



Evaluating Continuing Professional Development

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Abstract

Selected references and information about the conceptualization and operationalization of methods to evaluate professional continuing education are included in this *CASEmaker*. The source material in this bibliography provides a foundation for organizations to use multiple levels of evaluation in determining the effectiveness of both onsite and offsite continuing education offerings provided to staff members who work in early childhood and early intervention settings.

Introduction

Many early childhood education and early intervention programs provide training to practitioners who work with children and their families. Some professionals in the early childhood field are required to attend continuing professional education to maintain licenses, such as teachers, nurses, psychologists, occupational therapists, physical therapists, and speech-language pathologists. Required or not, many practitioners ask managers for time off and expenses paid to attend training programs that they feel will support their professional development. Managers, staff development coordinators, and technical assistance providers want to know that the professional development programs they provide or send staff to attend result in useful changes in professional behavior and improved outcomes for children or families. This *CASEmaker* bibliography includes selected references to different conceptual and operational features useful for summative evaluation of continuing professional development in early childhood. This bibliography also includes research articles highlighting examples of different categories of procedures used to evaluate professional development activities. These references will be useful to staff developers and program managers who want to assess the impact of professional development activities at different levels of outcomes, including change in practitioner behavior and consumer benefits.

The predominant model used for evaluation of continuing professional education was developed by Kirkpatrick (1975, 1996). The basic four level model, replicated and built upon over the years, contains the elements: (1) satisfaction or reaction; (2) knowledge or learning outcomes; (3) performance or behavior; and (4) child/family outcomes or results for consumers (Kirkpatrick, 1975; Shaha, Lewis, O'Donnell, & Brown, 2004) (see Table 1).

rick, 1975; Shaha, Lewis, O'Donnell, & Brown, 2004) (see Table 1).

Table 1
Definitions of Kirkpatrick's Levels of Evaluations

Level of Evaluation	Definition
Level 1: Reaction/satisfaction	Participants' satisfaction with aspects of the professional development opportunity
Level 2: Knowledge	Participants' change in knowledge, ability, or attitudes as a result of the training
Level 3: Use of knowledge/ behavior	Participants' ability to use behavior they learned in the training during real situations on the job or in life
Level 4: Consumer outcomes	Effects for the consumers, including parents, children, colleagues, and/or child care providers

Modified from Kirkpatrick, (1996)

CASEmakers is an electronic publication of the Center for the Advanced Study of Excellence in Early Childhood and Family Support Practices, Family, Infant and Preschool Program, J. Iverson Riddle Developmental Center, Morganton, NC. CASE is an applied research center focusing on the characteristics of evidence-based practices and methods for promoting utilization of practices informed by research.

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Others have added and elaborated on this model, by including organizational support or return on investment (ROI) (Bernthal, 1995; Guskey, 2000; Phillips, 1997). Guskey (2000) defined organizational support as the characteristics and attributes necessary for individuals to successfully implement professional development behaviors learned. An example would be assessment of whether an organization supports evidence-based practice by providing staff time to search for research-based evidence after attending training on the topic. Phillips (1997) defined ROI as the process of measuring “the monetary value of the results and costs” (p.43) of continuing professional development for the program as a whole. An example of ROI would be calculating the expense of a training (travel, lost productivity, staff time) and the cost of savings as a result of the training (time savings with increased proficiency, improved quantity or quality of work).

Rx Prescription for Practice Rx

Improve your knowledge and understanding about evaluating continuing professional development with these resources:

- Guskey, T. R. (2003). Scooping up meaningful evidence. *Journal of Staff Development* 24(4), 27-30. Retrieved June 6, 2008 from: <http://www.nsd.org/library/publications/jsd/guskey244.cfm>
- Guskey, T. R. (2002). Does it makes a difference? Evaluating professional development. *Educational Leadership*, 59(6), 45-51.
- Kirkpatrick, D. L. (1998). *Evaluating training programs: The four levels* (2nd ed.). San Francisco, CA: Berrett-Koehler.

