Journal of Research in Rural Education, Fall, 2003, Vol. 18, No. 2, 96-103

Using Evaluation to Ensure Quality Professional Development in Rural Schools

Katherine Mitchem, Deborah Wells, and John Wells
West Virginia University

Professional development practices implemented in rural school systems have often led nowhere. These practices seem to produce adult learning activities with few results other than participants' mounting frustration and another innovation left by the wayside. To encourage the development of productive professional development, many studies are beginning to indicate the importance of making evaluation central to the design of professional development. Employing an evaluative approach may assist staff developers in addressing the frequent criticism that professional development activities are disconnected from one another and do not form part of a coherent program of teacher learning and development. The CIPP Model was formulated by Stufflebeam (1966) to show how evaluation contributes to the decision-making process in program management. We propose a similar conceptual model for ongoing data-based professional development in rural settings. This model provides practitioners with a useful and manageable tool for incorporating an evaluative approach to the design, development, and delivery of professional development. In addition, we provide a practical application of the model to an ongoing rural professional development project.

Margo Cieslewski, the staff developer in the Northern School District, is reviewing needs assessment surveys to plan the year's professional development activities. For years, she has wondered how many times she will have to find someone to present on technology integration, inclusion, school violence, and all the rest. The definition of insanity comes to mind—doing the same thing for the same problem over and over again and expecting a different outcome. For years, she has wondered how to address the many needs of her rural educators with the limited resources at her disposal. The district's teaching force follows the national rural trend of young, less experienced teachers who have little experience with professional development (Kannapel & DeYoung, 1999). Just recently, the district has come under attack for being too small, being located in a community that does not value education (Howley & Howley, 1995), and being viewed as inefficient and unprofessional (Kannapel & DeYoung, 1999). In addition to her rural woes, Margo recently received the revised standards from the National Staff Development Council (NSDC, 2002) which encourage more innovative professional development (http://www.nsdc.org/list.htm for standards). But, how?

As Mizell (2001) points out, "for too long the professional development practices of too many school systems and schools have led nowhere. Year after year, their staff development has amounted to little more than a disparate set of adult learning activities with few demonstrable results other than participants' mounting frustration" (pp.18-19). NSDC's revised standards call for staff developers "to push the boundaries of normative staff development practice" (Mizell, 2001, p. 19) to improve the quality and results of public education. Rural school districts, however, face additional, more daunting challenges when implementing professional development. These districts face stifling roadblocks when attempting to implement strategic changes such as technology integration. Roadblocks include a limited tax base for needed revenues, a need to deliver services over a wide geographic area, inadequate facilities, limited support services, high transportation costs, and a lack of access to effective professional development (Helge, 1992; Howley, 1991; Knapczyk, Rodes, & Brush, 1994). How, then, can rural school districts design, develop, and sustain high quality professional development?

One suggestion is to conceptualize professional development from an evaluation perspective. Stufflebeam (1997) argued that educational organizations, including schools, need to conduct sound evaluation to identify and address stakeholders' needs, improve services, make defensible personnel decisions, and effectively serve students and the larger community. Of course, the way in which one defines evaluation impacts the type of evaluation activity conducted. Evaluation can serve a number of purposes. Planning-oriented evaluation permits decisions to be made about the design of the professional development or program. This often takes the form of a needs assessment and information gathered should be used to specify program or professional development goals and objectives. Process-oriented or formative evaluation allows decisions to be made about what is taking place during implementation of the professional

Correspondence concerning this article should be addressed to Katherine Mitchem, West Virginia University, 608F Allen Hall, P.O. Box 6122, Morgantown, WV 26506-6122. (kjmitch@wvu.edu)

development. Finally, product-oriented or summative evaluation permits decisions about the value or effectiveness of the professional development with emphasis on both intended and unintended outcomes.

