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## **Information Literacy in Pre-service Teacher Education: An Annotated Bibliography**

### **Abstract**

This annotated bibliography is a review of articles published on the topic of information literacy in teacher education since the late 1980s. Many of the articles outline author concerns about pre-service teachers who graduate with underdeveloped information literacy skills, are thus unprepared to teach these skills themselves, and do not see the role of the school librarian/media specialist as collaborator in information literacy instruction. On the other hand, many articles describe innovative and successful programs where incorporation of exposure to librarians, information literacy, and library research, as well as a process approach (whether guided design, active or authentic learning, problem-based, course-integrated learning, etc.) can produce new teachers who are equipped to collaborate with school librarians and teach information literacy skills to their students.

### **Keywords**

Information literacy, library instruction, teacher education, annotated bibliography, pre-service teachers, school librarians, media centers.

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Information Literacy in Teacher Education – An Annotated Bibliography  
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Since the publication of *Information Power: Guidelines for School Library Media Programs* in 1988, librarians and other educators have been writing about information literacy's connection and potential place in teacher education. A review of articles published on the topic of information literacy (IL) in teacher education since that time shows a number of common themes in the literature. It is of concern to see that many writers identify an emphasis on the "information access and delivery" role of school librarians over that of "collaborative partner and information literacy specialist" in the attitudes of pre-service teachers and, indeed, in teacher education itself. They also note the all-too-common failures of traditional teacher-centered, textbook learning methods to effectively foster pre-service teacher competence in information literacy.

Even in light of the many articles outlining problematic circumstances at the intersection of information literacy and teacher education, there is body of knowledge illustrating positive developments in this area. Innovative projects and successful programs show that a teacher education curriculum that incorporates exposure to librarians, information literacy, and library research, as well as a process approach (whether guided design, active or authentic learning, problem-based, course-integrated learning, etc.) can result in real changes in attitudes of pre-service teachers towards the collaborative role of school librarians. Further, as these pre-service teachers move into the profession, they are better equipped to create significant educational partnerships with their school librarians (and media specialists), and teach information literacy skills to their students.

While this bibliography represents only a small part of the total body of literature in this area, it reflects a representative sampling of key works. It takes potential readers on a journey of discovery, retrenchment, and rediscovery, as they learn about the literature of the last fifteen years on the topic of information literacy and teacher education.

ACRL Education and Behavioral Sciences Section. 1992. "Information Retrieval and Evaluation Skills for Education Students." *College and Research Libraries News* 53: 583-588.

This article focuses on the document, "Information retrieval and evaluation skills for education students." The document is a rewriting of the 1981 "Bibliographic competencies for education students" and is in essence a comprehensive listing of what education students need to know about libraries and information literacy. The 1992 document reflects initiatives that emphasize critical thinking, problem-solving skills, active learning, and demonstration of skills in seeking, retrieving, and evaluating information. Its purpose is to assist instruction librarians in working with education faculty and aid in the creation of specific learning objectives for library instructional sessions and education coursework. A series of goals, objectives, and sub-objectives are listed in each of five central areas: generation and communication of knowledge in

education, intellectual access, bibliographic representation of information sources, physical access and evaluation of information sources, and collaborative roles of teachers and school library media specialists. The article concludes with two lesson plan examples, which incorporate the basic tenets of the skills document. The first lesson plan is for a social studies methods course engaging in research projects on the Vietnam War. The second lesson plan was created for a graduate level research methods course, and focuses on locating referred journals and identifying specific research designs.

Asselin, Marlene. 2000. "Poised for Change: Effects of a Teacher Education Project on Pre-service Teachers' Knowledge of the School Library Program and the Role of the Teacher-Librarian." *School Libraries Worldwide* 6:72-87.

The author describes the Information Literacy Project of the University of British Columbia (Canada), a program that works with pre-service teachers to make them more aware of the role of the teacher-librarian and of school media centers in integrated and collaborative programs. Students work with teacher-librarians on curriculum design using resource-based learning. Using pre-and post-tests, the study looked at the areas of information literacy, critical thinking and resource-based learning and found an increase in understanding in all three areas, along with an increased awareness of the role of the teacher-librarian. The author suggests teacher educators take a leadership role in the development of partnerships such as this.

