms	Reports with analytics, campaign performance and return on investment (ROI) data; system processes; dashboards	Project management documents; campaign performance reports; technical specifications and information on platforms; UX documentation	POVs; campaign performance reports; billing, auditing, and expense reports
Marketing Campaigns and Planning	Marketing strategies and plans	General marketing strategy	Data-driven insights and reporting methodologies for campaign analysis (e.g. ROI, key performance indicators, etc.); testing design and plans; measurement plans; optimizing campaigns	Testing plans; develop and optimize digital advertising, social media, and search marketing campaigns	Media plans (the advertising schedule); marketing strategy and recommendations
Creatives and SEO Words	n/a	Advertising concepts, scripts, mock-us, and videos	n/a	Websites, mobile apps, UX tools, and SEO words	n/a

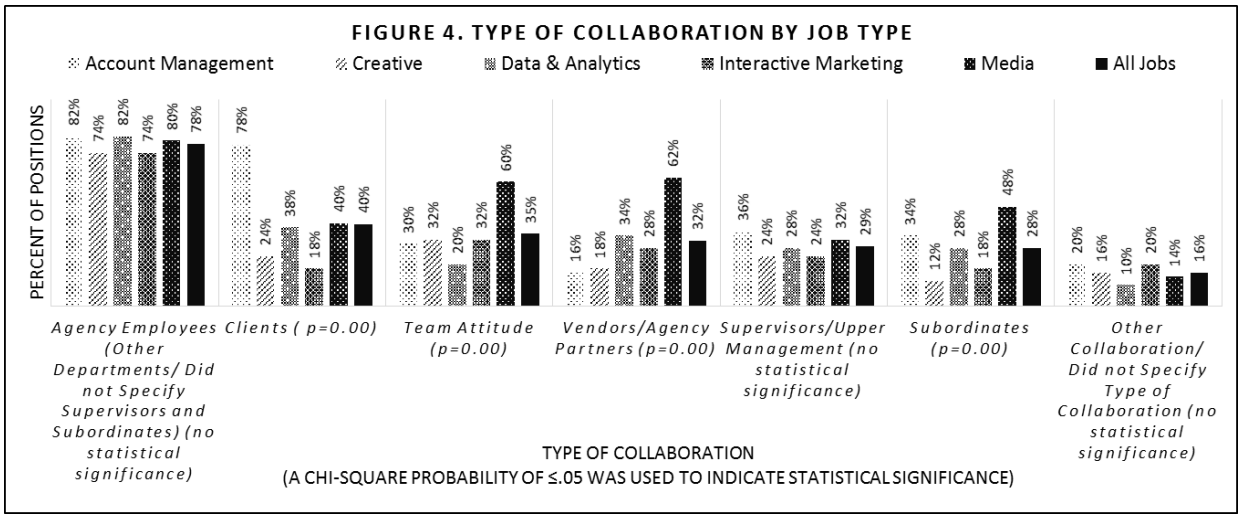
Collaborating with colleagues

Collaborating was frequently mentioned across the positions and six types of collaboration emerged. The most frequently seen collaboration was working with a fellow agency employee where the relationship between the agency employees was not specified (e.g. a supervisor or subordinate) (78%). Working with clients was the second most frequently mentioned type of collaboration, appearing in 40% of all the listings. All job types used similar phrasing when describing collaborating with clients, like "work with clients," "interact with clients," and "develop a relationship with clients." Figure 4 shows client collaboration was heavily seen among the account management positions (78%) and media positions (40%).

The third most seen type of collaboration was having the ability to work in teams. Forty percent of all jobs mentioned this, but it was seen more frequently in media positions (60%). This was often described as having a "team attitude," having the ability to work in a team, and being a team player. Also frequently seen in the media positions was collaborating with vendors and agency partners, as 62% of media jobs mentioned this type of collaboration—about twice as many or more when compared to the other job types.