Guskey (2002) emphasizes the importance of making evaluation central to the design of professional development to enhance its success. In a similar fashion to the Context, Input, Process, Product (CIPP) program evaluation model proposed by Stufflebeam (1966, 1997), Guskey (2002) advocated for evaluation to take place at different phases during the professional development process. For example, this evaluation must occur prior to the delivery of the professional development in the form of an assessment of the context, not just as a summative evaluation in the final phase as found in traditional professional development evaluation plans. Guskey (2002) proposes that, in order for professional development to be meaningful and lead to sustained use, pre-implementation evaluation must take place. The components that must be included in this pre-implementation evaluation include participant characteristics, organization characteristics, and attributes of the training activities. A large-scale study of science education reform in rural America reinforced the notion that even in rural areas, one size does not fit all when implementing educational reform (Center for Science Education, 2003). Common challenges, such as persistent poverty, geographic isolation, and pervasive lack of resources, interact with cultural and contextual factors in each rural community. These shape the environment for reform differently and must be evaluated in each individual setting.

An evaluative approach to professional development that considers the rural context and culture may assist the staff developer in addressing the frequent criticisms that professional development activities are disconnected from one another, from participants, and from the community, and do not form part of a coherent program of teacher learning and development (Garet, Porter, Desimone, Birman, & Yoon, 2001). In this article, we propose a conceptual model for the ongoing data-based design, development, delivery, and evaluation of professional development. In addition, we provide a practical application of the model to Trek 21, an ongoing professional development project.

Our design and evaluation (D&E) model (Mitchem & Wells, 2001) presents five steps: determining desired outcomes and impact, assessing context, developing content and process, evaluating impact, and evaluating outcomes. These steps were identified in the literature as critical in the process of gathering evaluation information regarding professional development (Fullan, 1992; Guskey, 1997, 2001, 2002; National Staff Development Council, 2002; Sparks & Hirsh, 1997). Figure 1 depicts the D&E model and shows the hypothesized professional development steps necessary to effectively influence change in teacher practice, sustained use of that practice, and resulting improvement in student performance. The model is constructed to provide an administrator or personnel responsible for staff development a tool for design and delivery of professional development. The intent is to offer administrators and staff developers a practical method for identifying needs within their school and then designing, developing, and delivering appropriate and effective professional development targeted to address those needs. It is not intended to be used to train evaluators in the art of evaluation, but rather encourage an evaluative approach to the design and delivery of effective professional development.

In rural school districts, where there may be little access to expertise in professional development, the D&E model is proposed as an adaptable, flexible, and feasible approach to meeting professional development needs strategically and effectively. In addition, its iterative nature and emphasis on data-based decision making encourage efficient use of scarce resources, accountability, and a sustained and coherent plan for professional development and school improvement. Although not stated in every step of the process, the personnel responsible for the development, delivery, and evaluation of professional development should include representatives from all stakeholders, including administrators, teachers, paraprofessionals, and, if appropriate, parents and community members. The five steps are outlined below, followed by an application to a current professional development project.

The first step requires the staff to determine the desired outcomes and impact of the training. This important step is often easy for the staff developer, and sometimes it even is taken for granted. Traditionally, needs assessments have been gathered and analyzed to determine staff needs. The staff developer would also consider current federal and state mandates and new instructional programs being implemented. The staff developer must recognize that the needs and concerns of the teaching staff and district lead the development of the outcomes and impacts. The outcomes and impact should be well defined and clearly articulated to facilitate the development and evaluation of the training. The staff developer must keep in mind that these outcomes and impact are the foundation of all training activities and evaluation tools.

The second step in the D&E model may be new to the staff developer. Assessing context refers to the gathering of information regarding the organization, system, and culture in which the activities are to occur and may include characteristics of the participants, school, community, and professional and regulatory bodies. The gathering of such information allows staff developers the opportunity to fully understand the culture and environment in which the training is to occur and, more importantly, the environment in which the innovation is to be implemented and sustained. This is especially important in rural areas where school improvement plans must demonstrate an understanding of and build

