

## Appendix C

### Content Analysis

#### Question 1

#### **What was your initial reaction to the transfer video?**

Seventy students provided responses to this question. From their replies the following themes emerged.

#### **Theme: Errors (29 responses; 41 percent)**

A major pattern flowing throughout this theme was students' feelings of uncertainty, confusion, chaos, shock, difficulty, and being overwhelmed. These feelings were generated by the number of errors presented in the video simulation. Students felt that because they had no clinical background they would not be able to find the errors depicted in the video simulation, especially after viewing it only once. However, after viewing the simulation several times, students began to feel that the errors became more obvious and easier to identify. One student commented that this was a good training exercise in that you really had to look at and think about what was going on.

Example statements:

*Initially, I was a little overwhelmed trying to figure out all of the mistakes that were taking place. Everything happened rather quickly.*

*It was a bit chaotic. If you had any background in surgery or ever had an operation you knew it was over the top. I thought it must be hard for those people to do their jobs wrong. A good training exercise in that you really had to look and think about what was going on.*

#### **Theme: Staff actions (13 responses; 19 percent)**

Students expressed surprise at how unprepared, disorganized, confused, and unsterile the transfer staff was depicted to be in the video simulation. Students also commented on the fact that no one seemed to take charge of the transfer process.

Example statements:

*I was shocked that most of them were not wearing gloves. Even though it was staged I thought they did a good job.*

*The first time I watched the video, I was very surprised by the content. The staff were not prepared, [not] organized, and very unsterile.*

**Theme: Interest (9 responses; 13 percent)**

Students felt that the video simulation was interesting and entertaining. One student commented, “I thought it was cool to see what actually went on in an operating room setting.” Another student added that because of the interest generated by the video, “It made me go to the actual website and watch the real surgery video.”

Example statements:

*I thought the video was interesting.*

*It was entertaining.*

**Theme: Technical aspects (7 responses; 10 percent)**

Students expressed concern regarding technical aspects of the video. Comments focused on the level of detail depicted in the video, the level of sound juxtaposed with the annoying sounds made by the patient monitoring devices, the amount of activity taking place, and the length of the video.

Example statements:

*The beeping was annoying.*

*Thought there was too much going on, very noisy, and made it hard to follow everything.*

**Theme: Value (5 responses; 7 percent)**

Students expressed a belief in the educational value of the video simulation.

Example statements:

*I thought it was a good method for learning that is not used enough.*

*I thought it was a good tool to allow observation of a clinical process where there is potential for error and time studies.*

**Theme: Disbelief (4 responses; 6 percent)**

Students expressed a level of disbelief about what they witnessed in the video simulation. One student likened it to “YouTube video.” Another student expressed concern over how much waste was depicted in the video.

Example statements:

*I could not believe what I was seeing. My initial thought was I hope I never require surgery for anything. Of course this won't be possible. I was frightened by what I observed.*

*Did not know what to think[.]*

**Theme: Feelings toward the assignment (2 responses; 3 percent)**

Students expressed concern regarding the clinical nature of the assignment, doubting whether they had the experience needed to complete the activity. One student felt that by concentrating on the process of workflow analysis she was able to complete the assignment. Another student felt that a video simulation depicting a health record environment would be more suitable.

Example statement:

*In terms of the assignment . . . At first I believed that I would not have the proper training or specialization to properly critique the video. By the end of the evaluation, I was looking beyond the clinical aspect and focusing on the process.*

Question 2

**Do you think the transfer video helped you learn about lean thinking and workflow analysis? Please explain.**

Out of 70 students who responded to this question, 64 felt that the video simulation helped them learn about lean thinking and workflow analysis. From their responses the following themes emerged.

**Theme: Visualization (39 responses; 55 percent)**

Students expressed a belief that the video simulation helped them to visualize the transfer process. With the ability to clearly see and define each step in the process, students expressed a belief that they were better able to determine what changes needed to be made. Students also felt strongly that the video simulation made them think.

Example statements:

*Yes. It allowed a process to be visualized from the outside. It is much easier to see the aspects of time efficiency and waste when you visualize the process rather than reading about it.*

*Yes, I think it helped because I was able to visualize it better by watching the video rather than just in my head. I liked being able to catch the mistakes on my own.*

**Theme: Learning (21 responses; 30 percent)**

Students expressed a belief that the video simulation helped them learn how to implement lean thinking and workflow analysis (value stream mapping) to redesign a selected process. Students expressed that the video made them reflect on the material presented in the lecture and workbook to figure out how to apply the concepts to solve a real-world problem.

Example statements:

*This video has definitely changed my perspective on lean thinking and workflow processes.*

*The video was wonderful in learning lean thinking and workflow analysis.*

**Theme: Debriefing (3 responses; 4 percent)**

Students expressed a belief that the debriefing session helped them to see and understand how lean thinking could be used to redesign a selected process.

Example statements:

*Yes, after we broke it down and we had help identifying some of the problems.*

*It did after the class discussed the video that [was] seen.*

**Theme: Negative responses (5 responses; 7 percent)**

Five students (7 percent) stated that the video did not help them learn about lean thinking and workflow analysis. Four expressed a view that because the simulation was clinical in nature, it was difficult for them to determine what to change. One student felt that the video simulation did not accurately depict what may or may not take place in a transfer process.

