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Practical Training in Evaluation: A Review of the Literature

MICHAEL S. TREVISAN

ABSTRACT

This paper provides the results of a literature review on the use of practical, hands-on training experiences in evaluation course work and training programs. The review spans the years 1965–2003. I identified 18 articles that encompass four basic approaches for practical evaluation training: simulation, role-play, single course projects, and practicum experiences. The articles are summarized, documenting strengths, challenges, and unique features for each strategy. Findings from this review indicate substantial resources are often needed for effective practical training experiences. Authors of articles in this review illustrate a variety of options for incorporating methodology and or evaluation theory into the training experiences. The few articles that adhere to a pedagogical framework employ learning models that are consonant with the adult education literature and structure the practical experience accordingly. The literature reveals a lack of

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formal research on practical evaluation training. Faculty and students consistently speak to the benefits of these training experiences.

INTRODUCTION

One of the most enduring recommendations in literature about the teaching of evaluation is that students receive hands-on or practical experiences during their education. This recommendation has been periodically but consistently made since the early 1970s. For example, Hargreaves, Attkisson, Horowitz, and Sorenson (1978) recommend specialized training in community mental health evaluation that includes a strong component of supervised, practical evaluation experience for students. Sanders (1986) suggests that hands-on evaluation experiences could be part of pre-service programs in education, such as programs for the training of administrators, school counselors, and teachers. Chelimsky (1997) called for the realistic training of evaluators that includes hands-on experiences, in addition to didactic course work. While few details were offered in these recommendations, these ideas are part of a consistent theme in the teaching of evaluation: to include practical training for students.

The argument for this recommendation is that practical experiences should be part of the training for any practice-oriented field (Altschuld, 1995; Fitzpatrick, 1994). These practical experiences provide students with exposure to the intricacies of conducting evaluation in real-world settings. Issues that can be experienced in practical training include: (a) negotiating an evaluation within an organization, (b) handling incomplete data, (c) dealing with clients who don't communicate well, and (d) thinking creatively and flexibly about an evaluation design because of resource, organizational, or political constraints (e.g., Chelimsky, 1997; Cronbach et al., 1980).

Proponents argue that understanding of and appreciation for these issues will more likely come from practical experience, rather than simply from reading about these issues in textbooks or discussing these issues in class (Chelimsky, 1997; Davis, 1986; Morris, 1994). Note that these issues include both technical (e.g., handling missing data) and non-technical (e.g., dealing with clients who don't communicate well) aspects of evaluation. Trevisan (2002) argues that for non-technical issues in particular, practical experiences may be the only way for students to effectively learn, understand, and appreciate the challenges in such aspects of evaluation work.

Related to the argument for practical evaluation training experiences for students are calls for these experiences based on findings from the adult education literature. This literature shows increased educational outcomes for adult students when they learn concepts and strategies within the context of practical experiences (see Preskill, 1992, 1997, for further discussion of this literature). The reason is that adult students have accumulated experiences, work-related and other, and have often acquired the capacity and preference to learn through these experiences. Practical training that incorporates hands-on experiences capitalizes on this phenomenon.

Over time, more specific curricular and programmatic recommendations have been developed which specify the nature and scope of either an existing or ideal program in evaluation training (e.g., Altschuld, 1981, 1995). Cronbach et al. (1980) offer perhaps the most detailed set of recommendations for graduate education in evaluation. These recommendations include an ambitious requirement for hands-on evaluation experience for students consisting of both

a practicum and internship component for postgraduates. In addition, Cronbach et al. (1980) recommend an interdisciplinary format so that students have the opportunity to learn about the context and nuances of conducting evaluations across multiple domains and programmatic areas.

Recently, Stufflebeam (2001) discussed the development and opening of an interdisciplinary evaluation program at Western Michigan University (WMU) modeled after the recommendations of Cronbach et al. (1980). The program is housed within the Evaluation Center at WMU. Four colleges collaborate to administer the program and provide didactic course work. Students obtain practicum and internship experiences through the Evaluation Center.

The present paper provides a review of the existing literature on the use of practical training experiences in evaluation. Despite the importance conveyed in the literature for hands-on evaluation training, a review and synthesis of work in this area is absent. I pull together literature from a variety of sources over several years, and summarize what is known to date regarding the use of practical, hands-on training experiences for evaluation students. The strengths and challenges are documented for each article. In addition, the review details pedagogical frameworks and practices authors use. How methodology and evaluation theory are dealt with in the context of practical evaluation training is also a feature of this review.

SCOPE OF THE SEARCH

I queried three electronic databases spanning the years 1965–2003: ERIC, PsychINFO, and Social Science Index. Logical combinations of the following key words were used: teaching, evaluation, training, evaluators, hands-on experience, practical experience.

Initial searches produced several hundred references. Examination of the references, however, uncovered few relevant papers. In addition, the electronic searches did not produce most sources previously known to the author. Thus, branching techniques were used, locating references cited in known articles.