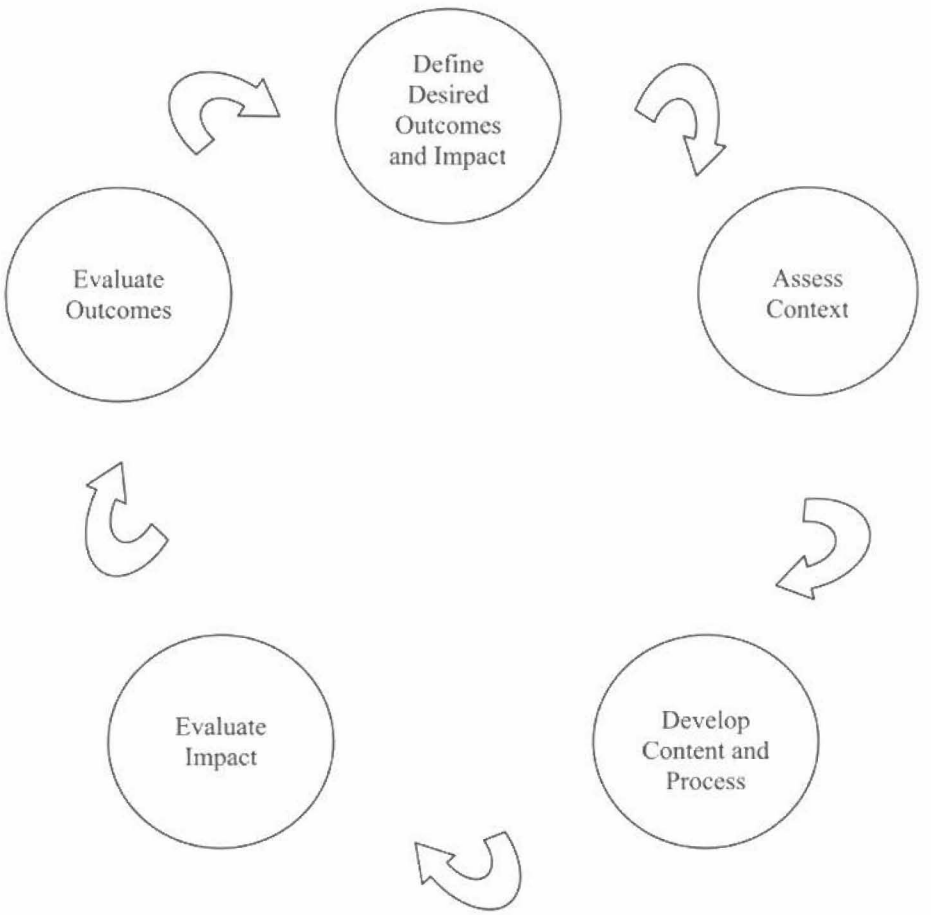

Figure 1. Conceptual model of professional development design and evaluation

upon the community's assets, history, and unique challenges (Center for Science Education, 2003). When all the factors of the contextual environment are noted and understood, the next steps in the D&E model can be developed and adapted to successfully meet the needs of the participants, school, and, ultimately, the students benefiting from the teacher training.

Once the desired outcomes and impact have been determined and the contextual environment has been assessed, the next step is to develop the content and process for the actual training. The content refers to the "what" of the professional development and includes the knowledge and skills needed or the nature of the innovation. The process is the "how" of the professional development and is concerned with how activities are planned, organized, carried out, and followed up. It is important to remember that this third step is greatly influenced by the first two steps. The staff developer must always follow the lead of the desired outcomes and impact when developing the process and content of the training. Equally important is the consideration of information discovered through the assessment of the context. The contextual assessment provides the staff developer with the participant skill level, attitudes, and needs of the whole system that must be addressed when developing both the content and process of the training.

The fourth step in the D&E model occurs both during and after the training. The evaluation of the impact refers to the gathering of data to indicate evidence of understanding and mastery of the professional development objectives and changes in teacher practice (Thompson & McClintock, 1998). This evaluation may occur during the training as the staff developer tries to determine if the objectives of the training are being met and if participants have acquired the skills necessary to progress towards more complex aspects of the innovation. Consideration of formative impact evaluation is necessary if teacher mastery of the training outcomes is to occur. Following training, the impact must be evaluated again to ensure that a change in teacher practice has occurred. This impact evaluation should consider the participants' shift in understanding and mastery, and in

Table 1
Stages of Learning

Stage of Learning	Characteristics of the Learner
Novice	Beginning awareness of subject area Little or no ability to put ideas into practice Apply new learning by following a set of rules
Advanced Beginner	Understand the scope of the subject area Acknowledge lack of knowledge regarding innovation Able to apply tools and principles to familiar situations
Competent	New skills and capabilities are being internalized Ability to go beyond rule-bound procedures Able to adapt new learning to different situations
Proficient	Tools and concepts have been internalized Able to apply new learning to a variety of situations Applies new learning intuitively
Expert	Skills and capabilities are fully internalized Seeks collaborative relationships with fellow experts Refines abilities through exposure and interaction

Source: Senge (1995).

teachers' attitudes, judgments, and beliefs affected by the training and innovation.

