The Use of Tweet-Format Narrative Reflections during a Service-Learning Trip to Appalachia

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Abstract

Background: Tweet-format narratives have been used in medical education to capture student experiences. However, there is a lack of research on tweet-format narratives during experiential learning in nursing education.

Purpose: The purpose of this project was to explore the usefulness of tweet-format narratives to capture nursing student experiences and to elicit reflection during a service-learning trip.

Methods: Eight bachelor of science in nursing (BSN) students participated in a service-learning experience to Appalachia. A grounded theory approach with three data collection methods was

used to determine the usefulness of tweet-format narratives to facilitate student reflection during the event. A free closed text-messaging app was used to house tweet-format narratives. A focus group session and post-survey were conducted at the conclusion of the trip. Emergent themes from each data collection method were compared and modified using iterative techniques and constant comparison analysis until the data were saturated.

Results: Focus group responses were reflective in nature and included student elaboration about content themes that were previously identified by the tweet-based narratives. Modification of themes resulted in six final themes of improved skills, cultural competence, patient interaction, socioeconomic factors and health, landscape/clinic setting, and impactful shared experiences.

Conclusions: It is important for nursing students to reflect on their experiences during service-learning immersion trips, especially as they relate to underserved rural populations and their unique healthcare scenarios. With the growth of social media, more nursing students are accustomed to communicating in a short, text-based format. The tweet-format narratives in the free closed text-messaging app allowed students to reflect on their experiences through open-ended comments and to communicate with other members of the group. Short text-based narratives can be an effective narrative medicine technique for nursing students participating in service-learning trips in rural areas.

Key words: narrative medicine, rural health, service-learning, technology

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Narrative medicine is an approach to care that incorporates patient/provider narratives into clinical practice and includes "recognizing, absorbing, interpreting, and being moved by the stories of illness" (Charon, 2006, p. 4). Patients desire healthcare providers who listen to them, are

attentive to their needs, and address their concerns, and these attributes are encouraged with the use of narrative medicine (Zaharias, 2018). Through narrative medicine, providers become aware of patients' lived experience of illness, which may foster holistic care and improved health outcomes (Remein et al., 2020). Some common tools and techniques in the delivery of medical services like short patient consults or visits, electronic charting, and technology may feel impersonal to patients (Liao & Wang, 2020). In contrast, narrative medicine is consistent with a personalized approach to healthcare that considers each patient's individuality (Fioretti et al., 2016). Likewise, Cenci (2006) found that narrative medicine, through reflection on patient's stories, promoted an interdisciplinary, patient-centered approach to delivery of care.

Narrative medicine serves to elicit reflection, and reflection is an important component of medical/healthcare education, wherein students can reconcile their performance during patient interactions, encounters, and experiences (Charon, 2006; Dressler et al., 2019). Reflection provides the opportunity for students to take a break from what is occurring, allows them to review an experience, and helps them reassess the situation and problem-solve (Murphy, Franz, & Schlaerth, 2018). Furthermore, student reflection facilitates improvement in areas such as professionalism, responsiveness, critical analysis, and decision-making (Charon, 2006; Dressler et al., 2019).

The benefits of narrative medicine include improved communication and collaboration skills, empathy, personal growth, patient-centeredness, and job satisfaction (Arntfield et al., 2013; Small, Feldman, & Oldfield, 2017; Reiman et al., 2020). Empathy can be sustained after involvement in narrative medicine. Chen, Huang, and Yeh (2017) found that empathy scores were sustained for 1.5 years after participating in a narrative medicine program. According to Reiman et al. (2020), narrative medicine assisted in the detection and reduction of burnout, promoted critical thinking about ethical issues, and improved clinical skills. Similarly, Tsai and Ho (2012)

found that medical students with experience in narrative medicine performed better on objective structured clinical examination (OSCE) communication stations.

