The Convergence of Performance and Program Assessment: A Multi-Dimensional Action Research Model for Libraries

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Abstract
This paper uses findings of a previous study (Gordon, 2006) to determine whether a multi-dimensional training model is a viable evaluation instrument for performance and program assessment of school librarians and school libraries. The model has three dimensions that operate concurrently. In the first dimension school librarians co-teach an inquiry unit with classroom teachers using Authentic Teaching and Guided Inquiry. In the second dimension the school librarians identify a problem in their instructional practice and conduct action research by collecting evidence to inform programmatic and instructional decision. In the third dimension the researcher provides support for the librarians through workshops and mentoring and conducts formal research to determine the viability of the multi-dimensional model as training program. Data and findings of the primary study are applied to the case of the school library where convergence of performance assessment of librarians and assessment of the school library program is a result of a strong focus on information literacy instruction. Programmatic components such as facility, collection, and staffing are seen as the infrastructure that supports instruction. The framework for the analysis is organizational learning theory. The analysis extracts criteria from the primary study to explore the multi-dimensional model as an evaluation instrument. The following criteria were met: 1) viability; 2) validity; 3) transformation of role perception; 4) organizational learning; 5) emergence of confidence and leadership; and sustainability.

Keywords: performance assessment, program assessment, library evaluation, school libraries, action research

Introduction
Interest in the assessment of library programs is increasing with heightened awareness of accountability. Influenced by professional library organizations and accreditation agencies, librarians aim to establish the value of the library and its contribution to institutional mission and goals (Oakleaf, 2010) rather than the value of the work of librarians. Cameron (1978) noted that there is no one criterion for the effectiveness of organizations and that organization effectiveness is difficult to assess, making program assessment problematic. There is a lack of a common assessment vocabulary across public, academic, school, and special libraries. As libraries transition to digital collections and e-learning their organizational goals and services are changing, making it difficult to reach consensus about what good library programs look like. Ratings such as “unsatisfactory” and numeric ratings generated by checklists, observations, benchmarks, and rubrics often lack inter-rater reliability and consensus about what these ratings mean. It is only in the last two decades that libraries have taken a systematic approach to program assessment that shifts the focus from inputs, such as collections, to user satisfaction (Hiller & Selt, 2004). This shift suggests a connection between the value of a library program in terms of outputs and the performance of the librarian.

Performance appraisal is also problematic. A top-down, one-size-fits-all system ignores the importance of workplace context, the diverse skill sets required for specialized job functions, and the differences between novice and experienced staff. In addition, evaluators may not be as knowledgeable as the person who performs the job. An adversarial climate around performance assessment inhibits honest and healthy discourse and a culture of continuous improvement. An industrial model of assessment, with roots in Taylor’s (1911) scientific management theory, focuses on efficiency because managers did not trust factory workers to meet production standards. Taylor combined time and motion studies with rational analysis and synthesis to discover the best way to perform a particular task and manage workflow. He linked compensation to output and introduced the concept of payment for piecwork. In contrast, Drucker (1959), who defined “knowledge worker” as one who works primarily with information or who develops and uses knowledge in the workplace, sees the worker as a participant in a reflective process that leads to action and builds a shared, values-based organizational vision. Management by objectives (Drucker 1954; Odiorne, 1964) uses goals and objectives determined by the worker, in consultation with institutional managers, to structure program and/or performance assessment. A variety of needs
and goals rather than a single value (Drucker, 1954) drives the institution. In addition, strategic planning is a tool of participatory management generates “…the continuous process of making present entrepreneurial (risk-taking) decisions systematically and with the greatest knowledge of their futurity; and organizing systematically the efforts needed to carry out these decisions; and measuring the results of these decisions against expectations through organized, systematic feedback. (Drucker, 1974, p. 125)

Systematic feedback is essential to performance improvement. Strategic planning provides structure for generating evidence that becomes feedback when it is communicated and analyzed. Employees create mission statements that reflect institutional vision, set goals and objectives designed to fulfill the mission, allocate resources to the plan, execute the plan, collect evidence that demonstrates attainment of goals and objectives, monitor, analyze, and report on progress. Strategic planning is sensitive to the organization’s environment and acknowledges accountability to the community served. It requires questioning the status quo in order to make changes to improve both program and performance and challenges librarians to self-evaluate as they work toward their goals.

