Information Literacy Instruction and Archives & Special Collections:

A Review of Literature, Methodology, and Cross-Disciplines

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Abstract
This paper examines the role archives and special collections (ASCs) play in information literacy instruction (IL) in academic libraries, and explores how ASCs can use primary resource instruction to improve existing IL instruction programs for undergraduate students. An examination of the literature indicates significant possibilities for undergraduate IL instruction by ASCs. Lacking assessment and a dearth in literature suggest future research is needed to determine how ASCs can provide IL instruction most efficiently and effectively. Existing studies primarily utilized qualitative designs to explore the perceived success of new and existing ASC IL endeavors. Future research will benefit from quantitative analysis of multiple ASCs that will produce more generalizable data. Additional research focuses on other non-traditional primary resource repositories which are also concerned with IL and its instruction. An interdisciplinary review examines theological schools and seminaries and museums as alternative disciplines publishing on IL instruction and invested in primary resources. The review indicates significant referencing of library and information studies within the literature from theological schools and museums which suggest cross-discipline cooperation could greatly improve research and practice. Overall trends indicate research on IL instruction and ASC is increasing. Though published research and reports provide examples of successful ASC IL instruction initiatives, additional research of initiatives using thorough and unbiased assessment of success is needed to determine how specific IL outcomes are achieved through ASC instruction.
Information Literacy Instruction and Archives & Special Collections: A Review of Literature, Methodology, and Cross-Disciplines

In the past twenty years increased emphasis on undergraduate research has pushed institutions of higher learning to develop new methods of producing research capable, information literate students. The recent change has required colleges and universities to evaluate their education programs and goals and also their research facilities and resources. Many of these institutions have library systems that include archives or special collections (ASCs) which house primary resources such as letters, diaries, case notes, and government documents. As a component of emphasizing undergraduate research, institutions of higher education should promote the information literate researcher through the use of standards as outlined by the Association of College and Research Libraries (ACRL).

Despite nearly universal adoption of the ACRL information literacy (IL) standards among research universities and the availability of primary resource collections at these institutions, undergraduate students often fail to utilize primary resources directly in their research endeavors. Existing research indicates that course integrated introduction to ASCs improves students’ awareness, perceptions, and comfort with the facilities and collections (Allison, 2005; Carini, 2009; Mazella & Grob, 2011). Few studies seek to understand how IL standards, particularly standards one and two, are introduced or reaffirmed to undergraduate students through these introductions to ASC materials. Such research will provide universities and their IL instruction programs insight on how their institutions’ existing research resources can be utilized to create active, information literate undergraduate researchers by supporting the development of ACRL IL competencies. This research seeks to answer the following questions:

- What role do ASCs currently play in IL instruction in academic libraries?
• How can ASCs use primary resource instruction to augment and improve new and existing IL instruction programs designed to serve undergraduates?

**Literature**

Despite extensive publication on IL initiatives in higher education and libraries there is little literature addressing the role of ASCs in helping to develop IL skills among undergraduate students. This review examines the existing literature and suggests new avenues of research and publication regarding IL skills and ASC instruction.

To identify existing literature, the author examined databases indexing articles from the fields of library and information science and education. The databases examined include *EBSCO’s Academic Search Complete, Education Research Complete, ERIC, Information Science & Technology Abstracts, and Library, Information Science & Technology Abstracts with Full Text (LISTA), OCLC’s ERIC/First Search; H.W. Wilson’s Library Lit; JSTOR, Project Muse, Sage Journals Online, and SpringerLink*. Controlled vocabulary search terms were employed, when available, and included terms such as “information literacy,” “library orientation,” “archives,” “special collections,” and “undergraduates.” Natural language search terms were also used, including “library instruction,” “information literacy,” “archive,” and “special collection.” Searches resulted in the conclusion that there is a dearth in literature on the topic of IL instruction in ASCs.

The scope of the literature examined is regulated by content and by date. Only articles that address ASC instruction with respect to IL or other knowledge skill outcomes or expectations are included in this review. IL is not a new topic, but because ACRL IL competency standards were not published until 2000, this review examines articles from 2000 to present. Finally, articles concerned solely with online instruction and tutorials were considered to be outside the scope of this research, which focuses on face to face instructional sessions that may
be augmented by online or technology components. The literature identified has been reviewed for common characteristics and attributes in order to understand current research efforts and identify possible future avenues of research.