Almost one-third (29%) of all jobs called for working with supervisors and/or upper management, while 28% of all jobs mentioned collaborating with subordinates. Working with subordinates was often described as mentoring them. Account management and media positions discussed working with supervisors and subordinates more than the other job categories.

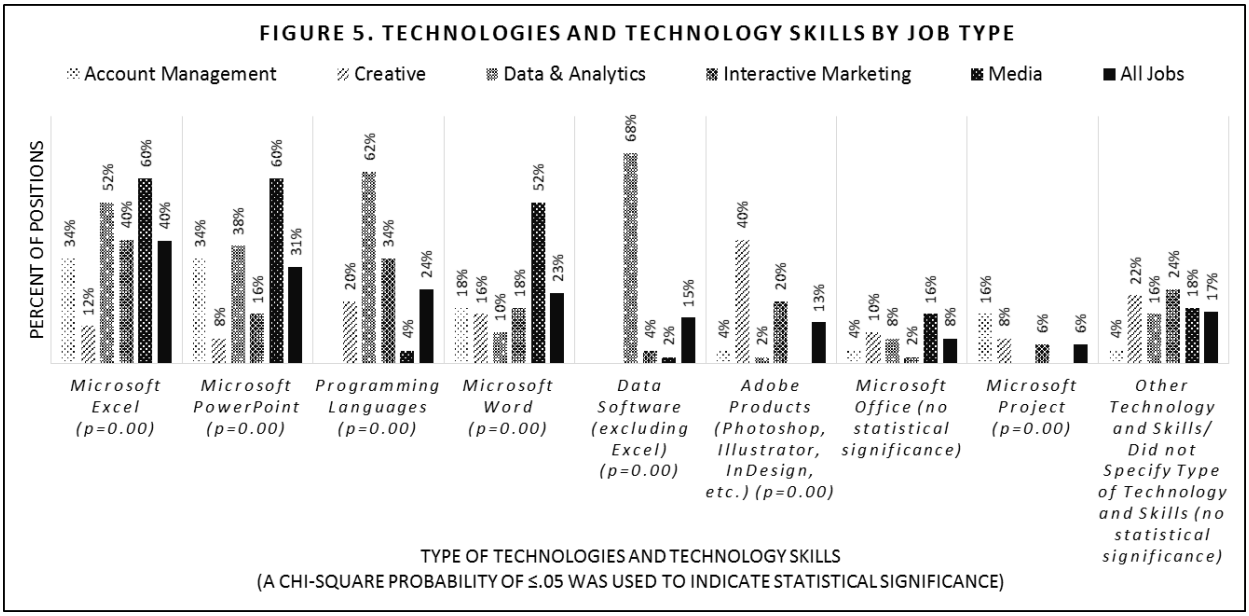
Some positions mentioned collaboration but did not specify with whom or how the employee collaborates. This is phrased as "able to collaborate with others." This was seen in 16% of all job postings, and most frequently in the account management (20%) and interactive marketing (20%) positions.



Technologies and technological skills

Technology skills and software were frequently mentioned in the job positions, especially Microsoft Office products. When a job listed the individual Microsoft software separately, like

Excel and PowerPoint, they were coded in a specific category, but some jobs mentioned Microsoft Office, and these jobs were coded only as Microsoft Office. As summarized in Figure 5, Excel was mentioned in 40% of all job positions. More than half of the media (60%) and data and analytics (52%) required familiarity with Excel. Microsoft PowerPoint, Word, and Project were also mentioned. Media positions required skills in PowerPoint and Word the most, while account management positions required Project the most.



