Constructivism applied to psychiatric-mental health nursing: An alternative to supplement traditional clinical education

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ABSTRACT: With the popularity of accelerated pre-licensure nursing programmes and the growth in nursing student enrolments, traditional clinical education continues to be a challenge to deliver. Nursing faculty members are required to develop and implement educational innovations that achieve effective learning outcomes, while using fewer resources. The purpose of this qualitative study was to explore the effectiveness of a constructivism-based learning project to achieve specific learning outcomes and to supplement approximately 30 clinical hours in a psychiatric-mental health nursing course. Students participated in a 10-week, multistage project that examined life histories, treatment resources, and evidence-based practice, as applied to a single individual with a mental illness. Students reported increased understanding of mental health and illness, developed personal relevance associated with the knowledge gained, and learned to problem solve with regard to nursing care of individuals diagnosed with mental illness. For many students, there also appeared to be a reduction in stigmatized attitudes towards mental illness. Constructivism-based learning is a promising alternative to supplement clinical hours, while effectively achieving learning outcomes. Future research is needed to further validate the use of this method for the learning of course content, as well as the reduction of stigma.

KEY WORDS: baccalaureate, education, learning, mental health, nursing.

INTRODUCTION

As demand for nursing education grows, the ability of pre-licensure nursing programmes to deliver clinical education by traditional means (i.e. placing small groups of students in acute, inpatient settings for practice-based education) decreases. The California Nurse Education Initiative, developed to address the shortage of registered nurses in California, reportedly increased new student enrolments by 78.7% in a 5-year period (California Labor and Workforce Development Agency 2010). The simultaneous increase in active faculty during the same time period by 49.2% addressed the need for additional instructors; however, the lack of adequate clinical placements remains an unresolved issue for nursing programmes not only in the state, but also the nation and abroad.

A number of innovative proposals have been developed to reduce and/or manage competition for limited clinical sites among nursing programmes. Magnusson et al. (2007) described a programme initiated by the National Health Service in the UK, in which the availability of clinical placements for health-care students and mentors was mapped for an entire region. Thereafter, clinical placement managers were appointed as liaisons between the students, facilities, and educational institutions. The study found that creating this position served to develop and increase placement capacity in the region. Similarly, Kline...
and Hodges (2006) described collaboration between a

group of baccalaureate, associate, and practical nursing

programmes that met three times a year to negotiate

available sites among themselves, rather than with each

agency individually. Other alternatives suggested in the

literature to address the issue of limited clinical place-

ments include establishing mutually-beneficial academic

and service partnerships (Barger & Das 2004) and dedi-

cated education units that are exclusive to one nursing

programme (Moscato et al. 2007).

Although these proposals could potentially increase

efficiency and maximize available resources, none actually

lessen the need for time and space in traditional clinical

settings. According to Ferguson and Day (2005), the

limited availability of clinical nursing environments might

require nursing educators to shift from the traditional

approach to clinical education to develop methods that

achieve desired learning outcomes, use fewer resources,

and that have established efficacy based on systematic

research. MacIntyre et al. (2009) add that the concept of

pre-licensure clinical education could benefit from recons-

ideration of not only the environments utilized for clin-

ical education, but also faculty roles, the number of clinical

hours required, and the use of research to establish best

clinical teaching practices.

THEORETICAL FRAMEWORK

Constructivist learning methods have the potential to

promote quality learning outcomes, while limiting the use

of clinical sites and faculty resources. Constructivism is

based on the idea that newly-acquired knowledge is built

upon and within the context of previous learning (Hoover

August 1996; Lincoln & Guba 2000). When confronted

with new information, learners must reconcile this with

previously-held beliefs, and adapt it to their new under-

standing and social context.