Conceptualization

Whereas Kirkpatrick’s (1975) model was developed as a method of examining professional development within the field of business, other authors have applied this model to the fields of human resources (Bernthal, 1995; Phillips, 1997), education (Guskey, 2000, 2003; Shaha et al., 2004) and early intervention (Snyder & Wolfe, 1997). The following articles describe conceptual issues related to the levels of evaluation for continuing professional development. Several useful sources of in-

formation about the definitions and meaning of different levels of evaluation can be found in:

- Bernthal, P. R. (1995). Evaluation that goes the distance. *Training and Development*, 49(9), 41-45.
- Guskey, T. R. (2003). Scooping up meaningful evidence. *Journal of Staff Development* 24(4), 27-30. Retrieved June 6, 2008 from <http://www.nsd.org/library/publications/jsd/guskey244.cfm>
- Kirkpatrick, D. (1996). Great ideas revisited. Techniques for evaluating training programs. Revisiting Kirkpatrick’s four-level model. *Training and Development*, 50(1), 54-59.
- Kirkpatrick, D. L. (1975). Techniques for evaluating training programs. In *Evaluating training programs [Collection of articles from the Journal of the American Society for Training and Development]* (pp. 1-17). Alexandria, VA: American Society for Training and Development.
- Phillips, J. J. (1997). The ROI process model. In *Handbook of training evaluation* (3rd ed., pp. 66-78). Woborn, MA: Butterworth-Heinemann.
- Shaha, S. H., Lewis, V. K., O’Donnell, T. J., & Brown, D. H. (2004). Evaluating professional development: An approach to verifying program impact on teachers and students. *Journal of Research in Professional Learning*. Retrieved June 6, 2005 from <http://www.nsd.org/library/publications/research/shaha.pdf>
- Snyder, P., & Wolfe, B. L. (1997). Needs assessment and evaluation in early intervention personnel preparation. In P. J. Winton, J. A. McCollum, & C. Catlett (Eds.), *Reforming personnel preparation in early intervention. Issues, models and practical strategies* (pp. 154-165). Baltimore, MD: Brookes.

Operationalization

Descriptions of how to develop and use evaluation techniques for professional development opportunities and experiences can be found in education, medical, and business literature. Some of these references also contain examples of how to design an evaluation and/or provide copies of evaluation tools (see especially pp. 108-114, 128-130, 170, 201 of Guskey, 2000; pp. 99-128 of Kirkpatrick, 1998; and pp. 388-401 of Phillips, 1997). Some key articles describing how to design effective evaluation efforts can be found in these resources:

- Guskey, T. R. (2002). Does it make a difference? Evaluating professional development. *Educational Leadership*, 59(6), 45-51.

Guskey, T. R. (2000). *Evaluating professional development*. Thousand Oaks, CA: Corwin.

Kirkpatrick, D. L. (1998). *Evaluating training programs: The four levels* (2nd ed.). San Francisco, CA: Berrett-Koehler.

Phillips, J. J. (1997). Collecting data: Application and business impact evaluation. In *Handbook of training evaluation* (3rd ed., pp. 136-164). Woborn, MA: Butterworth-Heinemann.

Phillips, J. J. (1997). The ROI process model. In *Handbook of training evaluation* (3rd ed., pp. 66-78). Woborn, MA: Butterworth-Heinemann.

Examples of Measurement

Researchers and program managers in medical, business, and education fields have developed methods to measure the effectiveness of continuing education using these levels of evaluation. Methods most often found in the literature include questionnaires administered to practitioners, interviews with standardized questions to practitioners, interviews with mentors or managers, observation of practice using case scenarios or videotapes of actual practice, and chart review. Some researchers (e.g., Merckaert et al., 2005) used two or more forms of assessment and are included in multiple sections below.