The Logic Model also connects program and performance improvement. McCawley (1997) used program planning and evaluation inputs and outputs as indicators, with a focus on service outputs and the relationship between inputs to outputs. The model introduced “outcomes,” such as changes in knowledge, skills, behaviors, policies, procedures, or environments. Such outcomes are intangible but they can indicate the impact of the library program in terms of the work of the librarian and the benefits to the library user, patron, or student.

This paper uses findings of from previous study (Gordon, 2006), which is referenced as the primary study, to determine whether the multi-dimensional training model developed from that study is also a viable evaluation instrument for performance and program assessment of school librarians and school library programs.

Literature Review

The school library is well-suited to integrating program and performance assessment because instruction performed by the librarian is the programmatic input and student achievement is the expected outcome that is the measure of instructional effectiveness. There is a large body of research that documents this connection. Gaver (1963) led the first impact study involving 271 schools in 13 states. She found that students in schools with centralized libraries managed by qualified librarians scored higher on standardized, norm-referenced tests than students without centralized libraries or qualified librarians. Subsequent research consistently shows there is a positive correlation between student achievement on standardized tests and school libraries (Scholastic, 2008). Students’ higher test scores correlate with: 1) The size of the school library staff (Lance, et. al., 1999; Baumbach, 2002; Lance, et al., 2001; Lance, et al., 2000; Smith, 2001); 2) Full-time/certified school librarians (Lance, et al., 1999; Callison, 2004; Rodney, et al., 2003; Baxter and Smalley, 2003; Todd, et al., 2004; Lance, et. al., 2000); 3) The frequency of library-centered instruction (Lance, et al., 1999) and collaborative instruction between school librarians and teachers (Lance, et al., 2000; Lance, et al., 2005; Lance, et al. 2001); 4) Size or currency of library collections (Burgin and Bracy, 2003; Lance, et al., 2000; Smith, 2001); 5) Licensed databases through a school library network (Lance, 2002); 6) Flexible scheduling (Lance, et al., 2005; Lance, et al., 2003); and 7) School library spending (Lance, et al., 2001; Baxter and Smalley, 2003). These correlation studies use regression analysis to isolate the effect of variables such as socio-economic status. The Ohio study surveyed 13,123 students (Todd, et al., 2004) and reported that 99.4 percent believe school libraries help them become better learners. This study was replicated in Delaware with 5,733 students and 408 teachers (Todd, 2006) and in Australia (Hay, 2006) with 6,728 students and 525 teachers.

In addition, information literacy standards of the American Association of School Librarians (AASL, 2007) identify instruction as central to the functions of facility, collection, and staffing (Fig. 1). These standards connect information behavior and inquiry learning, conceptualizing information as the raw material for constructing knowledge. An information literate student can, “inquire, think critically, and gain knowledge [and] draw conclusions, make informed decisions, apply knowledge to new situations, and create new knowledge.” (AASL, 2007)

In American education the tendency to bring program and performance assessment together was legislated by No Child Left Behind (2002) which measured student achievement by standardized, norm-referenced tests to determine the successful or unsuccessful performance of any given school. In addition, “The conception of good teaching has gradually shifted from a ‘behaviorist’ to a more ‘constructivist’ view,
in line with emerging research, and many educators have developed their own personal views of what constitutes good practice.” (Danielson and McGreal, 2000, p. 4)

In this paper organizational learning theory guides the analysis of the effects of a multi-dimensional action research model on school librarians. Argyris (1974) identifies three theories that explain human behavior in organizations. Theory-in-action (Argyris, 1957; 1962; 1964) identifies the mental maps that drive human behavior, including the way people plan, implement, and review their actions. Theory-in-use, or the tacit structures that govern behavior, is implicit in the actions of practitioners. Espoused theory is embedded in the words we use to convey what we do or what we would like to do. Argyris and Schön (1978, 16) posit that each member of an organization constructs his representation of theory-in-use that governs behavior. People need to know where their place is in the organization and how to test their knowledge within it. The organization is an artifact of the individual’s representation of it. Organizations are not static entities and organizing is a cognitive enterprise. Organizational maps provide a public representation of organizational theory-in-use to which individuals can refer. These are the shared descriptions of the organization individuals jointly construct and use to guide their own inquiry. Organizational theory-in-use, continually constructed through individual inquiry, is encoded in private images and in public maps. These are the media of organizational learning (Argyris and Schön, 1978, 16-17).

