

Evaluation Plan Asynchronous Articulate Training

Jenna L. (Scheetz) Goans

University of Cincinnati

Master's Project 8130

Dr. Gi Woong Choi

June 3, 2021

### **Abstract**

This evaluation plan is for an online training in Articulate Storyline. It is aimed at preparing non-medical employees to work safely in a medical environment. The evaluation of this training will be conducted primarily through a focus group of participants who are active in the field of interpreting. The focus group will be a recorded Zoom session where user experiences and feedback will be documented. Evaluation of the design, delivery, and implementation will be gauged by the focus group's discussions and feedback after the training is complete. Comments and preferences obtained through the focus group findings will determine what changes need to be made to the training, delivery, and/or design. Ritchie and Spencer's 5 key stages of framework will be used to analyze the feedback and data collected.

### **Needs Statement**

Healthcare workers, in all countries, have a risk of being exposed to bloodborne pathogens, and in fact, every year, tens of thousands become ill from infected blood and other bodily fluids (Róžańska et al, 2014, p. 748). Regulations are in place requiring employers to use all means necessary to eliminate the degree of exposure to bloodborne pathogens for people working in the healthcare sector, as well as requiring data collection to assess risk and determine training needs (Róžańska et al, 2014, p. 748). OSHA (Occupational Safety and Health Administration) requires employers to communicate safeguards to workers who may be exposed to blood or other infectious materials (Bloodborne Pathogens-Standards, n.d.). Despite this, it is difficult to know the full scope of the number of exposures due to negligence of reporting, beliefs that a patient is not infected, and the lack of awareness of the risk and need to report exposure incidences (Róžańska et al, 2014, p. 754). Let me repeat that... medical professionals are not reporting when they come in contact with blood or bodily fluids because they think the patient is not infected, or they don't know they should report it (Róžańska et al, 2014, p. 754). This was taken from studies done in medical facilities with trained medical staff!

Let me introduce the medical sign language interpreter. A medical sign language interpreter knows sign language, but often times is the only professional that isn't required to have a license, be credentialed, or have a special degree or accredited training in the medical field (Olson & Swabey, 2017, p.191). Medical sign language interpreters must make critical decisions during emergencies and crisis situations (Olson & Swabey, 2017, p.192). This is concerning because as stated above, medical professionals make assumptions about infectious materials, as well as think there isn't a need to report exposures. If trained medical staff think this way, non-medical staff certainly won't know what to do in a situation of exposure.

According to a study conducted by Olson & Swabey (2017), one of the top decisions medical interpreters make is choosing professional attire contrasting their skin tone, due to the visual nature of the language (p. 194). No mention was made about wearing clothes that could protect them from being exposed to bloodborne pathogens. Lack of knowledge is dangerous for both medical and non-medical staff. Adequate training is a must!

I have designed an eLearning training in Articulate Storyline to address one specific area of safety: Bloodborne Pathogens (BBP). My project is designed for medical sign language interpreters, who are required to work in a medical facility, but who are not medical professionals. They work with patients who need translation during medical visits, care, and procedures. These professionals are required to take a bloodborne pathogens training before they can work in medical facilities. The purpose of this training is to ensure the information is delivered and reviewed by each professional interpreter before entering a medical facility. This eLearning can be administered by an employer and will ensure that the medical sign language interpreters took the training by completing this course through a Learning Management System, or LMS. The course can be set for a minimum number of slides to be viewed before the training will count as complete. To ensure the maximum amount of information is reviewed, many of the activities have a feature where the user must click on each category before the “next” button appears. Employers can be confident that the employees have completed the training, and, if offered as a compliance piece, the employer will have a record of completion for liability purposes. Having an asynchronous self-paced training can offer benefits to a company. Employers do not need to have trained compliance officers conduct training sessions with groups of interpreters needing to be trained. This training can happen whenever it is convenient to the

employee, and quickly for the employer. Although the training is designed as an eLearning, the goal is to use real-world scenarios to make it as applicable as possible to their job.

