Evaluating the Success of eLearning

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Abstract

Evaluation criteria should be incorporated into eLearning strategic plans to measure success both during and after implementation. eLearning evaluation should analyze the effectiveness of the learning activities, curriculum development processes, ease of use of the system, and the return on investment (ROI) from both a time-saved and financial perspective. This article identifies key items to consider when evaluating eLearning implementation. It presents a number of evaluation methods ranging from quick to complex and discusses the real life application of each. The article also includes strategies for incorporating feedback into new activities and tips on communicating results.

Introduction

In 2005, the eLearning Task Force at the University Health Network (UHN) proposed the purchase of an eLearning platform for the delivery of employee education programs for nursing staff. Since then, the nursing department has purchased, configured and implemented a Learning Management System (LMS) and produced more than 40 eLearning courses. Today, eLearning has been rolled out to the general nursing population at all three of our hospitals; Clinical Educators are using the system to track the registration status of more than 60 instructor-led courses; and, other departments are beginning to use the system to deliver online programs and register staff for face-to-face classes.   In this article, we discuss our detailed evaluation plan, its application in our organization, and the results.

Rationale for Evaluation

A comprehensive evaluation of our eLearning initiative was needed in order to determine whether staff learning needs were being met using this technology-based educational delivery method. Based on the findings, we would then be able to determine future human resources and funding requirements to sustain and/or expand the initiative. Our multi-faceted evaluation plan was designed to answer the following questions:

1. Did we select the right courses for development? Were the criteria for course selection appropriate? Are there ways to improve our course selection process?
2. Do we have adequate resources in place for course development?
3. How effective were the methods we used to roll out eLearning?
4. Are nurses using the system? Is it easy to access eLearning? Are nurses able to transfer learning from the eLearning courses to their roles?
5. Has eLearning helped Clinical Educators improve their productivity?
6. What issues require support and how frequently do they occur? How satisfied are nurses with our end-user support? What changes or improvements are required to improve the end user experience?
7. Should we continue to deliver eLearning courses?
8. Should we purchase additional seats in the LMS to support the use of eLearning?
9. What is our return on investment?

The Evaluation Plan and Its Application to Real Life

Our evaluation plan included an assessment of the following components:

1. Course Selection & Development
2. Course Structure & Design
3. Course Effectiveness
4. Implementation of eLearning
    - Methods
    - Uptake/Statistics
5. Access to eLearning Courses
6. Ongoing Support
    - HELP Desk
    - Computer User Support Program
    - Intranet/Internet
7. Return on Investment
    - Financial
    - Number of people trained
    - Quality of learning experience
    - Improved use of Time

We sought feedback from nursing staff, educators, and Nurse Managers, primarily through online surveys and informal observation.

Front line nurses were targeted with an end of course survey that was attached to every course. This survey collected information about staff's general satisfaction, where and when they accessed the course, technical and support issues and whether they felt ELearning improved access to education.

Clinical educators and nurse managers were presented with a more focused survey that assessed their level of familiarity with the administrative side of the system, the extent to which eLearning met their expectations, whether eLearning promoted a culture of lifelong learning and their overall satisfaction with eLearning.

The collection of numeric data and statistics was achieved through our LMS. The system produced descriptive statistical reports such as the number of courses delivered, how many staff accessed the system and how frequently, how many people were trained in a particular course and the cost per person to deliver a course. This data was used to calculate time saved by delivering courses online, and cost comparisons for developing and delivering face-to-face versus online courses.

In addition to the data collection methods described above, we also gathered information through informal observation of our new nursing hires, focus groups, debrief sessions, chart reviews and pre- and post-tests to assess the impact of eLearning. Access to the data collected through these evaluation methods provided us with meaningful information that allowed us to evaluate the efficiencies of an online model and contributed to return on investment (ROI) calculations.

In the table that follows, we outline each component of our plan including an overview of the type of information sought, evaluation method(s) used, and findings.

Evaluation Component	Information Sought	Method(s) Used	Findings
Course Selection & Development	• Is our course selection process efficient and effective? • Do we have adequate resources for course development? • Overall satisfaction with the development process • How can we improve our course	• Formal debrief meeting at the end of a course development cycle with all members of the development team**.**	• Our initial courses targeted the general nursing population. Going forward, nursing staff would like courses that meet the specific needs of their units. • Our course selection process worked well at the beginning but was less efficient as the number of requests increased. • The development process took longer than expected because there were too many people on the team and team members changed their mind frequently.