Argyris and Schön distinguish between two kinds of organizational learning: single-loop and double-loop learning. Single-loop learning occurs when “… members of the organization respond to changes in the internal and external environment of the organization by detecting errors which they then correct so as to maintain the central features of theory-in-use (1978, 18). Double-loop learning occurs in “… organizational inquiry which resolves incompatible organizational norms by setting new priorities and weightings of norms, or by restructuring the norms themselves together with associated strategies and assumptions.” (Argyris and Schön, 1978, 18). Organizational learning empowers practitioners to grow professionally and effect organizational change.

Methodology

This paper uses the findings from the primary study (Gordon, 2006) of a multi-dimensional training model to explore its suitability as an evaluation instrument for school librarians. The setting for the development, piloting, and study of the training model is the fifth largest school district in its state, serving a growing middle class community with a student enrollment of 5,318. School attendance is high (95 percent) and the dropout rate is low (two percent). Three-fourths of students attend two- or four-year colleges. The percentage of special-education students is 17 percent. The ethnic breakdown is 99.2 percent white. In state standardized achievement tests, sixth- and tenth-grade students consistently outperform the state averages in all subject areas. The Director of Library, Media, and Technology supervises and evaluates building-based professional library and technology staff and district-level personnel. She leads the department in developing instructional goals, curriculum, and performance and program evaluation measures. Eight school librarians across elementary, middle, and high school libraries and a technology integrationist participated in the study. Each participant teamed with a classroom teacher to design, teach, and evaluate a curriculum-based inquiry unit in the school library. Figure 2 illustrates the model.

![Diagram](image_url)

2: The Multi-dimensional Training Model for School Libraries

In the 1st dimension the school librarian teams with a classroom teachers to design, implement, and evaluate a unit of inquiry in the school library using Authentic Teaching (AT) and Guided Inquiry (GI). Both methods derive from constructivist learning theory that defines learning as a process of constructing meaning from information. They both engage learners in activities called formative assessments that generate evidence of student progress, or lack of it (Wiggins, 1990). Authentic Teaching, i.e., authentic assessment, sets a task rooted in an academic discipline as learners assume problem-solving roles and have opportunities to revise their work. At the same time, teachers/librarians revise their instruction to accommodate learners’ needs based on the evidence generated from student work. The learner receives feedback at the point of need in addition to a summative assessment, known as a grade.

Guided Inquiry (GI) (Kuhlthau, Maniotes, and Caspari, 2007) uses the Information Search Process (ISP) (Kuhlthau, 1983), a staged model that identifies thoughts, feelings, and actions that people experience as they interact with information to build and use new knowledge. The ISP functions as a diagnostic tool to anticipate and remediate
information processing problems in the six ISP stages. These stages provide the context for intervention and help. Kuhlthau’s application of Kelly’s (1963) theory of constructs to information searching is based on the premise that the ISP is a process of assimilation and construction.

In the 2nd dimension the school librarians engage in action research. Each librarian identifies a topic that is problematic in their teaching, e.g., note taking; higher-order thinking skills; use of a variety of sources; evaluation of websites; use of databases; and the connection between learning styles and computer use by teachers (Gordon, 2006). Action research is appropriate for improving practice because it is problem-focused, context specific, future oriented, and aims at improvement and involvement (Hart and Bond 1995). Anderson, Herr, and Nihlen (1994, 2) defined it as, “… insider research done by practitioners using their own site as the focus of their study … it is oriented to some action or cycle of actions that practitioners wish to take to address a particular situation.” Fig. 3 shows the recursive nature of the cycle as it progresses from reflecting, planning, acting, and observing.

Figure 3: The Action Research Cycle

Action research is distinguished from formal research. The educators in the primary study used qualitative and quantitative data collection methods including surveys, interviews, focus groups, observation and journaling. Analysis performed by the teachers and librarians in the primary study included constant comparison, categorization, identification of patterns in the data, and descriptive statistics.

The design process for implementations of the multi-dimensional model is described in terms of interventionist strategy for organizational learning outlined by Argyris and Schön (1978, 220-1) in order to position the model as an interventionist strategy that can serve as an evaluative instrument for assessing and improving the performance of school librarians.

