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2021-06-08

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Kayla Hunter
kayla@hunter.org

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BYU-Online update for EXSCI 410 Stress Management

Kayla Hunter

Design & Development Project Report
Instructional Psychology & Technology, Brigham Young University

The purpose of this project was to update BYU-Online course material for Stress Management (EXSC 410). This course teaches the basic physiology of stress, its impact on the body, and several methods of coping with stress to live a balanced and healthy lifestyle. This course was originally created as an in-person day time class and was then chosen to be converted to a BYU Independent study course. After years of running as a text-only independent study course, BYU-Online was asked to distribute it as well.

BYU-Online offers many on-campus courses in a flexible format. BYU-Online offers a synchronous experience with deadlines, due dates, and runs on a semester schedule. There are classes offered in almost every discipline, with a higher number of classes in language learning and religion. Courses are run through the Canvas learning management system (LMS). Classes are organized by weeks or modules and the student works through them page by page. Each page can contain many different elements such as text, images, videos, quizzes and interactive activities.

Prior to this project, EXSC 410 was only available as a text-heavy course that BYU-Online as well as the Professor and creator of the course wanted to revamp in order to increase students' ability to accomplish the learning outcomes. The professor/creator established the following criteria for a successful course redesign, the table below establishes how the criteria were met

Criteria	Outcome
support engagement with the provided material, create opportunities for students to practice and master the knowledge necessary to implement stress management skills in their lives.	Added 9 incourse opportunities to increase student interaction with material
support action-based course learning outcomes;	The course was restricted to align with Merrill's first principles of instruction.

maintain exam scores in Unit 1 (the most technical section of the course) at the current level or better;	Exam scores in section one deviated form an 87.3% average to 85.1 % average. This drop was not inline with the original hypothesis. This could have impacted by the change to the learning atmosphere during the pandemic.
increase or maintain current satisfactory reviews of the class;	Satisfaction did not change in a significant way. Across 8 questions the largest fluctuations was a 3.9 to a 4.2
increase the content diversity to be less text-heavy; and	This course now includes 15 resources videos including 6 created by the professor, 9 learning activities, and 30+ new photos and diagrams.

This project is important to many of the stakeholders. BYU and BYU-Online are invested in the quality of the education they provide. BYU-Online expressed a strong desire to update this course to comply with the standards of education they hold. The professor supports BYU-Online in making this happen and hopes to enable his students to cope with the stresses of life as effectively as possible, as well as support future clients and patients in their future careers. The current satisfaction rates for the online section of these courses that have previously run are some of the highest at BYU-Online and all stakeholders hoped to continue to maintain that satisfaction while supporting their students with tools that allow students to apply and demonstrate their abilities.

2. Project Needs and Constraints

This project required design and development time, software, design vision, and collaboration with stakeholders. Throughout this process these were some of the main constraints:
- The course had a deadline and they hoped to have it running for winter semester 2020. Originally it was supposed to run summer semester 2020 but because of the high demand to get online courses out during the pandemic, it was pushed up to Winter semester 2020.
- BYU-Online had limited resources and only dedicated a certain number of hours to this class. This project had to fit within the 20 work week, and was not always prioritized over other work. In total, I spent 220 hours on this project.
- This project required a few software programs that were provided by BYU-Online and were limited to the Adobe Creative Suite, H5P, and Storyline 360.
- I also had to design closely within the parameters and structure predetermined by the previous course design, and consistent with BYU-Online canvas design standards.

- I was limited to pre-provided course templates. Those affected the basic functionality and aesthetic. HTML is utilized in the creation of this course but I had limited access to the engineers, so changes that were made in those areas of technicality were limited to what knowledge I had.
- This course was created by a professor and he has a few stipulations and expectations. He and his TAs had a substantial workload so he would prefer not to create more work for him or his TAs. He expressed openness to a redesign but did not want to do anything too drastic. He also felt confident in current assessments and did not initially feel the need to make changes, though he became more open to the idea at the end of the project due to feedback received during the final assessment.

I was working in an online education environment and our environmental analysis (see Appendix 10.4) showed that we would be battling many of the common constraints of online learning such as motivation, student and professor interaction barriers, and creating assignments that students felt added value and increased their ability to manage stress. With this understanding, our designs were focused on creating experiences and activities that our students felt met these criteria. With evaluations we hope to iterate on some activities to increase usability and perceived value. We also hope to use the advantages of online education such as videos, online practice experiences, and instant access to resources, to support students. In the prior course, many students felt that they were distanced from the professors and TAs who are usually resources to finding answers to questions. With proper framing, we hoped to create resources that students could turn to and effectively and efficiently find answers.

This project development was finished by summer of 2020, and had minor implementations changes until it was run fall semester 2020. BYU-Online had budgeted 120 hours for a designer to increase the quality of this course, which was used in full, and then received another 60 hours for finalizations. TAs for the course continued to implement similar structural changes even after the course was completed. For more detail please note the final budget (Appendix 10.12) .

3. Front-End Analysis Executive Summary

In order to understand how the existing course was currently performing, I conducted an in-depth analysis of the current course. Performance across time was consistent. I looked at student demographics to understand what our general audience looked like. I analyzed exams to see which areas had lowest performance and could use support. I also analyzed which test questions were not performing well. This informed me of the current strategies to support students in achieving the learning outcomes. It also confirmed my hypothesis of who the main audience was and provided ideas for designs and scenarios that could be targeted to similar stress scenarios that this demographic would interact with.

I also did a comparison of products that BYU-Online offered for stress management as well as other companies. All of the products were forms of online education that supported students in learning how to manage stress. Many of them used a module format. I sectioned the content similarly to these other tools. They also reinforced the choice of content needed to cover to address the major life stressors. The non-BYU products also emphasized the importance of a community and added tools to help facilitate those experiences. Those concepts were added to the long-term strategy of the course.

4. Product Description

In order to improve the achievement of learning outcomes, I chose to use Merrill's First Principles of Instruction to inform the design of this module. Merrill's First principles use 4 steps framed around a problem to support learners. Each module was brought more in-line with Merrill's structure, which included a problem, activation of prior knowledge, demonstration, application, and Integration. This model was chosen because all the aspects of the model lead to integration into the learner's life. Most of the unit learning outcomes were action-based and stated that the learner would incorporate or practice the skills taught throughout the chapter. I felt that Merrill's principles aligned with the desired outcomes of the course.

