Voices of Innovation: Building a Model for Curriculum Transformation

Abstract

Innovation in nursing education curriculum is critically needed to meet the demands of nursing leadership and practice while facing the complexities of today’s health care environment. International nursing organizations, the Institute of Medicine, and our health care practice partners have called for curriculum reform to ensure the quality and safety of patient care. While innovation is occurring in schools of nursing, little is being researched or disseminated. The purposes of this qualitative study were to (a) describe what innovative curricula were being implemented, (b) identify challenges faced by the faculty, and (c) explore how the curricula were evaluated. Interviews were conducted with 15 exemplar schools from a variety of nursing programs throughout the United States. Exemplar innovative curricula were identified, and a model for approaching innovation was developed based on the findings related to conceptualizing, designing, delivering, evaluating, and supporting the curriculum. The results suggest implications for nursing education, research, and practice.

Keywords: curriculum, innovation, everett rogers, model

It is essential that schools of nursing develop and implement innovative curricula to prepare nurses to manage the care of the ever-increasing numbers of patients with complex health problems in an era of diminishing resources as well as spiraling knowledge explosion. Traditional nursing programs have not been able to educate enough nurses to fill the need for new nurses, nor replace the large numbers of nurses expected to be lost to retirement within the next 10 years (Health Resources and Services Administration, 2007). The Institute of Medicine (IOM) and the Robert Wood Johnson Foundation (RWJF), (Institute of Medicine, 2011) have recently issued a call for nursing programs to educate more nurses at the Bachelor of Science in Nursing (BSN) level, and beyond to address these needs and to prepare those who will become the nursing leaders and nursing faculty of tomorrow (Benner, Surphen, Leonard, & Day, 2010).

Innovative curricula, with a focus on concepts rather than content, technology, simulation, and flexible pathways are critical to answering the call for curriculum reform. In contrast, schools relying on traditional curricula struggle to adapt to the needs of nurses facing today’s complex health care environment (Benner et al., 2010). While some innovation may be occurring in classrooms, clinical, and laboratory settings, little is shared outside of the organization or institution (Iwasiw, Goldenberg, & Andrusyszyn, 2005). Nurse educators are concerned with how to approach curriculum reform in the face of pressures for students to pass the licensing exam (Grady & Hobbins, 2009). There is a dearth of literature and research on the ways for nurse educators to approach curriculum innovation in nursing education.

The investigators of this study, consisting of seven faculty from a variety of nursing programs nationally and internationally, are members of the National League for Nursing’s (NLN) Task Group on Innovations in Curriculum Design. In response to the NLN Nursing Educational Advisory Council’s charge to analyze how nursing curricula reflect current scholarly thinking about curriculum design, implementation, and evaluation, a literature review was conducted which revealed little substantive curriculum innovations already published. Therefore, the authors conducted a retrospective qualitative study consisting of...
interviews of nurse educators’ describing innovative curricula based on the definition of innovation as described by previous Task Group work (Pardue, Tagliareni, Valiga, Davison-Price, & Orehowsky, 2005).

The purposes of the study were to (a) describe what innovative curricula were being implemented, (b) identify the challenges faced by the faculty, and (c) explore how the curricula were evaluated. The Curriculum Innovation Model developed from the findings of this study supports the NLN’s Excellence in Nursing Education Model, providing examples of student-centered, interactive, innovative programs, and curricula.

**Review of literature**

Beginning with efforts to move the preparation of professional nurses from the hospital to colleges and universities, innovation and reform are themes frequently found in the nursing education literature (Forbes & Hickey, 2009). In 1989, Bevis noted that curriculum innovation in nursing education was necessary due to the rapidity of change in nursing knowledge, the settings in which nursing practice was taking place, the need to distinguish nursing practice from other health care professions, and changes in nursing students themselves. However, two decades later, little has changed in the way nurses are educated (Bellack, 2008). Nursing education continues to be characterized by an emphasis on content, memorization, and traditional educational practices (Bellack), and much of the innovation that has taken place has “focused on the addition or rearrangement of content within the curriculum . . . rather than on significant, paradigm shift-type changes” (Tanner, 2007, p. 51).