### **Learning Theory & Instructional Theory**

I believe my project uses Situated Cognition as the learning theory, and Goal-based scenario for the instructional theory. Situated Cognition is the learning theory under the epistemology umbrella of Constructivism in which the learner processes information through constructive activities to gain a more profound understanding of the world by interacting within physical and social situations (Seel, 2001, p. 406-408). Situated Cognition, according to Choi & Hannafin (1995) is emphasizing meaningful connections and links between knowledge and skill with the learner's experience (p. 54). They go on to say that Situated Cognition is about solving real-life problems and tasks through experiences and simulations that mimic real-world environments (Choi & Hannafin, 1995, p. 65-66). Aligning with this through grounded design, is the instructional theory Goal-Based Scenario (GBS). Schank et al (1993), stresses the goal of GBS is to master a set of target skills by practicing within the context of an authentic setting (p. 313). Furthermore, supporting a learner through realistic simulations with a coach in the background is an optimal design within GBS (Schank et al, 1993, p. 321). Schank (1993) highlights the importance of avoiding abstractions and instead allowing students to have access to real cases, situations, and stories within real contexts (p. 433). Schank & Cleary outline 6 steps for designing for GBS: Identify the target skills, develop missions that use the target skills, choose a focus, create a story which surrounds the mission, plan the operations, and build environments to support the target goals (n.d., Goal Based Scenario page). My project falls in line with this learning theory and instructional theory because the skills needed to remain safe are real-life and presented in a context of a real-world simulation in which the learner will encounter working in a medical environment. For example, the first step in staying safe is

dressing in the proper attire. As stated earlier, interpreters don't pick clothes based on safety, but rather based on visual factors. This project has the learner pick an outfit in preparation for an assignment in a medical facility and learn the reason why their choice of clothing is the safest option. Additionally, the interactions of doing a scene survey, or looking for potential dangers in a medical room, are in spaces that closely resemble the rooms the learner will enter in their work in hospitals and doctor's offices. There is also an emphasis on reporting exposures when they happen. Finally, the final assessment has the learner determine what they would do if they were exposed to blood while interpreting a medical procedure, which is an authentic situation the learner might face.

### **Evaluation Methodology**

Whenever I choose to purchase an item, download an app, or try a new recipe, I look to the reviews. I don't want to know a "star-count" per se, rather I want to see the comments and the feedback. What are people saying about the product? What issues have come up? What surprising information did a user discover? Honest feedback is a goldmine for developers. If developers are willing to be open, listen, and get to the heart of the issues, or the root of the problem, the product can become even better. This is what I feel is needed for evaluating my eLearning. I need to hear specific issues that come up with navigation, or what surprise discoveries were made while pressing certain buttons. I want the "goldmine" data! In order to get this, I decided that a focus group would be the best method to gather honest feedback. Collecting data to measure the quality of my product will give me the greatest chance of an effective and valuable training. A focus group means conducting an in-depth interview with a group of people who fit a certain criterion of what is being assessed or studied (Rabiee, 2004, p. 655). In other words, I will essentially be interviewing a small group of people, who are sign language

interpreters, after they have taken my training, to see what honest feedback they have about it. Rabiee (2004) notes that the uniqueness of a focus group is that the data is generated through the synergy of the participants involved (p. 656). The participants will have a guided discussion through Zoom and be asked a series of questions designed to engage in dialogue specific to the effectiveness and ineffectiveness of the training (Appendix B). The guided questions were taken from an instructional design website authored by Aris Apostolopoulos. This type of environment will allow for the exploration of thoughts and feelings about the training, suggestions for improvement, and identifying obstacles and new ideas (Andriotis, 2019). The participants will have the opportunity to comment on what was effective, and what was ineffective, and why. This might also help me to discover patterns in what tends to work for general populations of learners.