In order to incorporate these principles, each unit opens with an introduction that starts with a problem that the students will be encouraged to keep in mind and solve during the duration of the unit. These problems are applicable and are most likely to be experienced during an individual's time at a university. The following sections have activation and integration content, as well as application activities (including quizzes, guided practice scenarios, and discussions). Students finish the unit with an integration activity where they apply principles to their daily life. I used the tools available at BYU-Online to support students in working through each of these steps and successfully perform the learning outcomes. Though I was not able to perfectly implement the model for each unit, I was able to bring the course more in-line with Merrill's First Principles in many aspects (see appendix 10.1)

Within Merrill's principles, application opportunities were most lacking in the current structure, and the most important to increasing likelihood of using the Merrills final principle of integration. Most of the time of this project was spent brainstorming, learning the software to create activities, building, and evaluating these activities. I had to read and understand the content presented and come up with scenarios and practice opportunities that aligned with the expected learning outcomes. The practices were iterated on multiple times after doing usability and purpose evaluations. Though there is still room for improvement on many of these, they are significant improvements form the previous text-only experience, as demonstrated through the evaluation (see Section 7).

Implementation of these changes were relatively seamless given BYU-Online's current course development workflow. I made design changes and decisions in a copy of the current course. These changes were rolled into the production-ready course after the professor approved them. The course is set up so students can run through the modules themselves, with many of the activities being self-contained so additional instruction or training for instructors/TAs was not needed. For assessments, rubrics were created to keep student and TA expectations aligned.

5. Design Process and Evolution

The design process was iterative. First, I met with a head designer at BYU-Online and he outlined the project. He expressed that the existing course was text-heavy and had not been

updated since it was created 10+ years ago. Then I had a meeting with the BYU-Online analytics representative and he walked the professor and me through the current course's demographics and performance based on the BYU-Online Satisfaction survey. The professor expressed he felt like the course needed an update and he was open to anything I felt was needed to improve the course given my expertise. I worked individually from that point, reporting my ideas weekly to the BYU-Online head instructional designer.

During the duration of the redesign there were many conversations about potential updates. As I started outlining directions that I felt would support the students in obtaining the learning outcomes I did come to a few obstacles. The professor initially indicated that he did not want to create a greater workload for the students or the T.A.'s. After looking over the course and the model I felt that potentially moving towards a reflection or some sort of way that the students could represent their personal integration. After proposing a few Ideas the professor expressed that he did not feel a need to make such a drastic change to the course. My methods for assessment had to be evaluated and we had to make a few pivot (see section 8)
I organized the course by unit and prioritized them based on units the professor specified as highest to lowest priority, because we were unsure what could be accomplished within the time frame. I restructured units one at a time. While working on my prospectus I decided on a learning model that focuses on integrating the learning into the students personal life. Merrill's first principles of instruction as a guide for restructuring each unit. Every unit that I restructured included a problem, activation, demonstration, application, and integration. I had to return to a few units that I had already attempted to support and realign the updates to be more guided by the model. Other units that were not prioritized did not have the same structure.

The development of each module occurred in 4 phases. First I would evaluate the module's objectives and pick the content that was most relevant and essential for achieving the objectives. I would brainstorm potential ways to make content interaction more achievable and then I would mock it up and review it with the head designer. Once we collaborated I would flesh out the prototype. Once it was functioning at a level of high fidelity I would put it in front of 3- 5 students to gauge if the usability was clear and the learning outcome was being supported. I would then make adjustments and re-test. I would then go in and do accessibility and copyright compliance, which often took more time than anticipated. Then I would move to the next module and repeat the process. This was done for 7 of the 12 modules and the remaining 5 were done more ad hoc.

To illustrate a usual design process I will show a before and after and explain the processes for one section of one unit. There was a section in the course that focused on communication when stakes are high. In order to help the student walk through a scenario, students were asked to read this section on the structure of having crucial conversations and were asked to read this:

Example 1

Your electric bill is in your name. You and your roommates agreed to split each month's bill equally, but one of your roommates has been struggling financially, so you have been allowing them to pay later. This morning you noticed that they were doing homework on a new, expensive laptop they must have just purchased. You are not happy.

What are the facts?

1. You and your roommates agreed to split the electric bill.
2. The roommate is paying their bill late.
3. The roommate has a new laptop.

What is your story? This will depend on you, but here are a few possibilities I came up with:

1. They don't respect you and think that they could take advantage of your kindness.
2. They think that their needs are more important than yours.
3. You feel like you're too kind and that, because of this, you are being manipulated.
4. They have been lying and are not struggling financially.

Example Dialogue

- "*I noticed that* you have a new laptop. We have agreed to split the electric bill and you have been consistently late in paying your share. We have let you pay late because you have indicated that you are struggling financially."
- "*I am beginning to think* that you are not struggling financially and that you are taking advantage of our kindness. It makes me feel like you think that your needs are more important than ours."
- "*Am I off here*?" or, "However, I don't know if my thoughts about this situation are correct and would appreciate hearing your side of the story."

In order to make this activity more-hands on, I created a "choose your own adventure" experience that students were required to engage with. I started to create the experience using Articulate Storyline but after 5 hours of outlining the story, I found a template for "choose your own adventure" in H5P and it took me 1 hour to build the structure. Thereafter, I built the choose your own adventure activities in H5P. The usability was not as customizable but during usability testing users were still completing the task without getting lost so I felt like it was sufficient. After this was created students could not passively skim the information and had to apply the structure throughout the experience, starting with receiving the scenario.

Crucial Conversations Interactive Example

Proceed »

Your electric bill is in your name. You and your roommates agreed to split each month's bill equally, but one of your roommates has been struggling financially, so you have been allowing them to pay later. This morning you noticed that they were doing homework on a new, expensive laptop they must have just purchased. You are not happy.

1 / 1

Then they would have to identify the the facts and the stories and receive feedback if they did not answer the question correctly

Crucial Conversations Interactive Example

Proceed »

What are the facts?

They have been lying and are not struggling financially

✔ You and your roommates agreed to split the electric bill. +1

✔ The roommate has a new laptop. +1
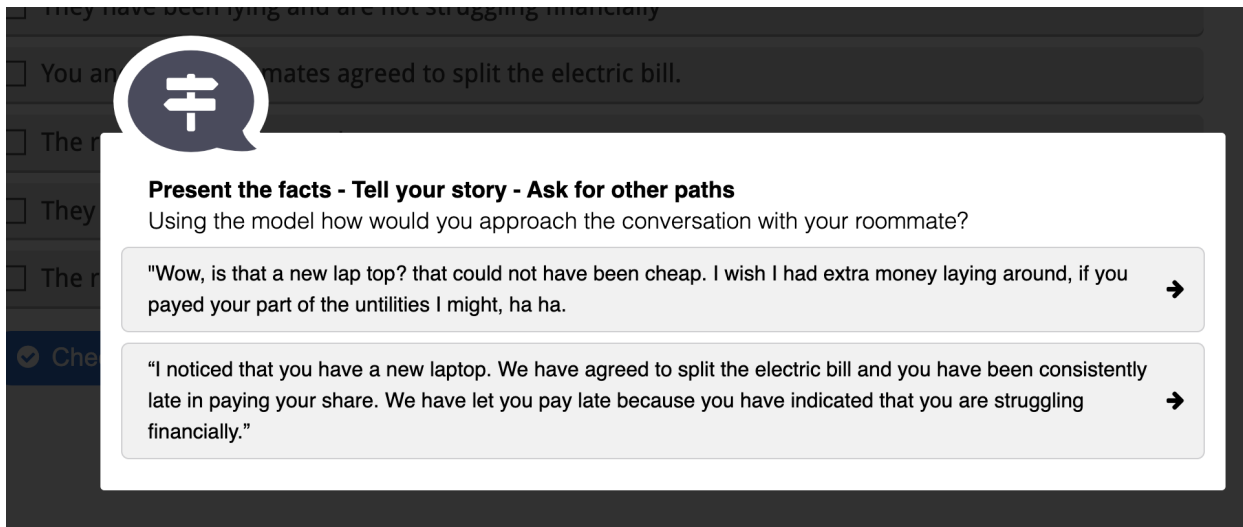
They don't respect you and think that they could take advantage of your kindness