In recent years, calls for curriculum innovation and reform in nursing education have reached new levels of intensity (Bellack, 2008; Benner et al., 2010; IOM, 2011; NLN, 2005; Stanley & Dougherty, 2010). There is a substantial gap between the education of nurses and the nature of contemporary nursing practice in today’s health care systems, and nursing programs in the US are generally not effective in facilitating the broad-based learning that nurses need in the natural and social sciences, technology, leadership, and humanities (Benner et al., 2010). Nurse educators frequently teach as they were taught – a reality no longer acceptable in a complex and rapidly changing health care environment (Bellack).

In 2003, the NLN called on “nurse educators, students, consumers and nursing service representatives to form partnerships that will dramatically reform schooling, learning and teaching and the relationships between and among students, teachers, researchers and clinicians” (p. 3). In 2005, NLN called for the development of new models of nursing education in which educational programs are “designed to involve students as active participants in the educational enterprise, be flexible to meet constantly changing demands and individual student learning needs, be accessible and responsive to diverse student populations, and be accountable to the public” (p. 1).

The Initiative on the Future of Nursing, a collaborative partnership between the RWJF and the IOM, recognized in 2011 a need to transform nursing education, so that nursing graduates would be prepared to “work collaboratively and effectively with other health professionals in a complex and evolving health care system in a variety of settings” (IOM, 2011, pp. 4–1). Stanley and Dougherty (2010) argued that, when considering innovative curriculum reform, nurse educators move from a paradigm that is historically teacher-centered and based on traditional methods to one that embraces new ideologies and emphasizes learning that is student-centered.

Pardue et al. (2005) found that the literature on innovation in nursing education was lacking in terms of “significant reformation or ‘paradigm-shifting’ changes in nursing education” (p. 55). Nursing education has focused on teaching innovations that “offer incremental ideas for tinkering at the edges, rather than true creativity or transformation in the way we conduct nursing education” (Bellack, 2008, p. 439). As a result of their work, the NLN Task Group on Innovation in Nursing Education defined innovation in nursing education as “using knowledge to create ways and services that are new (or perceived as new) in order to transform systems”. It requires deconstructing (i.e. challenging) long-held assumptions and values. The outcome of innovation in nursing education is “excellence in nursing practice and the development of a culture that supports risk-taking, creativity and excellence” (Pardue et al., 2005, p. 55).

**Method**

**Participants**

An e-mail invitation was sent to all nursing programs in the NLN data base to ask them to use the investigator-developed and NLN-approved Curriculum Innovation Rubric in Table 1 to determine their school’s level of innovation.
Forty responses were collected and reviewed by each of the investigators, and 15 innovative schools were selected for follow-up. Most schools defined their journey to innovation as in the early development stage. Schools selected were those whose self-described innovation most closely matched the definition (Pardue et al., 2005). They were located in small private colleges to large state-wide-system universities, and programs ranged from LPN to PhD from a variety of geographic locations in the United States. Faculties were interviewed by teleconference by Task Group teams of 3, who used the following questions to elicit detailed responses: (1) How have you created ways and services that are new (or perceived as new) at your school? (2) How have you challenged long-held assumptions and values? (3) How have your innovations been responsive to student needs? (4) How have you identified excellence in nursing practice based on your innovations? (5) How have you identified excellence in nursing education curriculum? (6) How have you developed a culture that supports risk-taking, creativity, and excellence? Institutional Review Board approval was obtained for a qualitative descriptive study of the interviews.

Data analysis

Interview data were analyzed using Mayring’s (2000) qualitative content analysis, a systematic text analysis. Themes were identified by the investigators through collaborative online editing where data were coded for anonymity. Conference calls to discuss the themes enabled investigators to maintain inter-rater reliability. Data were analyzed through multiple reductions in order to identify and verify the themes of (1) conceptualizing, (2) designing, (3) delivering, (4) evaluating, and (6) supporting curriculum innovations. Table 2 was constructed to illustrate the themes and examples.