### **Evaluation Instruments**

Since I will be using a focus group as the evaluation method, the data I will be getting back is qualitative in nature. According to Ritchie and Spencer (1994), qualitative methods are key in gathering insights and explanations and are generally divided into four different categories based on one of the following objectives: contextual, diagnostic, evaluative, and strategic (p. 174). My objective will be evaluative. This will measure how the objectives were achieved, what factors affected the successful delivery, how experiences affected behaviors, and what barriers exist (Ritchie and Spencer, 1994, p. 174). A framework has been developed to assist with the vast, unstructured and cumbersome information collected, by defining concepts, categorizing material, discovering links between ideas, exploring explanations, and developing new ideas (Ritchie and Spencer, 1994, p. 176). In this framework, there are five key stages to begin to tame the unwieldy data obtained. The five key stages according to Ritchie and Spencer (1994) are:

familiarization, identifying themes, indexing, charting, and mapping and interpretation (p. 178). I will utilize this 5-stage framework to organize and analyze the data I collect.

### **Data Collection**

The focus group will be conducted using Zoom, a popular platform for videoconferencing technology for a 1-hour session. The Bloodborne Pathogens eLearning will be published on Storyline's temporary share site (<http://tempshare.articulate.com/>), so the participants can view the training in the format similar to a LMS (Learning Management System) environment, without having to access, sign in, or register for a LMS. Participants will be directed to complete the training prior to joining the focus group. Participants will receive a Zoom link, as well as a digital calendar appointment to participate in the group. The Zoom session will be recorded so that both the verbal data as well as the non-verbal data can be collected. Flynn, Albrecht, and Scott (2018) agree that having verbal and non-verbal data, as well as the participants being familiar with a virtual type of meeting, contributes to getting the richest data from a focus group (p. 7). All participants will have ample exposure to meeting and working in virtual environments. Each participant will also be given a pre and post-test to complete (Appendix A). These tests were created by me, based on the information in the training. They will be instructed to complete the pre-test survey prior to starting the eLearning training, and then take the post-test survey after they have completed the training. The pre and post-test questions listed in Appendix A will be put into Survey Monkey (<https://www.surveymonkey.com/>), and a link for each test will be emailed to the participants.

### **Example Email:**



Thank you so very much for confirming your participation in my project! I hope you know how grateful I am for you taking the time to help me. Here are the details:

This training is on Bloodborne Pathogens. The target audience is sign language interpreters. The training should take you between 20-30 minutes to complete. There is a pre-test and post-test (which will hopefully measure any effectiveness of the training). We will meet on Saturday, June 12<sup>th</sup> at 1PM Eastern time to discuss your feedback, suggestions, and opinions for improvement. You can make notes if you would like to emphasize anything you felt strongly about while engaging with the training.

The goal of my final project is to evaluate a training that I have created during school through data collection. The Zoom session we have on Saturday will be recorded so that I can go back and extract data points in the form of your comments and conversations. I will also be collecting data points from your pre and post-test answers.

1. Pre-test link: <https://www.surveymonkey.com/r/H9W2M9P>
2. Training link: [https://s3.amazonaws.com/tempshare-stage.storyline.articulate.com/sto\\_1f7kk48up13e2p72lao1k2c1vkk9/story.html](https://s3.amazonaws.com/tempshare-stage.storyline.articulate.com/sto_1f7kk48up13e2p72lao1k2c1vkk9/story.html)
3. Post-test link: <https://www.surveymonkey.com/r/HYXKL57>
4. Zoom Meeting link: <https://zoom.us/j/98987728760>

I am sending a calendar appointment with the same information.

My fingers and toes are crossed that all technology behaves and this is a piece of cake for you all!

Many, many thanks!

© Jenna

The participants will have a guided discussion through Zoom and a series of questions, designed to engage in dialogue specific to the effectiveness and ineffectiveness of the training, will be made available for prompting if needed (Appendix B). These questions came from an instructional design blog and were designed to be asked specifically as post-training survey/evaluation questions (Apostolopoulos, 2020). Having these guided questions available will allow for the exploration of thoughts and feelings about the training, suggestions for improvement, and identifying obstacles and new ideas (Andriotis, 2019). The participants will have the opportunity to comment and converse on positive aspects of the training, as well as offer constructive feedback for improvements.