**Primary Source Experts**

Upon examining the literature, several dominant themes can be observed. They include the role of the ASC librarian, collaborative and course specific instruction efforts, instructional training and theory, desired knowledge outcomes, and the use of assessment.

In a near consensus, the literature indicates that ASC librarians are in a unique position to offer instruction on primary sources. The knowledge possessed by these librarians allows them to introduce students to historical primary sources as experts prepared to illuminate and explain the challenges and benefits of researching with historical documents (Johnson, 2006; Roff, 2007; Carini, 2009; Krause, 2010c; Mazella and Grob, 2011).

In a semi-structured interview study, Krause (2010a) determined that content of the special collection is well-suited for and can be used to engage in active learning with undergraduates in instructional sessions. Similarly, instruction using historical ephemera and realia helps harness undergraduate interest and imagination (Koelsch, 2007, p. 52). A case study at DePaul University showed that many students developed a personal interest in the individual they were studying for an archive-based research project and, going beyond the scope of the assignment, sought to develop a deeper understanding of the person who created the documents being used through additional research. By integrating special collections resources into course curriculum, McCoy (2010) found students showed improved critical thinking skills, had reduced anxiety regarding the collection and research, and that the collection benefited from increased use.
Librarian-Faculty Collaboration

Research also indicates that collaboration between librarian and instructor is beneficial to ASC instruction. In an online survey of over 600 historians, an overwhelming majority of instructors expressed interest in collaborating with librarians and archivists to use primary sources in research instruction (Malkmus, 2010, p. 419). Collaboration between a special collections librarian and an English professor at the University of Houston used an inquiry-based learning model to correlate acquisition of IL skills to acquisition of disciplinary knowledge (Mazella and Grob, 2011). Similarly, in a case study at University of Colorado at Boulder, self-centered learning required students to use their critical thinking abilities to analyze and interpret primary sources in order to determine their own paper topics (Schmiesing and Hollis, 2002).

Department and Course Specific Instruction

The literature also shows that ASC instruction is more effective when it is paired with or tailored to an existing need. Johnson (2006) recommends tailoring each instructional session held in an ASC to the course or field of study represented by the audience. At the University of the Pacific, librarians attempted to highlight the strengths of the special collection during instruction, but soon found that fragility, need for hands-on-learning, and lagging student interest necessitated a shift to instruction focusing on course-centric items. Tailoring instruction materials and collection examples to every type of class at every institution is not possible, but librarians should find stimulating materials as relevant to the course or research objectives as possible (Sutton and Knight, 2006).

A mail survey to 99 ASC librarians found that only 3.66% report rarely or never conducting instruction sessions related to a specific course assignment and 81.71% reported that students are allowed to directly handle primary sources (Allison, 2005, pp. 27, 39). Allison
concludes that while introduction to the environment of a special collection is important, ASC instructors should not fail to capitalize on the opportunity to guide students through the acquisition of critical thinking skills through analysis and interpretation of primary sources. In contradiction, some research argues that tailoring primary resource instruction too specifically to a course or assignment limits students’ understanding of a more universal application of the skill set involved and limits the acquisition of IL skills (Yakel, 2004).

**Pedagogy and Theory**

Though as a whole the literature is largely lacking theoretical foundations, three of the studies use educational theories to support their research approach. Vygotzky’s zones of proximal development is referenced in ASC instructors’ use of group exercises to develop research, critical thinking and IL skills (Mazella and Grob, 2011, p. 476; Malkmus, 2010, p. 415). Constructivist learning theory and Bandura’s social cognitive theory were used to develop learning objectives in Krause’s study of undergraduate students in an instruction setting (Krause, 2010c, p. 76).

Research shows that many ASC librarians are not formally prepared to serve as instructors. A survey of 208 ASC librarians providing instruction through their facilities found that the majority had never received pedagogical training. Over one third (34.8%) reported learning to teach through independent study and one quarter (25.4%) through other teaching experiences. It is suggested that this lack of formal training may account for reluctance to adopt new instructional methods (Krause, 2010c, p. 33).

