Emotional Connection and Integration: Dominant Themes Among Undergraduate Nursing Students Using a Virtual Community

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ABSTRACT

The use of virtual communities is an emerging pedagogical application that enhances student learning in nursing education. This study involved a sample of 40 undergraduate students enrolled in a baccalaureate nursing program using The Neighborhood as a teaching application across the curriculum. The students were followed over three successive semesters. Using the qualitative method of content analysis, student responses generated by open-ended questions were grouped and analyzed to identify major themes. Analysis of the data revealed two primary themes: (1) an emotional connection to specific characters or families, and (2) integration of characters and events into learning activities. Student feedback indicated that virtual communities provide a viable strategy for teaching nursing concepts and their application.

The use of virtual communities is an emerging pedagogical application that enhances student learning in nursing education. The phrase virtual community has multiple meanings. For the purpose of this article, a virtual community refers to an online teaching application featuring a fictional community with characters. In this context, a presentation of concepts through character events occurs within the virtual community. This is distinctly different from online social communities or networks (e.g., blogs, Facebook, and Twitter). As an emerging pedagogy, it is essential to evaluate the effectiveness of virtual communities in educational applications. The purpose of this article is to report the qualitative themes that emerged from our study of a cohort of students who used a virtual community over three academic semesters.

Literature Review

There is little published literature specifically related to virtual communities in nursing education because this is an emerging application. Most literature has been limited to a description of the application, how it is being used, or potential benefits to learners. This virtual community, The Neighborhood, is a series of character stories that unfold over 45 weeks; the featured characters represent nurses and individuals who live within the community (Giddens, 2007). Because the stories are fully written, weekly updates are automated, representing a relatively low-maintenance application (although periodic review for content revisions is necessary to keep up with changes in health care practices). This application was initially developed as a way to enhance conceptual teaching and learning, with linkages to case studies, storytelling, and narrative pedagogy. More specifically, faculty develop learning activities based on the stories and community events as applicable to classroom concepts. For example, concept analysis, risk factor identification, development of an age-appropriate teaching plan, and conducting a community assessment are assignments that easily link to the virtual community.

Mirror Lake, another virtual community, features characters within households, medical complexes, a retirement center, and a skilled nursing care facility. The creators described the need to know the patient as a foundational component for learning in their article (Curran, Elfrink, & Mays, 2009). In a previous article, the theory of context diversity provided a foundation to propose additional benefits of The Neighborhood as a way to transform teaching-centered classrooms into engaging learn-
ing environments in which all students could thrive (Giddens, 2008).

At the time of this writing, there is only one research-based article documenting outcomes associated with virtual communities. Giddens, Shuster, and Roehrig (2010) reported user perceptions among a sample of 248 undergraduate baccalaureate nursing students who used The Neighborhood in one nursing program. The greatest perceived benefits were reported among underrepresented minority students and students who expected to receive a course grade below an A. It was also noted that the perceived benefit increased over time among all learners.

**Method**

The current study involved a convenience sample of 40 undergraduate students enrolled in a baccalaureate nursing program in the southwest United States using The Neighborhood as a teaching application across the curriculum with 88% of the cohort providing written data for the content analysis. The study received approval from the institutional review board for formal data analysis after the cohort of students graduated. Students were given the option to participate, with submission of data by students accepted as implied consent.

The cohort was followed over three successive semesters as they used The Neighborhood in one or more of their courses each semester. There are 40 featured characters in 11 households and 4 health care agencies in The Neighborhood, representing a broad spectrum of health conditions, social situations, and culturally based perspectives. Although faculty members were given general instructions and suggestions for how to incorporate The Neighborhood into their teaching, no measures were in place to control or assess the extent of use. At the end of each semester, in conjunction with the end-of-course evaluations, designated course instructors asked students to complete a survey related to their experiences using The Neighborhood. Completion of the survey was voluntary, and responses were anonymous. Each survey included the same four open-ended questions:

- Which character stories do you enjoy the most and why?
- Which character stories do you like the least and why?
- What did you find to be the most beneficial aspects of The Neighborhood?
- What did you find to be the least beneficial aspects of The Neighborhood?

Using the qualitative method of content analysis, student responses generated by the survey questions were grouped and analyzed to identify major themes from the data using well-documented content analysis procedures (Guba & Lincoln, 1989; Krippendorf, 1980; Weber, 1990). Data from the open-ended questions were initially broken down into phrases. The phrases were further coded into broad categories. These categories were later modified as data analysis continued and were grouped to best represent the themes that emerged from the data. Exemplars were also added that best represented the concepts for each theme. To increase credibility, two researchers (G.S., N.R.) involved in the study completed independent analyses of the data and compared results to establish consensus (this analysis excluded the author of The Neighborhood).