Practitioner Questionnaire

Practitioner questionnaires include any type of written assessment provided to participants in a professional development opportunity. Guskey (2000) referred to

questionnaires as “the most popular means of gathering information on participants’ reactions” (p. 104). Questionnaires represent the easiest way to assess change in knowledge as well (Guskey, 2000) and may also be used to assess perceived self-performance changes. References including descriptions of procedures used for measuring the effectiveness of continuing education programs using practitioner questionnaires can be found in the following sources. Table 2 describes the levels of evaluation assessed in each study.

Arnetz, J. E., & Hasson, H. (2007). Evaluation of an educational toolbox for improving nursing staff competence and psychosocial work environment in elderly care. *International Journal of Nursing Studies, 44*, 723-735.

Bell, D. F., Pestka, E., & Forsyth, D. (2007). Outcome evaluation: Does continuing education make a difference? *Journal of Continuing Education in Nursing, 38*, 185-190.

Bos, C. S., Nahmias, M. L., & Urban, M. A. (1997). Implementing interactive professional development in workshop course on education students with AD/HD. *Teacher Education and Special Education, 20*, 132-145.

Casebeer, L., Kristofco, R. E., Strasser, S., Reilly, M., Krishnamoorthy, P., Rabin, A., et al. (2004). Standardizing evaluation of on-line continuing medical education: Physician knowledge, attitudes, and reflections on practice. *Journal of Continuing Medical Education 24*, 68-75.

Clark, N. M., Gong, M., Schork, M. A., Kaciroti, N., Evans, D., Roloff, D., et al. (2000). Long-term effects

Table 2
Levels of Evaluation Assessed in Research Using Practitioner Questionnaires

Practitioner questionnaire	Satisfaction	Knowledge	Performance	Consumer results
Arnetz, & Hasson (2007)	x	x	x	
Bell, Pestka, & Forsyth (2007)	x	x		
Bos et al. (1997)		x		
Casebeer et al. (2004)		x	x	
Clark et al. (2001)		x	x	
Curran et al. (2000)	x	x	x	
Espinosa et al. (1998)		x		
Huai et al. (2006)		x	x	
Lamb & Tschillard (2005)		x		
Maiman et al. (1988)		x	x	
Merckaert et al. (2005)			x	
Pullen (2006)	x	x	x	

of asthma education for physicians on patient satisfaction and use of health services. *European Respiratory Journal*, 16, 15-21.

Curran, V. R., Hoekman, T., Gulliver, W., Landells, I., & Hatcher, L. (2000). Web-based continuing medical education (II): Evaluation study of computer-mediated continuing medical education. *Journal of Continuing Education in the Health Professions*, 20, 106-119.

Espinosa, L. M., Gillam, R. B., Busch, R. F., & Patterson, S. S. (1998). Evaluation of an inservice model to train child care providers about inclusion. *Journal of Research in Childhood Education*, 12, 130-142.

Huai, N., Braden, J. P., White, J. L., & Elliott, S. N. (2006). Effect of an internet-based professional development program on teachers' assessment literacy for all students. *Teacher Education and Special Education*, 29, 244-260.

Lamb, T. A., & Tschillard, R. (2005). *Evaluating learning in professional development workshops: Using the retrospective pretest*. Alexandria, VA: National Staff Development Council (NSDC). Retrieved April 28, 2008 from <http://www.nsd.org/library/publications/research/lamb.pdf>

Maiman, L. A., Becker, M. H., Liptak, G. S., Nazarian, L. F., & Rounds, K. A. (1988). Improving pediatricians' compliance-enhancing practices: A randomized trial. *American Journal of Diseases of Children*, 142, 773-779.

Merckaert, I., Libert, Y., Delvaux, N., Marchal, S., Boniver, J., Etienne, A. M., et al. (2005). Factors that influence physicians' detection of distress in patients with cancer: Can a communication skills training program improve physicians' detection? *Cancer*, 104, 411-421.

Pullen, D. L. (2006). An evaluative case study of online learning for healthcare professionals. *Journal of Continuing Education in Nursing*, 37, 225-232.

over the phone, and individually or with a group. Interviews allow evaluators to collect more in-depth information about and to increase depth of knowledge related to satisfaction or organizational support. References including descriptions of procedures used for measuring the effectiveness of continuing education programs using interviews with practitioners can be found in the following sources. Table 3 describes the levels of evaluation assessed in each study.