Asselin, Marlene, and Elizabeth A. Lee. 2002. "I Wish Someone had Taught Me': Information Literacy in a Teacher Education Program." *Teacher Librarian* 30:10-17.

Asselin argues that unless pre-service teachers understand information literacy themselves, they will be unable to teach it to their students, although the importance of lifelong learning and the inclusion of information literacy in national education standards show the necessity of information literacy instruction. She discusses a Canadian initiative to include information literacy in the general literacy courses taught to pre-service teachers. This model highlights process-based problem solving, resource-based learning, and collaboration with school librarians.

Buttler, Lois and Mary Tipton. 1992. "Library Use and Staff Training in Curriculum Materials Centers." *Journal of Academic Librarianship* 17: 370-374.

Curriculum materials centers (CMCs) are special collections of teaching materials operating to serve the needs of pre-service teacher education programs. The authors write that at present little is known about the impact of these teaching support collections because few and inconsistent statistics are kept on their use. The authors cite many examples of scholars who are increasingly calling for pre-service teacher instruction concerning development of the skills to identify and locate curriculum materials. The problem is that little research has been done about CMCs and instructional outreach.

This study focuses on a survey sent to directors of CMCs asking them about bibliographic instruction and the extent to which the center was automated. The authors conclude that CMCs are not taking the initiative to provide bibliographic instruction but instead rely on librarians from the main campus libraries and concentrate on individualized assistance. In addition, as more and more CMCs are automated, the authors recommend that the CMCs move toward more systematic and formal instruction for staff members. Overall, CMCs need to be more proactive in educating future teachers about library skills they can then pass on to their students.

Callison, Daniel. 1995. "Restructuring Pre-Service Education." In *School Library Media Annual*, edited by Betty J. Morris, 100-112. Englewood, Colorado: Libraries Unlimited.

Callison addresses the problems of pre-service teacher education programs by suggesting four areas of concern: imitation, isolation, transfer, and technique. Student teachers fall into a pattern of modeling college professors who put the teacher at the center of learning. Student teachers are often sent to schools they know little about and thus develop feelings of isolation. Callison suggests that media specialists collaborate closely with their school's student teachers. Pre-service teachers are exposed to a number of student-centered curricular models, such as discovery and cooperative learning, but they do not transfer this knowledge to their student teaching lesson planning. Callison purports that only once professors model these learning techniques will information literacy throughout the curriculum be promoted. Concerning the area of technique, the media specialist/student teacher practicum is too focused on practical, everyday teaching issues, but needs greater focus on the achievement of information literacy goals. Finally, Callison concentrates on the technological aspects of restructuring pre-service education. He argues that media specialists must move from an emphasis on materials acquisition to one of resource sharing.

Carr, Jo Ann. 1998. *Information Literacy and Teacher Education*. (Report No. SP038201). Washington, District of Columbia: ERIC Clearinghouse on Teaching and Teacher Education. (ERIC Document Reproduction Service No. ED424231)

Carr reports that efforts to incorporate information literacy into the pre-service curriculum have been largely unsuccessful, although standards covering information literacy skills are increasingly being written by professional and accrediting associations. Carr presents existent models for integrating course-related information literacy instruction into student teacher education. This article provides an excellent overview of the need for teachers to learn about information literacy in their pre-service period.

Carr, Jo Ann and Kenneth Zeichner. 1988. "Academic Libraries and Teacher Education Reform: The Education of the Professional Teacher." In *Libraries and the Search for Academic Excellence*, edited by Patricia Senn Breivik & Robert Wedgeworth, 83-92. London: The Scarecrow Press.

Based on the national teacher reform reports of the mid to late 1980s, the authors outline three areas which will have a significant impact on libraries serving teacher education programs. The first area is the transformation of teacher education from an undergraduate to a graduate degree. Graduate students often play more roles in their lives (parent, spouse, and worker) so they expect efficient library service. They often also have more focused research agendas, necessitating more personalized and long-term librarian/student relationships. The second area involves librarians working to strengthen the academic and field experience components of teacher education. Librarians often work in multidisciplinary roles in their jobs and they need to instruct pre-service teachers about the interrelationships of bodies of knowledge. The third area centers on the professional autonomy of teachers. Education students need to understand that their individual choice of materials from which to teach have an immense impact on the effectiveness of the lesson. Librarians must help future teachers develop resource evaluation skills and aid them in understanding the role information plays in their continued professional development. Overall, the authors promote the idea that librarians need to be proactive in sharing their information access, materials analysis, and instructional design skills with pre-service teachers.