Short tweet-format reflections have been used in medical education and residency programs to capture student experiences, and the use of tweet-format narratives may be an effective tool to facilitate reflection in narrative medicine (Dressler et al., 2019; Liao & Secemsky, 2015; Wesley, Hamer, & Karam, 2018). Dressler and colleagues (2018) explored the use of tweet-format narratives to document student experiences and found that the tweets elicited reflection and provided richer information about student experiences than standard evaluation tools because students were able to immediately document details of experiences and perceptions of patient encounters. These details may normally get lost due to delays in journaling or having students recall details only on the end-of-semester evaluation tool (Dressler et al., 2018). The use of narrative medicine among interprofessional teams has been associated with decreased isolation among health care providers, and it allowed the members to share a variety of perspectives (Small et al., 2017).

While reflective practice in medical school education has been utilized with success, there is a lack of data on the use of narrative medicine or tweet-format journaling to capture experiences among nursing students (Dressler et al., 2019; Tsai & Ho, 2012). Mangino (2014) and Yang et al. (2018) discussed the importance of reflective nursing practice and asserted the importance of incorporating narrative medicine into nursing curricula.

The US Census Bureau (2010) identifies an area to be rural if there are less than 50,000 residents. The Federal Office of Rural Health Policy considers all non-metropolitan counties as rural, and it also looks at the Rural-Urban Commuting Area (RUCA) codes (Health Resources Services Administration [HRSA], 2020). In this study, nursing students participated in a service-

learning experience in Wise County, Virginia. Wise County has been designated as a rural area by HRSA (2018). This county is in the mountains of central Appalachia, with an estimated population of 37,383 in 2019 (US Census Bureau, 2020). In Wise County, 25.4% of residents are in poverty, and Wise County ranks 125 out of 133 counties in Virginia in health outcomes (County Health Rankings, 2020).

Methods

The purpose of this research project was to explore the usefulness of tweet-format narratives as a qualitative data collection tool to capture nursing student experiences and a technique to elicit reflection during a service-learning trip into rural Appalachia.

Study Design

A four-person nursing faculty team from a public, liberal arts university in the southeastern United States secured internal grant monies to guide and accompany senior-level Bachelor of Science in nursing (BSN) students on a three-day service-learning immersion event in rural Appalachia. The nursing students assisted with a free three-day mobile clinic at a local fairground and were exposed to patients and local providers from this rural area of Appalachia. The faculty research team utilized a grounded theory approach and three separate data-collection methods to determine the usefulness of tweet-format narratives to capture student experiences and to facilitate reflection among nursing students who participated in the service-learning event (Charmaz, 2014, Dressler et al., 2019; Glasser & Strauss, 1999; Hesse-Biber & Leavy, 2011). The study was approved by the university Institutional Review Board (protocol number: 02-26-2019-004).

Recruitment and Participants

Students were recruited for the service-learning immersion event during classroom visits. The faculty team introduced the nature of the trip and described the opportunity for interested

students to participate in a mobile clinic involving the delivery of healthcare services to underserved populations. Students were also introduced to the concept of narrative medicine and informed of the tweet-format reflective journaling study that would coincide with the service-learning immersion event. Eight students volunteered to attend the trip and to participate in the immersion experience and in the tweet-narrative reflection study. The students provided their signed informed consent to participate in the study and were able to choose to withdraw or not participate in the study at any time. The study and immersion event were not tied to a nursing course, and there was no danger of academic penalty through participation or non-participation in the study. The cost of the trip for students was supported by the grant funding and was nominal.

Data Collection

Data collection methods included student and faculty tweet-length narratives that were journaled throughout the service-learning immersion event, a post-survey, and focus group session conducted at the conclusion of the trip.