**Undergraduates Acquiring Knowledge Skills**

Research indicates that specific knowledge of IL skills can be taught through ASC instruction on the proper and effective use of primary sources. The terminology used and
concentration on these skills varies widely in the literature. The most commonly used term to refer to these skills is “information literacy skills.” Less common is the use of the phrase “critical thinking skills.” Additionally, some of the literature report on vague “research skills” acquired through ASC primary resource instruction.

IL competence is named as a direct goal or by-product of ASC instruction with more frequency than are critical thinking skills in the literature. Krause (2010c, p. 72) interviewed twelve ASC librarians who described themselves as heavily involved in IL initiatives at their institutions. The ACRL standards 2.e and 2.f specifically deal with primary sources and are often cited in research as possible or existing goals of archives and special collection instruction (Krause, 2010c; Krause, 2010b).

“2. The information literate student identifies a variety of types and formats of potential sources for information.
Outcomes Include: [. . . ]
   e. Differentiates between primary and secondary sources, recognizing how their use and importance vary with each discipline
   f. Realizes that information may need to be constructed with raw data from primary sources” (Association of College and Research Libraries, 2000).

ASCs can play a unique role in IL education by connecting undergraduates with appropriate and intriguing primary sources that may elicit self-motivated intellectual curiosity and research (Yakel, 2004; Carini, 2009; Mazella and Grob, 2011).

Critical thinking skills are intellectual proficiencies used to analyze and evaluate information with the intention of improving understanding and the process of understanding (Paul and Elder, 2009, p. 2). The goal of providing instruction that will supplement or improve critical thinking skills is common among the literature (Allison, 2005; Roff, 2007; Mazella and Grob, 2011). Critical thinking skills are a necessary component of ASC instruction according to Robyns (2001) who argues that the archives should serve as the history laboratory where
students should be taught critical thinking skills needed to analyze and interpret primary sources. While critical thinking skills are similar, and in some cases mirror IL skills (Malkmus, 2010, p. 416; McCoy, 2010, p. 60), the lack of clear standards inherently limits assessment and evaluation of the instruction and achievement of these skills.

Helping undergraduate students develop research skills is noted more generically as a goal of ASC instruction. The term research skills refers to a variety of cognitive skills needed to conduct research effectively, including conceptualization of a research question, identification of sources - primary and secondary, and the analysis, interpretation and evaluation of sources. A correlation can be found between the general goal of providing students with research skills and the goal of helping students learn to navigate and use ASC facilities and materials. In part, navigation skills are meant to put the student at ease in the environment, but they also help students achieve the goal of locating relevant information (Johnson, 2006; Brannock, 2008; Reynolds and Sauter, 2008).

While the literature coalesces around the theme of improving undergraduate thinking and research skills, the failure to identify common standards will limit the generalizability and assessment of these efforts. By universally following the ACRL IL Competency Standards, ASC instruction will, through shared goals, improve IL instruction as a field.

Assessment of Learning

A final common theme found in the literature is the need for assessment of student learning outcomes, whether these are outcomes of IL, critical thinking or research skills or the outcomes of general efficacy of ASC instruction. While some researchers make a call for better assessment methods (Reynolds and Sauter, 2008, p. 321), others suggest specific methods of assessment. Assessment, when done effectively, will increase the weight of ASC instruction by
providing proof of the benefit of this method of instruction to their students (Johnson, 2006). The use of self-assessments is common among ASC instructor-librarians. McCoy (2010) used self-assessments by students and a qualitative survey of the students’ final research papers to assess the effectiveness of primary source instruction.

In a survey of 384 ASC instructors, Krause found that 38.7% never use assessment to estimate the efficacy of instruction. When feedback from students is solicited, 47.7% is done so in an exit interview which is often informal, 27.7% through student’s work, and 25.8% from an evaluation form or survey (Krause, 2010c, pp. 33, 38). A follow up study in which twelve ASC instructors were interviewed regarding assessment practices indicates that assessment of student skill improvement is limited by time, access to students, and non-collaboration relationships with professors who assess students’ abilities in formal course assignments. As a result, Krause developed and tested a learning assessment rubric on a group of 82 undergraduates. By identifying four specific expected outcomes and ensuring reliability of scoring, it was determined that a rubric could effectively assess student learning outcomes. Krause’s rubric did not address IL skills specifically (Krause, 2010c; Krause, 2010b).

