

Design, Implementation, and Lessons Learned from a Digital Storytelling Project in an Undergraduate Health Promotion Theory Course

Marylen Rimando, PhD, CHES, CPH

Postdoctoral Research Associate
Rural Health Research Institute
Georgia Southern University
P. O. Box 8028
Statesboro, Georgia 30460
Telephone: 912-478-8651
Email: marylen.c.rimando@gmail.com

K. Bryant Smalley, PhD, PsyD

Executive Director, Rural Health Research Institute
Associate Professor of Psychology
Georgia Southern University
P. O. Box 8041
Statesboro, Georgia 30460
Telephone: 912-478-0868
Email: bsmalley@georgiasouthern.edu

Jacob C. Warren, PhD

Rufus C. Harris Endowed Chair
Director, Center for Rural Health and Health Disparities
Associate Professor of Community Medicine
Mercer University School of Medicine
Patterson Building, Office 240
1550 College Street
Macon, Georgia 31207
Telephone: 478-301-2884
Email: warren_jc@mercer.edu

ABSTRACT:

This article describes the design, implementation and lessons learned from a digital storytelling project in a health promotion theory course. From 2011-2012, 195 health promotion majors completed a digital storytelling project at a Midwestern university. The instructor observed students' understanding of theories and models. This article adds to the limited literature on digital storytelling in health promotion teaching. Digital storytelling offers faculty opportunities to apply active learning strategies to teach theory and complement lecture format.

Keywords: Digital Storytelling, Health Promotion Theory, Health Education Teaching

INTRODUCTION

Digital storytelling is an instructional technology tool used in school, college, university and community-based settings and multidisciplinary fields such as education, counseling, medicine, nursing and public health (Gazarian, 2010; Gilliam et al., 2012; More, 2008; Pillay, 2009; Sandars & Murray, 2009; Sawyer & Willis, 2011; Suwardy, Pan, & Seow, 2013). In digital storytelling, students, research participants, or patients create their own personal narrative or character storyline using photos, pictures, videos, audio recordings and music, which may promote active learning, creativity, empowerment and critical thinking skills for students, participants and patients (Rossiter & Garcia, 2010).

Previous Applications in Medicine, Nursing, and Counseling

In using digital storytelling, medical students can gain a deeper understanding of a patient's disease experience. For instance, third year medical students at a public academic medical center completed digital storytelling projects on their experiences with patients during their clinical pediatrics rotation (D'Alessandro, Lewis, & D'Alessandro, 2004). In another study, first year medical students from the United Kingdom used digital storytelling to reflect on their personal experiences of meeting a patient for the first time while in medical school (Sandars & Murray, 2009). Both studies reported students' enjoyment of the creative process, face-to-face interactions with patients and personal satisfaction from completing the project.

Similarly, the use of digital storytelling has been shown to improve the training of nurses and to assist in furthering the understanding of the patient's perceptions of treatment (Callanan, 2012; Haigh & Hardy, 2011). Nursing students have applied digital storytelling to synthesize major concepts from their courses and their clinical rotations (Gazarian, 2010; Christiansen, 2011). Students involved in digital storytelling reported positive feedback about learning how to improve patient care and to develop compassion for patients. These applications also benefit nursing faculty who train nurses to encourage the development of patient-centered practice.

In counseling settings, digital narratives have been used to enhance psychotherapy with adults, children and adolescents (Pillay, 2009;

Sawyer & Willis, 2011). The therapist is viewed as a facilitator to encourage clients to explore their strengths and clients can document their authentic personal experiences through digital storytelling (Pillay, 2009; Sadik, 2008). Clients can apply creativity in creating the video narrative, while thinking deeply about a personal experience or traumatic experience (Pillay, 2009; Sawyer & Willis, 2011). Digital storytelling, therefore, has the potential to empower clients to be actively involved in the counseling process.

Emergent Method in Health Promotion Research

Digital storytelling, furthermore, is an emergent method in health promotion and public health research (Gubrium, 2009; Gubrium & DiFulvio, 2011; Gubrium, Hill, & Flicker, 2013). Alaska Natives and community health workers have used digital storytelling projects to promote positive youth development (Wexler, Gubrium, Griffin, & DiFulvio, 2013). Its applications have gained insight into the sexual health of disadvantaged groups in Chicago and Nigeria (Gilliam et al., 2012; Guse, Spagat, Hill, Lira, Heathcock, & Gilliam, 2014). In a digital storytelling project on HIV awareness, Tanzanian students reported ownership of the material and felt the narrative was culturally relevant to their learning experience (Duveskog & Sutinen, 2013).