Closed Messaging Application (App)

Students and faculty used a secured and free, closed-messaging app to communicate with each other about status, location, and experiences during the service-learning trip. Faculty encouraged student activity within the closed-messaging app throughout the trip to provide avenues for documentation of experiences, communication, and reflection. Students were prompted by faculty to write tweet-length narrative journal entries during break periods of each day and a final thought or reflection each night. Faculty were also active participants in the closed-messaging app to document experiences during the trip and to encourage student interaction and participation through initial tweet-narrative journal entries, responses to initial journal entries, and comments of support or shared experiences.

Post-Survey

A paper-based post-survey was administered on the final day of the service-learning trip to capture student demographic data and to offer participants an opportunity to provide further detail of their experiences in an anonymous manner. The survey was administered before the focus group session so that individual student feedback would not be influenced by peer responses in the focus group forum. The post-survey was constructed by the research team before the service-learning trip to align with the service-learning trip objectives and included three broad, open-ended questions: 1) How has this service-learning experience impacted you?, 2) What would you change about the experience?, and 3) Any additional comments? These questions were constructed using standard post-experience evaluation questions used by the academic department and were tailored for the service-learning experience. The research faculty team member with expertise in narrative medicine reviewed the survey and semi-structured interview questions for appropriateness and content validity. No further measures of reliability or validity were conducted.

Focus Group Session

When designing the study, the research team constructed a preliminary semi-structured interview guide based on the concepts of experiential learning, narrative medicine and journaling, and reflection (Table 1) (Mangino, 2014; Murphy et al., 2018; Remein et al., 2020).

Table 1

Preliminary Semi-Structured Interview Guide

Interview Questions
What is your overall impression of the service-learning experience?
What skills or tools have you gained that will be helpful to you either personally or professionally?
How has this experience helped you to relate to your peers?
How has the experience impacted your perception of the nursing faculty?
With respect to your nursing school curriculum, what about this experience was unique?
Given your experience with this service-learning experience, if a peer asked you why this is beneficial, what would you say?
What do you think is missing or could be better within this service-learning experience?

How would you describe the use of the purpose of narrative medicine or journaling in
   nursing education?
How did reading the reflections of other students impact your experience?
Does anyone have any additional comments or thoughts they want to share?

A focus group session was conducted using a modified version of the semi-structured interview

guide at the conclusion of the trip and provided an opportunity for students to have open-ended

discussion of learning encounters and to recall service-learning trip experiences (Table 2).

Table 2

Modified Semi-structured Focus Group Guide Based on Tweet-format Narratives

Interview Questions
What is your overall impression of the service-learning experience?
What skills or tools have you gained that will be helpful to you either personally or professionally?
How did the setting/landscape influence your experience?
How did the experience influence your understanding of the culture and the people of Appalachia?
How has the experience influenced your understanding of how social and economic factors impact the physical and mental health of patients?
How has this experience helped you to relate to your peers?
How has the experience impacted your perception of the nursing faculty?
With respect to your nursing school curriculum, what about this experience was unique?
Given your experience with this service-learning experience, if a peer asked you why this is beneficial, what would you say?
What do you think is missing or could be better within this service-learning experience?
How would you describe the use of the tweet-length narratives in the closed-messaging app?
How did reading the reflections of other students impact your experience?
Does anyone have any additional comments or thoughts they want to share?

The researchers read an informed consent statement at the start of the session and moderated the

session using the modified semi-structured interview guide and guided probes. The session was

audio recorded and transcribed verbatim with no participant identifiers collected. The session

lasted approximately 22 minutes. All students actively participated and were engaged in the

session, offering their recounts and reflections of their shared experiences.

Data Analysis

The faculty research team collected and analyzed the data utilizing constant comparison and iterative techniques until the data were saturated. The research team included one faculty member with expertise in narrative medicine and service-learning experiences. This faculty member offered limited input in the data analysis process to prevent *a priori* assumptions and experiences from influencing the coding schema and category formation (Charmaz, 2014; Glasser & Strauss, 1999; Hesse-Biber & Leavy, 2011). The other three faculty researchers used bracketing techniques to limit preconceptions and unintended alterations of the data during the qualitative analysis.