Furthermore, constructivist learning is a process in

which the learner actively engages, taking the lead role in

acquiring knowledge (Hoover August 1996). Bruner

(1979) states that learning acquired in this way is the most

personal and meaningful for the student. Compared to

traditional methods of education, Bruner (1979) states

that learning acquired by this process has the potential to

develop the learner’s ability to: (i) discern pertinent

from extraneous information; (ii) shift from extrinsic (i.e.

grades) to intrinsic rewards for learning (i.e. relating

information to their own cognitive life); (iii) develop a

style for problem solving; and (iv) improve the retention

of information learned. Hereafter, the first three tenets

(the foci of this study) will be referred to as pertinent

information, personal relevance, and problem-solving

ability. Despite the desirability of these learning out-

comes and their alignment with the traditional approach
to clinical education, constructivist learning methods are

underutilized in nursing education.

There are limited examples of constructivist learning

methods utilized in nursing education. In studies by

Turner et al. (1989) and Barton and Brown (1992),

students were immersed in a student-run clinic within a

homeless service centre and a health-care programme

for migrant farm workers, respectively. In these non-

traditional settings, students were responsible for facili-
tating their own learning. With faculty as a resource and

guide, students established and evaluated learning objec-
tives and outcomes and provided care to clients. Based

on an evaluation of reflective journals completed by the

students, both studies reported student gains in nursing

care proficiency, independence, and cultural sensitivity.

In a graduate nursing course pertaining to culture,

Hunter (2008) reported applying constructivist methods

as well. The course focused on identifying each student’s

baseline knowledge level, and progressively built upon it

through guided exposure to new information and a series

of reflective activities. By the completion of course

modules, students’ (n = 76) cultural competence scores

were significantly higher at the end of the course com-
pared to the pretest measure.

There was one study located that described the use

of this learning method in psychiatric–mental health

nursing. Hyde and Fife (2005) described a project in

which students were assigned to watch cinematic films

that depicted specific mental illnesses and to develop case

studies based on the central character. Although the study

reports that students were satisfied with the effectiveness

of the activity for learning, there was no discussion of

the faculty’s evaluation of the learning outcomes, nor its

potential effects on students’ nursing practice.

Although there is some evidence to support the use of

constructivist learning methods in nursing education, the

literature lacks sufficient data in terms of its effectiveness

for achieving learning outcomes pertaining to specific

nursing specialty areas (e.g. psychiatric–mental health

and paediatrics), and their ability to achieve both theory

and clinical learning outcomes.

RATIONALE FOR PROPOSED STUDY

Students in the accelerated pre-licensure nursing pro-

gramme accomplish in 12 months what typically requires

students 2 years to complete in the traditional baccalaure-

ate programme. As a result, delivering the requisite
content in theory and the designated clinical hours is a persistent challenge due to shorter course length, as well as competition with the traditional and other local programmes for clinical sites.

The standard set by the School of Nursing in the Psychiatric–Mental Health Nursing course is 135 clinical hours. In the traditional 15-week courses, this is accomplished through students attending the clinical site 1 day per week (with time allotted for preparation). In contrast, the same course in the accelerated programme takes place over 10 weeks, and because the students still only attend clinical 1 day per week, this results in a deficit of >30 clinical hours.

A constructivism-based learning project was developed to achieve clinical learning objectives, while compensating for a portion of this time. Students were engaged in a five-stage project throughout the 10-week course. Students worked with either friends, family members, or acquaintances who were diagnosed with a mental illness (case-study client) to: (i) develop therapeutic relationships and interviewing skills; (ii) explore treatment resources in the community; (iii) validate the appropriateness of available treatment resources with evidence-based recommendations in the literature; (iv) make comparisons of their case-study client’s experience with that of a character in a movie or book with a similar condition; and (v) reflect upon and share their learning in a small group format.

The broad purpose of this study was to explore the effectiveness of this project to achieve clinical learning outcomes and to supplement approximately 30 clinical hours in a pre-licensure psychiatric-mental health nursing course in an accelerated programme. The specific aim was to identify learning outcomes among a group of nursing students that represented Bruner’s themes: pertinent understanding, personal relevance, and problem-solving ability.

MATERIALS AND METHODS

Sample
The 49 students in this study were enrolled in one cohort of the accelerated pre-licensure nursing programme in the Psychiatric–Mental Health Nursing course. All participated in the project. After obtaining institutional review board approval for the study (after student graduation), the students were contacted via email; 41 signed and returned informed consent forms were received. One student declined to participate, one had a non-operational email address, and six did not reply to emails from the investigator. There were no exclusion criteria.