The fifth step of the D&E model is to evaluate the outcomes of the professional development. This step considers the ultimate goal of professional development: sustained change in teacher practice and improvement in student performance (Mizell, 2001; NSDC, 2002). Outcome evaluation must reach beyond the actual training environment and attempt to evaluate the educators' integration of the innovation. The evaluation should examine implementation and its effects on student performance. Many aspects of implementation may be useful when trying to determine if the outcomes of the training match those desired outcomes proposed prior to training. These aspects include the frequency and fidelity of implementation, the effects on student performance, and ultimately, the ability of the participants to sustain the use of the innovation over time.

Although all steps of the D&E model have been completed, the staff developer is not finished. The model is iterative, allowing the staff developer to utilize the data collected when assessing context, evaluating impact, and evaluating outcomes to begin the cycle over. Once the impact and outcome evaluations are complete, new outcomes and impact should emerge along with a readiness to conduct further assessment of the ever-changing contextual environment. In order for the training to produce a sustained change in teacher practice and influence student achievement, the cycle must be repeated, allowing participants to move through the five stages of learning as described in Table 1: novice, advanced beginner, competent, proficient, expert (Senge, 1995). Without an understanding of the stages of learning, a staff developer may think that more than enough time and resources have been spent training and is then disappointed when the level of knowledge is less than desired (Senge, 1995). Or worse, the innovation is discarded as being without merit because results are expected too soon. Sustained change in teacher practice requires an awareness of the participant's level of learning and the development of a learning plan to move participants through these levels. The iterative nature of the model encourages this type of movement and provides the framework necessary to develop the learning plan.

Remember our puzzled rural staff developer? How might this D&E model help her plan professional development that maximizes the use of her limited resources, considers her young teaching staff and negative views of her district, and encourages change and sustained use? One approach for rural districts is to collaborate with other agencies, increasing the resources available to all stakeholders. Rural school districts in West Virginia have participated in Trek 21, an innovative professional development experience directed through West Virginia University. This professional development centered on technology integration training and was funded through a Preparing Teachers for Tomorrow's

Technology grant. Trek 21 embraced the notion that technology integration can link rural educators and students with a global network of information and resources (Seal & Harmon, 1995). The collaborative effort between the rural school districts of West Virginia and the state's largest land grant institution has led to 3 years of innovative rural professional development activities.

Trek 21 applied the D&E model at its inception and throughout the delivery and evaluation processes. The use of the model provided Trek 21 developers with the framework necessary to analyze, develop, deliver, and evaluate an effective teacher learning experience. The following will describe Trek 21—its rationale, goals, and objectives—in addition to how the D&E model assisted this process.

In its simplest form, Trek 21 intended to impart a deep and lasting change in the culture of teacher practice, resulting in exemplary forms of that practice where the effective integration of instructional technologies occurs and is demonstrated by participating educators. As educators face new social and cultural shifts due to technology, teachers must be adequately prepared in all aspects of their professional practice allowing schools to become the leader, rather than merely a participant, in transformation efforts. Children, schools, and society cannot afford for teachers not to be the critical players in the current efforts to prepare education for the era of technology. If the goal is to create learner-centered classrooms where technology is embedded, technology must be embedded in the training of teachers. In a sense, technology becomes not just a tool in the transformation of schools, but the engine of change (Darling-Hammond, 1997). Rural schools often view technology as an equalizer to the wealth of resources and options that urban and suburban students experience (Cahill, Hawkes, & Karim, 1995). Rural schools are more likely than urban schools to have computers in the classroom with most of these classrooms connected to the internet (National Center for Education Statistics, 2001). However, the resources for maintaining and facilitating technology use in the schools, particularly in a time of severe population decline and budget cuts in rural communities, are not so abundant (Hawkes, Halverson, & Brockmueller, 2002).