The faculty research team extracted the tweet-narratives from the closed-messaging app each night of the trip and explored the data through organization, memo writing, and initial coding (Charmaz, 2014; Glasser & Strauss, 1999; Hesse-Biber & Leavy, 2011). The faculty team reviewed the tweet-narratives and conducted the initial memo writing and coding separately and then discussed as a group to determine agreement. Table 3 provides examples of the tweet-narratives, codes, categories, and emerging themes associated with the coding scheme.

In accordance with the tenants of grounded theory construction and constant comparison and iterative analysis techniques, the preliminary semi-structured interview guide was modified to incorporate emerging content and themes discovered through initial coding and analysis of the tweet-format narratives (Charmaz, 2014, Glaser & Strauss, 1999; Hesse-Biber & Leavy, 2011). The modified version of the interview guide included open-ended questions to elicit discussion about student experiences with the patients, residents and local culture, landscape, and with other peers and faculty. The modified interview guide was used to conduct the focus group session.

The research team reviewed open-ended survey responses and transcripts from the focus

group session using the same iterative analysis and coding approach that was used for the tweet-

format narratives **(**Table 4**)**.

Table 3

Tweet-narrative Coding Scheme

Student Tweet-Narrative	Initial Code	Focused Code/Category	Theme
"In triage I was taking a patient's blood pressure and pulse. While checking his pulse, I noticed it was irregular and hard to keep up with…Then he stated he stays in constant atrial fibrillation."	Opportunities to improve assessment skills	Improvement of assessment skills, history taking, and medication administration	Improved skills
"In order to get a really a good history it requires patience and a personable attitude (and a little detective work) but it's all worth it so that the patient can receive the care that they need."	Opportunities to improve history taking	Improvement of assessment skills, history taking, and medication administration	Improved skills
"I got the chance to administer insulin to a female patient who came to get new glasses but she had a honey bun and her sugar rose to 230! But soon after her insulin injection her BGL came down to 90!"	Opportunities to assessment skills, history taking, and med administration	Improvement of assessment skills, history taking, and med administration	Improved skills
"I think the areas of VA we've been to have some of the nicest people…Everyone greets you with a smile…I enjoy the vibe that comes from small town places"	Feeling welcomed by the community	Interacting with local residents and learning the culture	Cultural competence
"It is humbling to see how badly these people struggle, yet they are still being positive and complimenting us."	Feeling appreciated by the community and residents	Interacting with local residents and learning the culture	Cultural competence
"I love that we were able to help the people of this community, most importantly, but I also enjoyed being able to explore the area and engage in different cultural events."	Helping the community and learning the culture	Interacting with local residents and learning the culture	Cultural competence
"My patient told me she's been out waiting for 2 days just to get her eyes checked on"	Underserved population	Rural and underserved populations	Patient interaction
"Almost all of the patients I interacted with today were very pleasant and appreciative of the services offered."	Underserved population	Rural and underserved populations	Patient interaction
"This experience truly opened my eyes to the poverty of the area,			