The case-study clients with whom the students worked were not identified in any way and were not considered as participants in the study. However, aggregate data about the illnesses/conditions studied by the students were compiled to provide context for the students’ learning. Students were under no obligation to report their relationship to their case-study client, nor was it discouraged. It was the student’s choice to divulge this information to the faculty and fellow students.

Project guidelines

Stage I
In stage I of the project, students were asked to select a friend, family member, or acquaintance who was diagnosed with a mental illness, and to conduct a life history interview that included the onset, course, and recovery from illness (if applicable). Students were encouraged to conduct the interview over several sessions and to construct a timeline of major life events, hospitalizations, and treatment milestones. Journal entries at this stage explored the knowledge gained about their case-study clients and illness by constructing the timeline.

Stage II
Next, students were asked to investigate mental health treatment resources in the case-study client’s local area, taking current care needs and insurance coverage/financial resources into consideration. Students created a list of relevant resources, including contact information and completed journals addressing the adequacy of the available resources, to meet their case-study client’s needs.

Stage III
Using PubMed, CINAHL, or similar databases, students located a minimum of four research articles that discussed best practices for the management of the symptoms or overall treatment of the illness. Journal entries reflected on the appropriateness of each case-study client’s treatment compared with recommendations in the literature.

Stage IV
In stage IV, students were asked to watch a documentary or movie, or read a book based on a personal account of a person with the same (or similar condition) as their case-study client. Journal entries compared and contrasted the character’s experience with that of their case-study client.

Stage V
The final stage of the project included preparing a brief, informal presentation where students discussed key
information that they had obtained from each stage of the project. They met on the final day of the clinical rotation, and each presented for approximately 20–30 min each. The final journal entry was a summative evaluation of the learning that they achieved over the course of the project.

Procedure
The data for this study were collected between February and April of the 2009–2010 academic year. Students were given guidelines (see earlier) that detailed the progressive steps of the project, guidelines for each of the five journal entries, and deadlines specified at weeks four, seven, eight, nine, and 10 of a 10-week course. This retrospective, qualitative study utilized the fifth summative journal for the analysis of learning outcomes.

The analysis was conducted utilizing elements of thematic analysis (Boyatzis 1998), and progressed through three phases: data expansion, data limitation, and data integration. In the data expansion phase, journals were reviewed to capture all emerging themes using open coding. Data limitation involved utilizing open codes to identify patterns and themes that emerged across various students' experiences. Specific themes that were noted in greater than 10% of participants were categorized under the more broad learning outcomes categories: pertinent understanding, personal relevance, and problem-solving ability. Finally, the data integration phase involved returning to the data to validate that the themes identified in data limitation were supported by the data. Student demographic data were compiled, and frequencies were calculated for each category and individual theme.

RESULTS
Students
Forty-one students consented to participate in the study. The group’s age ranged from 26 to 61, with a mean of 35.3 ± 9.4. There were 38 (92.7%) females and three (7.3%) males. The ethnic background reported by the students included white (n = 25, 61%), Asian (n = 5, 12.2%), and Hispanic/Latino (n = 3, 4.9%); nine (22%) students declined to report their ethnicity.

Case-study clients
With the exception of two, all of the students selected family members or friends as case-study clients. One student reported that there were no friends or family members who had a mental illness, and another, although acquainted with a person diagnosed with a mental illness, opted not to work with him/her. The diagnoses reported for case-study clients are listed in Table 1. The most commonly reported diagnoses were depression (n = 20), substance use (n = 19), and bipolar affective disorder (n = 9); 30 of the 41 case-study clients had multiple diagnoses. Students frequently reported psychosocial stressors,
TABLE 2: Frequency of learning themes: pertinent information, personal relevance, and problem-solving ability