✔ The roommate is paying their bill late. +1

⭐ 3/3

1 / 1

Learners would have to pick correct responses or courses of actions until they came to the end of the scenario. If they got the wrong answer they would receive a feedback prompt and would have to return and choose the correct answer.

Content had to be slightly adapted from what the professor provided but it now required the students to more actively work with the content and thus students were more likely to achieve the learning outcome stated at the beginning of the unit which was "Apply the STATE principle to crucial conversations."

This activity was one of many exercises created for this course. Because the learning outcomes were different in each unit there is a large variety of practice experiences. For example, for the learning outcome "Identify the 12 most common cognitive distortions," flash cards and visuals were created. For financial stress management a compounding interest practice problem was created where students had to solve each part of the equation correctly to move on. Each new activity was designed to allow students more practice at applying the principles being taught. This was an improvement to the initial course, because it did not contain any type of application requirements.

6. Product Implementation

There are some requirements in order to implement and maintain this course. BYU-online is built under the structure of BYU as an educational entity. The implementation required to provide this course to students was done by the university. Students had to register to get access to this course. In order to maintain the developed course and instructional designer would need to know the following:

- Understand how to add, remove, and rearrange content with in canvas
- Understand how to embed third party material into the campus server
- Understand and make changes in h5p and Storyline
- Understand how to report and make changes to creative commons documentation

Most of the user interface design and module structure were created by BYU-Online, so there were assumptions that students were familiar with this software. All BYU-Online Canvas courses come with a homepage that breaks down the modules, which are usually coordinated with the weeks that the course runs. I did not implement support for students about how to interact with the course. I did however test the usability of different exercises to ensure that they were intuitive for students to use. Secondly we piloted most of the new structure for a semester and watched student interactions with the course. I did not see any significant negative impacts to the interaction, time spent in course, or test scores.

I did not have to make any style guides but I did need to create a sheet that tracked all the changes I made to each unit. I documented what the content looked like previously and what the new state looked like. I also had to ensure that everything I made resided in accounts that could be accessed once I left BYU Online so that if the professor or TA felt a need to change something, they had access to do that. I left a document with the Instructional Designer at BYU-Online with all the essential information. As far as I know that information was sufficient for the Designer and Professor's needs.

7. Evaluation

I ran 6 different rounds of usability testing. These were usually iterative events where I would have 3 people interact with an experience, make changes, and then run it past 2-3 more people. These were moderated tests, where I sat next to a student, gave context for the experience, watched the student interact, and then had them fill out a short feedback survey. These were used to ensure that the benefits of the content I was creating was not impeded by friction caused from non-intuitive usability of the system itself.

7.1. Criteria

The three stakeholders for the evaluations were BYU-Online, the professor and myself. BYU-Online was most interested in the evaluation data. They wanted to verify that the changes supported students' learning, and that the value of the exercise was not lost in usability errors. The professor wanted the same things but also wanted to ensure that the student did not feel like these exercises were busy work.

7.2. Procedures

The evaluation of this product was focused on the innovative elements. The current course had been running for 10 years and there were not any egregious pain points from the professor's perspective. I was interested in practicing the evaluation skills I learned in a human-centered design course so I designed evaluations that informed the usability of the practice experiences. It was an objective-based formative evaluation. Each product was placed in front of a student and a scenario was read; they would read the associated instruction; and then they were asked to complete a task. I would watch to see how effective the student was at completing the task. They

would explain out loud what they were experiencing. I noted places of confusion or aspects of the exercise that unexpectedly impeded a student's progress. At the end they would be asked the following 4 questions:

- how easy was it to complete the task?
- how confident do you feel in understanding [the associated expected learning outcome]?
- if you were to make any improvements, what would they be? And why?
- Was this exercise valuable?

These results would be compiled and implemented into the experience in hopes of improving usability and decreasing possible confusion that could lead the student away from the intended learning outcomes. This was done during the development stage and minimized friction and confusion for the experiences.

7.3. Evidence

Overall each evaluation brought back different insights to each of the experiences, see Appendix but there were a few themes that were similar across each evaluation. Instructions often needed to be rewritten to support proper framing of the practice exercise. If the tasks was simple there was no difference in the usability experience, for example H5P and quizlet cards performed similarly. We discovered that expecting students to complete a reading instruction of expertise on a page before making a decision is rarely an accurate assumption. Experiences were confusing to interact with when there are multiple levels of controls. Previous exposure to a task reduced friction. Overall the designed experiences averagely ranked "somewhat easy" on a five point scale of extremely easy to extremely difficult to complete and "Strongly confident" on a five point scale from strongly unconfident to strongly confident in their understanding of the principle.

7.4. Outcomes

Overall each evaluation brought back different insights to each of the experiences, but there were a few themes that were similar across evaluations. Instructions often needed to be rewritten to support proper framing of the practice exercise. For example when we started testing for the "law of money" practice we did not put any explanation into the course material because it immediately followed the explanation of the equations. After testing we added some explanation that said the following experience was a practice opportunity, and the students should type their answers in the white boxes. In the following test students interacted with the experience and did not show any behaviors of being lost or confused. In that test we also learned that making a student try again after submitting an incorrect answer multiple times without any sort of support was very frustrating. So we reduced the number of opportunities to try down to three and on the third attempt we added feedback with the equations. Students still had to use the given equation to answer the next step. Using software that students were familiar with helped them understand what to do, unless the task was simple. For example most students are familiar with the quizlet interface so we tested quizlet and H5P interactions. After testing that there were no major differences, we chose to continue using H5P inorder to keep the number of programs used to create interactions to a minimum. Overall there was a frequent amount of refining wording, making buttons more visible, changing interaction to meet students assumption, and many other adaptations expected from usability testing.