To address the needs of the rural community, the goals of Trek 21 merged the participation of West Virginia Professional Development School teachers, university faculty, pre-service teachers, and educational organizations into a self-sustaining process of teacher preparation and professional development that builds capacity and entails the acquisition of: (a) the tools necessary to adjust current curriculum to reflect technological advances; (b) technical and pedagogical knowledge and skills necessary for effective integration of instructional technologies; (c) sustained support and resources requisite to the pervasive integration of instructional technologies into practice in rural settings; (d) the means to change instructional procedures, evaluation of student success, and instructional methods that are fundamental to successful teaching and learning environments; and (e) a rural educational community that shares a common pedagogical practice. The ultimate goal of the Trek 21 project was to provide educators with the technical skills and pedagogical knowledge necessary to integrate instructional technologies meaningfully into web-based units while increasing active student engagement.

The following activities were designed to meet Trek 21 goals and were implemented three times during the three year duration of Trek 21. A 3-week technology integration summer institute for West Virginia K-12 teachers began the annual Trek 21 cycle. This institute focused on instructional technology training. Following the summer institute, participants attended two continuity meetings, one each semester. At these meetings, participants had the opportunity to address issues specifically related to the implementation of their lessons and the integration of instructional technologies into their practice. Finally, follow-up site visits were scheduled throughout the academic year with each participant at his/her school. Trainers used these visits to assist teachers in continuing to integrate instructional technologies into their practice as well as troubleshoot and remove barriers to that integration.

A Practical Application of the D&E Model

The D&E model provides a framework for the ongoing data-based design, development, delivery, and evaluation of rural professional development. The five steps described below are crucial to the design of effective professional development and must be viewed as an iterative process. The iterative nature of the model—determine, assess, develop, evaluate, determine, assess, develop, evaluate—provides information necessary for the development of a learning plan leading to a coherent program of training activities.

Desired outcomes and impact. The desired outcomes and impact of the training are determined to provide the foundation of all learning activities and evaluation tools. The project director identified the outcomes and impact of Trek 21 based on the U.S. Department of Education's recommendations and subsequent call for proposals in the PT3 grant competition. Observations of previous West Virginia professional development efforts to train educators in technology integration as well as a review of the literature supported the selected outcomes and impact. The goal of the project was to provide participants with the technical skills and pedagogical knowledge necessary to integrate instructional technologies meaningfully into web-based units while increasing active student engagement.

Context. The context, characteristics of the participants and characteristics of systems, is evaluated to provide more information than gathered on a traditional needs assessment. The staff developer defined a starting point that described

Table 2
Stages of Learning and Trek 21 Activities

Stage of Learning	Trek 21 Training Activities Addressing Each Stage
Novice	Trainers presented overview of Trek 21 Trainers demonstrated skills Participants engaged in supervised, hands-on practice with structured activities
Advanced Beginner	Participants and trainers discussed how technology integration could augment individual lesson plans Participants applied newly acquired skills to lesson plans with trainer support and assistance
Competent	Participants applied new skills to individual lesson plans with trainer support when solicited Participants identified alternate applications of new skills to enhance original lesson plans
Proficient	Participants implemented lessons in individual classroom settings Participants modified and adjusted lessons to fit classroom needs
Expert	Participants recruited as peer trainers. Peer trainers collaborated with original Trek 21 trainers to refine and deliver training for new participants Peer trainers served as instructional leaders and coordinators for ongoing integration at local settings

Source: Senge (1995).

the participants' present attitudes and competence as well as previous exposure to the topic. In the same way, the systems were analyzed to identify requirements, supports, and barriers to implementation.

The Trek 21 developers assessed the context with the following instruments and products: (a) Computer Use Survey (EDmin, 2000; Johnson, 1977) to assess participants' developmental levels of computer use; (b) pre-training administration of the Stages of Concern (Rutherford, Hall, & George, 1982) to assess the attitudes an individual has toward a topic; (c) Principles of Adult Learning Scale (PALS; Conti, 1982) to identify a general teaching style; and (d) Pre-product (unit plan) to assess the readiness of the instructional unit for technology integration. An analysis of these measures provided the developers with a baseline of skills, attitudes, learning style, and overall readiness of the participant for training. The local school agencies' abilities to support and nurture the goals and objectives of Trek 21 training were assessed through formal correspondence in which all agreed to commit release time and resources.