<table>
<thead>
<tr>
<th>Theme</th>
<th>n (%)</th>
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<tbody>
<tr>
<td>Pertinent information. Deeper understanding of:</td>
<td></td>
</tr>
<tr>
<td>- Multiple precursors of mental illness (above and beyond biological)</td>
<td>17 (41.5%)</td>
</tr>
<tr>
<td>- Diagnosis</td>
<td>16 (39.0%)</td>
</tr>
<tr>
<td>- Course of illness</td>
<td>12 (29.3%)</td>
</tr>
<tr>
<td>- Unique presentation of each person affected</td>
<td>11 (26.8%)</td>
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<tr>
<td>- Fallibility of mental health-care system</td>
<td>11 (26.8%)</td>
</tr>
<tr>
<td>- Patient's sense of shame/stigma</td>
<td>9 (22.0%)</td>
</tr>
<tr>
<td>- Multiple comorbidities</td>
<td>8 (19.5%)</td>
</tr>
<tr>
<td>- Obstacles to recovery</td>
<td>6 (14.6%)</td>
</tr>
<tr>
<td>- Need for personalization of complex medication regimens</td>
<td>6 (14.6%)</td>
</tr>
<tr>
<td>Personal relevance. Experienced a shift associated with:</td>
<td></td>
</tr>
<tr>
<td>- Greater awareness of the seriousness of friend or family member's illness</td>
<td>12 (29.3%)</td>
</tr>
<tr>
<td>- Personal beliefs about mental illness</td>
<td>12 (29.3%)</td>
</tr>
<tr>
<td>- 'Look' of mental illness</td>
<td>9 (22.0%)</td>
</tr>
<tr>
<td>- Fear person with mental illness</td>
<td>7 (17.1%)</td>
</tr>
<tr>
<td>Problem-solving ability. Nursing care needs identified:</td>
<td></td>
</tr>
<tr>
<td>Concrete needs</td>
<td></td>
</tr>
<tr>
<td>- Resource linking (e.g., insurance, outpatient therapy, medication management)</td>
<td>24 (58.5%)</td>
</tr>
<tr>
<td>- Family support</td>
<td>20 (48.8%)</td>
</tr>
<tr>
<td>- Non-pharmacological symptom management</td>
<td>18 (43.9%)</td>
</tr>
<tr>
<td>- Listening</td>
<td>14 (34.1%)</td>
</tr>
<tr>
<td>- Patient and family education</td>
<td>11 (26.8%)</td>
</tr>
<tr>
<td>Abstract needs</td>
<td></td>
</tr>
<tr>
<td>- Non-judgmental care</td>
<td>13 (31.7%)</td>
</tr>
<tr>
<td>- Self-determination</td>
<td>11 (26.8%)</td>
</tr>
</tbody>
</table>

Trauma, and abuse experienced by case-study clients, and timelines illustrated periods of recovery/remission, as well as decompensation.

Pertinent information

Table 2 summarizes the themes reported by students and the frequency by which each theme appeared in the data. More than 90% (n = 37) of students reported acquiring information about the case-study client’s illness that provided a richer context in which to understand the diagnosis, complexity of comorbid disorders, and the challenges involved in obtaining adequate care in the mental health-care system. One student, whose case-study client was dually diagnosed with bipolar affective disorder and substance use, worked through the process of reconciling the diagnostic and treatment history:

Completing this project has opened my mind to the complexity of mental illness. In class and in our readings, we essentially discussed each aspect of mental illness separately. In my work, I discovered that my subject was not just a woman with bipolar disorder, but a woman with bipolar disorder who also has a substance abuse problem, suffered childhood trauma, has a traumatic brain injury, and also exhibits clear signs of borderline personality disorder. . . . I believe that my (client’s) experience reflects both successes and missed opportunities in mental health treatment. . . . Her treatment has included inpatient treatment, medication, ECT (electroconvulsive therapy), and ongoing therapy sessions. Since beginning treatment, she has remained relatively stable with few relapses. . . . However, when examining her case, it is clear that for many years prior to her diagnosis, she received inadequate care. During two suicide attempts, she was treated for a depressive episode and quickly sent home. It leads me to wonder if she downplayed her manic symptoms or (if) she did not have a thorough history taken.