1. Mapping the problem as workers see it. Educators define an operational problem in their instructional practice.
2. Internalizing of the map. The researcher delivers workshops and ongoing support to help educators to develop a map, or plan that conforms to the multi-dimensional model, for which they took responsibility.
3. Testing the model. The primary study tested the multi-dimensional model to determine whether testable predictions can be derived from the map, i.e., the multi-dimensional model. If predictions were not accurate, they were revised.
4. Inventing solutions. Educators created solutions to learning problems using formative assessments (AT) and interventions (GI) at the learner’s point of need.
5. Producing the intervention. The researcher trained the educators in action research as a reflective intervention to continuously improve their teaching.
6. Studying the impact. The researcher collected data from 221 email transactions, five telephone conversations with the Director, interviews with the librarians during five on-site visits during their data collection and analysis, and from the content analysis of their journals and student work. She used the constant comparative method to analyze these data. Content analysis of the librarians’ documentation of their teaching units and journals provide data for triangulation. A debriefing session was held to verify findings and to process and plan the second year of formal research.

The third dimension of the multi-dimensional model (Fig. 2) involves the researcher as mentor and trainer in the use of the teaching and action research strategies described above.

Findings and Discussion

Characteristics of the model that demonstrate its suitability as a performance and program assessment tool include the following characteristics that emerge from the data: viability; validity; relevance to evidence-based practice; relevance to organizational learning theory and change in role perception; collaborative organizational learning; emergence of confidence and leadership; and sustainability.

The viability of the multi-dimensional model

Action research provides a structure for organizational learning. In the district where the multi-dimensional model was developed and tested a decision was made to change the evaluation system for teachers as a result of the findings. A district-wide committee presented a draft after a year of study (2003–04) and the Superintendent’s Administrative Council charged the Director of Library, Media, and
Technology to develop systems and instruments for specialized library services. A sub-group of school librarians adapted the district template and applied what they learned from the multi-dimensional model to create a new evaluation for school librarians. The director saw the connection between the model and the four domains of the Danielson and McGreal (2000) assessment model: Planning and Preparation; the Library Environment; Instruction; and Professional Responsibilities. Each domain has specific measurable components to evaluate performance and it is expected that a school librarian’s professional development goals reflect the elements of these evaluative criteria. This portfolio evaluation process involves self-evaluation, conferencing, and goal-setting, development of a three-year plan for growth, and the collection of evidence and artifacts. The school librarians seek professional development through professional reading, memberships, conferences, and action research. The director observed:

“I think there is a definite link to the action research project … The action research helped us to get at instruction at a deeper level and to articulate what was missing, i.e., real data-driven reflection and subsequent intervention and thus actualized improvement.” (Personal communication, June 30, 2005).

It is evident that school librarians can design organizational inquiries focused on problems in their practice that results in the improvement of their work.

**Validity and the multi-dimensional model**

Action researchers seek to understand why something happens, rather than document the frequency of occurrences. An action research inquiry involves a small number of participants in a specific case. There is no need to establish external validity because findings are applied locally to the small population studied and not generalized to a larger population. Internal validity is also not relevant to action research, which does not claim to establish causality beyond the effect of a specific instructional method as it relates to a particular teaching event. Action research is not held to the same standards in its observational and descriptive studies. However, the researcher in the primary study added rigor through the school librarians’ use of theory to anchor their studies. Training sessions provided support in choosing and designing data collection instruments such as structured interviews and surveys. *This mode of action research* deviates from McTaggart’s view (1996, 248) that, “… action research is not a ‘method’ or a ‘procedure’ for research but a series of commitments to observe and problematize through practice a series of principles for conducting social enquiry.”

**The multi-dimensional model as a tool of evidence-based practice.**

Findings indicate that the multi-dimensional model works as a tool of evidence-based practice to assess the instructional program and the performance of school librarians in their instructional role. “Evidence-based practice is where day-by-day professional work is directed toward demonstrating the tangible impact and outcomes of sound decision making and implementation of organizational goals and objectives.” (Loertsher and Todd 2003, 7) In the primary study (Gordon, 2006) the multi-dimensional model actualizes evidence-based practice as a foundational paradigm that supports the convergence of program and performance. There were three ways in which librarians engaged in evidence-based practice: 1) They read the research, including theoretical foundations of education and information science so that their decisions were informed the literature; 2) They generated their own evidence through Authentic Teaching and Guided Inquiry, as well as through action research; 3) They found evidence of their reflective practices in student work through formative assessment activities as well as in the final products students created.