8. Assessment

Originally I planned on using the assessment that was already implemented, which was the content mastery exam provided by the professor. Analysis of the assessment revealed that it contained mostly recognition and recall questions with a few application questions. After discussing this during my prospectus defense, I decided that because there were so many action-based learning outcomes for the course and because I was using Merrill's first principles of instruction, I should target the final step of integration with assessments. I approached the professor and hoped to introduce a reflection type of assessment. The professor wanted to protect his T.A.'s workload and felt that his exams were doing well (which they were, according to the pre-analysis he only had 4 questions from 4 of his exams that fell beneath the threshold of the discrimination index). So without support from the professor, the implementation of an action-based assessment was not going to happen. After that, I decided to use a survey-style assessment, which was not too difficult but we could collect some insight from the students. I wanted to have students take a stress evaluation mid-semester and at the end, and then get some feedback on how skill implementation was going. During the time I had dedicated to the creation and implementation of the assessment I fell behind due to some personal matters, and by the time I had time to dedicate to the assessment, it was 3 weeks before the end of the semester. Slightly panicked I reached out to my chair and we created a pivot plan to do a short final assessment. The workload needed to be minimal because it would be delivered to the students during finals. To do that used Qualtrics and created questions that focused on how consistently students integrated the skill taught in the course into their efforts to reduce stress. It assessed students' implementation of the skills during the course and their projected implementation for semesters to follow. I created the assessment and the professor was very supportive and interested to learn the findings. He Implemented it into his course two weeks before the end of the semester and we were able to collect input from the students.

8.1. Criteria

The stakeholder for the assessment was the professor of the course. Though we were not able to completely redesign the course to be more focused on the action-based learning outcomes, the professor was able to learn more about learning outcomes and the potential impact there can be when learning outcomes are measured in a method that is congruent with the learning method. I could also say that I was a stakeholder in the assessment as a designer because I used that information to share with the professor what skill the students found most important. I also added a final question that polled students on the method they would prefer to use to show their mastery. This revealed that students preferred the more applied assessments. The evidence collected was beneficial for the professor to understand his students' needs and how he could meet them more effectively.

8.2. Procedures

To assess the product as referenced previously I was very limited with students' time. I was not able to substantially add to their workload and thus was not able to go more in-depth with the

assessment. Students at the end of the course filled out a survey that asked them to report the extent to which they had implemented the principles learned in class to their everyday lives. There was not an opportunity to ensure evidence of what was reported so the final assessment was a self-report of the skills they felt like they were most likely to implement. This survey was given to the students before their final exam for the semester.

8.3. Evidence

Students found the most beneficial units to be "Stress management communication," "Stress and cognitive therapy", and "relaxation". The skills that students reported to reduce stress the most during the semester were "cognitive restrictions" and "anxiety management". The Skills students expected to use in the semesters to follow were "relaxation and meditation". Ninety percent of all students reported that using personal reflection as a way of assessment would be most beneficial to them implementing the skills they were learning.

8.4. Outcomes

From this analysis we learned about what skills students were implementing, we had a better understanding of which learning outcomes were being met and how the course might change to better integrate learning outcomes. My first step of the evaluation asked students which sections were most helpful in alleviating their stress. If the units were stress-reducing I implied that they were learning or implementing skills. Stress reduction is not a passive practice. Students suggested that cognitive therapy and stress communications were the most beneficial. This was an exciting finding because those were sections that implemented practice activities most heavily. There was also a high response for the relaxation section which was a pretty simple section. It is just a page of resources from YouTube, BYU, and blogs. It was informative to know that students found a less guided format helpful. Relaxation is one of the less technical sections that seem to align with common sense so that may have been why it was a good structure for this page. Surprisingly, after putting much effort into the money management module, it was reported to be one of the least implemented. There are many hypotheses for why that was. Potentially most students know about basic budgeting and financial planning, or possibly because the equations were more complex. It would be interesting to look more into the practice problems and see if we could incorporate more real-life applications. Lastly, students reported that the Spirituality assessment was the least helpful. This may be because spiritual practices are highly common among BYU students and so not much change was needed to incorporate those principles.

The students felt like relaxation techniques and meditation were the skills that they would be implementing for semesters to come. As a college student myself, this is understandable because so much stress is due to taking on a large cognitive load. These were not modules that were heavily updated and lower on the list of priority chapters for the professor, they just offered resources for students to choose from. It may be possible that the benefits of these two things are more immediate and seem to be of more benefit, where the benefits of financial planning and time management sometimes come later.

Lastly, almost 90 percent of students expressed that for a final examination they would rather turn in a self-reflection of their work throughout the semester. This was most insightful to the

current design of the course and was helpful in illustrating the principle of learning outcomes matching up with their assessments. Though the course had quizzes throughout and exams, the implementation of that knowledge is really what students wanted to be accountable for. The professor found this helpful because personal reflections can often feel like busywork. Students reporting on the implementation of stress management skills implies that they need to at least try to use them. A test does not require the same actions.

9. Design Knowledge and Critique

Learning model

One of my largest takeaways from this project is that it is important to start with a learning model. Because of the timing of my project and proposal timelines, I did not land on a learning model until aspects of the project were already in flight. The learning model would be far better implemented if it had guided the first pass of restructuring. I have seen this lack of guidance impact this project and other projects I have participated in. Though the learning model did inform the current structure, I had to make the partially developed and proposed activities fit into the model. There were reconstruction and reevaluation efforts that could have been avoided. From this experience, I learned that it is important to start with greater guiding principles from the very beginning. I felt like what was accomplished was more of a poor remodel where if I had been more informed and intentional about design, it could have been a custom build.

Though I felt like Merrill's first principles would have been very effective in supporting students' stress relief, I did not realize the gap that can exist in instructional design principles for educators. Working with the professor of this class was not difficult but pitching potential deviations from the professors assessments was difficult. Mocks, tests, and trials were required to support my proposals. I felt like this project was beneficial in showing the potential benefits of small alterations which then supported the professor's willingness to consider the proposed changes. When I first approached the professor with suggestions of making alterations to the current evaluation tools, there was a strong push back. Once the smaller designs were finished and he could see the direction of application, the professor appreciated their potential to help students apply the principles the course taught. He remained adamant that understanding the content was essential to incorporating it into action but started to see how the class was more heavily focused on the first task and not much of the second. He has continued to make improvements in alignment of his course with the action-based learning outcomes since I have left the project. More exercises have been created and discussion boards have been updated. With more time in the project, I may have been able to convince him to more fully embrace Merrill's first principles, and see value in the integration exercises instead of exams.

Complications

There were a lot of aspects of this project that took more time than anticipated. I used many images in the exercises that I created and I had to comply with copyright laws and regulations. This portion of the project took approximately 45 hours to complete. It took far more time to search for images that conveyed what was needed that met the copyright requirements. I had to maintain a citation index for each of these images, which required collecting site and creator information. Sometimes the data was not available and a replacement picture had to be found. For a few scenarios, I created images or graphics in Adobe Illustrator because it was too difficult to find images that complied with the copyright standard.