Despite promising results in the literature, digital storytelling applications for undergraduate health promotion students are limited (Dupain & Maguire, 2007; Lyde, 2012). As a valuable tool to enhance communication skills and enhance the understanding of health promotion practice (Matthews, 2014), digital storytelling has strong potential to actively engage undergraduate students in the applications of health promotion theories. An innovative approach such as digital storytelling may be used in teaching theories and models for undergraduate health promotion students.

TEACHING METHODS

Purpose of Project

The purpose of this project was to design a video promoting: a) health behavior change; b) community health education program; or c) a health advocacy campaign for a specific target population.

In this paper, the authors will describe the design, implementation process, and the lessons learned from a digital storytelling project assigned in an undergraduate health promotion theory course.

Specifically, the authors will describe the target audience, materials, teaching procedures, grading rubric, instructor's observations, lessons learned, recommendations for health promotion faculty and future directions for the project.

Description of Course and Instructor

A digital storytelling project was assigned in an undergraduate health promotion theory course at a Midwestern public research university. The instructor designed this course to provide an overview of health promotion, health education and an introduction to major health promotion theories and models.

The instructor utilized a variety of instructional methods including lecture, discussion, small group assignments, reflection essays and role playing activities. The two prerequisites were introductory courses in physical activity and nutrition.

The instructor learned about digital storytelling in a health disparities doctoral course at a Southeastern public research university. The instructor had experience with prior use of a digital storytelling project within an undergraduate classroom setting, having utilized it during wellness courses over three semesters from 2009-2010. In that course, students applied digital storytelling to a health and wellness topic of their choice. Since the wellness course did not cover theory, the instructor did not require students to apply theory in the project.

Target Audience

This paper describes implementation of a digital storytelling project for health promotion majors enrolled in an undergraduate health promotion theory course. The project could be adapted for other undergraduate health education, school health, health communication, public health, or health science courses. Also, health and physical education teachers, community health educators, health promotion, and allied health science faculty may benefit from learning about this project.

Learning Objectives

To encapsulate the learning experience associated with the digital storytelling project, a set of learning objectives were developed. These objectives were as follows. At the conclusion of this project, students were able to: 1) Learn the constructs and concepts of major health promotion theories and models. 2) Understand the applications of health promotion theories in practice. 3) Communicate a personal health experience or a character narrative through digital storytelling. 4) Design health education and advocacy strategies for a specific target population.

Materials

The materials needed to complete the project were photos, video clips, audio clips, songs in digital format, microphones and editing software such as iMovie, Windows Movie Maker, or iPhoto.

Optional equipment included a cell phone with video recording capabilities or a video camera for videotaping role play situations or for interviewing purposes. If students interviewed a person outside of their group, they were required to obtain his or her permission to include the interview in the final video.

Teaching Procedures

The instructor assigned the project in the first month of the semester, following an overview of the field of public health and health promotion. Students completed the project through the semester while concurrently learning selected individual, interpersonal, community level theories and models (See Table 1). Students signed up for selected health topics on a website available to the class.

Examples of health topics included heart disease prevention, diabetes, nutrition, physical activity, stress management, smoking cessation, HIV/AIDS, cancer screening, childhood obesity prevention, emergency preparedness, binge drinking prevention, drug abuse prevention and teen pregnancy prevention. Based upon these selections, the instructor assigned students in groups ranging from three to five students, depending on the class size. Then, each group selected the demographics of their target population, health promotion setting, and theory or model of their choice. Types of health promotion settings included schools, colleges and universities, hospitals, clinics, communities,

and worksites. The instructor approved each group's topic, health promotion setting, and theory selection prior to the start of the project.

The instructor allowed the students freedom to design the video's structure and content applicable to their health promotion setting and selected topic. For example, they could present facts and statistics, interview a patient or family members, design a health campaign message for health advocacy, or demonstrate a role-play situation with characters to raise awareness of a health issue. The students were required to design strategies to teach their theory or model's constructs or concepts through creation of the video.