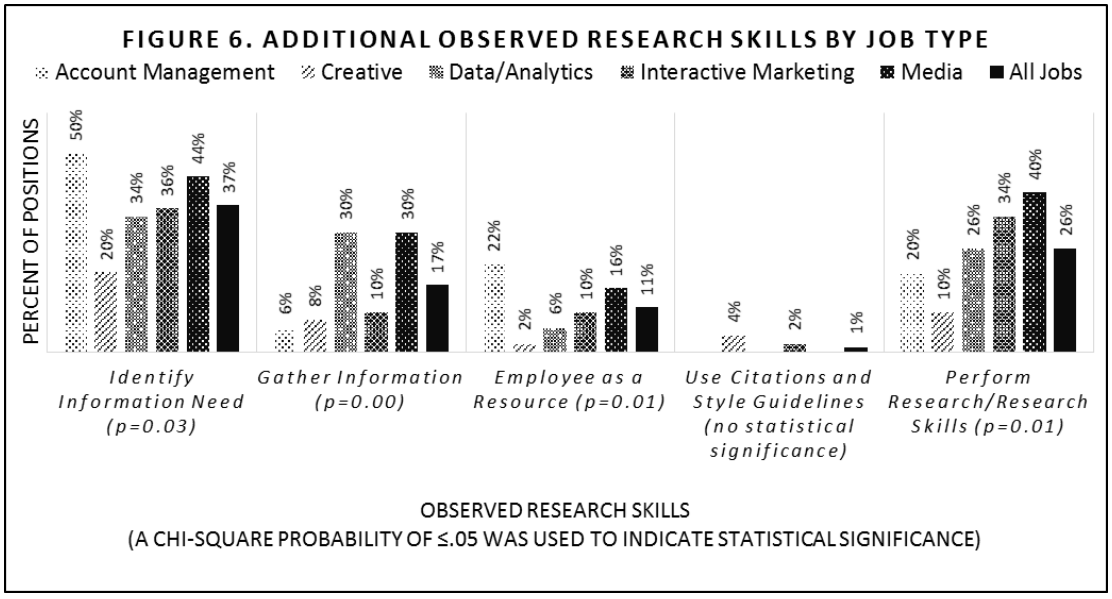
Familiarity with programming languages like Python, R, SQL, Java, and more were seen in 24% of all jobs. The majority of data and analytics positions (62%) mentioned programming languages the most, followed by interactive marketing positions (34%) and creative positions (20%). Data and analytics positions also required the most skills in using data software that is not Excel, like Tableau, SAS, Stata, and building databases.

Seventeen percent of all positions asked for "technology skills" in general without mentioning the skills, or asked for skills in using other software products, but this software was not mentioned enough to warrant its own categories. Interactive marketing positions (24%) and

creative positions (22%) had the highest number of jobs calling for other technology use and skills.

Additional information literacy skills and factors

Other types of information literacy skills and research skills outside the six skills mentioned above emerged. These additional skills were: (1) identifying an information need, (2) gathering information, (3) using the employee in the position as a resource, (4) using citation and style guidelines, and (5) performing research or possessing research skills. As seen in Figure 6, the ability to identify an information need was seen in 37% of all job postings. Identifying an information need in these positions was usually phrased as "anticipating clients' needs." Half (50%) of the account management positions and 44% of the media positions mentioned this skill. Gathering information, which was commonly described as such, was seen in 17% of all the job advertisements, with 30% of the data and analytic positions and 30% of the media positions mentioning this skill. Some job advertisements also asked employees to be a resource to clients or other employees at the agency. This was mostly seen in account management positions (22%) and media positions (16%). Three job postings asked for using citation and style guidelines.



These jobs were creative and interactive marketing positions. Lastly, of all the jobs, 26% mentioned the ability to perform research or have research skills. Media positions (40%) and interactive marketing positions (34%) were more likely to mention this skill.

In addition to other information literacy skills, about one-third (37%) of all job positions discussed the environment in which the position would take place. Popular descriptions included, "fast-paced," "transparent," "constantly changing," "dynamic," "team-based," "inclusive," "deadline-driven," and "high-pressure." These terms give a small idea into the type of work environment, thus—along with information like who the employees will be working with, which resources they are expected to use, and more—it provides an idea into the context that shapes how workers might use and experience information.