Another student, whose case-study client struggled with substance use and depression, gained perspective on the unique ways that each person experiences and displays mental illness:

Symptoms are almost never clear cut. People do not always present like their diseases are ‘supposed to’ in the books, and most people have so many factors influencing their lives and their diseases, that it is difficult to discover what came first and what is influencing what. So many factors are layered together in his family history, his history of abuse, one incident of depression, and his social interactions in school and later in life. It is very hard for him to point to any one thing and say: ‘This is what led me down this path’. For someone trying hard to recover from an illness he has recognized and confronted, it must be extremely frustrating NOT to have something to point to as a cause.

The effect that shame and stigma can have on an individual’s willingness to seek and accept treatment made an impression on this student who worked with a loved one diagnosed with borderline personality disorder (BPD):

So many things have become clear to me both about mental illness in general and BPD in particular. Like how people with psychiatric illnesses often downplay not only their symptoms, but their diagnoses. How they may be ashamed of how they are, what they feel, why they feel it. How they hide their illness and their feelings from friends and family. How they don’t want the labels of schizophrenia, BPD, major depressive disorder, or bipolar.

Students reported gaining a deeper understanding of the course content through in-depth work with one person experiencing a mental illness. During class discussions, students frequently volunteered information they
had learned during their work on the case-study project, as it applied to the lecture topic. This added to the richness of the discussion, and promoted student engagement with the course content.

**Personal relevance**

In terms of creating personal meaning from working on this project, 18 (42.9%) students reported a change in their perceptions of mental illness. From beliefs about what a person with mental illness looks like to fears about personal safety, there was a notable shift in attitudes among several students. One student, whose case-study client was diagnosed with schizoaffective disorder, remarked:

More important is the attitude change regarding mental illness that doing this assignment has resulted in for me. When my family was first exposed to (him) after his psychotic break ... we were all afraid of him and/or of the disease to varying degrees ... After they returned to California to seek treatment, we were not prepared for what we saw when we opened the door as they arrived. The beautiful young boy we knew had turned into a haggard-looking young man who paid no attention to grooming and looked like a street person. He barely acknowledged us, acting completely out of it, and we were frightened of what he might do. The day (he) came was our first look at mental illness. Since then, he has been medicated and stabilized. We no longer fear what he might do, but the adults in the family have little interaction with him. I hate to say it, but I think we didn't know what to make of him or what to say to him. I understand so much more now, and I accept him for who he is.

Another student, who worked with a friend diagnosed with dysthymia, challenged an assumption that mental illness equates to low achievement.

I think I have a better understanding now of how common it is to have some type of a mental illness. My friend is very highly functioning; she has a high-level job with a lot of responsibility, and has always been an over-achiever. It was interesting to think of these items in conjunction with the term 'mental illness'. It challenged my perceptions, and certainly added a great amount of diversity to the preconceived notions that I had. It rid me of many assumptions and stereotypes, even ones I didn’t realize I had going into the project. ... It also helped me to see mental health as more of a continuum. We are not either healthy or unhealthy; it’s not a black or white issue. Instead, there is a scale of wellness, and we can all seek to improve where we are on that continuum every day.

Another common theme was the realization that their case-study client’s experience was not as different from that of the individuals they encountered at the clinical site who were acutely ill. Students reported that they previously underestimated the severity of their case-study client’s illness prior to this project. One student related:

I really enjoyed this project. I not only learned a lot about bipolar disorder, but I also got into an aspect of my friend’s life that I wasn’t privy to in the past, and further still, I think this helped me deal with my own personal stigmas of mental illness. ... It’s not just a stranger who is ‘crazy’, but my friend who is suffering from a mental illness that isn’t really his fault. I wouldn’t think of abandoning my friend because of his illness, and I realize that I can’t have that reaction to others with mental illness as well.

Compared to pertinent information, learning that related to personal relevance was reported by fewer students overall. However, among those who did, connections were made between the change in perspective and their future approach to nursing care of individuals experiencing mental illness.

