

# The effectiveness of e-learning in a nursing training program: a research proposal...



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### *Introduction*

E-learning has been an important training and development tool over the last 5 years. More organizations are combining it with classroom instruction to specialize content to meet the individual needs of students. Clinical simulations, virtual reality applications, and multimedia course work are becoming components of the mix. But education isn't the only reason e-learning is becoming more significant.

As new, computer savvy nurses join the profession, the demand for greater availability of training is increasing; making e-learning both recruitment and retaining must-have. The first step towards forming the future is to envision it. Nurses can and should take on the task of envisioning their own future. Dorcas Hardy, former U. S. Commissioner of Social Security, once said, " The one with the primary responsibility to the individual's future is that individual." So, too, with nursing, the ability to embrace rising technology is an important determinant of the profession's future.

It has been customary that important care theories and skills development have been taught in a lecture and clinical laboratory format with one instructor and a group of students. However, this teaching technique cannot make sure a specialized approach to teaching skills, complying with different schedules, or account for various student experiences and expertise, and assumes that all students learn at the same pace, disregarding their experiences, interests, backgrounds, or time demands. Also, students in conventional courses must all attend class on particular days at specific time schedules for a prescribed period.

Using the Ofsted framework for evaluation, the current study aims to assess the effectiveness of elearning as a learning tool in a nursing training program in \_\_\_\_\_.

### *Review of Related Literature*

#### *An Overview of Constructivist Theory*

Constructivist theory is rooted from several schools of thought, including the areas of philosophy, anthropology, the natural sciences, semiotics, socio-linguistics, and education. Its ancestry has been depicted by several researchers (Duffy & Cunningham, 1996; Entwistle, Entwistle, & Tait, 1991). In the academic setting, Rousseau and Dewey have been frequently alluded to as integrating constructivist approaches in their views of teaching and learning. There has been renewed, contemporary emphasis on constructivism, attributed to the changes in particular content areas, notably science and mathematics (Brooks & Brooks, 1993).

In the academic setting, constructivism has usually been presented as a philosophical or instructional approach. In Brooks & Brooks (1993, p. vii), Fosnot (1992) asserts the following: “ Constructivism is not a theory about teaching. It’s a theory about knowledge and learning.” This implicit confusion has led to constructivism being perceived as just one among the numerous options for enhancing student learning. To ensure the utility of any learning theory, it is imperative to determine and explore its impact on teaching. Moreover, it is critical that constructivism be presented purely from a theoretical viewpoint, presenting *what is* rather than *what should be* .

### *Primary Concepts*

Duffy & Cunningham (1996) purport that “ the term constructivism has come to serve as an umbrella term for a wide array of views (p. 171). Certain authors make a distinction between *cognitive constructivism* , which concentrates on the individual learner; and social *constructivism* , which reinforces learning as transpiring within the context of dialogue and social interaction (Duffy & Cunningham, 1996).

While there are varying definitions of constructivism, an overriding principle is that under constructivism, knowledge is built or constructed by the learner. For instance, Honbein, Duffy, and Fishman (1991) assert the following: “ Basically, constructivism proposes that knowledge and meaning is not fixed...but rather is constructed by the individual through experience... in a particular context” (p. 88).

Integrated into this description is the several concepts that are in conflict with the beliefs still being exercised in academic institutions of the day: that is, that learning is adaptive, a process of building functional understandings rather than of uncovering fixed truths; that learning is an active process maneuvered by the learner; and that learning and the context for learning are meaningfully linked (Brooks & Brooks, 1993; Duit, 1995; Duffy and Cunningham, 1996). Still, there are other critical concepts involved, specifically the role of social interaction in both mediating and assisting the learning process.