Discussion

This study examined the workplace information literacy skills expected for advertising positions that require fewer than four years of experience in the areas of account management, creative, data and analytics, interactive marketing, and media. Other studies that looked at workplace information literacy generally saw five types of information literacy skills: the ability to use various resources and tools, synthesize information, evaluate information, use information in practice, and collaborate with colleagues. Studies on marketers' competencies discovered technology skills to also be important. This research corroborated those studies; it found the skills of evaluation, information use, collaboration, and technology skills to be in numerous job postings, showing them to be valued in advertising careers. Prior studies have suggested that some employees do not always evaluate information (Cheuk, 2002; Lloyd, 2011; Sokoloff, 2012), but this study found that 82% of all jobs mentioned evaluation skills. Although it is probably anticipated that data and analytics positions will have to evaluate data, interactive

marketing, media, and account management positions also mentioned evaluating data (ranging from 14% to 46% occurrence in each job type). Additionally, this study found Excel to be the most mentioned software advertising professionals use, suggesting Excel is one of the main tools used to evaluate and manipulate data. The heavy use of Excel supports the findings of Pefanis Schlee and Harich (2010) that Microsoft Office is frequently used among marketers.

Previous studies also saw employees using information to make decisions, present information, and communicate with people (Bonner & Lloyd, 2011; Klusek & Bornstein, 2006; Lloyd, 2010; Sokoloff, 2012). This type of information use was reflected in the advertising job postings, along with other information use that was more specific to advertising careers, including creating documents and reports, marketing plans, budgets, charts, creatives, and database applications. Collaboration skill requirements were seen in almost all job postings (97%), which supports previous findings that collaboration with colleagues is an important workplace information literacy skill (Cheuk, 2002; Head et al., 2013; Lloyd, 2010; Sokoloff, 2012). However, other studies tend to only mention collaborating with colleagues, while the advertising positions mentioned working with clients, vendors, and agency partners as well.

The use of information resources was mentioned in 41% of all job postings. Previous studies noted that employees tend to look at Google and other online sources for research (Ali & Katz, 2010; Head et al., 2013; Sokoloff, 2012), and this was evident in this study. For example, one job listing said, “Monitors various sources (e.g., Internet) for news and relevant information.” However, some job listings mentioned databases and specific resources, showing advertising professionals cannot rely solely on the Internet for their research. The literature also indicated that recent graduates rarely ask colleagues for help (Head et al., 2013). This study somewhat supported this idea as using colleagues as an information resource was only

mentioned in 2% of all the job postings, and few jobs listed vendors, media companies, and clients as sources of information. On the other hand, 11% of all job postings suggested the employee be a resource of information. When looking at collaboration between agency employees, some jobs discussed mentoring subordinates, and mentor/mentee relationships usually involve sharing knowledge. While agencies might not expect employees to *use* colleagues as sources of information, the employees are expected to *be* sources of information.

The skill of synthesizing information was only seen in 6% of all the job positions. Since using information in practice and evaluating information tends to rely on the ability to compile and look at information from many sources, it is hard to believe that information synthesis is not practiced more often in advertising careers. The skill of synthesizing might not be included in job postings because advertising professionals might undervalue this skill, or they see it as an intuitive skill that they do not realize they perform.

Other information literacy skills and factors related to information literacy feature in many of the job postings. The skills of identifying an information need, gathering information, and citing, were seen in some job listings but not in the previous studies that analyzed workplace information literacy. A major factor in understanding workplace literacy is the workplace environment, and some job postings mention the environment, giving future applicants an idea of the pace and functions of an agency and how they could be expected to complete projects and tasks.