Deciding on which types of articles to include and sources to query was initially unclear. As a whole, there are relatively few articles published in the teaching of evaluation literature (Preskill, 2000). In addition, a cursory glance at any part of the teaching of evaluation literature reveals opinions and self-reports of interested authors but no formal research studies. Given the low number of articles, as well as uncertainty about the type and quality of information in the teaching of evaluation literature, I include only peer-reviewed journal articles in this review. The rationale is that the peer-review process is more likely to ensure a level of quality that, at least on the surface, is not associated with non-peer-reviewed publications. Thus, this literature review does not include conference papers, dissertations, or other related documents.

For substantive reasons, the review focuses on in-depth literature that specifically addresses hands-on experiences in the training of evaluators or professionals with evaluation responsibilities. I did not include articles that provide short statements about a practical training component to a program but do not provide anything beyond a brief mention. In addition, I did not include articles that deal with the training of evaluators for accreditation reviews that require short, structured training experiences and the use of a prescribed evaluation.

FINDINGS

In all, 18 articles were found that specifically address hands-on evaluation experience for students. The articles span the years 1978–2003. The practical evaluation training experiences are located within undergraduate programs ($n = 2$), professional master's programs ($n = 8$), and doctoral programs ($n = 5$). Three articles discuss practical training as part of graduate level education but do not specify the degree. Disciplines and professions represented are education, health, social ecology, human organizational science, applied experimental psychology, community psychology, educational psychology, social work, public policy and administration, public affairs, and cooperative extension.

The articles reflect four approaches to providing practical training in evaluation: (1) simulation, (2) role-play, (3) single course projects, and (4) practicum experiences. Below I describe each approach and review the literature within each. The approaches are presented in order of increasing authenticity, that is, the degree to which the approach, as presented in the literature, provides real-world experiences for students.

Simulation

Simulations have long been applied as a cost-effective means to develop professional expertise in a variety of disciplines. Simulation requires (1) a description of a scenario or case, and (2) a set of rules or game that will guide student involvement in the simulation (Jones, 1995). Students typically work in groups, sometimes over several class sessions, to address questions and assignments associated with the case. Benefits of the approach include cost, as this is an inexpensive approach, and the possibility of providing an example for many types of experiences, because the instructor is only limited by her or his creativity in developing the simulation. Simulations can heighten student interest and motivation because they provide a shared experience for discussion as well as an opportunity to apply knowledge gained in didactic course work.

Limitations of simulation include difficulty in conveying the full context within a case, and the fact that simulations are not real-world experiences. The volatile, unpredictable, and sometimes messy experiences obtained in actual evaluations are unobtainable in simulations, no matter how creative and life-like the case might be.

Willer, Bartlett, and Northman (1978) provide the only simulation article found in the peer-reviewed literature on the teaching of evaluation, although there is evidence that others have employed this strategy (see Morris, 1994). Willer et al. present a case of a human service delivery program in need of evaluation assistance. In addition, the authors conducted a content analysis of relevant books and manuals on planning and evaluating human service delivery programs. A skills model of planning and evaluation was developed that includes needs assessment, process and outcome evaluation, and dissemination of findings. The model is used to guide what is expected of students in the simulation, and used for preparation of students for the activities.

Evaluation methodology is specifically addressed in class and includes such topics as research design, instrument development, and qualitative methodology. How evaluation theory is dealt with, however, was not mentioned by Willer et al.

Students report that the objectives of the simulation were met. Students also report that there was not enough time allotted for the activities. In addition, students without previous

experience in a human service delivery program tend to have greater difficulty understanding the context than those with previous exposure.

Willer et al. (1978) make a strong case for integrating practice into professional training, particularly for training in evaluation, and offer simulation as a cost-effective alternative to actual training experiences. The authors appear to have thought a good deal about the pedagogy involved with simulation, citing early work by William James, John Dewey, and Alfred North Whitehead who argued for "learning by doing" (p. 221). In addition, the authors cite transfer of learning research as a pedagogical rationale for simulation, concluding that "the closer the learning task is in form and content to the criterion task, the more effective and rapid is learning" (p. 221).

The authors did not discuss the use of student assessment in the context of simulation, or the optimum role student assessment could play for student development.

Role-play

Alkin and Christie (2002) recently offered the use of role-play to teach evaluation procedures. The approach is similar to simulation in that it requires faculty to develop a context for discussion, perhaps a case or scenario. Students work in teams on the case. However, the authors distinguish role-play from simulation by arguing that role-play maintains flexibility and a dynamic quality, requiring a good deal of imagination on the part of students, while simulation is largely structured.

Working students, often with connections to actual programs, provide a list of programs they would be interested in using as a role-play evaluation exercise. The instructor provides a list of on-campus programs for students without program connections. From these lists, the instructor selects a subset of programs most appropriate for the role-play exercise. Students choose specific programs to evaluate and divide into teams for the exercise. Students are required to interview actual program stakeholders, and develop a site description for the role-play scenario. Using real programs and interviewing program stakeholders provides a degree of authenticity not offered in the simulation approach reviewed for this paper.

In subsequent class sessions, the instructor acts as a program stakeholder, while students respond by asking clarifying questions about the program and purpose of the evaluation. Methodological training is provided throughout the course. An evaluation plan is negotiated and presented. Students develop fictitious data and present the findings.