<table>
<thead>
<tr>
<th>Table 2</th>
<th>Themes and examples of curriculum innovations</th>
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<tr>
<td><strong>Themes</strong></td>
<td><strong>Examples</strong></td>
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<tr>
<td>Conceptualizing</td>
<td>Changing nursing’s image through inter-professional meetings to illuminate the rigor of nursing education</td>
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<td></td>
<td>Changing traditional thinking about nursing education through collaborative programs for seamless articulation</td>
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<tr>
<td>Designing</td>
<td>Learner-centered focus on student engagement through concept- and evidence-based projects, peer teaching and learning, and student-led teaching assistant programs</td>
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<td>Teacher seen as facilitator by building on students’ strengths and collaborating with students’ learning needs</td>
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<td>Delivering</td>
<td>Partnerships with health care partners to enhance student learning through dedicated education units</td>
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<td></td>
<td>Technology tools to enhance student learning such as online group projects, high-fidelity simulation, videoconferencing, and podcasts</td>
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<td>Evaluating</td>
<td>Sparse evaluation of innovation, but a variety of methods included feedback from stakeholders, student portfolios, and evidence-based practice student-preceptor projects</td>
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<tr>
<td>Support</td>
<td>Provided by administration and practice partners to build a culture of risk-taking without penalty, celebration of innovation, and financial support through release time, stipends, grants, personnel, and additional physical space</td>
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The Curriculum Innovation Model in Figure 1 was then formulated from the themes.

![Figure 1](image.png)

**Figure 1** Curriculum innovation model.

### Findings and discussion

The respondents identified the impetus for curriculum innovation in nursing education as being affected by a number of major influences, and led to decisions that enabled faculty to begin the transformation of their curricula. These influences include the national trend toward evidence-based practice (EBP); increasing focus on safety standards and competency frameworks, including the IOM report (2011), revised standards from American Academy of Colleges of Nursing (AACN) (2008), NLN (2013), Quality & Safety Education for Nurses (QSEN) (2013), and other professional organizations; feedback from community partners related to both graduate performance and shifting needs; and analysis of outcome data from various communities of interest including students, graduates, faculty, and community partners. Five themes of curriculum innovation emerged from the interviews. Each theme is discussed below.

#### Conceptualizing

Central to curriculum conceptualization was the need to challenge long-held assumptions. Two subthemes emerged related to this challenging process including changing nursing’s image on the college campus and changing traditional thinking about nursing education. Attempts at changing nursing’s image were initiated through helping other disciplines understand the rigor of nursing education in addition to creating collaborative programs in partnership to generate seamless articulation for students.

#### Designing

Designing the curriculum was in many cases accomplished through efforts to change the curriculum structure using a variety of theoretical frameworks such as those suggested through the IOM report, AACN, and NLN. The designing phase was built on the decisions made in the conceptualizing phase. Key to the design of innovative curricula was a learner-centered focus. Educators were asked as to what does and does not need to be included in the curriculum. Thoughtfully chosen responses included reference to the knowledge, skills, and judgments necessary to be a nurse today and in the future. “De-stuffing” the curriculum, although cited as one of the most common reasons for seeking curriculum change, was challenging for the faculty since they had to let go of some long-held traditions. However, focusing on concepts rather than content helped in streamlining this process.

#### Delivering

Delivering an innovative curriculum requires creativity and courage to challenge the status quo. The variety of implementation strategies is limited only by the resourcefulness of faculty, who are encouraged by engaged students and supportive administrators. Methods selected for curriculum delivery were seen in three distinct areas: partnerships, technology, and improving access.

Partnerships play a key role in the curriculum delivery. Forward-thinking nurse educators have long abandoned the silo approach that precluded meaningful faculty/staff collaboration, and are now acknowledging the essential nature of such partnerships. The proliferation of technology has posed a welcome conundrum for creative nurse educators, whose major challenge is to decide which technology is best for which student in which situation. Prevailing wisdom encourages educators to look toward curriculum objectives to help decide appropriate uses of the plethora of technology tools that exist. Many delivery strategies focused on improving access to the nursing education curriculum. In addition to online approaches, access is improved through other non-traditional means including such things as Second Life, Facebook, robots, and wikispaces.
Evaluating

In contrast to the large amount of data gathered in relation to the other themes, little consistent information was provided about how schools were evaluating or planning to evaluate the impact of their implemented curriculum innovations. In some schools, innovations had only recently been implemented and evaluation activities had not yet begun at the time of the study, or were in the process of being developed. Collectively, however, evaluating the curricula was completed using a variety of methods such as feedback from internal and external stakeholders, student outcomes such as portfolios, and surprisingly very little from metrics (i.e. passing the National Council Licensure Examination). As one participant stated, “We are not sure that NCLEX pass rate is the total reflection of the excellence of this innovative curriculum and teaching processes.”