Student Tweet-Narrative	Initial Code	Focused Code/Category	Theme
which I didn't think about…when I think of medical missions, I think of going out of the country."	Poverty of the local residents and need for missions	Poverty of residents and lack of access to healthcare	Socioeconomic factors and health
"I noticed a lot of people…[on] medication for their anxiety, depression, and other issues. I wonder if it could be because people living in this area don't have access to certain needs, living situations might not be great, or don't have access to health care. It makes you wonder."	Poverty of local residents, lack of access to needs and healthcare, mental health issues	Lack of access to basic needs and care and association to mental health	Socioeconomic factors and health
"I was excited to see all of the mountains because I've never seen anything like them before."	Opportunity for students to see new landscapes	New experiences include travel and observation of new landscapes/clinic setting	Landscape/Clinic Setting
"Hiked through the beautiful Appalachian Mountains today! On The road to becoming more culturally competent."	Opportunity for students to see new landscapes	New experiences include travel and observation of new landscapes/clinic setting	Landscape/Clinic Setting
"It was very humbling to see the amount of people that set up camp in order to come to this event. Can't wait for the next few days."	Large number of volunteers coming together	Meeting other volunteers with similar purpose	Making a difference
"I enjoyed seeing all of the volunteers who came from all over to help people in need…I am excited to meet the people of Wise the next few days and make a difference."	Large number of volunteers coming together	Meeting other volunteers with similar purpose	Making a difference
"Such a memorable experience. Glad I was able to get to know ya'll a little more	Getting to know peers and faculty	Shared experiences with peers and faculty	Shared experiences
"This event was not only a great clinical experience, but great personal experience…. getting to know everyone...[creating] some fun memories"	Getting to know peers and faculty	Shared experiences with peers and faculty	Shared experiences

Table 4

Focus Group and Survey Response Coding Scheme

Student Tweet-Narrative	Initial Code	Focused Code/Category	Theme
"You were left alone a little more. You found out what you knew, not just what you are kinda prompted to do. [In the hospital], They never let us do an admission by ourselves"	Opportunities to improve assessment skills	Improvement of assessment skills, history taking, and medication administration	Improved skills
"You really have to dig deeper when asking questions [taking a patient history] …you have to break it down for them ask them is it anything in this category."	Opportunities to improve history taking	Improvement of assessment skills, history taking, and medication administration	Improved skills
"It kinda shows you how close their community is…They were so thankful that people were there doing stuff for their community"	Feeling welcomed by the community	Interacting with local residents and learning the culture	Cultural competence
"It made them not just like the patients that we were seeing-going and interacting in the community, made them like people, not just a patient."	Feeling appreciated by the community and residents	Interacting with local residents and learning the culture	Cultural competence
"I thought it was a great experience…It was good to listen to their [patients'] stories, where they traveled from, it was really neat to see how far these people came to get medical care."	Helping the community and learning the culture	Interacting with local residents and learning the culture	Cultural competence
"They put so much effort getting there [patients]…They wanted to better themselves and take care of themselves…This may have been their only opportunity of the year to get medical care."	Underserved population	Rural and underserved populations	Patient interaction
"A lot of people that came for dental… when they were in triage found out they actual medical problems…Things that they didn't know were going on."	Underserved population	Rural and underserved populations	Patient interaction
"When I think of medical missions, I don't think of stuff here or so			

Student Tweet-Narrative	Initial Code	Focused Code/Category	Theme
close…I guess I didn't think about this being as big of a problem here."	Poverty of the local residents and need for missions	Poverty of residents and lack of access to healthcare	Socioeconomic factors and health
"I noticed there was a big need for it here [behavioral health services]. Typically, the people that have those problems are uneducated or lower educated. People that don't really have good healthcare. It took [the patient] 19 years just to get that problem just starting to be resolved."	Poverty of local residents, lack of access to needs and healthcare, mental health issues	Lack of access to basic needs and care and association to mental health	Socioeconomic factors and health
"It was peaceful…I think it also made the patients feel more comfortable…in their own setting, in their own area."	Opportunity for students to see new landscapes/areas	New experiences include travel and observation of new landscapes/clinic setting	Landscape/Clinic Setting
"I had a lot of patients say…that they were terrified of seeing people in their coats and scrubs. That we were in t-shirts and normal clothes helped them not being as nervous out here."	Clinic setting was comfortable for patients and students	New experiences include travel and observation of new landscapes/clinic setting	Landscape/Clinic Setting
"Reading the groups' [tweets] that went to triage's stuff…it kinda made me feel like I was getting that same experience even through I wasn't there to do that experience."	Shared experiences through tweet narratives	Shared experiences with peers and faculty with a similar purpose	Impactful shared experiences
"It was also nice to do whatever they needed just to help them…We saw everyone walking around with the bags that we made. It made a difference to me."	Large number of volunteers coming together	Shared experiences with peers and faculty with a similar purpose	Impactful shared experiences
"I feel like we just had fun…We came together for a common goal, and that was to help other people, and in the process, we learned more about each other."	Getting to know peers and faculty	Shared experiences with peers and faculty with a similar purpose	Impactful shared experiences
"It was cool to see everyone else's [tweets]. We were split up…in different areas, we might not have gotten the whole story. Somebody else may have seen the same patient and tweeted about it."	Shared experiences through tweet narratives	Shared experiences with peers and faculty with a similar purpose	Impactful shared experiences