Content and process. The content, knowledge and skills needed or nature of the intervention is developed in alignment with the overall goals and objectives and its fit with participants' present skill level. Using the computer use survey and participants' preproducts, the Trek 21 training was developed to ensure alignment with participant skill level, expressed desires, and research-based content.

The process—how activities are planned, organized, carried out, and followed up—is developed to ensure the delivery of high quality activities leading to successful goal attainment. In a rural school, this includes effective training activities, building capacity for further training, and the development of a cadre of teacher experts who can facilitate and support sustained use following the collaborative effort (Hawkes, Halverson, & Brockmueller, 2002). The Trek 21 trainers considered process in a number of ways. First, the impact and outcomes provided a framework for planning and organizing training activities. Second, using the contextual assessment, developers gained an understanding of the participants' readiness for the training and developed training activities to reflect and address these factors. Third, the stages of learning provided information regarding the type of training activity, sequencing of activities, and the participants level and degree of participation. Trek 21 provided an opportunity for instructional leaders to emerge and take a leading role in planning, delivery, and evaluation of ongoing training and support at both collaborative and local sites. Table 2 provides examples of how this occurred.

Impact. Impact evaluation considers participants' shift in understanding and mastery along with their shift in at-

titudes, judgments, and beliefs towards the ultimate goal or outcome of training—adoption and sustained use of the innovation. Trek 21 evaluated the impact using two tools: the daily evaluations of training objectives, and the post-training administration of the Stages of Concern (Rutherford, Hall, & George, 1982). Information from the daily evaluations provided trainers with feedback on participants' initial understanding and skill mastery. Post-training scores on the Stages of Concern allowed trainers to identify participants' shifts in attitudes towards technology integration. The degree of skill mastery and a shift in attitude regarding an innovation affects the extent to which a participant can meet the ultimate outcome of the professional development. If skills are lacking or a participant does not value the innovation, then integration and student benefit will not follow.

Outcome. Outcome evaluation considers the goals of the professional development. This step is necessary to assess the overall effect of training on teacher practice and the training's capacity to fulfill its stated purpose. In this instance, Trek 21's stated purpose was to provide participants the technical skills and pedagogical knowledge necessary to integrate instructional technologies meaningfully into web-based units while increasing active student engagement. Final evaluations of training objectives and participant units served as outcome evaluation tools. The final evaluations provided evidence of participants' perceptions of skill mastery. Evaluation of participants' units and lesson plans provided evidence of the level of technology integration and each unit's potential for active student engagement. To evaluate the actual integration of technology into teaching and student benefit, the Trek 21 staff conducted follow up site visits, two continuity meetings during the school year to provide teacher support, and interviews to discuss student benefit.

If the ultimate goal of all professional development is to build capacity and encourage sustained use of effective teacher practice, then our rural staff developer, while rightfully proud of her accomplishments, may not rest on her laurels. Instead, she must return to the model and consider the desired outcomes and impact that emerged from the evaluation of the completed training. The cycle begins again: analyze, develop, deliver and evaluate. Evaluation of professional development must focus on educators' acquisition of new skills and knowledge, the participants' need to move through the stages of learning, the effects of learning on instruction, and the impact of this change on student achievement (Mizell, 2001).

In light of the multiple roadblocks to rural professional development, administrators must make the most strategic use of limited resources. The D & E model is an approach to designing, delivering, and evaluating professional development to ensure that capacity is built, partnerships are forged, data-based decision making is integrated into the process, and to facilitate linking professional development to increased student achievement. A consideration especially important to rural settings is the implementation of effective and productive professional development leading to the creation of a cadre of well trained teachers who can be shared and partnered with other schools and districts. Effective, data driven professional development can professionalize rural schools.

References

Cahill, S., Hawkes, M., & Karin, G. (1995). *Distance learning technology in the North Central Region: What's the frequency?* Oak Brook, IL: North Central Regional Educational Laboratory.

Center for Science Education. (2003). *Science education reform in rural America: A snapshot.* Newton, MA: Center for Science Education, Education Development Center.