In the same article, Alkin and Christie (2002) also discuss the use of role-play to teach theoretical approaches in a course devoted to evaluation theory. The authors suggest that the learning by doing feature of role-play makes theorists and theories more accessible to students than would otherwise be the case with traditional didactic approaches, such as readings and discussion. The article does not specify whether students are required to take both the evaluation procedures and theory courses or how the two courses are related.

Alkin and Christie (2002) maintain that in their use of role-play, the instructor is a facilitator of student activities and learning, and that students are participants in the process. The authors argue that faculty and students work in partnership, fostering student engagement in the learning, and contrast this approach with traditional top-down pedagogical models. The authors contend that the learning by doing feature in role-play is compatible with the adult learning literature. Further, the authors maintain that role-play is a productive and cost-effective alternative to actual project experiences.

Feedback from peers is provided to students. According to the authors, peer feedback is an important means of assessment in support of student development with role-play.

Single Course Project

Single course projects vary in length, scope, and type, and can be found in a variety of disciplines. Morris (1994) argues that single course projects are in part shaped by the context and design of the single evaluation course. For instance, a single course, unconnected to a coherent program, will necessarily maintain more rudimentary projects. A single evaluation course that is part of a network of courses, which also incorporates methodological and substantive work, can offer more challenging evaluation projects.

Eleven articles were found that address practical training in the context of a single evaluation course. As an example of the type of project-focused courses found in the literature, Morris (1992) describes the project experience for an evaluation course for graduate programs in community psychology and industrial/organization psychology. Before the course begins the instructor works to identify potential on-campus programs in need of evaluation assistance. Once a determination is made that the program evaluation will be a productive experience for students and that it can be completed in a single semester, commitments from program personnel are obtained. Students work in teams to conduct and report the evaluation.

Another example comes from Leviton, Collin, Laird, and Kratt (1998) who detail the conduct of an evaluability assessment (EA) as a single course project. Teams of graduate students, typically from health and education programs, are matched with an agency. Students work with agency personnel and develop a final report for the EA. Students must learn to deal with real-world constraints, work in teams, and come to understand program delivery. Rankings of class reports show that higher ratings occur for groups that are moderate in size and include one or more group members familiar with the service delivery program under investigation by the group.

Kelley and Jones (1992), Morris (1992), and Preskill (1992) provide detailed course plans with tasks and requirements by session. Therefore, the articles provide plans that could be adopted by interested faculty at other institutions. Five articles present the course structure and requirements without a session-by-session accounting (e.g., Patton, 1987), while the remainder do not feature course detail.

Eight articles discuss the development of methodological skills in class, although few provide detail concerning the types of methodology addressed. Example methodologies that do appear in the literature include statistical applications (e.g., Kelley & Jones, 1992); sampling, reliability, validity, particularly as these topics relate to the use of surveys (e.g., Preskill, 1992); and interview techniques (e.g, Patton, 1987).

Six articles do not address evaluation theory. For those articles that do address theory, a variety of approaches are used. For example, Conner (1986) and Levin-Rozalis and Rosenstein (2003) stress the importance of field experience in their respective course as providing the mechanism to integrate theory and practice. Levin-Rozalis and Rosenstein (2003) actively work to analyze student evaluation experiences and attempt to explain various aspects of these experiences with theory. Peacock (2001) addresses theory through didactic course work. Patton (1987) structures the entire course using a utilization-focused evaluation framework that he is credited with developing.

Three articles maintain a pedagogical framework for the class. Patton (1987) and Preskill (1992) both adhere to principles of adult learning to guide course instruction. Levin-Rozalis

and Rosenstein (2003) embrace the learning while doing model promoted by John Dewey. In addition, Levin-Rozalis and Rosenstein (2003) structure the course based on the recommendations of Donald Schön for the education of professionals.

Student assessment is discussed in three articles. Kelley and Jones (1992) use written examinations to assess student knowledge gained through the didactic portion of the course. Leviton et al. (1998) use a rubric to score class projects. Levin-Rozalis and Rosenstein (2003) use essays, portfolios and reports to challenge students to reflect and think critically about their project experiences. In addition, a strong feature of their technique is the use of informal feedback to students through the mentoring process. The authors view the mentoring process as making tacit knowledge explicit and conveying these ideas through verbal communication. Thus, students receive well thought feedback from their faculty mentor.

Practicum Experience

The fourth approach to providing hands-on training for students is through the practicum experience. This approach is thought of as the most realistic in that since students often work in agencies with on-going evaluations or on funded evaluation projects for an extended period of time. Students work directly with clients and may see a project from start to finish or focus on one or more aspects of an evaluation. Students are typically given more responsibility for the work.

A faculty member arranges on-campus or off-campus experiences for students and provides varying levels of university support and supervision. The practicum experience may last several weeks or several months. Students may or may not receive course credit. The possibility of compensation varies. Common challenges discussed in the literature include coordination between the faculty member and the agency or unit, obtaining commitment from practicum agencies, decision making regarding whether and how much remuneration student should receive, and the amount of responsibility afforded to students.