Doyle, Christina. 1995. "Telementoring Takes Off in California: The Telemation Project Develops Integrated Curriculum." *Internet Research: Electronic Networking Applications and Policy* 5: 40-45.

This article features a description of the Telemation Project, a California training program designed to instruct in-service teachers on how to integrate the tenets of information literacy into their curriculums through the use of online resources and student-centered activities. The project was devised in response to calls for information literacy from the Secretary's Commission on Achieving Necessary Skills, and competence in critical thinking skills through the Educate America Act of 1994. The vision of the project included the establishment of a community of mentors/learners, weeklong training sessions, and development of a TeleLearning Mobile Unit (TMU) for training. The TMU allowed training for up to 24 people to occur in educational settings where Internet connections were unavailable. Two future goals for the project are described as creation of an online bank of student-centered curricular activities and a deeper connection between the training provided through the Telemation Project and the core elements of information literacy.

D'Amicantonio, John and Jordan M. Scepaniski. 1997. "Strengthening Teacher Preparation through a Library Program." *Education Libraries* 21:11-16.

After the publication of 1988's *A Nation at Risk* the role of libraries and librarians in education in the U.S. was greatly discussed, even though libraries were barely mentioned in the original report. The authors note the importance of libraries and librarians in teacher training, and describe teacher preparation programs in place at the

library at California State University, Long Beach (CSULB). These programs include extensive library instruction sessions that emphasize critical thinking and a proposed partnership with a local high school to link their online catalogs to the CSULB catalog that would provide student teachers with information about real life high school library collections.

Doiron, Ray. 1999. *University/School Library Collaborations to Integrate Information Technology into Resource-Based Learning Activities*. (Report No. IR057600). Birmingham, AL: International Association of School Librarianship. (ERIC Document Reproduction Service No. ED437064).

Researchers at the University of Prince Edward Island (Canada) studied the impact of involving pre-service teachers in authentic learning collaborations with school librarians and others to develop information technology projects. Three areas were analyzed: the curriculum process, the use of information technology in teaching, and collaboration with school librarians. In each of these areas, the respondents expressed respect for abilities of school librarians, while at the same time gaining valuable experience in problem solving and collaboration. The authors suggest that authentic projects like this empower pre-service teachers, and make them aware of the support and collaborative possibilities available from school librarians.

Duling, Sandra and Patrick Max. 1995. "Teaching the Teachers in an Electronic Environment." In *Twenty-First National LOEX Library Instruction Conference: The Impact of Technology on Library Instruction*, edited by Linda Shirato, 103-112. Eastern Michigan University: LOEX Clearinghouse.

This article consists of two speeches, the first by Max and the second by Duling. Max speaks generally about technology and its impact on librarianship. His main message is that technology can provide great benefit but that it must not be accepted without critical evaluation. One important factor for pre-service education is to stress the ways that librarians, teachers, and media specialists can work together. Duling speaks about the school restructuring movement at the K-12 level and how its goals dovetail with those of the information literacy movement. According to Duling, school restructuring consists of site-based management, emphasis on resource-based learning, and a quest for incorporating new technologies. Site-based management empowers local teachers to solve their own problems and therefore BI sessions for pre-service teachers should move away from a focus on resources (e.g. ERIC) to problem-solving through the use of education professional literature. The trend of resource based learning means a shift from memorization/textbook learning to teaching that stresses real scenarios and higher-order thinking. Concerning the incorporating of new technologies, Duling first recommends caution lest one may become indoctrinated with the idea that technology is the savior of education. Librarians need to work with pre-service teachers to develop the best uses of technology in education.

Franklin, Godfrey and Ronald C. Toifel. 1994. "The Effects of BI on Library Knowledge and Skills Among Education Students." *Research Strategies* 4: 224-237.