Bos, C. S., Nahmias, M. L., & Urban, M. A. (1997). Implementing interactive professional development in workshop course on education students with AD/HD. *Teacher Education and Special Education*, 20, 132-145.

Curran, V. R., Hoekman, T., Gulliver, W., Landells, I., & Hatcher, L. (2000). Web-based continuing medical education (II): Evaluation study of computer-mediated continuing medical education. *Journal of Continuing Education in the Health Professions*, 20, 106-119.

Huai, N., Braden, J. P., White, J. L., & Elliott, S. N. (2006). Effect of an internet-based professional development program on teachers' assessment literacy for all students. *Teacher Education and Special Education*, 29, 244-260.

Rappolt, S., Pearce, K., McEwen, S., & Polatajko, H. J. (2005). Exploring organizational characteristics associated with practice changes following a mentored online educational module. *Journal of Continuing Education in the Health Professions*, 25, 116-124.

Mentor/Manager Interview

Manager or mentor interviews include conversations with people other than the course participants who interact in a supervisory or coaching manner with participants. Interviews with others are rarely used, but represent an alternative to self-report of practitioner knowledge, performance, and organizational support. References including descriptions of procedures used for measuring the effectiveness of continuing education programs using mentor or manager interviews can be found

Practitioner Interviews

Practitioner interviews include any form of verbal conversation with participants of continuing professional education. Interviews may be conducted in person or

Table 3
Levels of Evaluation Assessed in Research Using Practitioner Interviews

Self-report interview	Satisfaction	Knowledge	Organizational support	Performance	Consumer results
Bos et al. (1997)		x		x	
Curran et al. (2000)	x				
Huai et al. (2006)	x	x			
Rappolt et al. (2005)			x		

in the following source. Table 4 describes the levels of evaluation assessed in the study.

Rappolt, S., Pearce, K., McEwen, S., & Polatajko, H. J. (2005). Exploring organizational characteristics associated with practice changes following a mentored online educational module. *Journal of Continuing Education in the Health Professions, 25*, 116-124.

Chart Audit

Chart audit refers to any method of evaluation that uses data taken from practitioner records, whether stored electronically or by pulling data from physical records of clients seen by the participants of continuing professional development activities. Chart audits represent an alternative occasionally used to assess practitioner performance and consumer results when those results are quantitative in nature. References including descriptions of procedures used for measuring the effectiveness of continuing education programs using chart audit can be found in the following sources. Table 5 describes the levels of evaluation assessed in each study.

Clark, N. M., Gong, M., Schork, M. A., Kaciroti, N., Evans, D., Roloff, D., et al. (2000). Long-term effects of asthma education for physicians on patient satisfaction and use of health services. *European Respiratory Journal, 16*, 15-21.

Margolis, P. A., Lannon, C. M., Stuart, J. M., Fried, B. J., Keyes-Elstein, L., & Moore, D. E., Jr. (2004). Practice based education to improve delivery sys-

tems for prevention in primary care: Randomised trial. *British Medical Journal, 328*, 388-392.

White, C. W., Albanese, M. A., Brown, D. D., & Caplan, R. M. (1985). The effectiveness of continuing medical education in changing the behavior of physicians caring for patients with acute myocardial infarction. *Annals of Internal Medicine, 102*, 686-692.

Case Scenarios

Case scenarios include simulated scenarios that professional development trainers use to test knowledge and skills of participants. Unlike case scenarios used within training, those used to evaluate learning and performance are designed to determine the effectiveness of the instruction provided. References including descriptions of procedures used for measuring the effectiveness of continuing education programs using case scenarios can be found in the following sources. Table 6 describes the levels of evaluation assessed in each study.