Themes from the tweet-format narratives were compared to those from the focus group session and survey responses to identify similarities or differences in recall or expression of the immersion event experiences. To determine reflection, student responses were examined for statements indicative of introspection, empathy, and critical thought about lessons learned (Chen et al., 2017; Murphy et al., 2018). Statements were examined to determine if students were able to convey understanding of patients' lives and situations after the immersive service-learning experience.

Results

This experiential learning trip exposed students to many new cultural and patient care situations and elicited opportunity for student reflection through journaling. Students and faculty also uploaded photos of trip activities like packing bags of toiletries, electric toothbrushes, electric razors, and children's books to hand out to patients. Students learned about the culture and landscape of the region by visiting scenic mountain trails in the area, viewing a local play about the culture of the Appalachian residents, and visiting a venue to hear local musicians and to experience local dance.

Focus Group and Survey Responses

Focus group and survey responses allowed students an opportunity to elaborate and reflect upon a variety of trip experiences including peer, faculty, and patient interactions, cultural enrichment, attainment of skills, and lessons learned. Student elaboration of experiences allowed researchers to further understand student experiences and to refine and modify themes. The research team collaborated to determine six modified themes of improved skills, cultural competence, patient interaction, socioeconomic factors and health, landscape/clinic setting, and impactful shared experiences (Table 4).

Themes

Improved Skills

Students felt that they learned more history-taking and problem-solving skills during the rural immersion experience than they could have in the traditional clinical setting. One student described history taking as being "like research, like digging deeper, investigation." Another student said she "definitely got to learn a lot more and practice with history taking, the backgrounds and stuff."

Cultural Competence

Students enjoyed visiting the local venues and becoming familiar with the culture and daily lives of the local residents. One student commented, "I think the areas of VA we've been to have some of the nicest people…Everyone greets you with a smile…I enjoy the vibe that comes from small town places." Another student added, "It is humbling to see how badly these people struggle, yet they are still being positive and complimenting us."

Patient Interaction

Through patient interaction, students were able to improve both their assessment and communication skills. The interaction allowed them to see first-hand the underserved populations that exist in local rural communities. When asked about patient interactions, students responded that "Almost all of the patients I interacted with today were very pleasant and appreciative of the services offered," and that "my patient told me she's been waiting for 2 days just to get her eyes checked on."

Socioeconomic Factors and Health

Students focus group responses elaborated on tweet-narratives that documented the extreme poverty of the patients and poor physical and mental health outcomes associated with that poverty and lack of access to services. Previously, one student had only associated this degree of

need with international mission trips. The student stated, "This experience truly opened my eyes to the poverty of the area, which I didn't think about…When I think of medical missions, I think of going out of the country."

Landscape/Clinic Setting

Some of the students had never travelled out of state and had never seen the Appalachian Mountains. The trip offered students an opportunity to see this new landscape and to experience a remote clinic setting. After interacting with patients, students stated that they saw the value of having the clinic in a community setting where the patients were more comfortable. One student stated, "It was peaceful…I think it also made patients feel more comfortable…in their own setting, in their own area."

