



Application of Kirkpatrick's Four Levels of Evaluation in Assessing Nurses' Learning Outcomes of a Literature Search Training Intervention

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Introduction

In the Fall of 2008, the University of Toledo's Mulford Health Science Library began offering *Using CINAHL for Evidence-Based Nursing Practice* training classes for CNE credit.

To assess the learning outcomes of RNs who participated in these classes, two faculty librarians developed a pilot evaluation project utilizing Donald L. Kirkpatrick's classic four-level model developed in 1959 for use in training upper-level management in business operations. Kirkpatrick's model is significant since it goes beyond the limitations of simply gauging learners' reactions and feelings.

Evaluation of the effectiveness and impact of library instruction is more important than ever. Under the great pressure of budget crises, it is critical for librarians to validate the services they provide to support the mission and goals of their institutions. Health science librarians in particular need to demonstrate that their educational efforts are invested in improving nurses' skills for locating evidence that will impact patient care decision-making.

Purpose

The purpose of this poster is to demonstrate how the Kirkpatrick model can be adapted to library instruction evaluation in nursing.

Methods

Classes were taught once per month for 1.5 hours each from September 2008 through April 2009. Instructors were faculty reference and instruction librarians from the Mulford Library's Reference and Information Services Department.

Class attendees included RNs from the University of Toledo Medical Center and University of Toledo College of Nursing faculty.

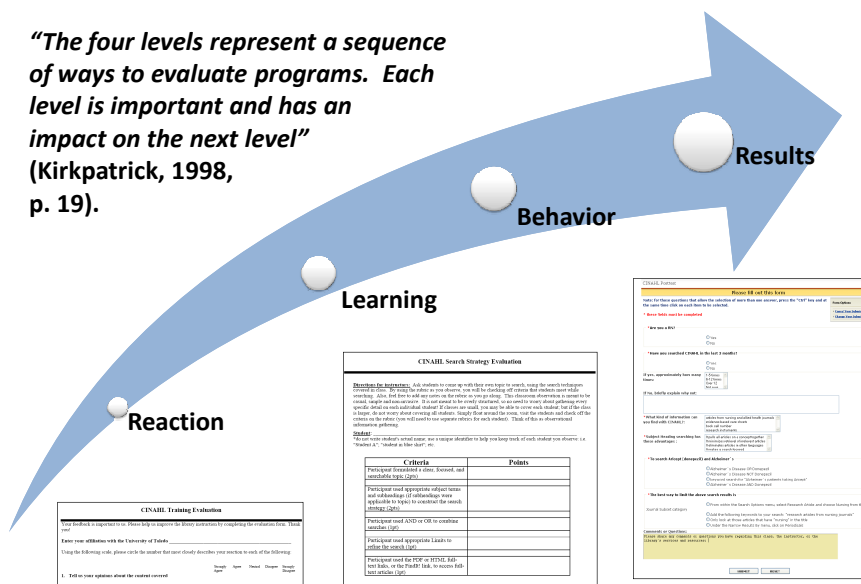
The first three levels of Kirkpatrick's four-level model were applied:

- **Level 1 – Reaction:** standard library evaluation form, or "smile sheet," measuring participant satisfaction
- **Level 2 – Learning:** rubric for instructors to utilize while observing participants during post-training CINAHL search exercise
- **Level 3 – Behavior:** online post-test sent to participants 3 months after training
- **Level 4 – Results:** see *Future Directions*

Reference

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

"The four levels represent a sequence of ways to evaluate programs. Each level is important and has an impact on the next level" (Kirkpatrick, 1998, p. 19).



Item	Excellent	Good	Fair	Poor	Very Poor
1. Tell us your opinion about the overall content					
• The content covered what the objectives stated	1	2	3	4	5
• The length of the class was appropriate	1	2	3	4	5
• The content presented was relevant	1	2	3	4	5
2. Tell us your opinion about the instructor					
• The instructor was engaging	1	2	3	4	5
• The instructor was well prepared	1	2	3	4	5
• The instructor was prepared to answer individual questions	1	2	3	4	5
3. Tell us your opinion about the OVERALL impression of today's class					
• I will be able to apply what I learned in today's class to my work or school	1	2	3	4	5
• I would highly recommend this class to other staff members	1	2	3	4	5
• Overall, how did you feel about this class?	1	2	3	4	5
4. How would you like to see this class changed or improved?					

Level 1

Most training programs incorporate some type of evaluation form to measure reaction. This level of evaluation is the easiest to accomplish, yet this does not undermine its value or importance. The learner's reaction not only provides general feedback for the overall evaluation of the program, but it also provides valuable comments or suggestions that instructors can use to improve future classes.

Level 2

After participants completed the Level 1 evaluation form, instructors observed the participants' performances in a post-training CINAHL search exercise held immediately after class. The above rubric was used to check off the database search skills and knowledge demonstrated by participants. Evaluating learning is more difficult than evaluating reaction, mainly because it is more time-consuming. However, it is perhaps the most crucial step in the Kirkpatrick model: "Without learning, no change in behavior will occur" (Kirkpatrick, 1998, p. 47). Evaluating learning is equally important for providing feedback to the instructor on their teaching effectiveness.

Level 3

After evaluating learning, it is critical to measure a change in behavior as a result of the learning that took place. The above post-test was designed to evaluate nurses' transfer of knowledge at their work environment or clinical setting, including their time spent using CINAHL and their skills with advanced database searching. To allow for a change in behavior, this online post-test was distributed to participants via e-mail 3 months after they attended training. In accomplishing Level 3, some evaluators choose to conduct personal interviews of a small sample of trainees. However, survey questionnaires, like the one used in this evaluation project, are usually more practical for busy librarians, less time-consuming and more conclusive in representing the behavior change since more participants can be reached.

Future Directions

Level 4 – Results: In the Kirkpatrick model, measuring results is notoriously difficult and challenging, as it proved to be the case with this evaluation project. Typically, a relatively long gap in time occurs between Level 3 and Level 4, simply because an improvement in results needs an appropriate amount of time to flourish and become measurable. For future evaluation of results, the instructors involved in this evaluation project plan to consider one or more of the following:

- Did nurses' use of library resources and services for evidence-based practice increase as a result of the awareness that our training program provided?
- How much has nurses' use of research evidence in everyday patient care increased since training?
- What has been the result of the training program on nursing research productivity at UPMC or the UT College of Nursing?

For future classes, the authors will continue to utilize the Kirkpatrick model with plans to design a method for measuring Level 4 and eventually publishing the data. Innovative and flexible ways to offer the training in an online environment are being explored.

Lessons Learned

Successes

- Adaptable evaluation model for library instruction
- Ability to capture the learner's progression from their initial reactions to the changes in their behavior as a result of the training
- Even if instructors only have the time and resources to reach Level 3, the evaluation is still relevant for demonstrating the impact of the training on nurses' search behaviors

Limitations

- Low and irregular class attendance by nurses who typically have unpredictable work schedules (could be remedied by offering the classes as self-paced, online modules)
- Constraints in achieving Level 4 (time and attendance were the largest issues)

Conclusion

The Kirkpatrick model can be adapted for use in library instruction evaluation. It is highly relevant for health science librarians who need to use a well-rounded, rigorous approach to evaluate instructional efforts that will potentially impact patient care.

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