

From Case Studies to Case Stories: Developing Cultural Competence Through Narrative Medicine

An mlearning proposal by Dianne Rees

The *Case Studies to Case Stories* Program will be an iPad-mediated mobile learning experience. It will combine the reflective writing techniques of narrative medicine with location-based learning to help second- and third-year medical students develop cultural competence based on direct community experiences.



Problem Statement

Culture plays a critical role in wellness strategies and decisions about seeking health care. It influences attitudes towards preventive medicine, interactions with health care providers, and preferred treatment interventions. Under Title VI of the Civil Rights Act, health care providers are required to communicate with patients in their preferred languages. But cultural competency is more than a shared understanding of language, it's about a practice of patient-centered communication and an understanding of diverse patient perspectives. Medical students are exposed to cultural issues and communication practices in their pre-clinical curriculum, but they rarely have the opportunity to connect their mental models to the actual communities they serve.



Narrative medicine is a relatively new curriculum practice in medical schools that encourages patient-centered communication practices. Typically, narrative medicine programs include readings and discussions of existing patient narratives (through books, poetry, video, etc.) in the hopes that through these narratives, physicians-in-training will incorporate a sense of empathy along with their growing medical skills repertoire. Less frequently, these programs include reflective writing practices and role-playing, efforts that require higher levels of evaluation and synthesis. However, even in these cases, narrative medicine programs generally remain classroom-bound.



A mobile learning experience is an appropriate way to connect medical students to communities using technology they are familiar with. It will allow students to explore the use of multimedia (a topic in which they have a great deal of interest) to identify locations that are important to the different cultures in their community, to listen to and share narratives with members of their communities, and to take sterile case facts often reported in case studies to turn them into case stories.

These stories will form the basis of enduring learning materials and scenarios that can be used to further discussion with their peers and instructors to help them develop better clinical practice skills.

Lessons from Elsewhere

The pioneering program in Narrative Medicine at Columbia University has attempted to integrate community involvement into learning experiences. In one course, pediatric residents in the program and staff members of a Dominican American community center participated in monthly reading and discussions. Although reported enlightening by both residents and staff, the experience took place in the hospital setting, not in the community (DasGupta, Meyer, Calero-Breckheiner, Costley, & Guillen, 2006).

Sandars and Murray (2009) reported using digital storytelling for reflective learning in a professional development class of medical students. This solution did involve community outreach. Learners used their camera phones and PowerPoint on their personal computers to describe home visits with patients. The researchers noted that the experience might have been improved by allowing the students to use multimedia elements to improve meaning-making (Sandars & Murray, 2009, p. 443).



Experiences in other venues also support the use of mobile devices for narrative medicine programs. Mobile learning experiences designed for younger audiences have successfully integrated mobile learning with community outreach. These include WebQuest 3.0, a project in which students used smartphones to investigate community perceptions of HIV/AIDS (Dodge, 2011). Mobile location-based experiences (e.g., based on the ARIS platform) have been used to create learning experiences centered around communities (ARIS, 2011).

Existing apps for digital storytelling used on the iPad also offer a springboard for further development. Some of these apps are described on the [Digital Storytelling for the iPad](#) site. Although not developed as a tool for the iPad, [Tagwhat](#) also offers a model for geobased stories that might be developed using the iPad.

Solution Proposal

Solution development platform

While the iPad currently dominates the market, this program should anticipate the use of other tablet devices (e.g., such as the Samsung Galaxy tab), which may have more uptake in the long run in the health care field. For example, Android-based devices may be attractive because of security features and because of the potential for better integration with hospital infrastructures (a concern, since the goal of the program is for students to use technology they will be using in their professional lives). The solution will also involve use of the camera, audio, and GPS features of such devices, which means a native app is more appropriate than a web-based app.

Because of these design characteristics, the learning solution will be developed as a native app which can be deployed on multiple tablet devices (e.g., iOS-based iPads, Android-based Galaxy tablets). The Appcelerator® Titanium suite will be used to take advantage of its ability to publish applications on iOS *and* Android devices, to provide native UI API support, and to develop apps capable of tapping into inherent device capabilities (e.g., camera, video, audio, GPS tracking).

Solution deployment platform

As noted, the solution will be developed for delivery on an iPad and eventually other tablet devices. There are a number of reasons to use a tablet versus another mobile device such as a smartphone or an iPod touch.

Existing acceptance in medical programs and clinical practice

The iPad is a required device in a number of medical schools including Stanford, Brown, University of Minnesota, and the University of Central Florida (Husain, 2011). Additionally, the use of tablets is being modeled by medical professionals. One research report found that one out of three physicians currently owns an iPad, while another 28% are likely to purchase on in

the next six months (Reflector.com, 2011). The majority of physician iPad owners use them in clinical practice. Thus, these learning devices are also devices that students are likely to use routinely as they continue their professional development.

Multimedia recording and notetaking capabilities

The iPad, and tablet devices in general, have multimedia recording capabilities making them suitable geobased digital storytelling tools. A built-in camera, video camera, microphone, and GPS device allows users to take photos, record video and audio (useful for interviewing), and capture location information relating to community resources. Though less portable, tablets are easier to take notes on than a smartphone.