**Results**

Overall, student comments were consistent in frequency and nature for all three semesters. One exception to this was an increase in comments by students relating character stories to their own clinical rotation experience; this correlated with an increase in the number and type of clinical rotations, as well as the amount of time students spent in clinical settings with each successive semester. Analysis of the questionnaire data revealed two primary themes: (1) an emotional connection to specific characters or families, and (2) integration of characters and events into learning activities.

**Theme 1: Emotional Connection**

The first theme (emotional connection) emerged from data obtained from survey questions 1 and 2. Given the 40 featured characters in 11 households, it is not surprising that the theme of emotional connection included both positive and negative reactions to specific characters or families (Table). Evidence of an emotional connection was found in specific comments made about the characters; all families and characters were mentioned by students collectively, with some families and characters mentioned more than others. Interestingly, both ends of the like/dislike spectrum were represented. For example, the attribute that some students liked about a character or family was the very feature that other students disliked about the same character or family. However, the overwhelming number of comments reflected positive rather than negative emotional connections.

Over each of the three semesters and by a ratio of 3 to 1, the students consistently positively commented on the character Jessica Riley (a young single mother involved in a domestic violence situation) the most. Viewed from the family level, students commented most on the Martin family—a large multigenerational family with complex family dynamics and social issues. Several members of the Martin family had significant health-related events, creating significant challenges to all members within the family. Students commented that the Martin family was “like real life”; as one student wrote, “they are like a soap opera.” Select examples of reasons cited among students who positively connected with the Martin family included:

- The family dynamics.
- The family involves several children, which is my area of clinical interest.
- They always had a lot going on.

In contrast, some students indicated intense dislike for a small subset of characters and families. The one single character most students negatively commented on by a ratio of almost three to one was the character Casey Holmes, Jessica Riley’s live-in boyfriend. Students disliked this character because he was abusive toward both Jessica and her infant son. Feelings about this character can be summed up by quotes from two students:

- I dislike Jessica Riley’s boyfriend mostly because he is a jerk and caused Ryan harm.
- I have a little boy, and some weeks I just wanted to reach through the computer and strangle Casey.

**Theme 2: Integration Between The Neighborhood and Class Work**

The second theme (integration) emerged from data gained from survey questions 3 and 4. Students described multiple pos-
positive benefits to learning when assignments or in-class learning activities incorporated characters or situations from the virtual community; the comments also suggested that the degree of integration between *The Neighborhood* and class work was a key factor in their perceived benefits. This theme was represented in the data almost three times more often than the other theme; thus, three subthemes were identified that were useful in explaining integration further: linkages to the classroom, linkages to clinical settings, and context.

**Linking Clinical Applications to Classroom Learning.** This subtheme refers to comments students made that described benefits when the virtual community was used to link clinical applications to the classroom (Table).

Students also made positive comments about specific faculty who used the application and the way in which it was used, including in quizzes, in class presentations, as a basis for papers, and in case studies. In addition, students positively commented on class participation assignments that linked to *The Neighborhood*. In fact, 55% (n = 22) of respondents commented on this point, with many noting that the class participation assignments were like real-life case studies. This feature generated the most feedback by students for any single theme.

**Linking Classroom to Clinical Experiences.** Many students suggested that they made associations between the characters and actual patients, and that the characters helped them to relate to situations in the clinical area, affording a different level of understanding related to the care they were providing. Many specifically noted that this was helpful in their own clinical rotations, as highlighted by the comments in the Table.

**Clinical Context.** A third subtheme associated with integration was clinical context; that is, students suggested that they made associations between the characters and actual patients for any single theme. The Neighborhood

<table>
<thead>
<tr>
<th>Theme 1: Emotional Connection</th>
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<tbody>
<tr>
<td>· I get into the stories. It was like I felt what the patients were feeling.</td>
</tr>
<tr>
<td>· I liked that we were able to follow the stories and that we knew the characters when they were used in class activities. It felt more personal and there was more Hx [history] and connection.</td>
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<tr>
<th>Theme 2: Integration Between <em>The Neighborhood</em> and Class Work</th>
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<tr>
<td>Linking Clinical Applications to Classroom Learning</td>
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<tr>
<td>· The most beneficial aspect was how well it correlated with topics discussed in class. If there was something that I did not understand, I could go to <em>The Neighborhood</em> for examples.</td>
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<tr>
<td>· It was great to read about exemplars in <em>The Neighborhood</em> that tied in with what we learned in class.</td>
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<td>· Covering concepts in <em>The Neighborhood</em> at the same time as in class was nice as a base for class work and discussions.</td>
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<td>· I get a much better concept of S&amp;S [signs and symptoms]; it is easier to remember diseases and connections made to H &amp; I [health and illness] concepts.</td>
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<td>· The characters had problems that we frequently discussed in class concepts and that made it more helpful and interesting.</td>
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<tr>
<td>Linking Classroom to Clinical Experiences</td>
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<tr>
<td>· Felt like I was able to put a name [and a] face with an illness, portrayed real life.</td>
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<td>· Through clinical I was able to recall...what I felt as I was reading and then apply it.</td>
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<tr>
<td>· Having a patient who had something that a character in <em>The Neighborhood</em> had.</td>
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<tr>
<td>· We could put a face and family to each situation.</td>
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<tr>
<td>Clinical Context</td>
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<tr>
<td>· It was a way to see various pathologies and how they relate in real life situations.</td>
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<tr>
<td>· They gave actual personality to concepts learned in class.</td>
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<tr>
<td>· I like the “realness” of <em>The Neighborhood</em>. I like going into detail with the hospital records, etc. to learn more about the problem.</td>
</tr>
<tr>
<td>· How they compared to what we were learning in class—social implications especially.</td>
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<tr>
<td>· Seeing a continuum of health instead of just an acute phase.</td>
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<tr>
<td>· Much more interesting than reading a textbook.</td>
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<tr>
<td>· It helped me with a better understanding of certain illnesses because I had to look them up in a book/Internet.</td>
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</tbody>
</table>