### *Learning as an Adaptive Exercise*

Constructivist theory distinguishes learning as *making sense*. For instance, Brooks & Brooks (1996) explain the following: “ Each of us makes sense of our world by synthesizing new experiences into what we have previously come to understand” (p. 4). Learning is a process of developing more profound comprehension and understanding – it is not merely about acquisition of a fixed body of knowledge – instead, it is about building concepts and explanations that permit us to function effectively in given situations, and to which may be sufficiently attributed explanations for circumstances presented to the learner.

Taken as an advancement of *understanding*, the cognitive endeavor starts from what happens to be currently adopted and proceeds to integrate and organize, weed out and supplement, not in order to arrive at truth about something already made but in order to make something right – to construct something that works cognitively, that fits together and handles new causes, that may implement further inquiry and observation (Bauersfeld, 1995, p. 144 quoting Goodman & Elgin, 1988).

From this perspective, knowledge is not purported as fixed, asserting that it is not possible to determine objective truth with full certainty. Duffy and Cunningham (1996) further assert that “ what we choose to call knowledge is a consensus of beliefs, a consensus open to continual negotiation (p. 178). Instead of estimating objective reality, “ viability” is the gauge for understanding. In addition, von Glasersfeld (1995a) says, “ To the biologist, a living organism is viable as long as it manages to survive in its environment. To the constructivist, concepts, models and theories, and so on are viable if they prove adequate in the contexts in which they were created” (p. 7-8).  
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### *E-learning among Nurses*

Nowadays, in order to attain required competencies each year, nurse educators can no longer depend on customary teaching styles to instruct staff members (Doster, 2004). Thus, e-learning provides us with faster methods of education delivery, student testing, and results feedback, wherein we need not worry anymore about pencils and paper accreditation standards, hospital administrative initiatives, and individual education needs (Santosus, 2004).

An interactive, customized Web site to educate bedside staff and to lessen manager / educator paperload was developed and implemented by the Perioperative Nursing Department at the University of Alabama Hospital, Birmingham. The system, which was developed by the facility's nursing informatics staff, links its users to educational material and provides immediate testing with automatic feedback of scoring results. In addition, the site records results with staff identifying information and test dates. Managers use stored information to generate a series of reports required by multiple departments for assessment of yearly competencies, performance criteria, and accreditation documentation.

### *The Advantages of Using E-learning*

Ever had to train 300 staff members in 40 days? Variables such as vacation schedules, current classes, different employee shifts, and decreasing numbers of available instructors means meeting this deadline is almost impossible. Staff members can opt to use e-learning programs, which are available every day, and any hour, rather than waiting for a scheduled

lecture to transpire. The “ just-in-time” nature of elearning means  
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specialized training, when required, is available without the problems regarding the classroom or the availability of the instructor. This leads to training that's accomplished more rapidly, enabling the learners to meet tight deadlines while ensuring content consistency and uniformity.

Also, e-learning can reorganize the education process by freeing up the educators' time to focus on learning transference, supplemental information development, and learners' educational needs. E-learning's more efficient use of time can increase productivity and decrease training costs (Smith, 2001).

One first determines how e-learning fits into the organization's operation to effectively implement it. In identify training needs, one must articulate how technological tools can help meet those needs, then search for content that's appropriate for the training's intended purpose.

Next, consider creating a team of stakeholders to facilitate decision-making that seeks to design an efficient strategy for e-learning. To best comprehend educational requirements throughout an organization, the team should include representatives from clinical education, information systems, human resources/organizational behavior, and executive leadership.

Then, create a plan for strategic implementation that includes all sought after training. Initially, an individual may have to focus on one set of educational needs rather than tackling every suggested training issue. The need to prioritize learning initiatives, create phases of a rollout plan, and articulate evaluation guidelines in order to assure successful implementation from an educational and business point of view.

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Once the strategic value of and appropriate use for e-learning is defined, focus on technological and content-related decisions. First, determine if there's an existing e-learning program in place at the organization's facility. If so, find out whether it's a forum that can be leveraged across the company. To accommodate a larger effort, the platform must be "scalable," meaning that a significant number of employees can access content through its structure. If it's not scalable, or e-learning isn't currently in place, articulate necessary performance requirements to guide the search for an appropriate solution.