This article outlines a BI program study conducted during the fall 1991 semester at the University of West Florida. The research focused on the effectiveness of BI training given to undergraduate (142 students) and graduate (39 students) education majors. A 24-question pre-test was given at the beginning of the semester and the identical test was given at the end of the semester. The test addressed three areas: general knowledge about the library, knowledge about using the online catalog, and knowledge about ERIC and other education specific databases. BI training for the undergraduates consisted of a 70-minute instructional session, a 10-question follow-up assignment, and completion of a research paper. The complementary experience for the graduate students included a 3-hour instructional session and completion of a research paper. The researchers found statistically significant improvement on all test questions between the pre-test and post-test. The overall rate of improvement was greater for the undergraduates than the graduate students. The post-test also included a short survey asking students to evaluate the effectiveness of the BI training program. Overall, the students found the program to be very helpful, but the undergraduates wanted to see greater incorporation of hands-on activities during the instructional session.

Gallegos, Bee and Peter Rillero. 1996. "Bibliographic Database Competencies for Pre-service Teachers." *Journal of Technology and Teacher Education* 4:231-246.

Searching bibliographic databases for information requires both technology and information literacy. Gallegos and Rillero note that the best time for teachers to learn information-seeking skills is during their pre-service education, yet students often are over-confident of their searching abilities. A number of associations have developed guidelines for technology and information literacy, and using those standards and their own experience, Gallegos and Rillero list a set of seven bibliographic database competencies that all teachers should have. These competencies are illustrated using an ERIC search as an example. Partnerships between teacher educators, teaching faculty, technology educators and librarians are necessary to ensure that student teachers are technologically and information literate.

Hartzell, Gary N. 1997. "The Invisible School Librarian." *School Library Journal* 24:24-29.

Hartzell, a former school principal, notes the general silence from school teachers and administrators regarding reductions in school library funding, and links it to three reasons, including the failure of teacher and administrator training programs to emphasize the positive teaching and collaborative roles of libraries and librarians. Once teachers and administrators end their education and start their jobs, they are unlikely to take on new perceptions of the role of libraries beyond the provision of resources. At the same time,

school librarians have not publicized themselves as much as they could, partially because they have not learned how to do so. Hartzell recommends among other things that school librarians work to influence the training of future classroom teachers and school administrators.

Hartzell, Gary. 2002. "What's it Take?" *Supplement to Teacher Librarian* 30:81-86.

In this article directed at school administrators, Hartzell discusses how administrators often have an incomplete picture of the role of the school librarian. He notes that not only does teacher training itself generally not focus on collaborative work, but that administrators are often trained by former school administrators who often don't see the school librarian's potential. Discussion of school library issues is usually limited to potential problems, especially legal issues such as censorship. He notes a survey that shows that 90% of Educational Administration faculty do not see a role for the principal in collaborations between school teachers and school librarians.

Jacobson, Frances. 1988. "Teachers and Library Awareness: Using Bibliographic Instruction in Teacher Preparation Programs." *Reference Services Review* 16: 51-55.

Librarians working with students at all age levels are often frustrated by their lack research skills and teachers who give confusing library assignments. The author suggests that only teachers who have learned library research skills during their pre-service training will value such skills and attempt to pass them on to their students. There are many programs providing bibliographic instruction to future teachers. Many use a self-paced workbook and others are course-integrated, asking students to engage in increasingly difficult problem scenarios. Beyond these individual programs, national library associations such as the ACRL's Education and Behavioral Sciences Section have created bibliographic competencies for education students. In addition to learning library skills, future teachers must become more aware of the services provided by their school library media centers. There are very few examples of instruction for pre-service teachers about media centers but the author presents an example from the State College of Colorado. Through a special children's literature project, students gained the knowledge that media specialists can provide programmatic teaching support. By helping pre-service teachers develop library research skills and teaching them to utilize media center services, librarians working with students at all levels will see vast improvements in their ability to do research.

O'Brien Libutti, Patricia and Bonnie Gratch. 1995. *Teaching Information Retrieval and Evaluation Skills to Education Students and Practitioners: A Casebook of Applications*. Chicago: American Library Association.