**Organization learning and role perception.**

The work of Argyris and Schön (1974) in organizational learning can be applied to changes in role perception as they relate to the multi-dimensional model. In the first dimension (AT and GI) librarians changed their mental maps, or theory-in-action that guides their teaching behavior. The multi-dimensional model operationalized constructivist theory for librarians where participation is “ … a learning experience all around.” They conceptualized their teaching to include their own learning. Librarians also changed their theories-in-action in the second dimension through action research. A typical comment was, “It was scary at first, but definitely worth it.” The librarians wanted to broaden their skills sets to include statistics, more knowledge of learning theory, and a wider repertoire of data collection and analytical skills.

Changing espoused theory was critical as the librarians found a new vocabulary to talk about their practice that indicates a change in their mental maps. The facility was re-imagined as a learning environment and laboratory for experimentation and risk-taking. They re-defined their teaching to include intervention for their students and mentoring for their teaching colleagues. Frequent opportunities for sharing learning experiences through email and meetings helped librarians to talk about aspects of their teaching that were not shared in past teaching experiences.

The most dramatic change in role perception was in the change of librarians’ theory-in-use, or teaching behaviors. Action research in the second dimension of the model bridged the gap between theory and practice, helping librarians to change their theories-in-use as learning and information theory informed their practice. In some instances theory supported the design of their data collection instruments, such as the Kuhlthau’s ISP (1983), Bloom’s revised taxonomy (Andersen, et al., 2001), Sternberg’s learning styles (1998), Piaget’s theory of cognitive
development (Piaget and Inhelder, 1967), and Vygotsky’s zone of proximal development (1978). A librarian noted the importance of theory in her research. “[It is] time consuming but an effort worth pursuing. Why? Because it reminds you of why you do what you do.” The three-dimensional model also improved the quality of transactions between the librarians and students. Librarians enjoyed interacting with their students as they collected data: “[It was] great fun to be able to interview students and hear their side of things for a change. Observing students reach a different level of thinking through teacher’s questions … and interviewing students.” Librarians saw value in getting the big picture:

“It was valuable to see how students view research, to get a glimpse inside their heads. It is something we often don't get a chance to do. …While we often get the view of individual students, it is hard to know whether it reflects the majority viewpoint. I worked with one group of students over a period of a few days, getting to know them … knowing that many students really did learn evaluation skills and could incorporate this knowledge into other assignments. I saw the enthusiasm and excitement of the students for the project, and the students’ honesty when they participated in the interview and questionnaire.”

Collaborative organizational learning.

The action research dimension of the multi-dimensional model supported collaborative learning within the librarian-teacher teams.

“Action research is a form of collective self-reflective enquiry undertaken by participants in social situations in order to improve the rationality and justice of their own social or educational practices, as well as their understanding of those practices and the situations in which the practices are carried out. . . . The approach is only action research when it is collaborative, though it is important to realise that action research of the group is achieved through the critically examined action of individual group members.” (Kemmis and McTaggart 1988, 5–6)

Collaboration took place in the first dimension of the multi-dimensional model when school librarians and teachers designed and co-taught their Authentic Teaching and Guided Inquiry units. All the librarians realized why collaboration with teachers is critical and added professional development and mentoring to their mental maps. The librarians deepened their understanding of the importance of collaboration in reflective practice. All of the librarians were interested in collaboration to improve their teaching. When asked what she would do differently the next time, one responded, “I would also try to pick a teacher that let me collaborate with him/her in designing the assignment.” Another agreed: “I would have liked to have been more involved with the teacher from the beginning of the unit. It is difficult to take a unit that ‘belongs’ to someone else and make it work the way I would like.”

Another said, “I tried to get the teacher to work with me on: (1) note-taking method and information skills; (2) having the students spend more of their research time in the library itself where I can have a better handle on how they're doing.”

Teachers' did not always see the librarians as equal partners. At times librarians had to struggle to teach information-literacy skills.

