Abstract

Students growing up in an information age must be effective users of ideas and information (American Association of School Librarians, 1998). They need to access information efficiently, evaluate information critically, and use information accurately and creatively (Ibid.). To facilitate the mastery of these skills, teachers and librarians must constantly experiment with pedagogical strategies that promote acquisition of effective information search habits.

This qualitative research investigation focused on how journal writing, as a pedagogical strategy, reflected students' understanding of the information search process. A team comprised of the school librarian, a teacher, a university graduate assistant, and the session presenter conducted the action research study with one class of upper elementary students, at a public school in Honolulu, Hawaii. They used multiple data-gathering modes to implement the investigation as students completed two month-long research assignments. This session focuses on methodology, findings and implications based on the study.

Research Questions

Essential questions addressed were:
- How does journal writing reflect students’ understanding of and feelings during the information search process?
- How can journal writing influence instructional decisions and modifications?

Rationale

Journal writing is a strategy that allows students to reveal their reasoning and to demonstrate what they know and do not know. Through this process, students sort their ideas, clarify and organize their thoughts, and connect old knowledge to new. Over the past several decades, there has been abundant research on the use of journaling in various subject areas and with groups ranging from special
education students to those in English as a second language (Hughes et al, 1997; Gordon & McInnis, 1993; Staton, 1988; Graves, 1983; Fulwiler, 1980). However, there has been no in-depth study focusing on the use of this particular strategy in the information search process.

Methodology
Seventeen students, ages ten and eleven, at Shafter Elementary School in Honolulu, Hawaii, comprised the population studied. Over 45 percent of the students were white, 27 percent were African Americans, and the remaining 28 percent were Asian Americans and Pacific Islanders.

Instruction related to the information search process was organized in four major phases:
• Presearch—exploring a general topic and conducting preliminary searches.
• Focus formulation—selecting a specific focus for the assignment and generating questions related to this focus.
• Information gathering—locating and retrieving relevant information, taking notes using a key word technique, and planning for the research and final product.
• Presentation and evaluation—organizing information, creating the final product and presenting it, and evaluating both the product and the understanding of the information search process used.

The librarian introduced the various phases of the information search process in the library with the teacher reinforcing and following up with activities in the classroom. To allow for triangulation, multiple sources of data were collected including journal entries written by the students, anecdotal logs kept by the librarian, field notes recorded by the graduate student assisting in the library, and interviews with the librarian and the teacher conducted by the presenter. Data collection occurred during two time periods in the 1999-2000 academic year when students were involved in two different research assignments.
Analysis
The core data for textual narrative analysis were the journal entries. The presenter and the graduate student coded the journal entries using a sentence cluster as the unit of coding. A cluster was defined as two to five contiguous sentences within a journal entry that reflected a single cognitive concept (e.g., presearch activities provide an overview of a general topic) or an affective expression (e.g., frustration resulting from inability to find relevant information).

To code the students’ cognitive responses, the team adopted the following coding scheme employed by Staton (1988) in her analyses of journal writing.

- **Unrelated information**—unable to provide information related to the general concept.
- **Concept only**—able to state the general concept but unable to provide details supporting it.
- **Concept with minimal support**—able to state the general concept and to provide one or two relevant details.
- **Concept with elaborated support**—able to state the general concept and to provide comprehensive support for it.

Affective responses were coded using the following stages identified in Kuhlthau’s research (1993) on the information search process:

- **Optimism during presearch phase.**
- **Doubt, frustration during focus formulation and information gathering phases.**
- **Confidence during presentation preparation phase.**
- **Satisfaction or dissatisfaction during presentation and evaluation phase.**

Findings
General findings focusing on students’ cognitive understanding and affective expression are shared below.

- **Presearch phase:** Over two-thirds of the students could not articulate the purpose for exploring a general topic assigned to them. They either vaguely defined it as finding information or stated that it was extraneous to the process itself. At the same time, more than 75 percent of the students were enthusiastic and optimistic about the assignment itself.

- **Focus formulation phase:** Nearly half of the students stated that their focus selection was based on personal interests; very few of them indicated the influence of prior reading or availability of resources as additional criteria. Over half of them indicated difficulties in generating questions beyond the cognitive recall level.

- **Information gathering phase:** Over half of the students could not describe the note taking process they had been taught to use or the benefit of using a keyword approach to gather information. Almost all students voiced
frustration over the time consumed by note taking and the difficulty in finding relevant information.

- Presentation and evaluation phase: Nearly all students were able to explain the technical aspects of creating their final products, whether it was building a display board or designing a computer-generated card. Almost 90 percent of them were also satisfied with the results of their research. Student understanding of the information search process itself was reflected in their entries at the midpoint and end of this study. Key steps present in a majority of the final entries, which were absent in the earlier logs, included value of the presearch phase, evaluation as a form of self-assessment, and the importance of note taking.

- Students also discovered that feelings of confusion, disagreement and surprise were an integral part of comprehension and evaluation. Because the journal was not viewed as a tool for grading, they felt safe to take risks and to experiment with form, style, and voice. As a result, students became more confident about their abilities to create meaning through writing.

- The counseling role of the instructor took on a new dimension, as journals became a means for individualized expressions of feelings and cognition. The instructor found that her responses, along with individual conferences, extended students’ thinking and offered them more adequate ways of approaching their information problem solving tasks.

**Implications**
Findings from teacher action research cannot be statistically generalized, although their insights and results can inform other teachers immeasurably. It is hoped that fellow practitioners will initiate similar action research projects to gain a deeper understanding of the connections and relationships that students make during the information seeking process. In addition, longitudinal studies to examine student gains over time and with a range of information seeking assignments would be a valuable extension to the present effort.

**References cited**