This book of case studies features twelve articles. Nearly every article was written by an information professional (mainly academic librarians) who was reflecting on a specific

teaching experience with education students. Each article includes introductory information about the instructional session request, a copy of the lesson plan, a narrative of the teaching experience, and a summary reflection component. A common thread throughout the submissions is the idea that librarians and education students alike benefit from purposeful concentration on being “reflective practitioners.” In addition, the articles state that purposeful self-assessment is key to creating learning environments where students hone the skills needed to be information literate.

O'Hanlon, Nancy. 1987. “Library Skills, Critical Thinking, and the Teacher-Training Curriculum.” *College & Research Libraries* 48: 17-26.

This article outlines the results of a survey of elementary-education faculty at teacher-training institutions in Ohio. O’Hanlon discovers that faculty overwhelmingly agreed that library and critical thinking skills instruction should be part of teacher education programs and that schoolteachers enrolled in such programs are better prepared to help their students learn these skills. Even given these preferences, only about 1/3 of the professors assigned projects requiring library research, and of this number, most assumed their students already had reasonably good library skills. Over half of the professors later reported that their assumptions were incorrect. O’Hanlon also concludes that there was much division over who should be teaching library skills in teacher preparation programs and who should be teaching elementary students these same skills. Finally, it seemed clear that further research was needed because while faculty support teaching library research, they were not making the connection between such research skills and critical thinking.

O'Hanlon, Nancy. 1988. “The Role of Library Research Instruction in Developing Teachers' Problem Solving Skills.” *Journal of Teacher Education* 39: 44-49.

In this article, O’Hanlon identifies many barriers to teaching critical thinking skills. The main problem is that students often see the world in very objective ways and are not challenged to engage in open-ended problem solving. Studies by Keeley, LeClerq, and O’Hanlon have all served to illustrate that students in education programs have inadequate critical thinking skills and were thus unprepared concerning library research skills. O’Hanlon suggests that educational success can be achieved through the employment of guided design, which lies at the intersection of critical thinking, library research, and problem-solving activities. Guided design asks students to engage in a combination of group problem solving and library research in order to solve “real life” problems. O’Hanlon concludes that teacher trainees who are exposed to guided design will use this same curricular structure in their own classrooms, thus nurturing better critical thinkers.

O'Hanlon, Nancy. 1988. "Up the Down Staircase: Establishing Library Instruction Programs for Teachers." *Reference Quarterly* 27: 528-34.

O'Hanlon examines historical and then current trends concerning library instruction in teacher education programs. In the first half of the 20<sup>th</sup> Century, reports from the ALA and NEA served as calls for the implementation of library skills instruction in teacher education. However, most evidence from this time period revealed that the vast majority of future teachers did not receive any library training. Studies from the more recent past have illustrated only a little improvement compared to their predecessors. Even in programs where there is a commitment to library instruction, the curriculum is limited to library instruction as skills for finding sources. O'Hanlon argues that a connection must be made between critical thinking skills and library research skills. She asserts that only once teacher education programs move from a tool-oriented to a process-centered approach to library instruction will they turn out teachers who can create life-long learners.

Pappas, Marjorie and Ann Teppe. 1995. "Preparing the Information Educator for the Future." In *School Library Media Annual*, edited by Betty J. Morris, 37-44. Englewood, Colorado: Libraries Unlimited.

While this article was written specifically for media specialists, its message can be extrapolated to all K-12 educators. The authors identify the future role of media specialists as one of facilitation; they will guide the authentic (problem-solving) learning of students. The media specialist will serve as information manager, curriculum consultation, teacher, and manager of the information center. As information manager, the media specialist will concentrate on access to information and teaching students how to purposefully navigate oceans of data. As curriculum consultant, media specialists will insert information literacy into the curriculum by making a real-world laboratory of the media center and drafting community members to help with educational programs. Media specialists will act as teachers and managers as they collaborate with teachers in the constructing assessment tools and in the employment of new learning technologies. The authors submit that in order for these role changes to occur media specialists must have significant training concerning student-centered, authentic learning because most are products of a textbook, teacher-centered education.