“The teacher jump-started the project last week so I am struggling to do what I can to get it to adapt I thought we were set to start this month, but she came back from vacation with all her materials in place, having walked off with my ideas. She has a tendency to plan projects without our involvement and we often have trouble supporting supporting the research. I had hoped to forestall this problem by approaching her first, but I guess she just doesn’t get it.”

Despite these challenges there was a strengthening of bonds between the librarians and collaborating teachers. The change in dynamics was precipitated by the unique expertise of the school librarians in designing and implementing action research. This earned the respect of teachers and the enthusiasm of their students. The three-dimensional model improved teachers’ perceptions of the librarians as teachers and as experts in research. Teachers became curious and asked, “Why are only the librarians learning how to do this?”

The librarians struggled with their place as teachers in the implementation of the instructional unit. One librarian noted, “I'd love to rewrite her [the teacher's] unit—a writing style thing with me—but I don't dare offer.” They saw their role as facilitating learning for students and implementation for teachers. The retention of old paradigms in terms of the instructional role of the librarians was an underlying factor in collaboration problems. The librarians distinguished between their teaching roles and those of the teacher, particularly with regard to grading student work. A librarian noted that the action research “…caused me to think about the disconnection between the teacher's and my perception of the usefulness of technology in the writing process and some of the students' perceptions.” Another librarian noted that the most difficult aspect of doing action research was, “…making sure the action research blended well with the teacher's objectives.”

Another aspect of change in theory-of-use is the quality of transactions between librarians and their collaborating teachers. The librarians’ expertise in the design of authentic learning tasks, assessments, and action research earned the respect of their co-teachers. When school librarians incorporated action research with their daily teaching on a daily basis and shared action research with their teaching partners, collaboration became professional development.

Action research had a positive effect on the practice of school librarians who developed ownership and confidence in the collaboration process as well as the perception of themselves as leaders. A different kind of collaboration
emerged in the second dimension when school librarians became the mentors to teachers who were interested in learning how to do action research. The librarians said they would like to study collaboration with teachers in another action research project.

“How do we get teachers to involve us from the beginning of the planning process? Teachers often do not include us until after the unit is almost all planned. It would be beneficial if we could help plan more thought-provoking questions instead of just find-the-fact questions.”

Another wrote, “Why are some teachers resistant to planning with librarian? Is this a realistic or impossible question to answer?”

Emergence of confidence and leadership.

Action research anchored the school library in the teaching and learning context of the school, enhancing its instructional role and breaking down barriers between classroom and library. It bolstered the confidence of the school librarians and transformed their perceptions of their role from a support to a leadership function. The librarian who was working toward her certification wrote,

“One of the most helpful things to me was that it forced me to really get into the role of school librarian. I have worked in the library for nine years but didn’t have the same role … This project pushed me to see my role as a ‘leader’ and helped me to see that I will be making a difference in the world of students with whom I work. My students influenced me to find new and better ways to do things.”

At the end of the action research librarians expressed more confident in their teaching roles, especially as teaching partners with classroom teachers. A librarian wrote, “I feel I have concrete data, and common discussion points to bring to the Freshman House teachers on how to improve students’ performance. I think the social studies and science teachers can see how information skills affect their curricula, and that projects must be about taking initiative to collaborate. The reading teacher is working to improve skills we identified as weak and I would like to increase the degree of collaboration with [her]. She would like to enlist me as a compatriot in teaching skills of reading nonfiction.”

The use of data supported a goal-oriented mind-set for the librarians, as well as a dependence on systematic feedback for decision-making.

School librarians gained ownership and confidence when they were able to make the leap from reflection generated by their action research to the action plan. There were many journal entries and comments like this one:

“Note taking—kids are on target—have lots of sources, but we need to consider revising our ‘Trash or Treasure’

review—need to present on overhead—then give each student a researchable question and the paragraph on taking notes instead of completing it as a group exercise. All students would still have the same paragraph and question, but would be accountable for their own notes.”

Action research was a powerful intervention that empowered the librarians with hard evidence for improvement of the instructional units, which increased their sense of ownership. The way librarians felt about the action research was a key indicator of their confidence levels and, in turn, their feelings about collaboration. One librarian explained the most rewarding aspect of her action research: “It raised my awareness and caused me to think differently about assumptions and making decisions.” They were excited about their projects and research findings at the end of the action research project, which was evident when they presented at a state conference where they found their voices as leaders. They exhibited energy, enthusiasm, and confidence that was transformational. They had clarified their personal teaching theories, explored their sense of self and their role as teachers, and gained awareness of their students’ perspectives and needs.