**Student Concerns**
As can be expected, not all students had positive comments about the use of the virtual community, and a wide range of negative comments were seen. The most common concern cited by students was “too many characters,” with the number of students noting this increasing each successive semester to 27.5% (n = 11) by the third semester. The following comments highlighted this sentiment:

· The Martin family: There are too many members and it’s hard to keep them straight.

· Too many families.

The second greatest concern was the amount of time required to keep up with the characters and events, which also links back to the number of characters. This concern was represented by approximately 20% (n = 8) of the students each semester.
Discussion

Emotional connection and integration, as identified through a content analysis of student comments, have strong links to the education literature on the learning process. It is well known that learning is most effective when the learner is engaged; neurophysiologic researchers have shown this to be true through brain imaging studies associated with memory (Poldrack et al., 2001). Emotion has also been identified as another key element associated with learning. The limbic cortex in the brain is essential to emotion. Emotion triggers basal structures and the amygdala, translating the experience to deep memory in the hippocampus, which integrates information as well. Thus, experiences associated with emotion (including learning experiences) are easier to recall than routine events (Zull, 2004), similar to the ability to recall character events in a novel or movie experienced years earlier. Characters or events in the virtual community triggered emotional responses among students, and many students recalled events as they applied to patients in clinical experiences. Therefore, it appears that one of the unique benefits of a virtual community is the ability to trigger emotional connectedness.

Another part of the learning experience for students is the need to recognize that there will be patients they like and dislike, but they must treat them all in a professional manner. They must be aware of situations where positive, neutral, or negative reactions to patients affect their ability to provide high quality care. Student like or dislike for some of these virtual characters provides opportunities for discussion and assignments related to how they would cope with a similar situation in a clinical setting. In other words, it provides another learning experience for students. Equally important, faculty can use student emotional reaction to a particular character as a potential learning opportunity that can result in student insights about the nature of their reactions (i.e., is it personal character traits, patient behaviors, or other reasons?).

Integration, the second identified theme, is a pedagogical application in all disciplines. Integration in teaching refers to the application of facts and clinical situations in a student-centered learning environment; this is important to enhance the understanding of concepts. In a study of teaching practices among nursing faculty, researchers reported integration as a characteristic among excellent nursing faculty, and this study supports the concept that integration is important for student satisfaction as well. Three apprenticeships have been identified as critical areas for professional development and practice, including intellectual or cognitive, skill or practical, and ethical components for behavior (Benner & Stephen, 2007; Carnegie Foundation for the Advancement of Teaching, 2007). Student comments suggest that not only did integration occur as a result of using the virtual community, but there were also educational benefits. Tanner (2008) suggested that the “next generation of innovation and research is pedagogies of integration” (p. 336).

Areas for Research and Application

This study represents the first attempt to understand student reactions to learning with a virtual community. Although student perceptions and preferences are interesting, this study does not address learning outcomes. That said, findings from this study clearly suggest that there is significant potential for the use of virtual communities for nursing education. Identified components benefiting students include emotional connections and an integrative learning experience. Faculty often struggle to find student-centered teaching strategies that effectively promote learning (as opposed to strictly content delivery); it is possible that virtual communities can provide mechanisms for faculty to improve teaching through an application that promotes integration by design.

Because early evidence suggests that virtual communities support integration, it is clear that further research with robust methodology is needed to learn more about this teaching application. For example, the impact of virtual communities on student engagement, emotional connection, links to learning preferences, faculty attitudes, teaching practice, and cost benefits are all important areas that deserve investigation. Further research efforts also should specifically investigate learning outcomes associated with virtual communities.

References


Tanner, C. (2008). Clinical judgment and evidence-based practice: To promote learning (as opposed to strictly content delivery); it is possible that virtual communities can provide mechanisms for faculty to improve teaching through an application that promotes integration by design.

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