### **Sampling Methodology**

In order to have a successful focus group, Rabiee (2004) made the following suggestions:

1. Participants should be recruited based on criterion for the topic (p.655)
2. Conducting groups between 6-8 participants is optimal (p. 656)
3. Over-recruiting is advised due to a known issue of non-attenders (p. 656)
4. A session should only last 1-2 hours (p. 656)

### **Recruiting**

I have invited 11 participants to participate in my overall training and focus group session. The invitation went out as a blind copy explaining the purpose of my request. I have

offered an incentive in the form of a gift card to participants who complete all 4 steps of my project: take the pre-test, complete the eLearning training, take the post-test, and join the 1-hour recorded Zoom session. Below is the recruiting email I sent out:

Hello!!

As some of you may know, I am at the end of my Master's degree journey for Instructional Design and I am so excited! I am hopeful that YOU might be willing to participate in part of my final project. My goal is to have several participants evaluate an eLearning I have created in a previous class. Part of this project is to now take this training and deliver it to the target audience and see what improvements can or should be made. You are part of the target audience. I'd be so honored if you'd be willing to help out. Your mission, should you choose to accept it, would be:

1. Take a pre-test on the subject before taking the eLearning **between June 8<sup>th</sup> to June 12<sup>th</sup>**
2. Take the eLearning training online via a link (about 30 minutes of your time) **between June 8<sup>th</sup> to June 12<sup>th</sup>**
3. Take a post-test immediately following the eLearning
4. Participate in a recorded focus group discussion with your peers via Zoom and provide honest feedback on things that could be improved (1 hour or less of your time) on **Saturday, June 12<sup>th</sup> at 1PM Eastern time/12PM Central/11AM Mountain/10AM Pacific**
5. Collect your gift card!! All participants who complete all steps will receive a **\$10 eGift card to Amazon!!**

Please **RSVP by Monday, June 7<sup>th</sup>** if you are able to participate in this evaluation study. I will send out the link for the training and the pre and post-test on the morning of Tuesday, June 8<sup>th</sup>.

Thanks for considering! I know it might be a pain to give up part of your SATURDAY...

© Jenna

I recruited the participants based on personally knowing they have the background to take my training. They are all sign language interpreters, all have experience with virtual meetings and environments, and all have experience taking eLearnings, or online trainings. I will collect more specific demographics once I conduct the focus group.

### **Group Size and Session Duration**

Since there was a suggestion of 6-10 people as an optimal group size, and to over-recruit, I have invited 11 colleagues and acquaintances to participate in my project. Again, I have incentivized it with a small gift card award upon completion. I would like to get as close to 11 as possible. The more information I can gather, the richer the data. The session is scheduled for one hour. I decided that 2 hours would be too long for discussing a 30-minute eLearning training, as well as might hinder the willingness of the participants.

### **Analysis Procedures**

Like I stated in the Evaluation Instruments section, I will use the five key stages according to Ritchie and Spencer, which are: familiarization, identifying themes, indexing, charting, and mapping and interpretation (1994, p. 178).

### **Become Familiar with the Data**

This first step requires a thorough look into the data by reading the transcripts, watching the recording several times, reviewing observational notes, getting a general sense of the whole session, and noticing major themes as they emerge (Rabiee, 2004, p. 657). I plan to record the Zoom session so that I am able to review the meeting several times and create a transcript.

### **Identify the Thematic Framework**

The second step in this analysis process is to develop initial categories and use descriptive statements (Rabiee, 2004, p. 657). It seems that a table would be a great tool to begin organizing the data. Columns and rows can delineate between participants, comments, ideas, and track emerging themes. Having a written transcript would be a valuable tool in combing through the data and placing quotes and issues into appropriate categories.