Implications

With 26% of all job positions calling specifically for research skills, and with various types of information literacy skills mentioned in the job postings, these skills are clearly valued competencies for advertising professionals. Marketing professors and academic librarians can

use this study to frame their instruction to marketing students. For instance, this study found that evaluating data, creating budgets and charts, and building database applications are frequently performed activities in the advertising and marketing workplace. Academic librarians who work with their school's marketing departments should consider introducing students to more marketing and consumer data and data tools. They could provide students access to more datasets, and make current datasets more known and accessible. During in-class instruction, librarians can not only instruct on how to find a dataset, but use tools like Excel to show students how to manipulate data and incorporate it into their projects.

Additionally, librarians working with students in nearly any discipline should not overlook the importance of technology in information literacy skills, as well as carefully think about the students' current information literacy skills and needs. In today's information age, technology mediates the employees' use of information. While studies from business schools, like Pefanis Schlee & Harich (2010), focus on which technologies and technological skills marketers use, few quantitative studies of specific software use have come from the library discipline. Knowing the tools employees use to access and use information helps librarians better understand the workplace context and employees' information literacy skills.

Furthermore, as information literacy skills are tied to the context and the environment in which they are used, librarians should examine their students' current environments and the environments into which they are possibly heading to help students develop a more targeted set of information literacy skills. This can be a combination of the skills found in this study, other workplace information literacy studies, and other definitions of *literacy*. Given that this study found information literacy skills relevant to advertising agencies that were not discussed in other

studies of business workplaces, it is also important for librarians to keep an open mind and not restrict definitions of literacy to a predetermined list of skills.

Limitations and Directions for Future Research

This study provided a foundation of knowledge into which information literacy skills advertising professionals are expected to use at an agency. However, the study does face limitations. First, by focusing only on specific advertising agencies and geography, numerous companies and jobs were left out of consideration. The sample size of 250 job postings is relatively small. With marketing and advertising becoming more integrated, it was occasionally difficult to categorize some of the job postings. A similar study that uses a different sampling methodology would help make the statistical conclusions of this work more robust.

A major factor in understanding workplace literacy is the environment. While some job postings mentioned the workplace environment, it would be beneficial to further study different environments to fully understand the workplace information literacy skills needed by advertising professionals. Interviews, ethnographies, and/or focus groups with advertisers could validate or clarify the skills found in this study. For instance, few job postings mentioned information synthesis, and this study could not confirm previous findings in which supervisors direct employees to information sources. A follow up study could help answer these questions while providing further information about how the context and environment influence information literacy skills.

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Appendix

Codebook

Codebook		
Sample Characteristics		
Category	**Code**	**Description**
Years of Experience	0-1.5	Job notes zero to one-and-a-half years of experience
	2-4	Job notes two to four years of experience
Job Category	Account Management	Example account management titles: Assistant account executive, account executive, account supervisor, account manager, team coordinator
	Creative	Example creative titles: Designer, producer, copywriter, art director, editor
	Media Buying and Planning	Example media titles: Media planner, buyer, local investment, strategist, ad operations
	Interactive Marketing	Example interactive marketing titles: Search analyst, search planner, digital producer, user experience designer, interactive designer, software engineer, web developer
	Data/Analytics	Example data/analytics titles: Data architect, analyst, digital analyst, data analyst, data insights and innovation, analytics associate, analyst marketing science
City	Dallas	Job is located in Dalls
	New York City	Job is located in New York City
	Chicago	Job is located in Chicago
	Los Angeles	Job is located in Los Angeles