Supporting

Innovative schools had underlying support systems involving administration and practice partners, a culture of risk-taking without penalties for mistakes, and financial support though release time, stipends, and grants, in addition to faculty development opportunities with experts on curriculum innovation. Having strong administrative support empowered the faculty to embark upon and accomplish innovative curriculum changes and was crucial at every step throughout the curriculum innovation process. Administrators set the stage by starting the dialogue and providing development opportunities for faculty to be exposed to new and creative ideas. Such efforts were reported to take months to years to be accomplished effectively, but the time spent in cooperative collaboration was reported to be well worth the effort. Faculty stated that the administrative support provided a climate that was energizing and exciting and made their school a “learning organization” with all the members of the system learning from each other and having a shared vision focused on student success.

The study results validate the notion that innovation, as posited by Rogers (2003), is an arduous and difficult process fraught with resistance from stakeholders inside and outside the profession. The courage and tenacity of the innovators is seen in their determination to push through traditional thinking to progressively offer what students need to be prepared for – the skills, knowledge, and the leadership to practice in an environment of complexity to safely meet the needs of patients today.

Curriculum innovation model

Curriculum innovation can be a daunting, time-consuming task; however the use of the Curriculum Innovation Model, developed from this study, can help guide faculty in a logical manner from conceptualizing to evaluating the curriculum. Schools of nursing may begin an assessment of the innovativeness of their own curriculum through the use of the Curriculum Innovation Rubric (see Table 1). This rubric provides an evidence-based guide for determining the level of innovation and progress towards the development of further innovation of the curriculum, in accordance with the 2003 definition developed by the NLN Task Group on Innovation in Nursing Education. The Curriculum Innovation Rubric can serve as a starting place for both nurse educators and schools of nursing interested in assessing the innovativeness of the curriculum. In the Curriculum Innovation Model (see Figure 1), each of the five components is present. Their interdependence and the developmental nature of the model are illustrated through the interplay of five recurring threads and the bi-directional arrows. No single component of the curriculum innovation can occur independently of the other components, and each is incorporated or is nested within all of the components. Examples of the threads included partnerships, access, focus on learner-centered education and student engagement, “de-stuffing” the curriculum, and the use of technology.

As seen in the model’s first and innermost circle, conceptualizing the curriculum, nurse educators may wish to begin envisioning an innovative curriculum by challenging traditional thinking. This can be accomplished through consideration of such things as alternate access to education, broader views of theoretical frameworks and strategies to implement the curriculum, and collaboration and partnerships between academic and practice stakeholders. In particular, this re-conceptualization and collaboration may break down barriers that exist among the different levels of nursing education to better create collaborative programs that enable seamless articulation for students, an IOM (2010) recommendation.

Designing the curriculum, the second circle, may help nurse educators as they consider broadening their thinking about conceptual frameworks. The student driving the curriculum is a radical thought to many nurse educators, but allowing students to actively engage in their
learning, and consequently increase their learning accountability may lead them to be more skilled in meeting the complexity of today’s health care system. Consideration of a variety of access modes to student learning, such as video conferencing, web conferences, tele-health observations, and hybrid face-to-face and web courses, may also enhance students’ seamless progression by allowing for increased enrollment, convenience, and learner satisfaction.

*Delivering* the curriculum, the third circle, may be realized through partnerships involving clinical and academic partners, such as the use of Dedicated Education Units. The use of technological tools such as Podcasting, video conferencing, and Wimba™ classrooms would help to link rural and urban distance-education students in student-centered learning communities. Programs such as RN to BSN or RN to MSN programs could enhance seamless academic progression in order to enable nurses to lead change to advance health, another IOM (2010) recommendation.