### **Indexing**

Indexing of information requires one to sort through the data and categorize information. (Rabiee, 2004, p. 657). I can see why the first step is to make a transcript from the recording; there will be a lot of discussion, and having it be in print will make it easily accessible. My information will be video recorded, so I might find it beneficial to mark tone and emotions in my indexing as well. Another table would be a good way to sort this type of data.

### **Charting**

This is where I can lump similar quotes and information together and begin to see patterns emerge. If there are several participants that have a hard time navigating the training, I can index those with the type of navigation issue and categorize it under the appropriate heading.

### **Interpretation of the Data**

This is step five in the framework. This is where individual quotes are analyzed for relational purposes (Rabiee, 2004, p. 658). In my experience thus far as an instructional designer,

I know that sometimes the feedback comes in as, “part of the training isn’t functioning correctly”, when in fact it is the directions that are not clear. I think this is going to be a vital step in determining the root cause of the issues. If I can find the meaning of the comment, and relate it to the part in the training, I can solve the real problem, and not what the learner might think the problem is. This seems like it is a key step in making the appropriate final edits.

## References

- Andriotis, N. (2019, November 13). How to Evaluate training - criteria, methods & tools for 2021. Retrieved June 03, 2021, from <https://www.talentlms.com/blog/evaluate-employee-training-program/>
- Apostolopoulos, A. (2020, December 15). 99 Questions to Include in a Post-training Evaluation Survey. TalentLMS Blog. <https://www.talentlms.com/blog/questions-post-training-evaluation-survey/>.
- Bloodborne Pathogens-Standards. (n.d.). Retrieved June 03, 2021, from [ohsa.gov](https://www.osha.gov)
- Bryman, A., Burgess, R. G., Ritchie, J., & Spencer, L. (1994). Qualitative data analysis for applied policy research. In *Analyzing qualitative data* (pp. 173–194). essay, Routledge.
- Choi, J., & Hannafin, M. (1995). Situated cognition and learning environments: Roles, structures, and implications for design. *Educational Technology Research and Development*, 43(2), 53-69. <https://doi.org/10.1007/BF02300472>
- Flynn, R., Albrecht, L., & Scott, S. D. (2018). Two Approaches to Focus Group Data Collection for Qualitative Health Research. *International Journal of Qualitative Methods*, 17(1), 160940691775078. <https://doi.org/10.1177/1609406917750781>
- Rabiee, F. (2004). Focus-group interview and data analysis. *Proceedings of the Nutrition Society*, 63(4), 655–660. <https://doi.org/10.1079/pns2004399>
- Różańska, A., Szczypta, A., Baran, M., Synowiec, E., Bulanda, M., & Wałaszek, M. (2014). Healthcare workers' occupational exposure to bloodborne pathogens: A 5-year observation in selected hospitals of the Małopolska province. *International Journal of*

Occupational Medicine and Environmental Health, 27(5), 747–756.

<https://doi.org/10.2478/s13382-014-0307-3>

Schank, R., & Cleary, C. (n.d.). Designing a Goal-Based Scenario.

<https://www.engines4ed.org/hyperbook/nodes/NODE-233-pg.html>.

Schank, R., Fano, A., Bell, B., & Jona, M. (1993). The Design of Goal-Based Scenarios. The

Journal of the Learning Sciences, 3(4), 305-345. Retrieved June 3, 2021, from

<http://www.jstor.org.uc.idm.oclc.org/stable/1466619>

Seel, N. M. (2001). Epistemology, situated cognition, and mental models: 'like a bridge over troubled water'. Instructional Science, 29(4/5), 403-427.