**Problem solving**

More than 90% (n = 37) of students were able to identify both concrete and abstract nursing needs among their case-study participants. The most commonly reported needs were for resource linkage, non-pharmacological symptom management, education, and engaging family members to support the patient. The student whose case-study client was diagnosed with dysthymia went on to state:

I really learned a lot from her about non-pharmaceutical ways of managing a mental illness. She utilized meditation, relaxation techniques, acupuncture, and physical exercise, in addition to some other cognitive techniques that she learned through reading and through therapy. I found it incredibly interesting to see these put into practice in a ‘real-life’ scenario. It so often feels like we are giving advice that is not truly practical or realistic. I find myself giving lip service to ideas (exercise is great! Meditation can really impact your life!) without really knowing if they truly have the potential to help a client. Knowing a real-life example of someone who incorporates these items on a regular basis is very inspiring to me as a healthcare practitioner.

A student, whose case-study client had limited resources with which to obtain mental health services, remarked:

I’ve heard too about trying to find a good clinician or a good facility. Getting insurance to pay for the appointments is a whole other issue, and many patients just give
up and pay out of pocket. It's simply astounding how much legwork patients have to do to get the care they need. So in my own practice, I will keep this in mind when I see a person with bipolar disorder come into my emergency department. I think I will be more able to understand what they've faced, and I'll try to do whatever I can to get them assistance.

Many students were surprised at the effectiveness of listening as a therapeutic tool.

Talking so openly with (her) really made me see how willing she was to talk. She seemed so relieved to be able to tell her story. She told me during our interviews that one of the hardest parts of mental illness, especially something as misunderstood as cutting, is that people are afraid to talk about it. Our conversations, followed by my experiences in clinical, helped me see how therapeutic I can be by simply listening! I think this was a very valuable lesson for me, and I have a funny feeling that it will be important in any type of nursing.

I heard her say that it was therapeutic for her to tell me about her past. I thought that it might be harmful or hurtful for her, but she said 'no'. She liked telling me and would tell others if it helped them.

Several students, particularly those who worked with clients with a substance use problem, realized the value of non-judgmental care and self-determination:

I will be presented with patient situations that require me to evaluate my own prejudices and beliefs. This term has helped me to understand that even if I do not agree with the choices that some patients make, it is not my place to judge them. I cannot effectively help someone if I let my own values and beliefs interfere with my clinical practice. . . . I can only educate them on their options and support the decisions that they do make. . . . I have learned that I can do small things to at least help them reduce their risk for harm. . . . This project really allowed me to see the human side of addiction and the adversity that many face in their quest for sobriety. It is a long, convoluted path to recovery. It requires the love and support of many.

The need to facilitate family support of the individual diagnosed with a mental illness, as well as to support the caregivers, was best illustrated in a quote by a student whose loved one was diagnosed with Alzheimer's disease.

The main thing I learned, or that was reinforced through the process of this case study, was the importance of a holistic approach to helping these patients. Alzheimer’s is a long, terminal illness, and care should be taken to aid and protect the wellness of not just the patient, but of the patient’s whole environment, including, and especially, the patient’s caregivers. The well-being of the patient depends on the well-being of the caregiver. My (case-study client’s wife), who is an artist, put it simply: ‘If I have a chance to do some of my own things, to do something creative every day, then I am fine and I do not resent him. If all I can do is pick up after him, I feel resentful and get angry at him for taking over my life’. If the caregiver is supported, the patient will be supported as well. The experience of living around a patient with Alzheimer’s and this project has underscored that for me. I believe I will always remember to enquire about the well-being of caregivers of any patient I help that is chronically ill.

DISCUSSION

The results of this study illustrate that the students who participated in this constructivism-based learning activity achieved the desired learning outcomes with regards to pertinent information, personal relevance, and problem-solving ability. Furthermore, they were able to do so outside of the traditional clinical environment with minimal oversight of faculty, and served as a complement to the learning achieved in the clinical setting.

The learning outcomes were likely attributable to various aspects of the project that have been previously supported in the literature, particularly the timeline, working with friends or family members, the use of journals, multiple deadlines, and the final presentation.