In addition to efficacy assessment, outreach assessments to determine faculty and programs that may welcome ASC collaboration to introduce undergraduates to primary resources is also suggested (Malkmus, 2010, p. 421). By assessing faculty interest, ASC librarian instructors can improve the number and nature of collaborative or supportive instruction efforts.

**Discussion**

The literature, though limited, provides extensive examples of undergraduate instruction in the use of primary sources through ASCs. The exact method of instruction may vary but several common themes are identified. Instruction is most effective when the use of interactive,
hands-on instruction is tailored specifically for the discipline or course requiring primary source research. Collaboration between librarians and faculty helps to create a knowledgeable, appropriate instruction session which will intrigue and challenge students. It is important that library instructor and course instructor are clear on learning objectives, responsibilities, and the framework within which the instruction will be based.

Many ASC instructor-librarians see themselves as responsible for introducing undergraduates to their collections and holdings and providing instruction that aims to present and instill specific research and knowledge skills. While IL skills are most commonly noted, skills specifically for critical thinking and broadly for research are also desired. ASC instruction librarians are uniquely suited to provide instruction using primary sources that are relevant to courses and research and intriguing and exciting to undergraduates. By capturing the students’ interest and providing instruction at a point of need IL skills are more likely to be viewed as useful and thus acquired and retained.

**Implications**

In order to improve instruction practices, ASC librarians should engage in pedagogical training to acquaint themselves with diverse learning theories and new instructional methods and practices. By attaining pedagogical training they will be able to improve their instruction sessions with undergraduates and begin to carve out and gain recognition for their role in contributing to their institutions’ undergraduate learning objectives.

While assessment measures are taken by some ASC instructor-librarians, a general lack of formal assessment limits our understanding of the true impact of primary source instruction. Self-assessment measures are often skewed by misunderstanding and false-sense of mastery. While Krause (2010c; 2010b) provides a rubric that was successfully used to measure outcomes
of student learning, additional work is needed to more clearly assess levels of understanding, specifically with respect to IL skill outcomes. Systematic assessment is necessary to improve instruction methods and confirm students’ acquisition of IL skills.

Though many of these studies examined IL standards in the scope of primary resource instruction, none did so in a case where these outcomes were a primary objective of the instruction. Future research should include pre-tests and post-tests to assess student learning. The use of longitudinal studies could provide a clearer picture of the lasting effect of primary source instruction in imparting life-long IL skills.

**Methodology Review**

Though a dearth of literature exists regarding IL skills taught through ASC instruction, emerging patterns in methodology used to explore the subject can be identified. The literature examined for the methodological instances and patterns is limited in the same manner as the literature reviewed. The scope is restricted to items published after the publication of ACRL’s IL Competency Standards for Higher Education in 2000. The scope includes articles indexed in multiple library science and education databases. Literature was identified employing controlled vocabulary and natural language searches using terms as described in the literature review. The scope of the methodological review also required an additional search incorporating terms such as “methodology,” “research method,” and “techniques” with the general topic of IL instruction in ASC. This search resulted in no additional findings.

A summary of the findings is displayed in table 1 below. Though essay is the most common type of literature published on IL instruction in ASCs, a variety of methodologies have been used to examine this area. Qualitative studies are used almost exclusively. When hybrid methods are used, only basic statistical analysis of the data is undertaken.
Table 1
IL in ASC Methodologies

<table>
<thead>
<tr>
<th>Author</th>
<th>Date</th>
<th>Case Study</th>
<th>Interview</th>
<th>Survey, Online</th>
<th>Survey, Mail</th>
<th>Field Study</th>
<th>Essay</th>
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<tr>
<td>Robyns</td>
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<td>Schmiesing &amp; Hollis</td>
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<td>Yakel</td>
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<td>Allison</td>
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<tr>
<td>Johnson</td>
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<td>Sutton &amp; Knight</td>
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<td>Koelsch</td>
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<td>Brannock</td>
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<td>Reynolds &amp; Sauter</td>
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<td>Carini</td>
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<td>Krause</td>
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<td>Malkmus</td>
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<td>McCoy</td>
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<tr>
<td>Mazella &amp; Grob</td>
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Formal statistical analysis software is not used to identify and report statistically significant findings. The most common methodology used is the case study, which examine the development, implementation, and effect of IL competencies taught in ASC instruction. Surveys are also common. Interviews allow the researcher to make sense of the emotions and behaviors influential in the development and effectiveness of IL components of instruction and may help future researchers identify avenues of in-depth study of ASC instruction.