From a technological perspective, a very important component to launching a successful e-learning strategy includes the comprehension of learning-management systems and their use as a tool in a clinical environment. Many companies provide learning-management systems to be utilized *within* hospital settings. Some are simply technological platforms or structures within which an organization can accommodate its own contention; others come complete with content components.

Before determining the structure's concrete technological components, we should consider content availability. In addition, question each e-learning vendor about the kind of content its platform provides and if the content is included in the implementation expenditure or if it's extra. Also inquire if other content can be added to the platform. These steps will ensure that the platform of preference meets both technological and content requirements.

*Implementation: Internal marketing and Blended learning*

Marketing the program by demonstrating how employees will benefit from its availability will be able to generate interest. The system provides information explaining the efficiencies and increased productivity that they will ultimately realize from the training. These efforts will help generate a “buzz” around the initiative that will see it through to a successful implementation.

In order to augment training, consider the use of a blended-learning approach, which combines e-learning with traditional classroom instruction. The e-learning program can serve as the theoretical foundation upon which participants can build specific skills, either within a classroom or lab setting (Rosenberg, 2001).

There should also be a determination of what tasks can be performed electronically, which ones need a face-to-face or hands-on approach, and how to mesh the two to be able to create a blended-learning approach. Educational outcomes may remain the same as those articulated for the current construct or modified for the new model. Blended-learning environments may enhance educators’ effectiveness, enabling them to use time previously spent delivering basic educational content to focus on specific learning needs of each student.

Such a model capitalizes on the advantages drawn from e-learning and maximizes education with face-to-face activities that can house various learning styles, provide social interaction, and focus on nursing skill development.

### *Methodology*

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This study employs a qualitative research design. The qualitative research approach is based on a “ world view” which is holistic and has the following beliefs: (1) there is not a single reality; (2) reality based upon perceptions that are different for each person and change over time; and (3) what we know has meaning only within a given situation or context. The reasoning process used in qualitative research involves perceptually putting pieces together to make wholes. From this process meaning is produced.

However, because perception varies with the individual, many different meanings are possible (Burns & Grove, 1993 in [www. fortunecity. com](http://www.fortunecity.com)). The present study uses a phenomenological approach, describing participants’ experiences as they are lived in phenomenological terms (i. e. to capture the “ lived experience” of study participants). The focus of phenomenological research is people’s experience in regard to a phenomenon and how they interpret their experiences (Burns & Grove in [www. fortunecity. com](http://www.fortunecity.com)).

Semi-structured surveys were used, offering the proponent the opportunity to follow up and clarify. It also permitted the respondent to express his/her feelings, opinions and concerns. Following this, surveys were documented and thematically analyzed.

This research will make use of semi-structured surveys of students and teachers/administrators of \_\_\_\_\_. Survey questions on effectiveness of e-learning are based on the seven (7) strands included in the Ofsted Dual Evaluation System. The interviews will enable thematic analysis of the effectiveness of e-learning at \_\_\_\_\_.

These interviews and thematic analysis will then enable the creation of a focus case study, which will answer essential questions such as: *What is being addressed ; How it is being addressed ; By whom ; What are the strengths of the system ; and conversely, What are the weaknesses of the current system?*

### *Subjects and Sampling*

All interviewees will be chosen purposively with the following inclusion criteria: 1) should have been a member of the institution for at least one year; 2) has experienced the introduction of the elearning program and its outcomes; and 3) has explicitly expressed willingness to participate in the study. These criteria apply for all interviewer categories of teacher, administrator and student.

### *Procedure*

Secondary data were gathered through books, journals, and online sources. Following a comprehensive review of related literature, the researcher proceeded with the semi-structured interviews with teachers, administrators and students of \_\_\_\_\_.