Nyquist, J. G., Naylor, A. J., Woodward-Lopez, G., & Dixon, S. (1994). Use of performance-based assessment to evaluate the impact of skill-oriented continuing education program. *Academic Medicine-October Supplement, 69*, S51-S53.

Razavi, D., Merckaert, I., Marchal, S., Libert, Y., Conradt, S., Boniver, J., et al. (2003). How to optimize physicians' communication skills in cancer care: Results of a randomized study assessing the usefulness of posttraining consolidation workshops. *Journal of Clinical Oncology, 21*(16), 3141-3149.

Table 4
Levels of Evaluation Assessed in Research Using Manager/Mentor Interviews

Manager/mentor interview	Satisfaction	Knowledge	Organizational support	Performance	Consumer results
Rappolt et al. (2005)			x		

Table 5
Levels of Evaluation Assessed in Research Using Chart Audit

Chart review	Satisfaction	Knowledge	Performance	Consumer results
Clark et al. (2000)			x	x
Margolis et al. (2004)			x	
White et al. (1985)			x	

Table 6
Levels of Evaluation Assessed in Research Using Simulation or Case Scenarios

Case scenarios	Satisfaction	Knowledge	Performance	Consumer results
Nyquist et al. (1994)			x	
Razavi et al. (2003)			x	
Wren (2003)		x		

Wren, Y. (2003). Using scenarios to evaluate a professional development programme for teaching staff. *Child Language Teaching and Therapy, 19*, 115-134.

Observation of Practice

Observation of practice refers to the use of any quantitative or qualitative methods that assess the practice of an individual through watching him or her during interactions with families and/or children. This includes use of tools for rating videotapes or audiotapes of visits during one or multiple visits. Observation may be the gold standard of methods to assess practitioner performance and behavioral consumer outcomes, though some have said that having others present and videotaping practice may elicit different behaviors than those typically performed without such observation (Guskey, 2002). References including descriptions of procedures used for measuring the effectiveness of continuing education programs using observation, typically through videotaping, can be found in the following sources. Table 7 describes the levels of evaluation assessed in each study.

Espinosa, L. M., Gillam, R. B., Busch, R. F., & Patterson, S. S. (1998). Evaluation of an inservice model to train child care providers about inclusion. *Journal of Research in Childhood Education, 12*, 130-142.

Girolametto, L., & Weitzman, E. (2007). Promoting peer interaction skills. *Topics in Language Disorders, 27*(2), 93-110.

Girolametto, L., Weitzman, E., Lefebvre, P., & Greenberg, J. (2007). The effects of in-service education to promote emergent literacy in child care centers: A feasibility study. *Language, Speech, and Hearing Services in Schools, 38*, 72-83.

Kohler, F. W., Anthony, L. J., Steighner, S. A., & Hoyson, M. (2001). Teaching social interaction skills in the integrated preschool: An examination of naturalistic tactics. *Topics in Early Childhood Special Education, 21*, 93-103.

Merckaert, I., Libert, Y., Delvaux, N., Marchal, S., Boniver, J., Etienne, A. M., et al. (2005). Factors that influence physicians' detection of distress in patients with cancer: Can a communication skills training program improve physicians' detection? *Cancer, 104*, 411-421.

Razavi, D., Merckaert, I., Marchal, S., Libert, Y., Conradt, S., Boniver, J., et al. (2003). How to optimize physicians' communication skills in cancer care: Results of a randomized study assessing the usefulness of posttraining consolidation workshops. *Journal of Clinical Oncology, 21*(16), 3141-3149.

Consumer Assessment

Final outcomes, whether the training resulted in improvement for the user of the services, can be measured

Table 7
Levels of Evaluation Assessed in Research Using Observation of Practice

Observation of practice	Satisfaction	Knowledge	Performance	Consumer results
Espinosa et al. (1998)			x	
Girolametto & Weitzman (2007)			x	x
Girolametto et al. (2007)			x	x
Kohler et al. (2001)			x	x
Merckaert et al. (2005)			x	
Razavi et al. (2003)			x	

only through some type of assessment of the consumer receiving the services, be it a child, parent, patient, client, or other consumer of the health, business, or education services. Consumer assessment includes use of standardized tools with consumers of services, but also interview questions and satisfaction questionnaires. Table 8 describes the levels of evaluation assessed in each study.