Patterns among research methods indicate increased focus on methodologically grounded research in the field of IL instruction through ASCs. A shift from essay publications, accounting for 70% of the studies conducted between 2000 and 2009, is apparent. Over half of the studies using a methodological approach have been published in 2010 and 2011.

Qualitative methods provide rich contextual detail for examining exact practices and methods, though reproducible in only a limited number of libraries. Thus, quantitative research is important for developing generalizable results. Future research in the area of IL and ASC instruction should attempt to utilize more quantitative and hybrid design methodologies in order to shed statistical light on trends, common practices, and successful programs using repeatable
studies and research. Qualitative research will continue to be necessary in allowing ASC librarians to make sense of instruction practices and tailor suggested methods of instruction and collaboration to their individual settings.

**Interdisciplinary Review**

In an effort to understand how IL instruction can be provided by ASC, it is reasonable to examine how research from other primary resource repositories addresses IL instruction. Though little literature related specifically to ASC and IL instruction exists, academic librarians and faculty do research and publish about traditional and emerging IL instruction methods with voraciousness. The author has identified museums and theological schools as institutions concerned significantly with primary sources, and which may have an interest in promoting IL through organized instruction.

The literature regarding IL instruction from museums and theological schools will be examined and compared to that of ASC in order to identify similarities and differences in the treatment of IL instruction by various primary source-focused information institutions. The scope of the interdisciplinary review is limited to items published after 2000 when ACRL published their IL Competency Standards. The scope includes articles indexed in the databases reviewed for ASC IL instruction literature. Topically acute databases indexing articles related specifically to these disciplines were also inspected. Relevant literature was located using controlled vocabulary and natural language searches using terms such as “information literacy,” “instruction,” “museum,” “seminary,” and “theology.”

The review identified only two articles related to IL instruction and museum. This seemingly insignificant number of articles indicates that there is some, albeit minute, interest in IL instruction in museums. The review identified eight articles addressing IL instruction in
theological schools. Though the volume is significantly greater than those publications from museums, the research relating to IL instruction from theological schools is still lacking.

In order to compare the interdisciplinary literature, the author examined the subject headings used to identify and index the articles from ASC, museums, and theological schools. Due to the variety of terminology used in the many containing databases, subject headings were analyzed using word clouds generated in the web-based program Word It Out (worditout.com).

Word clouds allow the viewer to quickly assess coverage and commonality by displaying the subject headings in a hierarchy of size, with the most common words or phrases appearing in the largest font size and the less common in a smaller typeset. The wide variety of subject headings makes the graphic representation too small and cluttered to read clearly. Subject headings such as “Archives,” “Librarians,” and “Archivists” are used with some regularity to describe the literature. The wide variety of headings demonstrates that many headings are uniquely assigned among the literature by library and information science researchers.

It is clear in examining the word cloud for museums in Figure 1 that publication on IL is less common than in library science. It is notable that the majority of the subject headings illustrated in the museum discipline word cloud carry near or equivalent weight. This indicates that the subject headings maintain some continuity within the discipline. It is important to note that “library” appears among museum subject headings in multiple instances. This cross reference indicates that museums refer to LIS when conducting or considering IL instruction. This alliance may suggest a need for future collaboration.

By examining the word cloud of subject headings from publications in the theological school discipline in Figure 2, it is clear from the variety of word sizes that there is more variance in subject headings than in those from the museum discipline. The significant weight attributed
to the subject heading “information literacy” suggests common utilization of primary descriptors among databases. Like that of museums, publications from the theological school arena refer specifically to libraries in subject descriptors.

Though the primary source-heavy disciplines of museums and theological schools may share some interest in providing IL instruction, the task of understanding how the instruction can be effectively provided is most commonly attributed to library and information science researchers. ASC researchers and instructors should continue to track and consult the research of their allied disciplines, particularly museums and theological schools.