Evaluation Component	Information Sought	Method(s) Used	Findings
	development process? • Lessons learned		
Course Structure & Design	• Is the structure and design of our courses pleasing and effective? • Are the course instructions and content clear? • Are the course navigation and overall visual appeal pleasing and easy to use? • Is staff satisfied with the use of media? • Does the average time to complete a course versus match the projected time? • What was the success rate of our participants?	• Online end-of-course survey completed by the learners • Focus groups with staff nurses, Clinical Educators • Data stored in the LMS and retrieved through a combination of standard and customized reports.	• The quality of our content was very good but some courses were too long. • Videos were slow because of unexpected network issues. • Sound didn't work on all PC because not all computers were equipped with sound cards. • Courses were easy to use and had good visual appeal. • Most participants completed their course successfully.
Course Effectiveness	Kirpatrick's Four-levels of evaluation Level 1 • Staff reaction and satisfaction	Level I • End of course survey • Observation for new hires	Level I • Overall, there was high satisfaction but a few minor issues were also identified. For example, users were unfamiliar with how to disable popups on home computers and some learners did not know how to obtain their log in information.

Evaluation Component	Information Sought	Method(s) Used	Findings
	Level II • Did learning occur? Level III • Are new skills being applied on the job? • Is staff able to transfer learning from the eLearning courses to their job? Level IV • Has employee performance affected business/ organizational performance?	Level II • Pre and post test with some courses Level III • Chart audits • Tracking requests/incidents Level IV • Focus groups	Level II • Pre and post-tests showed knowledge transfer. Level III • Chart audits conducted after the delivery of our Focus Charting course showed a definite knowledge transfer as a result of the training. Level IV • We were unable to show a direct correlation.
Implementation Methods	• How effective were the methods we used to roll out eLearning? • Lessons learned	• Feedback reports and debriefing sessions with our implementation team	• Our initial roll out method was inadequate and we had to revise our approach (see article #3). • Learners appreciated our decision to launch eLearning using a short and simple course. • After completing the initial course, learners wanted more courses. Our lesson learned was to have a suite of courses ready to go when you launch.

Evaluation Component	Information Sought	Method(s) Used	Findings
Implementation - Uptake	• How many staff members have accessed the system? • Are the numbers increasing? • How many courses have been launched since we started? • Which courses are the most popular?	• LMS Reports	• The total number of people who have accessed the system as well as the total number of courses taken by participants has improved steadily over time. • Reports show pockets of popularity where certain units use eLearning more regularly than others.
Access to eLearning Courses	• Is it easy to access the eLearning system? • Where are staff located when they access eLearning?	• Web-based, end-of-course survey completed by learners • Focus groups with staff nurses, Clinical Educators	• Over 45 % of staff accessed courses from home. • Regardless of location, 74 % found it easy to locate a PC.
Support: • **HELP Desk** • **Computer User Support Program (CUSP)** • **Intranet/Internet Resources/Job Aids**	• What issues require support and how frequently do they occur? • How satisfied is staff with our end-user support? • What changes or improvements are required to improve the end user	• End of course surveys for our staff • Focus groups with our educators • Feedback from our help desk	• Key support issues included difficulty logging in, popup blockers (on home computers) and forgot passwords. • Initial feedback clearly identified a need for improved end-learner support. • This feedback provided us with the evidence required to formally engage our helpdesk to provide learner support.

Evaluation Component	Information Sought	Method(s) Used	Findings
	experience?		
Return on Investment – Financial	• When, if ever, will we be able to recover the cost of our initial investment? • What does it cost to develop and deliver courses?	• Analyse the costs of the LMS and the cost to develop and deliver courses against the cost to deliver traditional, instructor-led courses. • Analyse this over time to look at the per-person cost to deliver training.	• Our preliminary results indicate that it will be quite a while, if ever, before we recover our initial investment. • The cost to develop online courses is significantly higher than developing face-to-face courses. We forecast this trend will change in the next year or so as we develop more courses in-house, as opposed to outsourcing course development, and as the number of people taking courses online continues to increase.
Return on investment - Number of People Trained	• Have we been able to train more people as a direct result of eLearning? • Have we provided more access to learning opportunities?	• Compare estimates of the number of staff trained before eLearning (data obtained through discussions with the Clinical Educators) against actual numbers trained since eLearning (data obtained from reports generated from the eLearning system).	• We have been able to engage a significantly larger number of people in educational programs since we've implemented eLearning. For example, we taught approximately 140 people per year with our face-to-face Preceptorship course. When we introduced eLearning that number almost tripled with an average of 405 people per year. We achieved similarly high numbers with our Focus Charting course with almost 1500 people participating to date.
Return on Investment –	• Have we been able to provide a more	• Debrief sessions and feedback from the	• Each delivery of the same instructor-led course provided a similar message but the content wasn't