*Evaluating* the curriculum, the fourth circle, demonstrates that evaluation of innovative curricula and its impact on student learning is in its infancy. It is essential that evaluation be conceived, planned, and implemented from the earliest stages of the innovative curriculum implementation. Innovative schools suggest alternate methods to evaluate student learning through such things as end-of-program clinical projects to assess student ability to apply theory to practice, observation of behaviors in the clinical setting such as acceptance and caring, and the use of portfolio data to demonstrate achievement of program outcomes. Innovative schools questioned whether the NCLEX pass rates were a complete reflection of excellence in teaching and learning. There is a great need for the development of evaluation methods to show success in student learning outcomes appropriate for today’s health care environment. The IOM (2010) recommends the development of assessment tools to ensure that graduates have acquired the full range of competencies required for nursing practice.

The Curriculum Innovation Model’s outer, or fifth circle, *supporting* the curriculum, is of primary importance and can serve both as a beginning and end to curriculum reform. Organizational support is fundamental to the success of any innovation within institutions (Rogers, 2003). Faculty must be supported by their administration through a culture that enhances risk-taking, allowing for mistakes and the ability to experiment with innovation in classroom, laboratory, and clinical sites. Celebrations of innovation are helpful in encouraging this exploration of innovation. Faculty also needs to understand how to build curricula, and consequently faculty development and/or graduate program opportunities using experts in innovation of curriculum may be helpful in providing this foundation. Administrators may also wish to support the faculty in finding funding and financial resources, which can be crucial for success, for their innovative efforts.

**Limitations**

A limitation of this study is that the method of soliciting responses consisted of one e-mail. This may have been overlooked by some innovative faculty. A second possible limitation was that only 15 out of 40 schools were selected for interviews; therefore, there may not have been a true representation of curriculum innovations in schools of nursing in the United States. A third possible limitation is that the questions asked of the interviewees may not have completely captured the essence of innovation in schools of nursing, as it was based on one definition of innovation. Lastly, interviews were not recorded and interview data were paraphrased, and not recorded; therefore the intentions of the interviewees may not have been completely captured.

**Summary: of implications for nursing education, practice, and research**

This study adds to the evidence base for nursing education by addressing the lack of published literature describing what is happening at the grass-roots level in schools of nursing related to curriculum innovation. Curriculum innovation can be a daunting, time-consuming task; however schools of nursing may begin an assessment of the innovativeness of their own curriculum through the use of the Curriculum Innovation Rubric. This rubric provides an evidence-based guide for determining the level of innovation and progress toward the development of further innovation of the curriculum. In addition, the use of the Curriculum Innovation Model, developed from this study, can help direct curriculum development in schools of nursing in a logical manner from conceptualizing to evaluating the curriculum.

True curriculum reform cannot take place without the input of practice partnerships and community agencies. This study reinforces the notion that collaboration with
practice partner stakeholders is imperative at every level and in all steps of the Curriculum Innovation Model, from conceptualization to evaluation. Curriculum innovation is necessary to prepare nurse graduates for the complexity of today’s health care system. A less restrictive approach that includes cooperation between nurse educators and clinical practice partners to create new models of academic progression must be adopted in order to meet the demands of today’s workforce.

The results of this descriptive study not only support that evaluation of innovative curricula is in its infancy, but also underscores the urgency of continued work in this area. Innovative schools suggested alternate methods to evaluate student learning through such things as end-of-program clinical projects to assess student ability to apply theory to practice and questioned whether the NCLEX pass rates accurately reflect excellence in teaching and learning. There is a great need for the development of evaluation methods to show success in student learning outcomes that are needed for today’s health care environment.

A common pitfall in curriculum development is that evaluation is often not planned at the beginning of the innovation, contributing to deficiencies in data available for ongoing review and analysis. As curriculum innovation is planned, so must be the methods that will be used to judge the effectiveness of the innovation on both a formative and summative basis. Planned use of a variety of evaluation sources built into the curriculum from the beginning assures that continuous quality assessment occurs allowing for ongoing refinement and revisions as needed.

In conclusion, this study informs the nursing education community of the level of innovation that is occurring throughout the United States in response to decades of calls for reform. Although more research is needed, the Curriculum Innovation Model may serve as a guide for nurse educators as they embark on curriculum innovations as recommended by the IOM (2011), NLN (2013), and AACN (2008) for transforming nursing education to meet the demands of complexity in today’s health care environment.

References