As new and improved methods of IL instruction are pioneered, ASC can benefit from the long established experience working with primary sources possess by museums and theological schools. The common link of libraries among the three disciplines suggests there may be room for collaborative research regarding IL instruction in the future.

**Conclusion**

Current research among ASC’s, though limited in generalizability, does indicate that efforts to use primary sources as tools for IL instruction can be successful. Examination of the literature illuminates three noteworthy trends among useful instruction endeavors. The use of interactive, hands-on instruction designed to be course- or need-specific greatly increases the efficacy of instruction. When librarians work directly with faculty, instruction design and session impact is improved. Finally, it is important that librarian-instructor and faculty share a similar understanding of learning objectives, instruction duties, and the framework by which the instruction will be guided.

ASC librarian-instructors see their traditional instruction duties of familiarizing students with ASC environment and holdings beginning to merge with obligations to teach students how
to use those holdings effectively. The terminology used to refer to effective use varies; however, focus has recently begun shifting away from the more general research and critical thinking skills to the specific competencies ascribed to an information literate individual. Because primary sources are intriguing and exciting to students and are often introduced at a time of critical need, ASC librarians may increasingly find themselves in a position to support research and their collections by offering IL instruction.

Though trends indicate that research regarding ASC and IL instruction is increasing, the coverage and scope of the research is by no means complete. Approximately 37% of the publications identified were essays. Of the remaining 63% which followed a distinctive research methodology, all but one engaged in qualitative research. Though extremely useful in developing understanding of how ASC librarian-instructors have engaged in IL instruction, the findings may not be able to be generalized to other ASCs and institutions of higher learning. As well, many researchers experienced common difficulty in establishing and carrying out assessment of the efficacy of their instruction. In order to make clear, decisive statements regarding the usefulness and practicality of ASC IL instruction, librarian-instructors must develop some method of accurately measuring their own success.

Future research is needed to determine if and how specific outcomes are achieved through IL instruction. Statistical analysis of student learning and instruction success is needed to allow ASC librarians, academic libraries, and institutions of higher learning to identify trends, common practices, and effective instruction programs using replicable methodologies. Only then can ASC librarians stand as a congruent whole to say, “We can teach information literacy, and we can do so with great expertise, vigor, and success!”
References


Robyns, M. C. (2001). The archivist as educator: Integrating critical thinking skills into historical research methods instruction. American Archivist, 64 (2) (Fall-Win): 363-84.


Figures

**Figure 1.** Museums and IL subject heading word cloud.

- MUSEUM study schools
- MUSEUMS & schools
- CRITICAL analysis Consciousness Raising
- Museum MUSEUMS -- Educational aspects
- MUSEUM techniques Critical Thinking
- Library Services Library Skills
  - Program Effectiveness WRITING Computer Literacy
  - Problem Solving Labor Force Development
  - Information Literacy Self Evaluation (Groups)
  - Global Approach READING Library Role Civics
  - Creativity TECHNOLOGICAL literacy
  - Thinking Skills Citizenship Education
- RHETORIC -- Study & teaching
  - Communication Skills
- Public Libraries VISUAL literacy
  - Educational Technology
  - ACTIVITY programs in education

**Figure 2.** Theology schools and IL subject heading word cloud.

- LIBRARY employees -- Training of
  - PSYCHOLOGY & philosophy
- INFORMATION resources INTERNET in education
  - THOUGHT & thinking CHRISTIANITY
- INFORMATION storage & retrieval systems THEOLOGICAL seminars
- RELIGIOUS education INFORMATION professionals
  - CRITICAL thinking CASE studies EDUCATION
  - RESEARCH -- Methodology LIBRARY users
  - TEACHING AUTHORS
  - EXPERIMENTAL design
- LIBRARIANS DATABASES RELIGIOUS libraries THEOLOGY
  - RESEARCH management STANDARDS
  - STUDENTS -- Attitudes
  - INFORMATION skills
  - THEOLOGICAL libraries
- INFORMATION literacy
  - ELECTRONIC information resources
  - INFORMATION science RESEARCH skills
  - THEOLOGY -- Study & teaching
  - LIBRARY orientation