Question 3

**Do you think the transfer video assignment prepared you to perform workflow analysis in the future?**

Sixty-eight students provided responses to this question; two abstained. From their replies the following themes appeared.

**Theme: Visualization (16 responses; 24 percent)**

Students focused on how the video simulation helped them to visualize the transfer process (concrete experience), reflect on what they witnessed (reflective observation), and then make suggestions for improving workflow (active experimentation). Students also commented on how the simulation placed them in a real-life situation without actually being present.

Example statements:

*I think recording processes such as this . . . one is a good tool to allow all the members to see and reflect on the process and identify how things can be done better.*

*The video was an excellent tool to assist with workflow analysis in the future.*

**Theme: Preparation (16 responses; 24 percent)**

Students expressed a belief that the video simulation prepared them to perform workflow analysis in the future.

Example statements:

*I do think [I] am more prepared to perform work flow analysis in my job now. I will use lean thinking when I write [or] update protocols for the laboratory setup operating procedure manuals.*

*I would like to think so. Because workflow analysis is an important part of my job as a System Analyst, I am eager to incorporate parts of this model in my next project.*

**Theme: Reservations (13 responses; 19 percent)**

Students expressed reservations as to whether they would be able to apply the concepts learned using the video simulation to redesign a future workflow process.

Example statements:

*Possibly, it would depend on the situation.*

*I think it was a good introduction; however, I believe I would need to have more practice in order to answer this question.*

**Theme: Think (8 responses; 12 percent)**

Students held the view that the video simulation helped them to think more deeply about workflow analysis.

Example statements:

*It enabled me to understand how to think about completing a workflow analysis.*

*Yes; it made you think and analyze at a deeper level. The assignments really got you involved.*

**Theme: Process (3 responses; 4 percent)**

Students expressed the view that the video simulation helped them identify the underlying process with a chosen workflow.

*Yeah, it helped lay the foundation work for what the underlying process is.*

*Yes. Everything is a process and should be taken seriously.*

**Theme: Debriefing (3 responses; 4 percent)**

Students felt that the class debriefing helped them to better understand the workflow analysis.

*Yes, . . . discussing the video assignment has helped me understand workflow analysis.*

*Yes, mostly the discussion of the video after the fact.*

**Negative responses**

Three students (4 percent) felt that the video did not prepare them to perform workflow analysis in the future.

Example statements:

*No because in the real world we will not be working hands on in healthcare.*

*Not really. I had no idea of what was going on.*

#### Question 4

#### **Do you have any suggestions for improving this assignment?**

Sixty-eight students responded to this question, two abstained. From their replies the following themes appeared.

#### **Theme: Structure (23 responses; 34 percent)**

Student responses focused on suggestions for structuring the way the video simulation was used to teach lean thinking and workflow analysis. Suggestions included the students' desires for more clinical information before watching the simulation, shorter videos with fewer errors, prompts for the types of errors to look for, and a mock video to prepare them to view the transfer video.

Example statements:

*A little shorter. Lost focus after 10 minutes.*

*Provide students with the clinical information that we need to know in order to observe the errors.*

#### **Theme: No suggestions for improvement (21 responses; 31 percent)**

Student responses displayed a strong belief that no improvements needed to be made to the way the video simulation was used in the course. Moreover, many of the comments contained praise for the video simulation as an instructional tool.

Example statements:

*I enjoyed this assignment . . . took me a while to get it done, but I learned how to be the outside observer and that will help me in my professional career.*

*I think this assignment was great, and don't have any suggestions on improving it.*

#### **Theme: Attention (11 responses; 16 percent)**

Student responses reflected inattention to the background materials provided as they considered ways to improve this assignment. For example, several comments focused on the believability of the visual simulation, asked for documentation that provided background information on the transfer process, or questioned the motives of the actors in the video.

Example statements:

*I suggest a guide before we watch the video.*

*I felt the end of the video was very vague. The Charge Nurse of the NICU Department was acting rather suspicious when red hair was found on Baby Wang's dressing. She had red hair. The NICU Charge Nurse had mentioned that she had not assisted Baby Wang as of yet. Why would she deny assisting Baby Wang if she already had?*

**Theme: Nonclinical scenario (9 responses; 13 percent)**

Students voiced a desire for a visual simulation of a nonclinical process.

Example statements:

*Changing the video from a surgery to a problem in an office setting.*

*I would want to see a doctor[']s office since the patient really has to wait forever in these situations, and the amount of batching and [queuing] that occurs could be evaluated.*

**Theme: Technical issues (4 responses; 6 percent)**

Students expressed concern over technical issues involved with the video simulation, namely, sound and visibility.

Example statements:

*I think the quality of the video was good but I had a hard time understanding what some of the nurses were saying. I think this was due mainly to them wearing the masks and it muffled their voices.*

*Maybe it could have had better visibility. It was hard to make out several things as well as hear it.*