I also used a wide variety of software to produce materials. Each software came with a learning curve and constraints. There were a few times where I started creating things in a Storyline which has a lot of flexibility and then realized what I intended to do was fairly complex and H5P had a template for what I needed to do. Then while designing in H5P would realize that the template had no flexibility. This created a lack of efficiency because the work would bounce back and forth until one of the products seemed most effective. This process did lower time efficiency, in hindsight, I should have left BYU-Online with this information to save future designers from having to spend the time to learn the limits themselves.

Assessment

As previously discussed there were some aspects of making changes to the assessment that were not priorities for the professor, so I did not have a lot of flexibility in that area. I was confined to something that the students could do that did not increase their workload or the workload of the TA. Even within those constraints, it would have been fairly easy to run a pilot test with this assessment. After looking through the data I felt like there was wording that may have skewed responses for what kind of assessment students would like to take. I also felt like asking students to select all that applied to answer which classes were most effective increased our feedback but the quality did not allow us to differentiate which units and skills were being taught. I believe if I had moved the creation of this towards the beginning of our designs I could have done a pilot test and made a few iterations before using it with our one-time audience. I also think it would have been helpful to have assessed the students who took the course before it was updated to have a comparison of the implementations. We can make assumptions on the data that we collected but it would have been more powerful to be able to make claims on the change in data rather than the data itself.

In closing, I started my project and my prospectus at the same time. There were a lot of valuable aspects of the design structure that was encouraged by the preparation of the prospectus and the whole project would have had greater potential if that had been completed before the project began. Building the airplane while flying seems to have a lower likelihood of success and that is how I felt about my project. I learned a very valuable lesson of planning and being intentional about design, and basing those plans on grounding principles.

10. Appendix

10.1. Actual Product

Units that were updated to incorporate Merril's first principles of instruction followed this pattern:

1. **Problem**: First a problem would be framed that just called out the potential struggles a certain type of stress could cause in a students personal life
2. **Activation**: Then there would be a section that would refer to principles that were taught in previous chapters, and how they could tie into the upcoming section

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⑤ **Stress and Cognitive Therapy**

Learning Outcomes

1. Define cognitive restructuring.
2. Identify the four steps to cognitive restructuring.
3. Apply cognitive restructuring to counteract distorted, illogical thinking.

Assignments

1. Read chapter 12, "Refuting Irrational Ideas," in your textbook.
2. Read content for each section.
3. View supplemental material if desired.
4. Answer the questions on study guide to prepare for the quiz.
5. Complete and turn in your cognitive restructuring assignment.
6. Take the learning check quiz.

Problem

Have you ever been told that you are making a mountain out of a molehill? Your logic is not sound? that you are stressing over something that does not even matter? Cognitive distortions can be a large cause of stress and often the issue at hand has been created in the minds and potentially does not exist. During this unit try to identify a cognitive distortion you have, and then try to discover how to adjust so that your thinking is more accurate.

Activation

In the last section, we introduced perspective and how cognition influences stress. We emphasized the importance of thoughts, specifically habitual thoughts, and how thoughts lead to emotions, and emotions lead to physiological changes. In this chapter, we will discuss techniques that have been shown to be successful in altering thoughts and cognitive distortions.

Viktor Frankl, an Austrian neurologist and psychiatrist, was also a Holocaust survivor. He wrote the book *Man's Search for Meaning*, and in this book he said, "Everything can be taken from a man but one thing: the last of the human freedoms—to choose one's attitudes in any given set of circumstances, to choose one's own way" (Frankl 1959, 65). To understand this concept, we have to be open to the possibility that all events in our lives are neither good nor bad: they are just events. Even the events that we see as the most awful and tragic are neither awful nor tragic without the cognitive assessment as being such. All sensory input and all events are neutral until we interpret them as positive or negative.

---

3. **Demonstration**: Then the demonstration portion would follow. This included videos, lecture write-ups, diagrams, and text that would discuss this principle and practices, demonstrating what is needed to implement a stress coping strategy.
4. **Application**: Students then had an opportunity to apply what they learned. Through quiz-like interactions,the students could practice using the previously discussed concepts to solve a problem.

All-or-Nothing Thinking	Overgeneralization	**1. Automatic thought: I am not good at taking tests.**
Mental Filter	Discounting the Positive	**2. Automatic thought: I am going to fail.**
Juping to Conclusions: Mind Reading	Jumping to Conclusions: Fortune Telling	**3. Automatic thought: She probably said yes to the date because she is too nice to say no.**
Fallacy of Fairness	Magnification	**4. Automatic thought: I don't know why he hired me, other people are much more qualified than I am.**
Emotional Reasoning	Should Statements	**5. Automatic thought: I am such a fool for asking her out.**
Labeling	Personalization	**6. Automatic Thought: I feel overwhelmed and hopeless, therefore my problems must be impossible to solve.**
Blaming	Perfectionism	

5. ***Integration***: Lastly students would participate in a digital dialog where they would be asked questions about how they could apply the learned principles in their personal lives. They would post responses to the question and respond to other students.

Topic 4 Discussion

Perfectionism can be viewed as a very influential factor in an individual's life, especially among the LDS community. After reading about perfectionism in Lesson 4 and watching the short video clip above, answer the following questions:

-How do you see perfectionism affecting the BYU society and perhaps even yourself? Please give a specific example. Ex: Someone crying in the bathroom because they missed one point on a 100 point question.

-How do you personally try to continually improve yourself without falling into the trap of perfectionism? Give an example of when you've balanced this well, and an example of when you haven't.

-Please also share at least one insight from the Lesson, the video clip, **or** some other source that you found interesting about Perfectionism.

During the design process there was some adaptation to the discussion boards, but most of my efforts were focused on the application activities. The following images are representations of the different created activities.
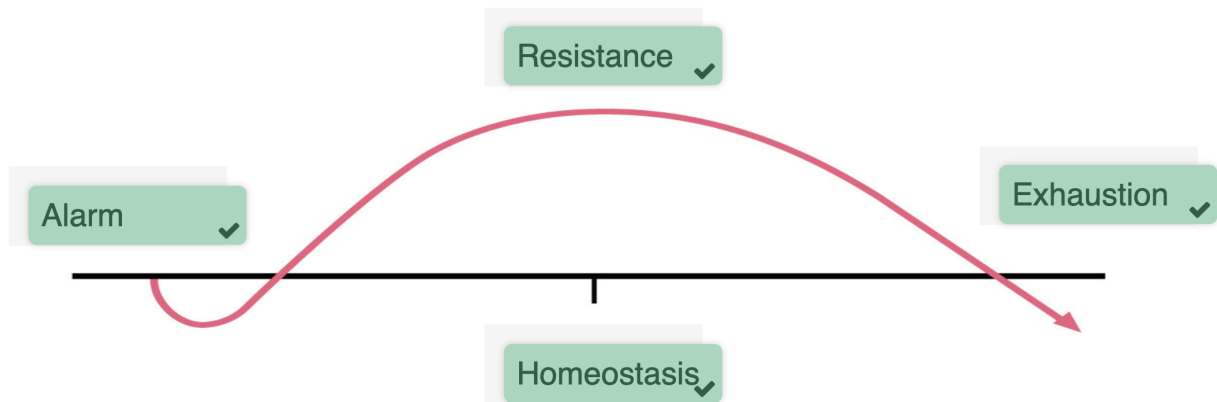
Chapter 1
History of Stress Research
    Activity: Stress curve

Drag and Drop the phase tiles into the correct positions on the chart. Check your answers.