Furthermore, the instructor allowed the students flexibility on how to apply their theory or model in their digital story. Students could apply their theory to their health promotion topic, illness, disease, or to the development of health education, policy, or advocacy strategies. For example, students may apply Social Support theory to design health education strategies for freshmen on available resources at the student health center and the surrounding university community. Examples of the theoretical applications in health promotion practice are illustrated (See Table 2). Also, students could design their own character storylines, find an example from an athlete, or create their own role-play scenarios.

The instructor required one meeting with each group before the final project deadline. These meetings were held either in the instructor's office or the classroom. In this meeting, the group members could discuss project outlines, discuss character storylines, receive feedback on interviews, show video clips, or show a draft of the final video. The instructor allowed class days for students to work on their projects, particularly to meet with their group members, discuss project ideas, or edit their final video. Students were encouraged to exchange email addresses, phone numbers, and communicate in person with their group. Also, the instructor recommended the groups allow ample time in their schedules to work on their project and complete final editing of their video.

Grading Rubric

The instructor created a grading rubric to evaluate each group's final video project (See

Appendix 1). Also, a self-assessment was created for each student in the group to complete after submitting the final video and completing their presentation (See Table 3). The instructor showed these grading rubrics when introducing the project in class. Students viewed previous digital storytelling videos in class to learn the theoretical applications and to brainstorm ideas for their own projects. The students also critiqued strengths and limitations of the model projects according to the instructor's grading rubrics to familiarize themselves with the evaluative criteria being utilized.

Students presented their final video in one class period to the instructor in the last week of the semester before final exams. Students chose to show their videos in Windows Movie Maker, iTunes, YouTube, or another format. Prior to the video presentation, each group described the importance of their selected health topic, their target population and justification for selecting their theory. Also, each group described the major message of their video and the lessons they learned in designing their video.

OBSERVATIONS

The instructor implemented this project in six sections of Health Behavior and Health Promotion, a required course for health promotion majors at a Midwestern public research university. Over the course of three semesters from 2011-2012, 195 students enrolled in this course and completed the digital storytelling project. Two sections of this course were offered each semester. The average class size was 32 students and maximum course enrollment was 40 students. Based upon implementation of the class project, two main themes emerged, although variations occurred among the six sections of the course.

First, the instructor observed the students' knowledge and understanding of the health promotion theories and models in the video presentations. Students showed in-depth understanding of the concepts and constructs by designing role-play situations. For example, they created a character with low self-efficacy and reported perceived barriers to increasing frequency of physical activity among college students. The project allowed students to practice the applications of the constructs,

beyond the memorization of the constructs' definitions, and to actively place themselves within a "lived experience" of a demographic group with which they may not previously have had significant insight.

Second, the instructor observed the students' knowledge of the applicability of the course to health promotion practice through watching their final digital storytelling projects. Students demonstrated creativity and innovation in their videos with role-play situations or conducted interviews in which health promotion and health education took place on a college campus or elementary school. For one depression awareness project, students advocated for increased student involvement and funding for mental health awareness campaigns on college campuses. Completing this project shifted the responsibility to the students, as they took an active role in learning and applying the course material, thereby modeling the similar need for responsibility and ownership when implementing health promotion programs themselves.

DISCUSSION

Lessons Learned

The instructor learned important lessons from implementing this class project. Sharing these understandings may benefit other health promotion faculty and teachers with an interest in implementing digital storytelling in the future. First, the instructor learned the importance of time management when designing weekly lesson plans for this health promotion theory course. The instructor designed the course into major sections of individual, interpersonal, and community level theories. After the course introduction, the instructor covered one major theory or model each week and then allowed at least one class period for theory and practice applications. This strategy allowed students to learn a multitude of health promotion theory and practice applications in communities, schools, universities, clinics, and workplace settings. The instructor allowed opportunities for the students to practice theory applications in class as they worked on their digital storytelling project throughout the semester.

A second lesson learned from this project was the importance of providing student feedback throughout the project. For many students, this was their first introduction to using digital media and technology in a class project.

