Assignment #6:
Implementation and Evaluation Phase
E-Learning Project Final Report

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Purdue University
EDCI 56900-003
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URL to Digital Prototype

SLS Exploration Mission-1

https://s3.us-east-2.amazonaws.com/steadfastlearning/SLS+Exploration+Mission-1/index.html#/?_k=15jd7w

- Created using Articulate 360 Rise
- Course is hosted using the Amazon Web Services S3 platform
- No Username or Password Required
- Videos are embedded with YouTube

Formative Evaluation of Digital Prototype:

During my final formative evaluations, I brought back my original evaluators to the table to provide additional feedback on the course progress since their initial evaluation. My goal was to reassure them that I was able to incorporate the feedback they provided in their first formative evaluation and to help test the final course. I was able to implement many of their suggestions so it pleased them that they were able to see how their feedback helped make the course better. This was good because it helped them understand why feedback and evaluation surveys are important to the design process. I also received feedback about how much the course had improved as compared to the original prototype.

In both cases, the course was tested for usability and overall comprehension. During this final formative evaluation, I was able to catch a few more typos and clarify a few of the learning challenges to remove confusion in the wording of a few questions. I found this final round of evaluation to be very effective at providing me with assurance that I designed a course that will be engaging and interactive providing a quality learning experience for my student team members this summer.
Please provide a brief overview of the process you followed and explain key decisions you made, or changes you made along the way.

The overall process started by thinking about the SLS project as a whole and the many stages that are happening concurrently. It is a very complex operation and there are abundant resources with great information available on NASA’s website to put together several courses if needed. I tried to stick to the basics for someone who would be interested in learning more about the SLS rocket but not overwhelmed by the science of its development.

One of the key decisions for me was trying to incorporate video and interactive infographics where possible to help explain the complexity of the project in a visually appealing way for younger learners who grew up viewing digital media like YouTube. Another key decision was to include an Engineering Connection activity to get insights from actual NASA engineers and incorporate these into a reflective activity for an Engineering Journal entry. Lastly, I included a Learning Challenge in each module to help reinforce the Learning Objectives for that section.

List three things that were the most successful for you during this project. How did these successes help you and impact your project?

The first thing that helped my project succeed was picking the right subject. I am very interested in learning about space science and exploration so that helped me stay motivated by learning about something I enjoyed.

The second thing that I found useful was choosing the right authoring tool. Articulate 360 and specifically the Rise web-authoring tool makes it easy to build really engaging courses quickly and it was a lot of fun to do.

The third thing that was helpful was to align my project to a real-world application that would help someone else learn. I found the formative evaluations to be very helpful and it actually encouraged me to put together a great product for my team.
List three things that were the most challenging for you during this project. Why were these things so challenging for you and how did you overcome them?

The first challenge was the amount of information. At first, I was a bit overwhelmed by the amount of information to curate and pull together in order to design an engaging course. There is a ton of really interactive content available. The first strategy that helped me was to find one core document I could study to help outline the course.

The second challenge was keeping my creative energy alive and well for this project. I have a few competing project demands at work that are absorbing most of my creative energy during the week and so I was challenged to pick days where I could balance my creative output. I found that the weekends at night were the best time for me to work on this project.

The third challenge is one that I think we all face as professionals. That is we have many responsibilities and commitments facing us each and every day. My strategy is to go back to why I started this program and that helps get me through those challenging times when doubts start to creep in to tell you can’t do this.

Which course activities/resources in combination with your learning process help you to reach your project goals?

I thought the storyboarding step was very effective. I’ll be honest, at first I thought it was not as helpful as I have always storyboarded in my authoring tool. However, I have changed my viewpoint on this after this course because I think this process was instrumental in saving me a ton of development time this past week.

About half way through the design process, I realized that the Storyline desktop authoring software would not be the best choice as there were so many embedded videos and I really needed to connect those up easily with YouTube for a more interactive learning experience. I decided to redo my storyboards using Articulate Rise for a web-based authoring approach which also provided the learner with a mobile responsive course.

I felt like I lost a few days of development because of this decision but the change was worth it. The course design is better aligned to the original design goals and I was able to quickly make up that lost development time by embedding the videos instead of hosting them which would have increased the overall course size.
What role did your peers and their feedback play in your learning and development process?

My colleagues provided support and encouragement to help me ensure the course would meet my learning objectives. I always struggle with writing effective learning objectives so I thought the discussion boards were very helpful to get feedback and another set of eyes on my initial storyboard to be sure I was on the right track. Especially knowing that we have so many educators and professionals in our class. I found it very encouraging to get feedback from my classmates.

What lessons have you learned that will be most beneficial in your career?

I found great value in the rapid prototyping model and storyboarding activities. I think this is the best approach to course design especially in corporate training because business moves so fast now. You can’t afford to make too many mistakes in the design process so it really helps to invest a few days in thinking about the course design before you start working in the authoring tools.