Five articles describing practicum experiences were found in the literature. As an illustration, Moxley and Visingardi (1989) detail evaluation practicum requirements for graduate social work students to meet core competencies in providing services to developmentally disabled people. Students work with various agencies serving developmentally disabled clients. These agencies are obtained through faculty contacts. Agencies identify evaluation needs and, under the supervision of faculty, students work to address these needs. Moxley and Visingardi state that significant faculty time is required for successful practicum experiences for students. Agencies must be willing to support students during the practicum and provide tangible resources for the training. Evaluation course work during the time of the practicum is also important for a successful student experience.

Gredler and Johnson (2001) describe the use of "directed evaluation experience" (p. 99). Students work under the supervision of a faculty member contracted to provide evaluation service. This experience is offered outside regular course work requirements. Students receive a stipend for their work, the amount depending on the nature and scope of their tasks. Because requests for evaluation work come periodically and unpredictably throughout the year, the stipends are in addition to any graduate assistantship students may already have. Students report a variety of benefits, including guidance by a faculty member. A challenge with this strategy is that student academic commitments sometimes conflict with contract deliverables or access to outside agencies, such as school districts.

TABLE 1.
Summary Information of Articles by Approach

Article	*Degree Program*	*Strengths*	*Challenges*
Simulation			
1. Willer et al. (1978)	Professional training through Division of Community Psychiatry (State University of New York at Buffalo)	1. Cost-effective 2. Students typically shore interests in applied learning situation	1. Developing sufficient description for the simulation can be challenging 2. Not real-world
Role-play			
1. Alkin and Christie (2002)	Doctoral Program in Education (Claremont Graduate School)	1. Promotes classroom interaction 2. Makes evaluation more accessible	1. Students can be intimated by the process 2. Students can have difficulty with creation of fictitious data
Single course projects			
1. Conner (1986)	Ph.D. Social Ecology (interdisciplinary social science program-U.C. Irvine)	1. Develop evaluation plan 2. Work with program staff	1. Constrained by 10-week term 2. Students enter field before ready 3. Students overwhelmed with options
2. Eastmond, Saunders, and Merrell (1989)	Graduate level evaluation course in education program (Utah State University)	1. Real-world experience 2. Students positive about experience	1. Ethical issues concerning remuneration of faculty for a course requirement 2. Project sometimes off-campus 3. Project becomes main focus of students to the detriment of course content
3. Kelley and Jones (1992)	M.S. Human Organizational Science (Villanova University)	1. Application of knowledge and skills 2. Work in teams	None stated
4. Kronenfeld (1981)	M.S. Public Health (University of South Carolia)	1. Variety of settings 2. Real-world experience	1. Increased work load for faculty Agencies may expect too much from beginning graduate students
5. Leviton et al. (1998)	Masters and Doctoral students in Health and Education (University of Alabama at Birmingham)	1. Students learn to cope with constraints of real world 2. Students learn to understand program delivery 3. Students work in teams	1. Some agencies may not follow through with commitment 2. Poor team dynamics
6. Morris (1992)	M.A. in Industrial/Organizational Psychology or Community Psychology (University of New Haven)	1. Real-world experience 2. Abe to cover all aspects of an evaluation	1. Personal conflict with the team 2. Grading team projects 3. Constrained by semester 4. Projects limited in scope
7. Newcomer (1985)	Public policy and Administration (George Washington University)	1. Real-world experience 2. Non-technical skills development	None stated
8. Patton (1987)	Graduate students are cooperative extension professionals (Minnesota Extension Summer School)	1. First hand experience with data collection 2. Increased outcomes	None stated