Clark, N. M., Gong, M., Schork, M., Evans, D., Roloff, D., Hurwitz, M., et al. (1998). Impact of education for physicians on patient outcomes. *Pediatrics*, *101*, 831-836.

Maiman, L. A., Becker, M. H., Liptak, G. S., Nazarian, L. F., & Rounds, K. A. (1988). Improving pediatricians' compliance-enhancing practices: A randomized trial. *American Journal of Diseases of Children*, *142*, 773-779.

Merckaert, I., Libert, Y., Delvaux, N., Marchal, S., Boniver, J., Etienne, A. M., et al. (2005). Factors that influence physicians' detection of distress in patients with cancer: Can a communication skills training program improve physicians' detection? *Cancer*, *104*, 411-421.

Razavi, D., Merckaert, I., Marchal, S., Libert, Y., Conradt, S., Boniver, J., et al. (2003). How to optimize physicians' communication skills in cancer care: Results of a randomized study assessing the usefulness of posttraining consolidation workshops. *Journal of Clinical Oncology*, *21*(16), 3141-3149.

Conclusion

This *CASEmaker* bibliography includes references related to conceptualization and operationalization of levels of evaluation for professional development as well as examples of literature using multiple methods to examine different levels of professional development outcomes. The material included in the references provides a foundation for understanding how to evaluate professional development programs for early childhood professionals

and provides examples of how to implement meaningful evaluation.

References

Bernthal, P. R. (1995). Evaluation that goes the distance. *Training and Development*, *49*(9), 41-45.

Guskey, T. R. (2000). *Evaluating professional development*. Thousand Oaks, CA: Corwin.

Guskey, T. R. (2002). Does it make a difference? Evaluating professional development. *Educational Leadership*, *59*(6), 45-51.

Guskey, T. R. (2003). Scooping up meaningful evidence. *Journal of Staff Development* *24*(4), 27-30. Retrieved June 6, 2008 from <http://www.nsd.org/library/publications/jsd/guskey244.cfm>

Kirkpatrick, D. L. (1975). Techniques for evaluating training programs [Collection of Articles from the Journal of the American Society for Training and Development]. In *Evaluating training programs* (pp. 1-17). Alexandria, VA: American Society for Training and Development.

Merckaert, I., Libert, Y., Delvaux, N., Marchal, S., Boniver, J., Etienne, A. M., et al. (2005). Factors that influence physicians' detection of distress in patients with cancer: Can a communication skills training program improve physicians' detection? *Cancer*, *104*, 411-421.

Phillips, J. J. (1997). The ROI process model. In *Handbook of training evaluation* (3rd ed., pp. 66-78). Woborn, MA: Butterworth-Heinemann.

Shaha, S. H., Lewis, V. K., O'Donnell, T. J., & Brown, D. H. (2004). Evaluating professional development: An approach to verifying program impact on teachers and students. *Journal of Research in Professional Learning*. Retrieved June 6, 2005 from: <http://www.nsd.org/library/publications/research/shaha.pdf>

Snyder, P., & Wolfe, B. L. (1997). Needs assessment and evaluation in early intervention personnel preparation. In P. J. Winton, J. A. McCollum, & C. Catlett (Eds.), *Reforming personnel preparation in early*

Table 8
Levels of Evaluation Assessed in Research Asking Consumers to Rate Services or Describe Health

Consumer questionnaire	Satisfaction	Knowledge	Performance	Consumer results
Merckaert et al. (2005)				x
Razavi et al. (2003)				x
				(satisfaction)
Consumer interview				
Clark et al. (2001)				x
Maiman et al. (1988)				x

intervention. Issues, models and practical strategies (pp. 154-165). Baltimore, MD: Brookes.

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