Codebook continued

Information Literacy Skills		
Category	**Code**	**Description**
Use Information Resources	Information Resources	Uses general information resources, or the information resource is not in the other categories
	Adobe Marketing Cloud	Uses Adobe Marketing Cloud
	ComScore (General/ Product not Specified)	Uses ComScore, in general or does not specify the ComScore product
	Google Analytics	Uses Google Analytics
	Nielsen (General / Product not Specified)	Uses Nielsen products, in general or does not specify the Nielsen product
	MRI	Uses MRI
	Experian Simmons	Uses Experian Simmons
	Nielsen Scarborough	Uses Nielsen Scarborough
	Nielsen Online @Plan	Uses Nielsen Online @Plan
	Nielsen IMS	Uses Nielsen IMS
	Information from Clients	Uses information from clients or clients as sources of information
	User Experience Tools and Information	Uses user experience documents, tools, and other information
	Colleagues	Uses colleagues as sources of information
	Vendors/ Media Companies	Uses vendors and media companies as sources of information or information from vendors and media companies
	Trade Publications	Uses trade publications for information
Synthesize Information	Synthesize Information	Combines information from multiple sources and attending to the interrelationships among sources
Evaluate Information	Data	Evaluates data, performs data analysis, analyzes, checks data, performs statistical and quantiatives analysis
	Post-Campaign	Evaluates results of a campaign
	Competitor	Evaluates clients' competitors and competitive information
	Creative	Evaluates creatives and promotional materials
	Media and Vendor	Evaluates media opportunities and media vendors
	Consumer	Evaluates consumer information
	Billing	Evaluates billing discrepancies and issues
	Other/Not Specified	Evaluates information that is not specified in the other categories, or in general, analyzes information, solves problems, makes decisions, applies critical thinking and judgment, strategizes, categorizes information, audits information
Use Information in Practice	Interpersonal, Written, Oral, Presentation, Communication Skills	Uses or has written and oral communication skills, interpersonal skills, present information to clients
	Documents and Reports	Creates documents, documents ideas, writes POVs (point of view), creates status reports, makes other reports, builds dashboards
	Marketing Campaigns and Planning	Creates and thinks of creative briefs, marketing tests, strategies, creates campaign evaluation techniques
	Budgets and Charts	Creates and maintains budgets, data charts
	Creatives and SEO Words	Creates video, print ads, websites, and mobile apps, keywords
	Data and Database Applications and Systems	Creates data, database applications, database systems
	Other/Not Specified	Creates information that is not specified in the other categories, or in general

Codebook continued

Information Literacy Skills (continued)		
Category	**Code**	**Description**
Collaborate	Team Attitude	Works well in a team or a member of a group, has a team attitude
	Supervisors	Works with supervisors, takes direction from supervisors
	Subordinates	Works with subordinates, teaches assistants, mentors lower-level staff
	Other Agency Employees/ Not Specified	Works with other employees at the agency, or does not specify if the employee is a supervisor or subordinate
	Vendors/Agency Partners	Works with vendors, agency partners, media representatives
	Clients	Works with clients or develops a relationship with clients
	Other/Not Specified	Works with people that is not specified in the other categories, or in general
Technology Skills and Software	Microsoft Word	Has experience using or will use Microsoft Word
	Microsoft Excel	Has experience using or will use Microsoft Excel
	Microsoft PowerPoint	Has experience using or will use Microsoft PowerPoint
	Microsoft Project	Has experience using or will use Microsoft Project
	Microsoft Office	Has experience using or will use Microsoft Office, if Excel, PowerPoint, Word, etc. was not mentioned separately
	Data software (not Excel)	Has experience using or will use data software that is not Excel such as SAS, SPS, Stata, Site Catalyst, and Tableau, as well as has experience building or will build databases
	Adobe Software (Photoshop, Illustrator, and InDesign, etc.)	Has experience using or will use Photoshop, Illustrator, InDesign, and other products
	Programming Languages	Has experience using or will use programming languages
	Other/Not Specified	Has experience using or will use software or technology skills that are not specified in the other categories, or in general
Other Information Literacy Skills	Identifying an Information Need	Understands the clients and coworkers' needs, manages expectations, fulfills the clients' requests, understands the clients' objectives
	Act of Gathering Information	Gathers information, retrieves information
	Employee as a Resource	Employee is a person someone turns to for insights, a contact for clients
	Citation and Style Guidelines	Uses citation and style guidelines
	Perform Research	Performs research
	Environment	Characteristics of the work environment, its pace, deadlines, and culture