Conti, G. (1982). *Principles of adult learning scale* (PALS). Retrieved from http://coetechnology.okstate.edu/HRAE/conti.htm

Darling-Hammond, L. (1997). *Doing what matters most: Investing in quality teaching.* New York: The National Commission on Teaching and America's Future.

EDmin. (2000). *Building performance communities, technology use planning, TMM.* Retrieved October 5, 2000, from http://www.edmin.com/tp/tmm.cfm

Fullan, M.G. (1992). Visions that blind. *Educational Leadership, 49*(5), 19-20.

Garet, M. S., Porter, A. C., Desimone, L., Birman, B. F., & Yoon, K. S. (2001). What makes professional development effective? Results from a national sample of teachers. *American Educational Research Journal, 38*(4), 915-945.

Guskey, T. R. (1997). Research needs to link professional development and student learning. *Journal of Staff Development, 18*(2), 36-40.

Guskey, T. R. (2001). The backward approach. *Journal of Staff Development, 22*(3), 60.

Guskey, T. R. (2002). Does it make a difference? Evaluating professional development. *Educational Leadership, 58*(6), 45-51.

Hawkes, M., Halverson, P., & Brockmueller, B. (2002). Technology facilitation in the rural school: An analysis of options. *Journal of Research in Rural Education, 17*, 162-170.

Helge, D. (1992). Solving special education reform problems in rural areas. *Preventing School Failure, 36*(4), 11-15.

Howley, C. (1991). The rural dilemma as part of the rural dilemma: Rural education and economics. In A. J. DeYoung (Ed.), *Rural education: Issues and practice* (pp. 73-145). New York: Garland.

Howley, C., & Howley, A. (1995). The power of babble: Technology and rural education. *Phi Delta Kappan, 77*(2), 126-131.

Johnson, D. (1977). What does it look like? Part 1: The code 77 rubrics. *Technology Connection.* Retrieved October 9, 2002, from http://www.doug-johnson.com/dougwri/Rubbeg.HTM

Kannapel, P. J., & DeYoung, A. J. (1999). The rural school problem in 1999: A review and critique of the literature. *Journal of Research in Rural Education, 15*, 67-79.

Knapczyk, D., Rodes, P., & Brush, T. (1994). Improving staff development in rural communities using distance education and communication technology. *Rural Special Education Quarterly, 13*(2), 19-24.

Mitchem, K. J., & Wells, D. L. (2001, April). *Sustaining effective practices: Implementing and evaluating effective professional development.* Paper presented at the meeting of the Council for Exceptional Children National Conference, Kansas City, MO.

Mizell, H. (2001). How to get there from here. *Journal of Staff Development, 22*(3), 18-20.

National Center for Education Statistics. (2001). *Internet access in U.S. public schools and classrooms: 1994-2000.* Retrieved October 14, 2002, from http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2001071

National Staff Development Council. (2002). *NSDC standards for staff development.* (n.d.). Retrieved August 14, 2002, from http://www.nsdc.org/list.htm

Rutherford, W. L., Hall, G. E., & George, A. S. (1982). *An instrument for measuring the concerns change facilitators have about their role in guiding change.* Austin, TX: The University of Texas at Austin, Research and Development Center for Teacher Education. (ERIC Document Reproduction Service No. ED221600)

Seal, K., & Harmon, H. (1995). Realities of rural school reform. *Phi Delta Kappan, 77*(2), 119-124.

Senge, P. (1995). *Organizational learning.* Retrieved September 10, 2002, from http://www.entarga.com/orglearning/index.htm

Sparks, D., & Hirsh, S. (1997). *A new vision for staff development.* Alexandria, VA: ASCD.

Stufflebeam, D. L. (1966). A depth study of the evaluation requirement. *Theory Into Practice, 5*(3), 121-133.

Stufflebeam, D. L. (1997). *Strategies for institutionalizing evaluation: revisited* (Occasional Paper Series #18). Kalamazoo, MI: Western Michigan University Evaluation Center.

Thompson, N. J., & McClintock, H. O. (1998). *Demonstrating your program's worth: A primer on evaluation for programs to prevent unintentional injury.* Atlanta, GA: CDC, NCIPC.