9. Peacock (2001)	M.A. program in Gerontology (University of North Carolina at Charlotte)	1. Real-world exposure 2. Helps make previous course more relevant	1. Not enough support during development of evaluation plan 2. "Dry" reading material
10. Preskill (1992)	M.A. Human Resource Development (University of St. Thomas)	1. Employs principles of adult learning to connect with student 2. Real-world exposure	1. Sometimes projects expand out of proportion to class time 2. Theory short changed
11. Levin-Rozalis and Rosenstein (2003)	Graduate program in educational management and policy (Ben Gurion University of the Negev, Beersheba, Israel)	1. Year-long course 2. Strong faculty supervision and mentoring	1. Communicating tacit knowledge to students 2. Understanding student reactions to tacit knowledge
Practicum experiences			
1. Gredler and Johnson (2001)	Ph.D. Educational Psychology (University of South Carolina)	1. Real-world experience 2. Treated as a professional	1. Projects not attached to course work 2. Minimum requirement for student participation identify students for assistance
2. McKillip (1986)	Applied Experimental Psychology (Southern Illinois University)	1. Simple 2. No salary or fixed costs	1. Constrained by semester 2. Difficult to determine number of student hours on project
3. Moxley and Visingardi (1989)	Developmental Disabilities Institute (DDI) Graduate Social Work Program (Wayne State University)	1. Students learn technical and non-technical skills 2. Network with community agencies	1. Intensive work and heavy time commitment by preceptor 2. Must have commitment from agency
4. Trevisan (2002)	Educational Psychology-Emphasis in Program Evaluation (Washington State University)	1. Opportunity to develop non-technical evaluation skills 2. Projects no constrained in scope by semester 3. More closely resemble professional evaluation work 4. Student paid through graduate assistantship	1. Labor intensive for faculty 2. Faculty pulled away from course teaching 3. Contract commitments for faculty conflict with engagement with students 4. Contract timelines conflict with student academic responsibilities
5. Weeks (1982)	Wallace School of Community Service and Public Affairs, training upper division students for social service positions (University of Oregon)	1. Learn methodological and organizational skills 2. Long-term assignments are often more realistic than short-term internships	1. Must have commitment from agencies for long-term internships 2. Challenge to work with students who lack interpersonal skills
	Comments	*Pedagogy*	*Methodology/Evaluation Theory*
Simulation			
1. Willer et al. (1978)	1. Adhere to learning by doing model 2. No discussion of student assessment	1. In-class instruction on methodology 2. No discussion of theory	a. Five-day workshop b. Many possibilities c. Evaluation data-participant questionnaire
Role-play			
1. Alkin and Christie (2002)	1. Adhere to learning by doing model 2. Teacher is facilitator of learning 3. Peer assessment	1. In-class instruction on methodology for evaluation procedures course 2. Theory dealt with through role-play in evaluation theory course	a. Similar to simulation but simpler, more flexible and less structured b. Students prepared for role-play activity c. No course evaluation data presented

TABLE 1 .
(*Continued*)

Article	*Degree Program*	*Strengths*	*Challenges*
Single course projects			
1. Conner (1986)	1. No discussion of pedagogy 2. No discussion of student	1. In-class instruction on methodology 2. Field experience integrates theory and practice	a. Part of 3-course methodology requirement b. No course evaluation data presented
2. Eastmond, Saunders, and Merrell (1989)	1. No discussion of pedagogy 2. No discussion of student assessment	1. In-class instruction on methodology 2. No discussion of theory	a. Two-thirds of the course is didactic, one-third entails actual evaluation project b. Faculty and students sometimes paid for work c. No course evaluation data presented
3. Kelley and Jones (1992)	1. No discussion of pedagogy 2. Exams on didactic material	1. In-class instruction on methodology 2. No discussion of theory	a. Working students take program on a part-time basis b. Students responsible for obtaining support from outside organization for evaluation project c. No course evaluation data presented
4. Kronenfeld (1981)	1. No discussion of pedagogy 2. No discussion of student assessment	1. No discussion of methodology 2. No discussion of theory	a. Evaluations in community agencies b. Students work in teams of two to five c. Focus of training is on formative evaluation d. No course evaluation data presented
5. Leviton et al. (1998)	1. No pedagogy discussed 2. Project reports scored with rubrics	1. In-class instruction on methodology 2. No discussion of theory	a. Students are placed in teams and matched with agency b. Strong supervision often required c. Course evaluation data-rankings of project reports
6. Morris (1992)	1. No discussion of pedagogy 2. No discussion of student assessment	1. No discussion of methodology 2. No discussion of theory	a. Students work in teams of two to three b. Careful planning and strict adherence to deadlines is necessary c. Evaluation data-ratings from project sponsors and students
7. Newcomer (1985)	1. No discussion of pedagogy 2. No. discussion of student assessment	1. In-class instruction on methodology 2. No discussion on theory	a. Evaluation report is tangible product b. Faculty person uses “active-reactive-adaptive” approach to instruction c. No course evaluation data presented
8. Patton (1987)	1. Use principles of adult learning 2. No discussion of student assessment	1. In-class instruction on methodology 2. Theoretical framework used throughout course	a. Given amount of time needed, a workshop approach used b. No course evaluation data presented
9. Peacock (2001)	1. No discussion of pedagogy 2. No discussion of student assessment	1. Methodological course work is prerequisite 2. Theory dealt with in didactic portion of course work	a. Program evaluation course is second course in research methods sequence b. Students work with aging-related program, agency, or institution to develop evaluation plan c. Evaluation data-student feedback through questionnaires