Evaluation Component	Information Sought	Method(s) Used	Findings
Quality of learning experience	consistent learning experience?	course subject matter experts and learners	always exactly the same. • eLearning courses provided exactly the same content, every time. • One disadvantage of our eLearning courses is that learners do not have the opportunity to ask questions as they are learning the material.
Return on investment – Improved use of Time	• Has eLearning helped Clinical Educators improve their productivity?	• To evaluate this, we measured our educators' use of time during the delivery of nursing orientations. • We selected new hire orientations because they occur regularly and have traditionally occupied a lot of our educators' time.	• The way educators spend their time during orientation has improved dramatically. • We converted the theory portion of 8 nursing orientation courses into an eLearning format, freeing up a total of 6 hours of educator time, every month. • This time has been reallocated by adding 4 hours of hands-on practice sessions in a simulation lab.

Communicating Results and Incorporating Feedback into the System

The act of completing an evaluation is an important activity. However, the true value of evaluation is the identification of areas for improvement upon which actions can be taken. While we are still in the initial stages of our evaluation, the results collected to date have provided us with both positive feedback as well as opportunities for improvement. The remainder of the article discusses some of the steps we have taken to improve our system based on the evaluation results.

Communicating Results

Communicating the results of our evaluation is an important way of connecting with learners who were dissatisfied. It also provides us with a method of celebrating our successes. Some of the key methods we are using include:

- Post select results on our eLearning site. These results promote our successes but also acknowledge issues and outline our action plan and timelines.

- Communicate directly with the leaders who provide hands-on support. This includes our help desk and clinical educator group as well as select managers and other support personnel. These groups often bear the brunt of frustrated learners. If they are aware of how issues are being addressed they will recognise that their feedback has been heard and will be more likely to stay motivated.

- Communicate and address organization-wide issues at the appropriate level. Some of the feedback we obtained included items such as access to PCs in select areas of the hospital or requests for paid time if courses were completed at home. Our eLearning Steering committee, which consists of a group of decision-makers throughout the organization, will be tasked with making decisions around these types of organization-wide issues.

Incorporate feedback in a meaningful way

This section highlights three (3) areas of feedback and the actions that we have already implemented or are in the midst of incorporating at the time of this publication.

Feedback - We love it but how to do get the courses we want developed?

Our initial method of selecting courses for development required individuals to submit their request using an online form. Requests were accumulated over a period of one or two months and a committee reviewed them and approved select courses for development. Feedback from some of our users was that it took too long from idea to inception.

Tip #1 - Be open to changing your approach.

Tip #2- Don't be afraid to ask lots of people for their help or input. It's one of the best ways to get new ideas.

Initially we couldn't think of a better way of gathering course ideas. We asked for suggestions in our online survey and provided an online form to gather course requests. However, once we started to ask lots of people for their suggestions and ideas for a different approach, we came up with the idea of putting out a "Call for courses" to our nursing leaders and educators. This 'call' allowed us to control when we received course requests, making it more manageable. It also meant that we could request courses when we were in a position to actually develop them – allowing to avoided disappointing staff who had previously submitted an ideas only to wait months to hear back that we had insufficient funds or resources.

Feedback - The course development process takes too long – Our initial foray into course development took about 3 times longer than we had expected. Feedback from our Subject Matter Experts (SMEs) was that the process was too time consuming, too complicated and exhausting.

Tip #3 – Be sure to document your approach and methods. That way, when you review your feedback, it's easier to pinpoint what needs to change and where and how you can incorporate it in your process. Our initial approach to course development involved teams of between 8 and 10 people. This meant that it was difficult to achieve consensus and that the materials would circulate for review for months at a time before everyone had a chance to contribute. We also spent a considerable amount of time rewriting the content once the development already took place. Because we documented our approach carefully, it was easy to identify items that took too long and revise our approach. In the future, course teams will be much smaller, between 3 and 5 people, and all course content will be written before multi-media development begins.

Conclusion

While we have developed an extensive evaluation program, time and resource constraints have made it difficult to implement as much of the plan as we would have liked. Quick wins have been end-of-course surveys and focus groups. Report data we've gathered from our LMS reports has also been useful, but because some data we would like to obtain requires customized reports, we have faced some limitations in the numeric data we've been able to collect.

Despite the limitations, and despite the slower pace then we had initially anticipated, we are encouraged with the results. The evaluations conducted to date have shown some great successes and even those that revealed deficiencies have provided us with a great opportunity to improve our system.

Our hope with this last article is that, taken together, this series will provide organizations going into eLearning with tools, tips, plans and insight that they can incorporate into their own initiative.

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