Sustainability.

The primary study indicates that school librarians are capable of designing an organization inquiry focused on problems in their practice. The librarians retained their skills during the second year when the study was replicated. The researcher’s contact with the school librarians was the same as the previous year but findings were different. The total number of e-mails was twenty-one, or ten percent of the number of e-mail transactions in the previous year. The content of those e-mails consisted of completed proposals and data-collection materials that the school librarians created. There were no e-mails that echoed concerns of the previous year and no e-mails that raised new concerns. Site visits and end-of-the-year debriefing session confirmed that the librarians had mastered their action research techniques and had successfully worked independently with little help.

In the third year of the project the school librarians became action research mentors for teachers with whom they had collaborated during the previous two years. In addition, they became mentors for teachers not involved in the study, expanding their sphere of influence in their schools. They were viewed district-wide as the experts in conducting action research. They were able to provide support to the teachers with very little assistance from the researcher. This stage of the project was prompted by teacher interest in learning more about what they were observing when collaborating with school librarians. The director commented, “Teachers who are well respected in the district are asking why they are not included in the action research project. When teachers like ______ express an interest the superintendent takes notice.” In the fourth year of the project, the third year was successfully replicated. The three-
dimensional model of action research became a train-the-trainer model that was self-sustaining.

Implications for Other Types of Libraries

If the purpose of assessment is the improvement of program and professional performance, the multi-dimensional model is well-suited to staff development and evaluation. It is individualized and can be used by a teacher at any developmental level. It assumes teachers are knowledgeable and gives them power to make decisions. It can be carried out collaboratively. It is an on-going process and for that reason can be more effective than a typical one-day in-service presentation. One of the more significant qualities of the model is that it puts teachers in the position of accepting more responsibility for their professional growth (Wood 1988, 16–17).

The data presented here establish that school librarians can go beyond single-loop learning which focuses on detecting errors and maintaining their theory-in-action (or mental maps) to engage in double-loop learning by setting new priorities and weightings of norms and changing theories-in-use (behaviors) and espoused theory (language). This requires training in the multi-dimensional model and a clear focus of the dominant goal of the library. It may not be instruction, as in the school library, but it is critical the benefits accrued by the library user are the measure of success. Once the focus is established, standards of best practice relevant to the focus flesh out the first dimension of the model from which assessment standards can be derived. In the case of the school library, research-based teaching practices were employed. A problem of practice, related to the focus in the first dimension, is identified and remediated through action research in the second dimension. Training and support are necessary and a formative, rather than summative approach give viability and therefore credibility to a hybrid training-assessment model.

The use of the multi-dimensional model as a training and evaluation instrument is facilitated by the use of MOB (i.e., setting goals and objective for program and performance), strategic planning (i.e., generating systematic feedback), and the Logic Model (i.e., focusing on outcomes assessment rather than input), all of which rest on the acknowledgement of the librarian as a knowledge worker who effects meaningful outcomes in library users through the use evidence to continuously improve program and performance. An interventionist strategy for developing the model can be adapted by any type of library to structure the use of feedback and the planning and implementation of change. Public, academic, and special libraries are still focused on programmatic assessment that marginalizes the role librarians play in organizational change and limits the benefits they can accrue from organizational learning. This is particularly true in the dynamic environment of today’s libraries where digital technology has accelerated the rate of change and its impact on the end user. The assessment of outcomes bridges the gap between program and professional assessment in a way that is specific to the library user. Just as the digital age has introduced personalized learning to the individual learner, so organizational learning is specifically tailored to individualized assessment and professional growth in the workplace. In order for these mind-sets to evolve, professional organizations, accreditation agencies, and library educators and researchers need an agenda that focuses on assessing what matters. With this kind of support libraries can successfully re-define themselves in terms of informational, knowledge, and learning outcomes that are unique to the library paradigm of the provision of help through intervention.

REFERENCES


Curriculum Vitae

Carol Gordon's research is at the intersection of information and learning where she explores the information behavior of adolescents. She has worked at Rutgers University, NJ and Boston University, MA, USA and served as a co-director of the Center for International Scholarship in School Libraries.