The instructor allowed time for students to ask questions in class about the project throughout the semester. Students also could meet with the instructor after class or arrange an individual meeting with the instructor throughout the semester. The instructor allowed students ample time in the semester to create, edit and finalize the project prior to the last week of class. Also, groups were willing to share tips and advice with other groups in terms of creating and editing the final video.

Contribution

The teaching tool of digital storytelling contributes to our current knowledge of health promotion theory and health education teaching. This article adds to the limited literature on digital storytelling in undergraduate health promotion teaching (Dupain & Maguire, 2007). This article is among the first in literature to incorporate digital storytelling in the teaching of undergraduate health promotion theory. Furthermore, digital storytelling offers a unique approach to teaching health promotion theory versus the traditional lecture format focused on the memorization of theoretical constructs and definitions.

One value from implementing this project was the potential of digital storytelling as an innovative teaching tool for health promotion undergraduate majors. During the video presentations, the instructor observed students' understanding of the applications of the health promotion theories and models covered in the lecture portion of the course. During the course, students expressed their interest in learning how a practitioner or clinician could apply theoretical constructs and concepts when working in the field. Through completing this project, students have the opportunity to see the value of health promotion theory and practice in schools, universities, hospitals, clinics, and workplace settings. These applications were important for those majors searching for health promotion internships, applying to graduate or health professional school, or searching for health promotion and clinical jobs.

Limitations

On the other hand, the instructor also acknowledges several limitations from implementing this digital storytelling project. First, as the project was intended as a part of educational practice, the instructor did not elect

to seek IRB approval to officially explain attainment of learning objectives.

Students' pre-post knowledge of digital storytelling and perceptions of theory and practice applications were therefore not assessed through individual surveys or qualitative interviews. Second, students in different sections may range in interest and resistance to completing this class project weeks prior to the deadline (Lyde, 2012). Thus, projects across sections of this course and in different semesters may vary in the accuracy of the theory applications and quality of the video content. Third, the instructor assigned this project for a grade in a required course for health promotion majors at a Midwestern public research university. Freshmen students, graduate students, undeclared majors and non-health promotion majors did not enroll in this course. Thus, these insights may not generalize all undergraduate students at this university.

RECOMMENDATIONS

First, the authors recommend that health promotion faculty and teachers consider restructuring their health promotion theory courses in the future. Health promotion faculty may restructure a lecture based health promotion theory course to bring a more applied nature to such courses. Instructors can assign a video narrative or digital storytelling project in a course to complement lectures on health promotion theory constructs. Health promotion graduate faculty may consider implementing a digital storytelling project in a master's level or doctoral theory course to include applications for program planning and public health practice. Faculty can obtain IRB approval to design and administer a pre-post survey to evaluate students' knowledge of health promotion theory and its practice applications in digital storytelling.

In terms of the specific instructions of the digital storytelling project, to allow for a more comprehensive, immersive experience, teachers may allow students to interview local community partners, city leaders, non-profit organizations, allied health professionals and clinicians to illustrate the theory and health promotion practice applications in a real-world setting. Students may also show their videos to patients and families affected by their health promotion topic or disease.

Health promotion faculty and teachers should also anticipate possible technological difficulties while implementing a digital storytelling project. Students may not have prior experience with digital media for a class project. Thus, an instructional technology designer can teach a lesson in how to use digital media and provide students with technology support such as editing the video content and sound effects.

Following completion of the projects, teachers and faculty can create an online video archive for future students and other teachers interested in viewing previous digital storytelling projects. This database can provide teachers with model projects and teaching examples to show in the classroom.

Also, this database allows students to view examples of previous projects across a range of topics, target populations, and health promotion settings to assist with brainstorming ideas for their own digital storytelling projects.

CONCLUSION

In conclusion, digital storytelling offers opportunities for health promotion faculty and teachers to redesign their curriculum and design innovative methods to teach health promotion theory to their students. The authors describe the benefits, opportunities and limitations for faculty and teachers to consider when implementing digital storytelling in a health promotion theory course. The article presents an active learning approach to teaching health promotion theory for undergraduate majors and summarizes lessons learned and implications for others who wish to implement digital storytelling in the classroom. The teaching methods of this digital storytelling project differ from the traditional lecture approach of an undergraduate health promotion theory course with less focus on the memorization of concepts and definitions, allowing the students to be more engaged with the learning process. The implementation of this project supports the development of strategies to translate abstract health promotion theoretical constructs and concepts into health promotion practice settings.