10. Preskill (1992)	1. Principles of adult learning 2. No discussion of student assessment	1. In-class instruction on methodology 2. Theory dealt with minimally	a. Practicum experience negotiated with professional colleague at an outside agency b. Each class session deals with different aspect of evaluation c. Evaluation data-student feedback through questionnaires
11. Levin-Rozalis and Rosenstein (2003)	1. Adhere to learning by doing model 2. Essays, portfolios, final project report	1. In-class instruction on methodology 2. Discussion of theory based on students' experiences	a. Must adhere to guidelines for mentoring b. Evaluation data-student feedback through questionnaires
Practicum experiences			
1. Gredler and Johnson (2001)	1. Mentoring relationship 2. Feedback through mentoring process	1. Methodology course work required as prerequisite 2. No discussion of theory	a. Not originally designed as an instructional component for program b. Student pay varies depending on the nature and requirement of tasks c. Evaluation data-student feedback through focus groups
2. McKillip (1986)	1. No discussion of pedagogy 2. No discussion of student assessment	1. Methodological course work required as prerequisite 2. No discussion of theory	a. Students receive credit but no remuneration b. Departmental billing for services c. Evaluation data for practicum not present
3. Moxley and Visingardi (1989)	1. No discussion of pedagogy 2. No discussion of student assessment	1. Methodological course work taken simultaneously 2. No discussion of theory	a. DDI contracts with local agencies to provide assistance b. Students work with agencies to conduct evaluations c. Evaluation data for practicum not presented
4. Trevisan (2002)	1. No discussion of pedagogy 2. No discussion of student assessment	1. Methodology dealt with through practicum experience 2. No discussion of theory	a. Externally funded work obtained through EAC at Washington State University b. Students receive 1–3 years funding c. A variety of faculty supervise students d. Evaluation data for practicum not presented
5. Weeks (1982)	1. Experiential education framework 2. Rating of stimulation exercises	1. Methodology dealt with minimally (depends on instructor) 2. Theory-practice integration seminars	a. Long-term internship is self-supporting through contractual arrangements with agency b. Evaluation data-performance comparison between internship students and students not taking internship

All the articles focusing on practicum experiences explain or imply that students learn methodology through the practicum experience. All practicum experiences require previous or concurrent methodology course work (e.g., McKillip, 1986). The methodological knowledge and skills that students bring to the practicum experience necessarily impact the kind of evaluation experience students can be exposed to.

As the only article that explicitly deals with theory, Weeks (1982) requires a theory-practice integration seminar for practicum students. Students discuss issues that have come up in their evaluation work and the faculty person attempts to draw principles and apply theoretical frameworks to help students understand the issue. All other articles imply or suggest that theory is obtained through outside course work.

The only article that discusses the use of pedagogical theories that could guide the practicum experience was provided by Weeks (1982). In both short and long-term practicum experiences, an experiential education framework as articulated by James Coleman guides the course content and instruction. That is, the student carries out an action, observes the effect, and the instructor helps the student understand the general principle underlying the task and effect. Applying the principle to new situations is the final step in the model.

Two articles discuss student assessment. Gredler and Johnson (2001) present the use of feedback to students through the mentoring process as an important assessment component to the practicum. Weeks (1982) assess student competence in the practicum with simulations. Trained scorers rate student work along important dimensions of the tasks.

Table 1 summarizes information about the articles identified for this review. The table is organized by approach and for each article specifies the degree program, strengths and challenges, pedagogy, whether and how methodology and theory is incorporated and additional comments.

DISCUSSION

A significant feature discussed in all articles is the need for dedicated supervision and planning on the part of faculty. The need for supervision and planning is particularly acute for single course projects that must be completed within the time frame of an academic term. In addition, Morris (1990) discusses the challenge in single course projects when organizational politics negatively impact student projects and experiences. This occurred within a university unit for an on-campus project. One might argue that these experiences are inevitable in evaluation work, and could be thought of as important experiences for students. However, Morris (1990) advises caution, and when signs of potential conflict appear, suggests that another project may be in order.

None of the articles in the review were formal research studies. All were descriptions and opinions from faculty supervisors. Articles uniformly discuss benefits of the approach for students, based on the experience of the authors. All articles comment that students report positive outcomes and experiences.

Only six of the articles present evaluation data on the course or experience. Evaluation strategies used in the literature rely on focus groups (Gredler & Johnson, 2001), questionnaires (Morris, 1992; Peacock, 2001; Preskill, 1992), ratings of simulation exercises (Weeks, 1982), and rankings of class projects (Leviton et al., 1998).

Across approaches, many of the articles did not specifically address pedagogical theories or frameworks. Authors who did discuss pedagogy explicitly embrace the ideas of theorists or philosophers who espouse a learning by doing framework. The associated courses

and educational experiences are specifically developed with these pedagogical experiences in mind.

Methodology and evaluation theory are dealt with in different ways depending on the approach and program, with methodology receiving more attention than theory. For example, single course projects unconnected to other courses typically require didactic work in methodology during the course. This occurred for theory as well, but not to the degree methodology was incorporated. Practicum experiences uniformly require outside course work in methodology as a prerequisite or complement to practicum.

For single course projects in particular, these findings corroborate the contentions of Morris (1994) that how methodology and other evaluation-related topics (such as theory) are dealt with depends on the context. These contentions seem also to explain the differences in how methodology and theory are dealt with in the other approaches as well. Findings from this review further suggest that how methodology and theory are incorporated may depend on the amount of authenticity or real-world exposure involved with the approach. Practicum experiences, for example, tend to require a good deal more in the way of substantive course work than the other approaches.

A challenge in this literature review was finding relevant sources through electronic searches. As an example, seemingly sensible key words such as "evaluation training" appeared to be confused with "evaluation of training." As mentioned, some of the sources known to the author were not identified by any combination of the key words used for this review. In sum, the literature on practical training in evaluation is diffuse and not well archived. Thus, as the literature on the teaching of evaluation increases, particularly literature dealing with practical training in evaluation, it would be helpful if librarians and others responsible for archiving documents used a consistent, well thought out classification system to archive the information so that easier access is possible.