✎ Edit

Resistance ✔

Alarm ✔

Exhaustion ✔

Homeostasis ✔

4/4

Definition of Stress Relate Terms
    Activity: Stressor Definitions

There are 4 main categories of stressors. Read the definition and see if you can guess which definition goes with which stressor.

✎ Edit

These stressors are those that put mechanical, chemical, or thermic stresses on the body. Obvious physical stressors include cuts, scrapes, bruises, or any other type of acute physical damage to the body. Just as common but less noticeable are the frequent overuse injuries that occur to the body. Things like sitting with bad posture over years can also cause disease. Less dramatic injuries include doing physical labor or exercise that exceeds what our body is accustomed to.

🔊

| Physical |
| Sociological |
| Bioecological |
| Psycho-Intrapersonal |

Chapter 2
Nervous System
    Activity: Limbic System (full text option added in sandbox for accessibility)

Stress and Body System
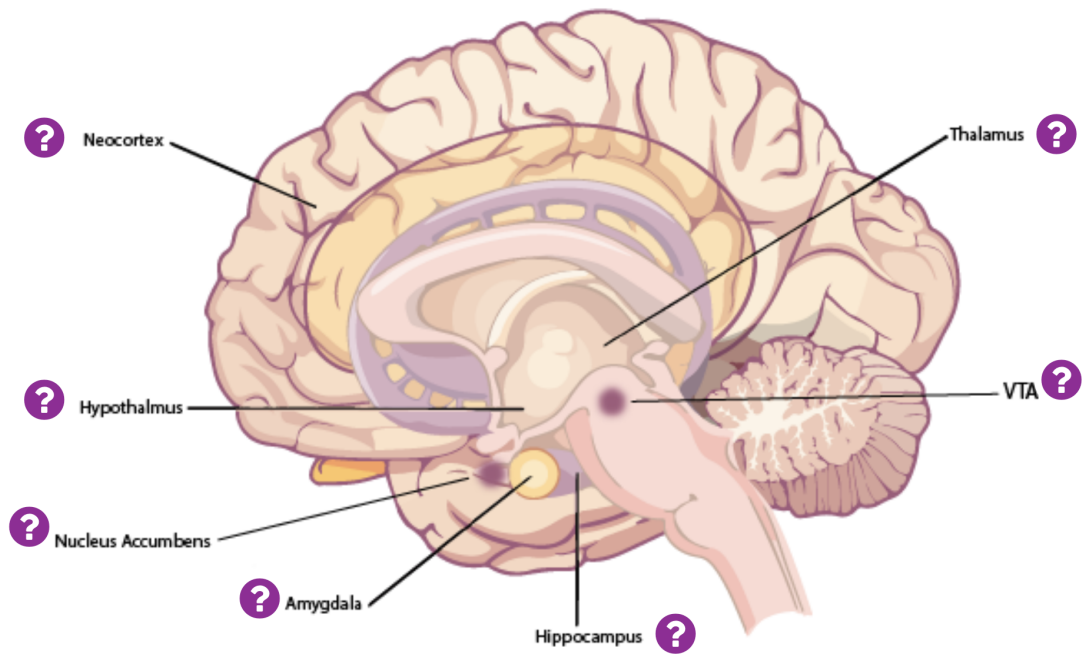
Activity: system Interactions