Usefulness in conjunction with other learning resources

Medical ebooks, study aids, clinical and surgical simulations are currently accessible on the iPad, making for better integration between this program and a student's other courses of study. Although this learning experience will be mediated via a native app, resources derived from community experiences may be downloaded to a course website for feedback from fellow students and instructors. The ability to access these easily on the same tablet (rather than viewing on a personal computer) is an added bonus.

Potential for collaboration

The larger screen real estate of a tablet device makes it easier for students to work collaboratively as well as to share their resources and reflections with those they are interacting with.

Solution form

The solution will achieve the following program outcomes:

A learner will be able to:

1. Identify challenges faced when communicating with people from a different culture
2. Recognize the impact of a patient stories on developing patient-centered care strategies
3. Write reflectively about physician-patient interactions, while correctly applying privacy laws (e.g., HIPAA) and hospital regulations
4. Identify techniques for improving communication with other cultures and the use of multimedia as a communication tool

5. Identify community resources for improving physician-patient communications

These outcomes will be achieved in three phases in the community with introductions and debriefing sessions conducted in a classroom setting. The three phases will utilize the tools shown in Figure 1, discussed further below.



Figure 1. A mockup of the *From Case Studies to Case Stories* application

Phase 1. Recognizing your own cultural influences

An important aspect of cultural competence is to recognize the diversity of individuals within a culture. In this phase of the project, learners will be challenged to use their tablet devices to create a digital story that reflects their own cultural influences and to consider how these influences can impact their perceptions and clinical practice. They'll share their stories with others in their class.

For this experience, students will use the *stories* feature of the app (shown in Figure 2) to access a dashboard that will allow them to upload images and video, record audio, and input text. The saved work can be added to the class website.

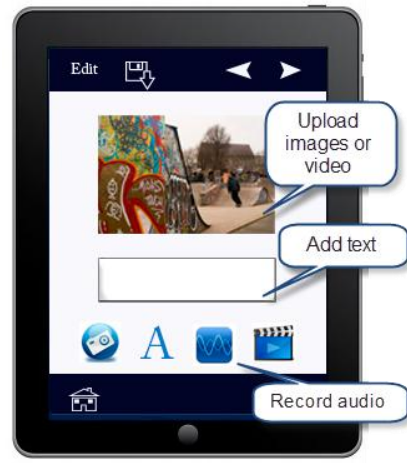


Figure 2. A mockup of the *stories* feature

Students can use the *ideas* feature of the application, a concept mapping tool, to brainstorm (Figure 3).

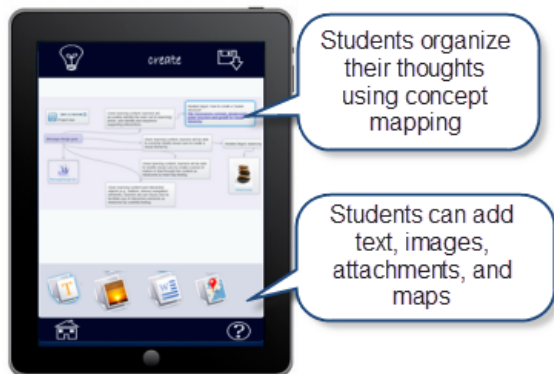


Figure 2. A mockup of the *ideas* feature

Phase 2. Listening to and sharing stories

In typical cultural competency courses, students are often taught the CONFHER mnemonic (Fong, 1985) (Appendix A) and/or provided with a list of “explanatory questions” (Appendix B) which can be used to obtain a patient’s own explanations of his or her illness (Kleinman, Eisenberg, & Good, 1978). Rather than using an interrogatory approach to get at the answers to explanatory questions, students will talk to community members in different cultural groups about their experiences with health and the health care system to understand how these experiences can shape the answers to explanatory questions

Students will be prepared in class to consider important issues of patient privacy and applicable laws and regulations that can implicate story sharing. Further, in this exercise, teams of students will work together with a community guide who has identified members of the community willing to talk to, and work with the students, and who have signed a release to share and publish their information.

The same application feature (*stories*) will be used for this exercise and students can reflect on how their own stories are similar or different. Students will also explore how narratives might be modified to protect patient privacy. Students will have access to performance aids (e.g., HIPAA checklist, CONFHER mnemonic, etc, through the *tools* feature) and can chat with non-team members or the instructor via the *chat* feature of the app.



Figure 3. Using *stories*, *tools*, and *chat* in the community

After the experience, students will be tasked to develop a digital story that includes the insights they've gained. In debriefing sessions, stories will be swapped and students will practice developing case management plans for health conditions that hypothetical patients with similar cultural backgrounds may develop. These artefacts can be used to develop case story scenarios to help students develop their clinical practice skills in a more real-life context.