ISSUES AND RECOMMENDATIONS

The literature review reveals three key issues when educators employ hands-on evaluation experiences for students. These issues are: (1) faculty supervision of students, (2) need for resources, and (3) pedagogy and student achievement.

Issue 1: Faculty Supervision of Students

A key challenge voiced in most of the reviewed articles is faculty responsibility for supervising students, particularly in approaches that employ actual hands-on projects. This responsibility includes both support of students as emerging professionals and evaluation of their work. The sometimes conflicting responsibility of support, on the one hand, and student evaluation, on the other, can make for a stressful student–teacher relationship. While this is the case in any teaching situation, it can be particularly acute when multiple projects, each with a degree of ambiguity, must be managed within a fixed time span, such as within the single course approach. The amount of time and energy faculty can provide each student within this approach is necessarily limited.

The faculty–student relationship can also be tested when hands-on projects are externally funded. Faculty principal investigators are responsible for accomplishing task requirements

and meeting timelines. They must meet expectations from funding agencies as in any other university grant or contract. Graduate students, however, who have responsibility to conduct work on the project, also have courses and other academic responsibilities that may conflict with timelines and deliverables on funded projects. This conflict can sometimes leave faculty without the help they need at critical times.

From the student perspective, when expectations are unclear or when they are given heavy responsibility too early, the faculty–student relationship can be tested. Particularly in the practicum approach, students are likely to receive more responsibility for work tasks. If students are uncertain of their skills, and the work expectations, and/or when they are given little guidance, students can feel overwhelmed with the tasks and begin to think that the practicum experience has little value for them professionally.

Fourteen articles identified for this review did not discuss the use of structure or of guidelines for the supervisory relationship between faculty and students. By inference, faculty and students are left to their own devices to negotiate their roles in the context of hands-on learning experiences in evaluation.

In addition, most articles did not mention a set of expected student outcomes from practical evaluation training. Some articles provide evaluation data on student experiences, typically by asking students for feedback. These data are largely in the form of satisfaction ratings and input on ways to improve the experience. Beyond satisfaction, however, there are no consistent outcome variables represented in the literature. In sum, supervisors and students are in need of structure to guide their roles and relationship. Also needed is a set of expected outcomes as a result of the hands-on experience.

Two articles in the review do provide guidance for the faculty–student relationship for hands-on evaluation training experiences and could assist other faculty and students with the experience. First, Gredler and Johnson (2001) have given serious attention to the role of the faculty person as mentor. The authors cite work in the mentorship literature advocating that mentors model expectations, provide professional support, and treat students as professionals. Positive feedback from students on the mentoring portion of the practicum experience reinforces the value of these recommendations.

Second, Levin-Rozalis and Rosenstein (2003) also maintain a strong mentorship component to the hands-on evaluation portion of a 1-year evaluation course. Mentoring starts first with individual guidance of students "ranging from simple, good advice, to personal guidance, reflection and joint planning, to more personal support of professional emotional needs, and encouragement of students to persevere and improve" (p. 248). Further, the authors take seriously the challenge of transforming practical knowledge into knowledge students can use. Faculty members reflect on their own practice and attempt to conceptualize what one does spontaneously or intuitively in an evaluation context. In turn, this conceptualization is converted into an operating principle. They also suggest that while the mentoring relationship is necessarily flexible, a clear set of guidelines or rules is essential for the maintenance of a productive relationship.

In addition to the aforementioned two articles, Brown (1985) initiated a promising line of work that could assist faculty and students with practical evaluation training experiences, particularly as the training relates to student outcomes. Borrowing from counseling psychology, a profession requiring practicum experiences during student training, Brown (1985) offers an approach that is developmental in nature, depicting stages that students are expected to progress through as they learn the profession. According to Brown (1985):

> There are five basic assumptions important for the application of a development perspective to supervising evaluation students: (a) development occurs in stages, (b) development is sequential, (c) development occurs within certain task areas, (d) progress occurs as a result of challenge or crisis, and (e) a support system is needed to accommodate responses to challenges and to work through crises. (p. 162)

Three stages are proposed: (1) Naivety and Rigidity, in which the student believes he or she has the technical competence to conduct an evaluation and initially is unaware of any difficulty; (2) Disequilibrium, when the student realizes that his or her knowledge may be insufficient for a given problem and that approaches learned through didactic course work may not be adequate; and (3) Assimilation and Integration, when the student understands that no one approach is optimal, when past knowledge and skills are integrated but the student realizes he or she may be inadequate for a given task, and when the student recognizes that seeking technical assistance is sometimes the right thing to do. Brown (1985) proposes that these stages occur for eight essential developmental evaluation tasks (competence, emotional awareness, autonomy, professional identity, purpose, motivation, individual differences, and ethical competence). According to Brown (1985), the faculty supervisor and the student must recognize these tasks if development is to occur.