Small, Ruth V. 2002. "Collaboration...." *Teacher Librarian* 29:8-11.

Teachers can benefit significantly from collaborating with school librarians, however such collaborations are often unsuccessful. One possible reason is the difference between pre-service teacher training and school librarian training. Pre-service education stresses collaboration within disciplines or grade levels, but not beyond; library education emphasizes the importance of collaboration. Possible remedies include outreach by teacher librarians to pre-service education students as well as collaborations between school librarian and education faculty.

Templeton, Lolly, Signia Warner, and Richard Frank. 2001. "A Collaborative Approach to Integrating Technology and Information Literacy in Pre-service Teacher Education. In Burkett, Ruth S, Michelle Macy, James A. White, and Carine M. Feyten. (Eds.), *Pre-service Teacher Education {SITE 2001 Section}*. (Report No. IR020890). Orlando, FL: Society for Information Technology & Teacher Education (ERIC Document Reproduction Service No. ED457833).

The authors describe a study that uses active learning and constructivist methods to educate pre-service teachers about information literacy. A theoretical framework is provided in the context of current learning theory. The study attempted to determine how the information literacy program used aided in pre-service education courses, what key influences of IL were identified by the pre-service teachers, and education professors' attitudes towards IL competency. The study concluded that the program had been successful in integrating IL objectives into students' practicums and coursework, and showed a recognizance on the part of education faculty regarding the importance of information literacy, the need to share instruction with school librarians, and the importance of formal IL instruction in the pre-service program.

Thurman, Glenda R. 1992. "A Survey of Student Teachers' Library Media Skills: A Replication. In *Proceedings of Selected Research and Development Presentations at the Convention of the Association for Educational Communications and Technology and Sponsored by the Research and Theory Division*, 819-824. Washington: U.S. Department of Education.

This article describes a spring 1991 study, a replication of a 1966 Knapp Foundation Study, which sought to measure pre-service teachers' knowledge of the availability and use of library services and resources. The principal investigators of the Knapp Study concluded that the teacher trainees were aware of only a small number of library resources and they had a limited concept of how librarians can help them. The 1991 study differed from the Knapp Study in that four times the number of future educators were surveyed and several questions were changed to reflect advances in technology. The survey instrument was comprised of 22 open-ended questions in four subject areas: bibliographic skills, mediagraphic skills, bibliographic/electronic sources, and perceptions of libraries and librarians. Across each of the first three subject areas, students' responses indicated knowledge of only a small subset of available resources, paralleling the Knapp Study findings. Congruence with the Knapp Study was also present in the perceptions of libraries and librarians section as future teachers had a limited idea of what librarians can do for them.

Wilson, Kay. 1997. *Information Skills: The Reflections and Perception of Student Teachers and Related Professionals*. (Report No. IR056590). Vancouver, British

Colombia, Canada: International Association of School Librarianship. (ERIC Document Reproduction Service No. ED412946).

Wilson studied the information skills of Scottish pre-service teachers, conducting interviews with teacher educators, secondary school teachers, school librarians, and the student teachers themselves. The study results indicated a general ignorance of what “information skills” are, an inability to see information literacy as a process that had a place outside of the job of a teacher, and an inability to see the individual’s own lack of information literacy. Wilson also notes that all the groups studied needed not only to improve their information literacy skills, but also needed to reflect on why information literacy skills were important.

Wolcott, Linda, L., Kimberly A. Lawless, and Deborah Hobbs. 1999. *Assessing Pre-Service Teachers’ Beliefs about the Role of the Library Media Specialist*. (Report No. IR057601). Birmingham, AL: International Association of School Librarianship. (ERIC Document Reproduction Service No. ED437065).

This study looks at the three roles for teacher-librarians outlined in the 1998 revision of *Information power: Building partnerships for learning*: learning and teaching, information access and delivery, and program administration and evaluates the extent to which pre-service teachers accept those roles. Results indicated that the pre-service teachers studied emphasized the information access and delivery role significantly over the other two. This suggests that they will not recognize the collaborative and leadership roles of the library media specialist. The authors then suggest steps that should be taken to lay the groundwork for LMS-classroom teacher partnerships.