Another lesson I learned that will benefit my career is the value of formative evaluations during the design process. I was surprised at how effective this was to have my learners participate in the design process and it is something I think will benefit my future course designs by including opportunities for my learners to engage in the feedback process along with my stakeholders.

How do you intend to continue to develop your knowledge and skills using the lessons learned and resources in this course?

I enjoyed creating a project plan and storyboard for this class as it gave me an opportunity to practice a real-world skill. In fact, just this past week, I implemented my rapid prototype project plan for a course I am working on at work and I received great feedback on the design and professional appearance of my plan. This is something I certainly will use from now on to implement on future projects and even share it with my team.
References


Self-Evaluation

Merrill’s Five Star Instructional Design Rating

Type of Instruction: E-Learning course

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<tr>
<th>Stage</th>
<th>Criteria</th>
<th>Explanation</th>
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<tr>
<td>PROBLEM</td>
<td>Does the courseware show learners the task they will be able to do or the problem they will be able to solve as a result of completing a module or course?</td>
<td>This course provides foundational knowledge in context of how NASA will send astronauts back to the Moon and eventually to Mars.</td>
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<td></td>
<td>Are students engaged at the problem or task level not just the operation or action levels?</td>
<td>One thing that should become evident to the learner is that there are many problems and challenges to solve but it can be done with a collaborative team approach and good plan.</td>
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<td>Does the courseware involve a progression of problems rather than a single problem?</td>
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RATING FOR PROBLEM STAGE: GOLD

<p>| ACTIVATION | Does the courseware direct learners to recall, relate, describe, or apply knowledge from relevant past experience that can be used as a foundation for new knowledge? | I designed the course modules to lay foundations for the subsequent modules that help build related information. In thinking of the rocket design in layers, learners are able to use prior knowledge to help them assemble the information to form new knowledge about the SLS and many components. |
|            | Does the courseware provide relevant experience that can be used as a foundation for the new knowledge? |                                                                                                                                               |
|            | If learners already know some of the content are they given an opportunity to demonstrate their previously acquired knowledge or skill. |                                                                                                                                               |</p>
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| RATING FOR ACTIVATION STAGE: SILVER | Are the demonstrations (examples) consistent with the content being taught?  
- Examples and non-examples for concepts?  
- Demonstrations for procedures?  
- Visualizations for processes?  
- Modeling for behavior? | NASA did an amazing job at creating really engaging and visually interesting videos, animations, and infographics to use to help my learners understand how the SLS rocket and the Exploration Mission-1 will be achieved. One constant in feedback I received during my formative evaluations was how good the videos were and how much fun it made the learning course. |
| DEMONSTRATION        | Are the demonstrations (examples) consistent with the content being taught?  
- Examples and non-examples for concepts?  
- Demonstrations for procedures?  
- Visualizations for processes?  
- Modeling for behavior? | Are at least some of the following learner guidance techniques employed?  
- Learners are directed to relevant information?  
- Multiple representations are used for the demonstrations?  
- Multiple demonstrations are explicitly compared? | |
<p>|                       | Is media relevant to the content and used to enhance learning?            |                                                                                                                                                                                                              |</p>
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<td>APPLICATION</td>
<td>Are the application (practice) and the posttest consistent with the stated or implied objectives?</td>
<td>In each module, I included a Learning Challenge to reinforce the learning objectives for that module. Most of these turned out to be really simple but I think will be effective because each one helps to build confidence towards understanding the material for the final assessment. Each learning challenge includes a visual aid to help the learner see the rocket or prompt them for the answer based on the module.</td>
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<td>Does the courseware require learners to use new knowledge or skill to solve a varied sequence of problems and do learners receive corrective feedback on their performance?</td>
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<td>In most application or practice activities, are learners able to access context sensitive help or guidance when having difficulty with the instructional materials? Is this coaching gradually diminished as the instruction progresses?</td>
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<tr>
<td>RATING FOR APPLICATION STAGE: GOLD</td>
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<tr>
<td>INTEGRATION</td>
<td>Does the courseware provide techniques that encourage learners to integrate (transfer) the new knowledge or skill into their everyday life?</td>
<td>At the end of this course, the material presented throughout will help motivate and encourage my learners to get</td>
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<td>Does the courseware provide an opportunity for learners to reflect-on, discuss, and defend their new knowledge or skill?</td>
<td>excited about space exploration and technology. This is important because in the next 5 years, we are going to experience the lunar landings that haven’t occurred since before I was born. It will be an opportunity for both the young and old to reconnect to a new space era. The Space Launch System and Exploration Missions 1 to 100.</td>
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<td>Does the courseware provide an opportunity for learners to create, invent, or explore new and personal ways to use their new knowledge or skill?</td>
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RATING FOR INTEGRATION STAGE: GOLD