In constructing the timeline, students created a visual for both themselves and their case-study clients that illustrated the ups and downs of the illness and all of the contributing factors. Chafetz (1996) reported that the use of a life history approach might help nurses who practice primarily in acute care settings to develop perspective. They might only see individuals diagnosed with mental illness in the acute phase when symptoms are severe, and therefore, develop low expectations that can hinder the individual’s progress towards recovery. Students who worked with case-study clients in this way facilitated a change in perception prior to entering into professional practice, a desirable time to make this shift.

Additionally, completing the project with a friend or family member also appeared to have an impact. All but two students worked with people known to them previously and were aware of their conditions. McConkey and Truesdale (2000) conducted a study regarding nurse and therapist attitudes towards working with individuals with learning disabilities. They concluded that simple contact was not enough to change provider attitudes towards working with individuals with learning disabilities, but rather, the quality of the personal relationship that was
associated with positive attitudes. It is possible that although most students in this study had some relationship with their case-study client, some were closer than others. This might explain why learning outcomes with regards to personal relevance were reported by only approximately 43% of students.

There were several studies found that supported the use of journaling with students. In Webster’s (2009) study of 29 students in a subacute psychiatric clinical setting, weekly journaling was used to measure learning outcomes associated with a project in which students worked with the same patient over a 4-week period, with a focus on building relationships and creative expression. As a result, students were reportedly able to recognize and address personal stigma and to develop empathy towards individuals diagnosed with mental illness. Marchigiano et al. (2011) used both journaling and care planning as methods of evaluation in a pre-licensure adult nursing course and found that students perceived journaling as superior to care planning in developing critical thinking skills, and believed it was an efficient use of time in achieving learning outcomes.

Finally, the project design reinforced learning principles associated with constructivism. Multiple deadlines set up throughout the course facilitated continuous reconstruction of knowledge as new information was introduced. The final presentations enabled students to not only share their experience and knowledge gained with one another, but to validate their experiences through community consensus, as discussed by Lincoln and Guba (2000).

Limitations
This study is based on the work submitted by a convenience sample of students in an accelerated programme. The Psychiatric-Mental Health Nursing course took place in the fourth of five terms of an intensive 12-month programme. Some student journals were more detailed than others, and as a result, it is possible that not all relevant themes or their frequencies were captured. Also, there were eight students who did not participate, whose reflections might have contributed additional depth to this analysis. Additionally, the results might not apply to traditional pre-licensure nursing students, as students in accelerated programmes might differ in some ways. However, according to Bentley (2006), accelerated and traditional students had no significant differences in performance with regard to National Council Licensure Examination pass rates or science grade-point average, and therefore, might also perform similarly in a project of this type.

Recommendations for future research
As a result of the case-study timeline project, psychiatric-mental health nursing students achieved desired learning outcomes outside of the traditional clinical setting, with limited faculty oversight. Because the students work on this project independently, it is recommended that the faculty prepare the students for the possibility that case-study clients might experience emotional distress in reviewing painful life events. Ultimately, the students’ goal was to listen, and the clients found this therapeutic. However, students should be advised to select stable clients, and to identify sources of support or crisis care prior to beginning the interview process, should it be required, and to inform the client that they (the client) can stop the interview at any time they choose.

The project effectively increased knowledge and problem-solving ability, while simultaneously supplementing approximately 30 clinical hours. Furthermore, it also appeared to have an impact on the reduction of stigma in several students. Stigma and discrimination, according to the Institute of Medicine report, are associated with disparities in health care (Institute of Medicine of the National Academies 2003) and poor medical management by health-care providers (Kuey 2008) for individuals diagnosed with mental illness. Educational practices that reduce stigma can promote the delivery of fair and equitable health care for individuals with mental illness, and future research should include evidence-based methods that can further validate this project as a teaching method to promote learning of content, as well as reduction of stigma. Accomplishing these aims in health-care provider training before these professionals enter the workforce might have a positive impact on the future of health care for individuals with mental illness.

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