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Table 1: Selected Theories and Models from Health Promotion Undergraduate Theory Course

Level	Theory or Model
Individual	Health Belief Model Transtheoretical Model Theory of Reasoned Action and Planned Behavior
Interpersonal	Social Cognitive Theory Social Support Clinician-Patient Communication
Community	Social Ecological Model Precede-Proceed Model

Table 2: Examples of Application of Social Support to Depression Awareness

Model	Construct	Definitions	Practice Applications
Social Support	Emotional Support	Empathy, trust, love, caring	Students will role-play a situation where a student seeks emotional support from a roommate.
Social Support	Instrumental Support	Tangible aid and services	Student health center will offer a support group for new freshmen adjusting to life in college.
Social Support	Informational Support	Advice, suggestions, and information	College students in a dorm will talk to each other about risk of depression and suicide among freshmen.

Table 3: Student Self-assessment and Group Evaluation Form

Group Work Self Reflection Log

1. Rate your group participation using the following rating scale:

Group participation criteria	1 Always	2 Sometimes	3 Rarely
I shared my ideas and answers with my group.			
I asked questions when I did not understand something.			
I helped others to understand when they had problems.			
I tried to make people feel comfortable working in the group.			
I stayed on the assigned task.			
I tried to find out why I did not agree with someone else.			

2. Write brief comments about yourself as a group member.

In my group, I am good at...
Next time I will try to be better at...
I feel my group was... (use one word to describe your group)

Group Work Evaluation Form

1. Overall, how efficiently did your group work together on this assignment?					
Poorly	Adequately	Well	Extremely Well		
2. Out of the (four) group members, how many participated actively most of the time?					
None	One	Two	Three	All	
3. Out of the (four) group members, how many were fully prepared for the activity?					
None	One	Two	Three	All	
4. Give one specific example of something you learned from the group that you probably wouldn't have learned working alone.					
5. Suggest one change the group could make to improve its performance.					

Appendix 1: Instructor Grading Rubric for Digital Storytelling Project

Selection of theory or model	Chooses appropriate theory/model, provides strong justification of use versus another one.	Chooses appropriate theory/model. Unclear description and justification of theory/model.	Fails to provide any description of theory/model.	Points you earned
4 points	3-4 points	1-2 points	0 points	
Target population	Thorough description, statistics, and justification of choice.	Partial/incomplete description and unclear justification of choice.	Fails to provide any description.	
5 points	4-5 points	1-3 points	0 points	
Major audiences	Thorough description, identifies audiences directly and indirectly impacted by issue.	Partial/incomplete description and unclear.	Fails to provide any description.	
3 points	2-3 points	1 point	0 points	
Lessons learned	Thorough and clear description.	Partial/incomplete description.	Fails to provide any description.	
3 points	2-3 points	1 point	0 points	
Theory, model, or planning model	Identifies and correctly applies concepts, constructs and/or stages to characters in narrative.	Identifies and correctly applies concepts, constructs and/or stages to characters in narrative.	Fails to provide any description of theory/model.	
10 points	8-10 points	1-7 points	0 points	
Storyline & Characters	Clear, correct applies theory/model constructs, emotional appeal, applies to target population, issue, setting.	Partial/incomplete description, unclear, incorrectly applies theory constructs, not relevant to population, issue, setting.	Fails to provide any description of storyline or characters, inadequate description.	
10 points	8-10 points	1-7 points	0 points	
Music & voice narration	Excellent music & voice narration that complements storyline, characters, topic.	Choice of music and voice narration not appropriate to storyline, characters.	Fails to provide any description.	
5 points	4-5 points	1-3 points	0 points	
Style/Flow	Organized, sections clearly labeled, clear description of characters, coherent storyline, references cited properly (APA or MLA style).	Sections omitted with no description why, no labeling of sections, poor organization, references cited incorrectly.	Poorly constructed, disorganized, major sections missing, referenced material not cited.	
5 points	4-5 points	1-3 points	0 points	
			Self-assessment of individual and group contributions. (out of 5 points)	
			Total out of 50 points.	
			Project grade :	