Impactful Shared Experiences

Students elaborated on the usefulness of the tweet-narratives to enhance faculty and peer interaction and to facilitate sharing of impactful experiences. Students repeatedly talked about "making a difference" and "working together" in all response forums. Students felt they attained a level of familiarity with both their peers and nursing faculty through the experience. One student responded, "I feel like we just had fun. And like, we came together for a common goal, and that was to help other people, and in the process, we learned more about each other." The student also stated, "I don't really associate with anyone in another class. So, it was nice to get to know people who weren't in my class. And you get to know professors more." Another student added, "It's all so serious in class. We got to have fun here, so… like [*professors are*] normal people."

Student responses were overwhelmingly positive in nature. Students did express feelings about being overwhelmed the first day of the trip when clinic organization and patient flow were not well-established. Students enjoyed using the closed-messaging app and tweet-format

narratives to communicate with each other during the experience. One student explained, "It was cool to read everyone else's *[tweets]*. We were split up…like in different areas, we might not have gotten the whole story. Somebody else may have seen the same patient and tweeted about it." Another student stated that through reading her peer's tweets, "it kinda made me feel like I was getting that experience event though I wasn't there."

Discussion

This unique service-learning trip served as a valuable cultural enrichment and skills attainment experience for nursing students, and it provided an opportunity for the research faculty team to explore the usefulness of tweet-format narratives to elicit reflection in nursing students using a narrative medicine approach (Chen et al., 2017; Murphy et al., 2018). Students initiated experiential dialog and responded to each other during the trip with short tweet-format narratives that contained both thoughtfulness and reflection. The tweet-format narratives captured student experiences, elicited reflection, and enhanced students' experiences and interactions with one another and with faculty.

The focus group and surveys allowed for elaboration and refinement of six themes that emerged during the tweet-format narratives. Students explained the usefulness of tweet-narratives to facilitate shared experiences and reflection about those experiences. While group elaboration of content themes was important for further understanding of the shared experiences, all relevant content associated with the six themes was accounted for in the tweet-format narratives (Glasser & Strauss, 1999; Hesse-Biber & Leavy, 2011). Additionally, those narratives included both experiences and reflective thought that are important components of narrative medicine (Charon, 2006; Mangino, 2014).

The research team could not identify any other nursing studies where tweet-format narratives elicited reflection through shared experiences. Thus, this finding warrants further investigation and may show promise to build camaraderie and trust among student peers and between students/faculty in other nursing educational, academic, or clinical settings. The research team was active within the closed-messaging group which likely influenced students to maintain content appropriate comments and to provide reflective thoughts.

Limitations

Limitations included a small sample size of students who participated in the service-learning trip and a short trip duration of three days. Students had multiple opportunities for patient triage, vital signs, and history taking at the clinic, but were limited in observations with specialty areas (e.g. dermatology, pediatrics, women's health) because of a large number of nurse practitioner students at the clinic who had priority placement. Future investigations of tweet-narrative journaling with larger number of students including graduate level nurse practitioner students may provide other perspectives on the usefulness of tweet-narrative journaling in educational clinical experiences.

Conclusion

Participating in service-learning experiences is invaluable for students. The free three-day mobile clinic in Appalachia exposed the nursing students to the unique healthcare needs of rural, underserved patients, which they will take into their careers as registered nurses. The nursing students gained confidence in their clinical skills, while interacting with patients from a rural area.

It is important for nursing students to reflect on their experiences, both on service-learning immersion trips, and in other nursing school learning activities. With the growth of social media, more nursing students are accustomed to communicating in a short, text-based format. The tweet-

format narratives in the free closed text-messaging app allowed students to reflect on their experiences through open-ended comments and to communicate with other members of the group. Short text-based narratives can be an effective narrative medicine technique to encourage reflection, to promote group discussions, and to enhance peer support while on service-learning trips to rural areas, and the rural setting can provide a backdrop that encourages self-reflection among students and faculty and honors the stories of patients, providers, and students.

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