<https://doi.org/10.1023/A:1011952010705>

**Appendix A: Pre/Post Test**

1. Bloodborne pathogens are pathogenic microorganisms carried by blood or bodily fluids.  
**True** or False
2. Which of the following may contain bloodborne pathogens? (pick all that apply):
  - a. Animal blood**
  - b. Organs**
  - c. Hair strands
  - d. Cultures**
  - e. Bodily fluids**
  - f. Nail clippings
  - g. Tissue samples**
3. Transmission of bloodborne pathogens can occur when infected bodily fluids come in contact with (pick all that apply):
  - a. Eyes**
  - b. Clothing
  - c. Mouth**
  - d. Personal belongings
  - e. Broken skin**
  - f. Nose**
4. Who is at risk of being exposed to bodily fluids in a medical setting (pick all that apply)?
  - a. Nurses
  - b. Cafeteria staff
  - c. Surgeons
  - d. Social workers
  - e. All the above**
  - f. Both A and C
5. The term *universal precautions* refers to:
  - a. Wearing scrubs and special clothing when entering rooms for surgical procedures
  - b. Properly disposing of hazardous materials
  - c. Treating all bodily fluids as if they are infectious**
  - d. Washing your hands before and after using protective gloves
6. Scene Surveys help identify:
  - a. Bloodborne pathogens
  - b. Potential dangers**
  - c. Possible viruses
  - d. Visible blood

7. If you are at risk for occupational exposure to potentially infectious materials while working, you may request a free vaccine for which bloodborne disease?
  - a. Measles Morbillivirus
  - b. Hepatitis B Virus
  - c. Influenza Virus
  - d. Human Immunodeficiency Virus
8. Things that are potentially dangerous to use in an exam room (pick all that apply):
  - a. Notebook
  - b. Lip balm
  - c. Personal electronics
  - d. Can of soda
  - e. The sink
9. What is usually the first action in the event of an exposure incident?
  - a. Finish interpreting the message
  - b. Seek medical treatment
  - c. Wash the area thoroughly
  - d. Complete an incident report
10. Report an exposure incident to your supervisor:
  - a. Only if the fluid is determined to be infected
  - b. Only if there is visible blood
  - c. Once the area has been thoroughly washed and checked
  - d. None of the above
11. Paperwork may need to be completed in order to document details like the time, the place, the source, and the method of exposure.  
T/F
12. If you wear gloves while handling potentially infectious material it is not necessary to wash your hands afterwards.  
T/F



**Appendix B: Possible Sample Focus Group Questions (Apostolopoulos, 2020)**

**CONTENT:**

Do you see gaps in the content and in the real-world assignments?

Did you feel equally engaged in each course section?

Were there enough audio and video files throughout the course?

Was the language easy to understand?

Was the content in-depth enough?

Did you like the types of assessments used?

Did you find the use of assessments stressful? If so, describe which

Did you notice any unnecessary repetitions in content?

Which sections did you feel were lacking? In what way were they lacking?

Was the course easy to follow?

**DELIVERY/DESIGN:**

Would you have preferred more interactivity while taking this course?

How much time did it take you to finish the course?

At any point, did you pause the training?

How did you feel while walking through the course?

Was the platform easy to get familiar with?

Was the interface intuitive?

What did you like most about the design?

What would you change in the course's design?

Did you receive clear directions on how to navigate through the platform?

Was the layout cluttered?

Did you feel that learning to use the platform stole valuable time off your training?

How would you rate the course's overall design?

### **TECHNOLOGY**

Did you notice any bugs?

Did you notice any media that wouldn't function properly?

How would you rate the course's overall functionality?

### **ENVIRONMENT:**

Where were you when you took the course?

Were there any external distractions while taking the course?

Would you take the same course on a mobile device?

Would you take the same course on a computer?

Would you feel comfortable taking this course while commuting?

### **ACCESSIBILITY:**

How would you rate the course's audio guide?

How would you rate the content's font size?

Was the content's font eye-friendly?

Did the volume adjustment work properly?

Did the course's colorblind mode work properly?

Would you like to have seen more accessibility features? Which ones?

How would you rate the course's overall accessibility quality?

### **GAMIFICATION:**

Would you have liked to see gamification features in the course?

Rate the quality of the course's gamification features.

Rate the quantity of the course's gamification features.

Were the gamification features distracting? If so, how?

Did the gamification features make you feel like the learning environment was too competitive?

Did the gamification features urge you to be better in assessments?

Would you have liked for the leaderboards to be anonymous?