Interview questions are based on the seven (7) strands included in the Ofsted Dual Evaluation System where elearning is regarded as a part of ICT curriculum development. The interviews will enable thematic analysis of elearning development at \_\_\_\_\_.

### *Instrument*

The basis for the teacher surveys and interviews will be the following strands adopted from Ofsted's Dual Evaluation framework:

#### Strand 1: Leadership and vision

Does \_\_\_\_\_ have a vision on the potential of elearning to achieve the school's aims and aspirations?

Does the school have a sustainable strategy incorporating staffing, elearning resources and curriculum planning to meet the vision?

Is the implementation of the strategy managed, coordinated and monitored across the school?

Is the vision and strategy informed by an evaluation of implementation and of developments in technology and practice in the wider world?

#### Strand 2: Curriculum

Is the planned elearning curriculum is broad and balanced?

Does the school reviews and update its whole curriculum in the light of developments in technology and professional practice?

Are pupils' actual elearning experiences coherent, balanced and consistent across year groups and progressive over time?

#### Strand 3: Teaching and learning

Is teaching enriched and enhanced through the informed use of elearning?

How would you define 'informed' use?

Are teachers' expectations of pupils' use of elearning informed by knowledge of their elearning capability and patterns of access to elearning?

Does elearning extend the quality and range of opportunities for pupils' learning?

Do teachers identify and evaluate the gains in teaching and learning by using elearning?

#### Strand 4: Assessment

Where elearning is being used, do interactions support pupils' learning?

Are formative assessment evidence and data used in planning teaching and learning?

Are systems and processes in place to ensure the consistency and reliability of summative assessment across the school/team?

#### Strand 5: Continuing Professional Development

Are school and individual needs identified and addressed?

Does the quality of support and training promote effective use of available resources?

Is the impact on practice monitored and evaluated and the results used to inform future development?

#### Strand 6: Resources

Does the design of teaching and learning environments enable elearning to be used effectively and in line with strategic needs?

Is the availability and deployment of elearning resources reflective of \_\_\_\_\_strategic needs?

Do support systems ensure that elearning resources optimise staff and pupils' use of elearning?

Strand 7: Standards

Is pupils' attainment in elearning capability high with reference to all schools nationally?

Is pupils' attainment in elearning capability high with reference to the school's own context?

Do pupils make good progress in elearning capability?

Does the use of elearning have a beneficial impact on: attitudes, behavior, motivation, attendance?

Does elearning have a positive impact on pupils' standards in other subjects?

On the other hand, the following questions were asked of students, from a self-constructed questionnaire. The items of the tool are enumerated as follows:

1. How is elearning helping you in your learning?

2. How often do you use elearning to help with your classwork and homework?
3. What do you use elearning for when doing schoolwork?
4. How do you feel elearning helps you? For example; it helps with the presentation of your work.
5. How does use of up-to-date elearning equipment and resources help you to learn?
6. How does using a computer for example increase your enjoyment in subject and ability to do more?
7. Which aspect of elearning has helped you to learn more in the nursing program? Please be as specific as you can.

Similar to the analyses made for teachers and administrators, responses to these items were thematically analyzed.

#### *Method of Data Analysis*

Thematic analysis was used to make meaningful deductions from the documented raw data. In thematic analysis, a concept is chosen for examination, and the analysis involves noting the frequency of its presence in the whole interview, and finding interrelations among the themes identified. The focus is at the occurrence of selected terms within a text or texts, although the terms may be implicit as well as explicit. While explicit terms obviously are easy to identify, coding for implicit terms and deciding their level of implication is complicated by the need to base judgments on a somewhat subjective system.

Simply put, the researcher read the documented surveys, and analyzed the interlinkages of these responses. When responses are not explicit, interjudge validation was used, with another researcher agreeing on the category under which the response may be grouped. The meaning and interpretation of each response was noted, and related to the organization's overall profile. In this sense and taken as a holistic approach, the data from the chosen institution may be considered as a case study.

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