Phase 3. Creating a digital community guide

Developing cultural competence is a life-long learning process. Medical students (and most physicians) rarely realize that they can tap into community resources for a better understanding of their patients and to help their patients adhere to treatment regimens. In this activity, learners

will use geobased-storytelling to explore their community using the *guide* feature of the *Case Studies to Case Stories* app (Figure 4). As in the previous activity, they'll work in teams.

They'll be challenged to find out:

- What are the cultural demographics of the community you serve?
- Where do your community members shop, eat, work?
- What cultural activities enrich their lives?
- What social and health care institutions do different cultures seek out (e.g., social services, community centers, spiritual centers, advocacy and political centers, literacy organization, libraries, free clinics, planned parenthood, etc).

The *guide* feature will use the GPS tracking capabilities of the iPad, built-in camera, and text inputting features to allow students to present an annotated view of their communities. As with the previous activity, students can use the *chat* feature of the application to coordinate activities and share findings. Game-like features might be added to this activity, such as rewarding teams with points when they identify specific community service locations (marked by QR codes for example). Significantly higher rewards would be provided when community leaders share insights (via audio recordings for example) with the students. This latter type of reward could encourage students to engage with community organizations rather than passively taking pictures of a physical location.



Figure 4. A mockup of the *guide* feature

Performance support tools

As noted, the application (and course website) will also link the learner to performance support tools including:

- HIPAA and patient privacy checklist
- CONFHER mnemonic (provides a questions guide for probing cultural beliefs) (Fong, 1985)
- Alternate care history question
- Interpreter checklist (when interpreters are needed and how to work effectively with interpreters)

Tapping the multiple affordances of mobile devices

This mobile learning experience will exploit multiple affordances of mobile devices including:

- Location-based learning, using the iPad's camera, audio capabilities, and potentially video.
- Social learning through teamwork and chats
- Constructivist approaches using the personalizable platform that the iPad offers as well as the *ideas* feature of the application

Development and deployment costs

It is assumed that students will bring their own devices or that the school will have provided these devices as part of their medical school curriculum. Costs will include design costs and programming costs of approximately \$20,000. If application costs for developing a geotagging app are prohibitive, students may alternatively use existing geotagging apps.

Assessing outcomes

Classroom debriefing sessions and student work products will enable instructors to assess students' success in meeting the program outcomes. In addition, students will create their own assessment materials since case stories will be used to create scenarios to help students hone

their practice skills. For example, given a scenario, students will be asked how they might develop a case management plan that takes a patient's culture into account. The students' ability to make quality judgments, based on their instructors' evaluations will provide metrics for the success of the program. Long-term success of the program can be monitored by comparing clinical practice skills of students who have been involved in the program versus those who have not (while recognizing that many factors may play into differences between the two groups of students).

Potential obstacles

Community partners will need to be engaged in this program to maximize its success and this may require forming relationships that do not currently exist, or which need to be strengthened. Careful thought to designing course introductions and debriefing activities will be needed to achieve learning outcomes. Although program directors may be hesitant to let students interview community members given privacy laws like HIPAA and hospital regulations, allowing students to develop real experiences in patient privacy issues is a critical part of their training. Additionally community partners will identify people will to talk to students and capable of giving informed consent to use of their information for the purposes of this program. Further the application will be designed to be password-protectable and capable of a remote data wipe to ensure privacy should a student's iPad be lost or stolen.

Additional obstacles are technical ones. The applications will require hiring a programmer to develop the designs described in this proposal. Should such development costs be prohibitive for a school, other alternatives include using multiple existing applications for digital storytelling and geotagging.

While program directors may hesitate to require students to have an in-depth knowledge of communities they may eventually move away from, this program is not limited to developing an understanding of specific communities but instead is targeted at developing problem-solving and critical thinking skills that will stand physicians in good stead wherever they ultimately practice.

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Appendix A

CONFHER Mnemonic

Use this mnemonic to help you remember the important components of culture that impact physician-patient interactions.

- **Communication Style**—oral vs. written, eye contact and facial expressiveness, direct vs. indirect, questioning vs. accepting, group vs. individual, fotonovella vs. video vs. brochure etc.
- **Orientation**—present focused vs. future focused, ownership of time vs. low priority on scheduling, oriented to needs of group vs. those of self
- **Nutrition**—role of food in health and illness, perception of body size and health, availability of traditional foods and connection of food to cultural identity.
- **Family relationships**—traditional family units, marks of childhood, adolescence (if it exists), adulthood, and old age. Decision making in family roles, childbirth practices, sexual practices, child-rearing customs, role of harmony vs. individual expression.
- **Health Beliefs**—causation of wellness and illness, level of self-determination, use of traditional healers, lay advisors, Western medicine, complementary and alternative medicine, and priority of health care
- **Education**—formal and informal, gender differences, literacy level

Appendix B

Explanatory Questions

- What do you think caused this problem?
- What have you done to treat this?
- Have you asked anyone else to help you?
- What are some of the ways your parents might have treated this? Traditional ways of treating this?
- What do you want the medicine to do? What medicine do you believe works best for you? Why?
- How does your faith/religion help you to be well?
- Are there any foods or drinks that you know of that will help you with_____?