# Two Systems Communicate Stress Response
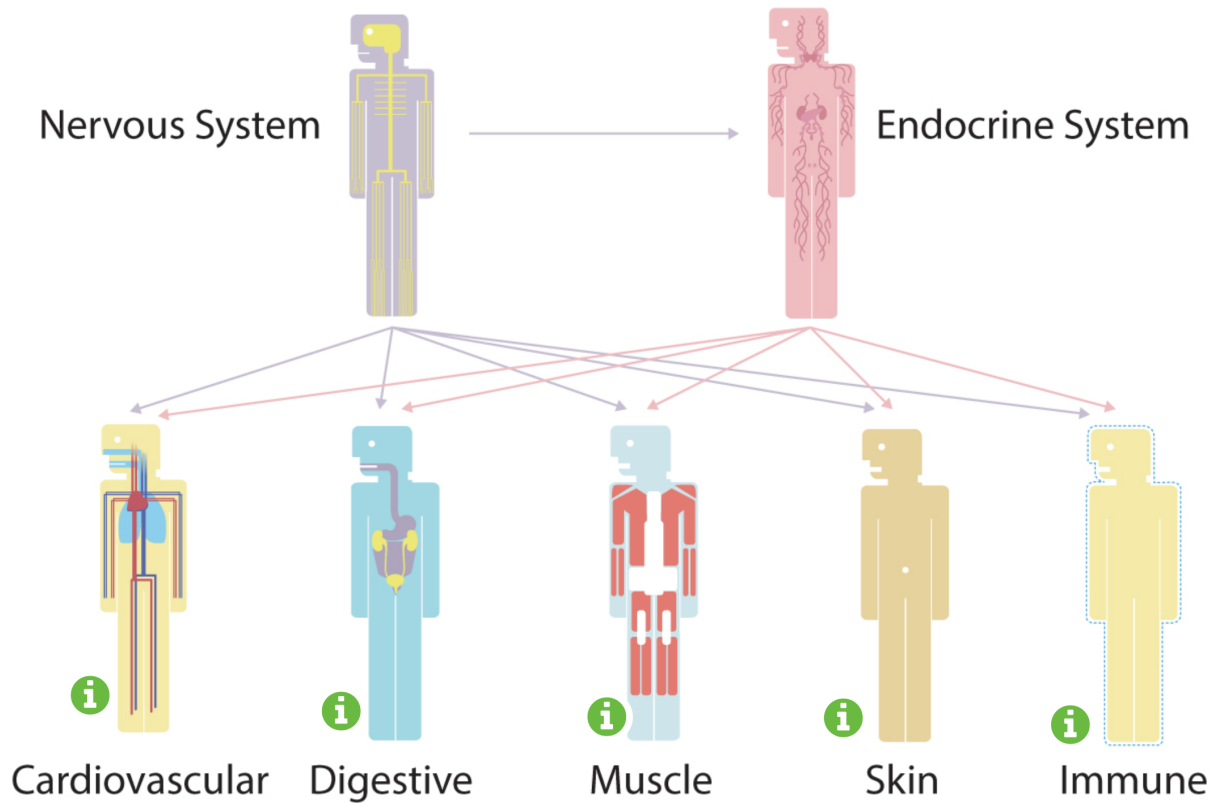
Skin

The skin is the largest organ in the body. Skin has a variety of functions. Because skin interacts closely with the environment, it is our first line of defense from external threats. Skin helps protect against pathogens and water loss. It's also important for thermoregulation, sensations of touch, and production of vitamin D. During stress, the sympathetic nervous system and sympathetic hormones reduce blood flow to the skin, which causes a person to look pale. In addition, perspiration increases to help keep the body cool. This response is referred to as the galvanic skin response. The galvanic skin response is utilized as part of the polygraph or lie detector test. In most people, there is a small stress response when they lie. This stress response increases perspiration, which changes the electrical properties of the skin and increases electrical conductance. This change can be monitored to give you an idea of someone is lying or not.

Cardiovascular   Digestive   Muscle   Skin   Immune

Activity: Acquired Immunity Flashcards
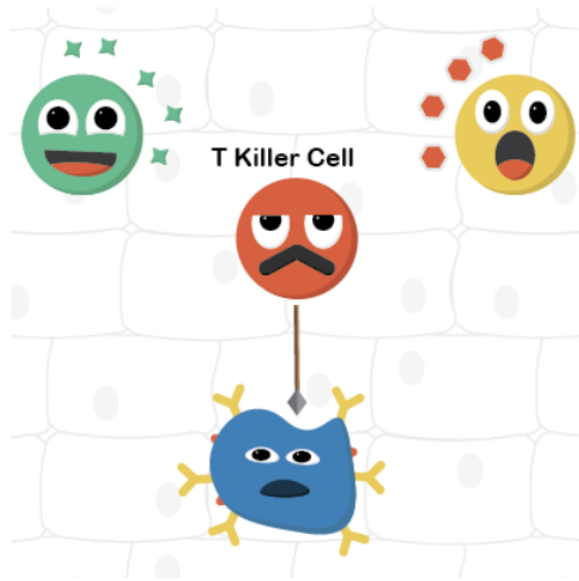
T Killer Cell

Turn
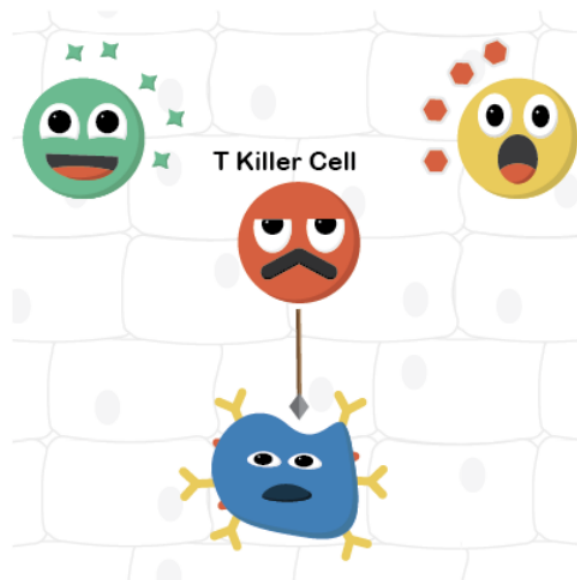
T killer cells are also referred to as cytotoxic T cells and are activated by T helper cells. When the T helper cells detect a cell that is not functioning properly or is infected, it releases lymphokines that cause T killer cells to proliferate and attack the infected or dysfunctional cell and destroy it. This response is especially important for virus-infected cells and cancer.

↻ Turn

Chapter 3
Allostasis and Cardiovascular Disease
Activity: Risk of Coronary Heart Disease

Coronary Heart Disease		
Non-Modifiable	**Modifiable**	Obesity
		Diabetes
		Hypertension
		Family History
		High Serum Cholesterol
		Age
		Cigarette Smoking
		Physical Inactivity
		Ethnicity

Chapter 4

Cognitive Distortions

Activity Cognitive Distortions Flash Cards (full-text option added in the sandbox for accessibility)

Acquaintance

All-or-Nothing Thinking

🔄 Turn

This type of cognitive distortion could also be referred to as perfect-or-poop thinking. This is black-or-white thinking, or in other words, if it is not perfect, it is a total failure.

Example: Someone on a diet eats a small cookie, and they think to themselves, "I've blown my diet completely."

Example: A student gets a B on an assignment and feels their world is coming to an end because it is not an A.

↻ Turn

Drag and drop the cognitive distortions to match each with its description below.

All-or-Nothing Thinking	Overgeneralization	Mental Filter	Discounting the Positive
Jumping to Conclusions	Fallacy of Fairness	Magnification	Emotional Reasoning
Should Statements	Labeling	Personalization & Blaming	Perfectionism

A

An extreme form of all-or-nothing thinking. The result of generalizing one or two qualities into a negative global judgment.

B

Taking responsibility for events that are not or not entirely our fault. Or, thinking everything is someone else's fault.

C

The unrealistic expectation that everything should be fair. But life is not fair; no one has the same situations, personalities, or life events.

D

Extrapolating some cues into a conclusion about the situation. This cognitive distortion has two types: mind reading and fortune-telling.

E

Allowing our emotions to dictate how we think about events in our lives and what we do (despite objective evidence).

F

Setting unrealistically high standards and rigidly adhering to those standards to the point they define self-worth.

G

Completely rejecting or discounting positive aspects as not meaningful. Leaves us feeling inadequate and unrewarded

H

Exaggeration of the importance of a problem, shortcoming, or event in our life. The problem appears huge and can feel overwhelming.

I

Negative events are seen as a never-ending pattern of defeat. Depending on inward or outward focus, this causes anger or anxiety.

J

Ignoring the good and focusing on the bad. When we have a glass that's half full, we focus on the empty half.

K

Referred to as perfect-or-poop thinking. Or in other words, if it is not perfect, it is a total failure.

L

Trying to motivate ourselves by pointing out everything we "ought to do" or "must do." Leaving us feeling guilty, angry, and frustrated.