Brown and Dinnel (1992) conducted a series of three exploratory studies to test the viability of the developmental approach for supervising graduate students in evaluation. Graduate students enrolled in a seminar course in evaluation and a follow-up practicum course across a 3-year period participated in the studies. A variety of measures were used to collect data from students and faculty. Among the findings were moderate correlations between self-report student ratings on autonomy with independent faculty ratings. Pre- and post-seminar differences were also found on measures of autonomy and attitude toward conducting evaluation.

Given the exploratory nature of the studies, Brown and Dinnel's (1992) findings are tentative. Moreover, the model may not be useful in all evaluation supervisory contexts. What the studies do provide, however, is tentative support for the developmental evaluation supervision model. These studies also suggest possibilities for additional and more rigorous studies of the model. They provide research evidence for the viability of the model, and do so in a literature largely devoid of empirical research.

Issue 2: Need for Resources

Regardless of the approach taken, most articles acknowledge that providing practical training experiences for students is resource intensive. These resources include faculty time, institutional resources to cover course releases for faculty, and financial resources and time commitments from clients. In addition, the more realistic the experience, the more resources are generally needed to properly support the hands-on training component. In contrast, while simulations and role-play require significant preparation time, they typically do not require additional resources.

However, as actual hands-on projects are introduced into the training, the amount of resources needed to support this work increases. For example, Morris (1992) discusses the planning time needed to arrange for projects in the context of a single course as well as the time needed to monitor students and student–client relationships. Weeks (1982) discusses the issue of increased faculty time to set up project options, supervise students, and manage relationships with clients in the context of practicum experiences. Moxley and Visingardi (1989) maintain that monetary and personnel resources from participating agencies are necessary to ensure

a successful practicum experience for students. In the case of long-term funded projects, Trevisan (2002) maintains that considerable faculty time is needed to secure funding, manage projects, and supervise students. Those interested in establishing practical training experiences for students must recognize the need for resources, decide which approach is most viable given the context, work to obtain university and agency resource commitments, and plan accordingly.

Issue 3: Pedagogy and Student Achievement

While most articles were not explicit about pedagogy, some took seriously the learning implications of grounding practical training experience within a pedagogical framework or model. In short, authors employing a pedagogical framework suggest a more meaningful learning experience for students and increased student achievement.

Authors explicit about pedagogy employ frameworks from a variety of theorists. All learning models, however, are consonant with adult learning principles. Preskill (1997) states, "The adult learning literature is replete with theories, models, and instructional strategies that are intended to guide the teaching of adults. The importance of collaboration, praxis, and the facilitation of critical reflection is strongly recommended when teaching this population" (p. 66).

Faculty interested in establishing practical experiences for students are encouraged by this author to incorporate principles of adult learning when constructing this training component. Group work and reflection are fundamental. Well thought mentoring approaches, as exemplified by Gredler and Johnson (2001) and Levin-Rozalis and Rosenstein (2003), will further ground practical evaluation training approaches and likely enhance the experience for both faculty and students as well as increase student outcomes.

An additional enhancement to pedagogical frameworks and mentoring is student assessment, particular formative student assessment. Most articles in this review were not clear about student assessment. However, in the mentoring approach discussed by Levin-Rozalis and Rosenstein (2003), student assessment, such as essays, portfolios, and final projects, is used to develop critical thinking and reflection among students. Enhancing critical thinking and reflection are key features of the pedagogical framework embraced by Levin-Rozalis and Rosenstein (2003). Their use of student assessment reinforces these features further assisting students to develop professional competence as evaluators. Thus, faculty interested in establishing practical evaluation training could enhance these experiences for students by incorporating student assessments that challenge and support students in their professional development.

FINAL COMMENTS

Davis (1986) and Altschuld and Thomas (1991) proposed several research questions that could be investigated as part of the evaluation field's quest to better teach future generations of evaluators. Among the questions were: What is the optimum split between didactic course work and practical training? How should practical training be structured? Despite the work reflected in the literature on the teaching of evaluation, these questions remain unanswered.

However, papers in this review provide examples of a variety of approaches to incorporating practical evaluation training into evaluation training programs or programs that maintain an evaluation component. Authors of these papers uniformly speak to the benefits for students and state that feedback from students is typically positive. Both faculty and students in these

articles agree on the merits of practical training in evaluation and argue for its implementation. I recommend that faculty and other instructors consider these strategies and, if appropriate, adopt or adapt them in their program.

Ory and Leister (1987) provide the complete comment from one student who gave feedback on the project required for a graduate evaluation course. The intent was to underscore the student perspective concerning hands-on evaluation training and to inspire faculty to consider implementing a practical training component in their evaluation course or program. In nearly three pages of text the student described his initial apprehension for conducting evaluation, how the student overcame this fear, and some enduring ideas the student came away with about doing evaluation. The student's eloquent portrayal of how the hands-on experience helped to positively shape his course experience and professional growth is a testament to the potential benefits for students by incorporating practical evaluation experiences into their training. Grounding these experiences in a pedagogical framework, employing strong mentoring, and establishing formative student assessment practices will likely increase the meaningfulness for students as well as increase student achievement and professional competence.

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