All-or-Nothing Thinking	Overgeneralization	**1. Automatic thought: I am not good at taking tests.**
Mental Filter	Discounting the Positive	**2. Automatic thought: I am going to fail.**
Juping to Conclusions: Mind Reading	Jumping to Conclusions: Fortune Telling	**3. Automatic thought: She probably said yes to the date because she is too nice to say no.**
Fallacy of Fairness	Magnification	**4. Automatic thought: I don't know why he hired me, other people are much more qualified than I am.**
Emotional Reasoning	Should Statements	**5. Automatic thought: I am such a fool for asking her out.**
Labeling	Personalization	
Blaming	Perfectionism	**6. Automatic Thought: I feel overwhelmed and hopeless, therefore my problems must be impossible to solve.**

All-or-Nothing Thinking	Overgeneralization	**7. Automatic thought: That date was such a disaster, he will never want to go out again, and I will probably never be asked out by anyone else in the ward.** (Hint: These statements taken together indicate what distortion?)
Mental Filter	Discounting the Positive	**8. Automatic thought: I can't believe I got an 89 on this test. What a waste of time.**
Juping to Conclusions: Mind Reading	Jumping to Conclusions: Fortune Telling	
Fallacy of Fairness	Magnification	**9. Automatic thought: I shouldn't forget to read my scriptures.**
Emotional Reasoning	Should Statements	**10. Automatic Thought: If only I was a better father, then my daughter wouldn't be so emotionally unstable.**
Labeling	Personalization	
Blaming	Perfectionism	**11. Automatic thought: Today was a total waste.**

Chapter 8
Assertiveness Training
Activity: Crucial Conversations Interactive Practice

Crucial Conversations Interactive Example

Proceed »

What are the facts?

- [ ] They have been lying and are not struggling financially
- [ ] You and your roommates agreed to split the electric bill.
- [ ] The roommate has a new laptop.
- [ ] They don't respect you and think that they could take advantage of your kindness
- [ ] The roommate is paying their bill late.

✓ Check

1 / 1

Reuse

✎ Edit

Crucial Conversations Interactive Example

Proceed »

What are the stories you could tell yourself?

- [ ] They have been lying and are not struggling financially
- [ ] You and your roommates agreed to split the electric bill.
- [ ] The roommate has a new laptop.
- [ ] They don't respect you and think that they could take advantage of your kindness
- [ ] The roommate is paying their bill late.

Present the facts - Tell your story - Ask for other paths
Using the model how would you approach the conversation with your roommate?

"Wow, is that a new lap top? that could not have been cheap. I wish I had extra money laying around, if you payed your part of the untilities I might, ha ha. →

"I noticed that you have a new laptop. We have agreed to split the electric bill and you have been consistently late in paying your share. We have let you pay late because you have indicated that you are struggling financially." →

1 / 2 ▶

Reuse

Chapter 12
Planning
    Activity:Time Management Practice

Time Management Matrix
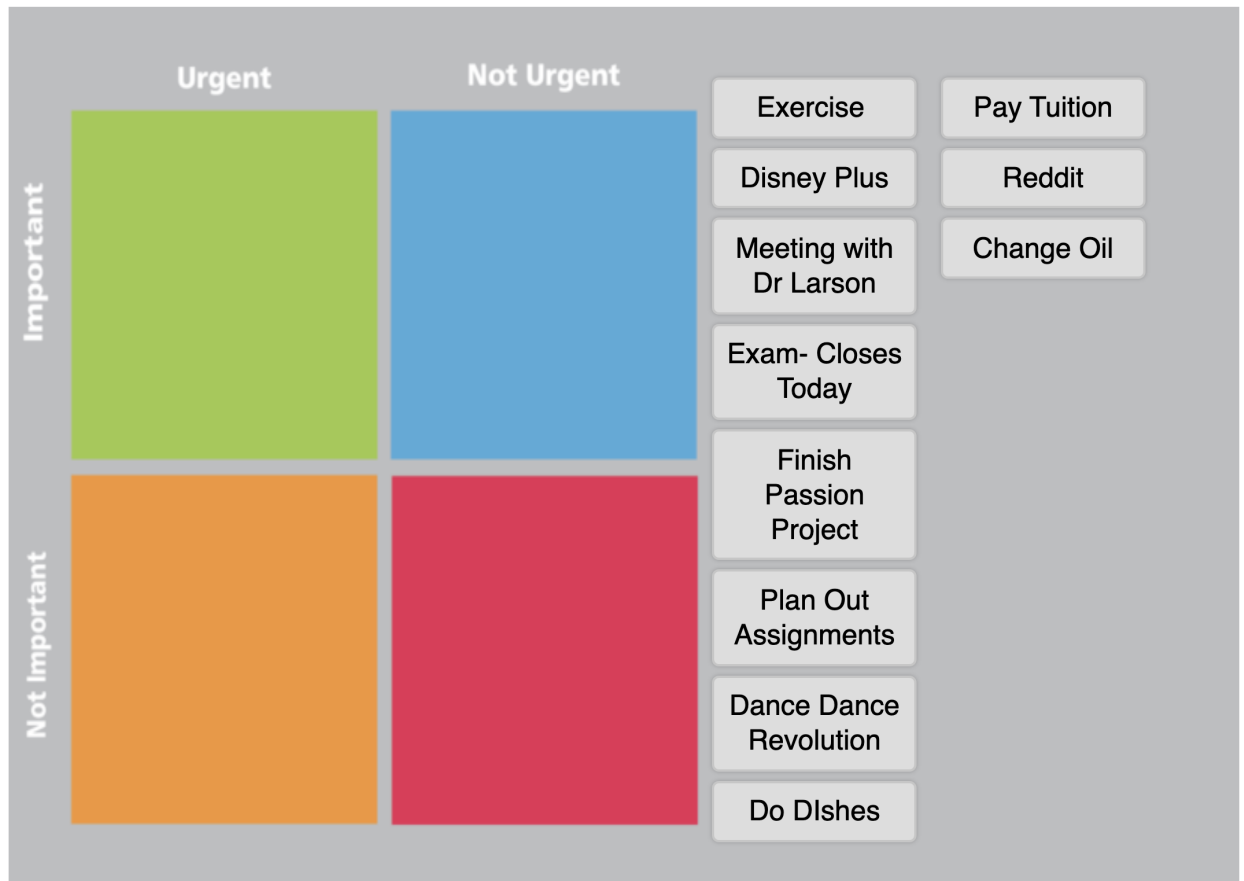
Check

Chapter 13
Value of Money
    Activity: Law of 72 practice

Determine how fast your principle will double using the law of 72:

1. If you are getting 8% interest, how long will it take for your money to double **(72/ Interest rate)?**

Type Your Answer Here

Submit

Use the investment time frame to determine how many doubles you will see:
(Years / (72 / Interest Rate))

2. If you invest money for 30 years at 8% interest, how many times will your money double ?

Round to the nearest .00

Submit

Determine how much money you will have after the investment time frame: *(2^(# of doubles))*principle investment = Total*

3. If your money doubles 3.3 times and you have a principle investment of $10,000?

Round to the nearest .00

Submit

10.2. Product Walkthrough

10.3. Learner Analysis

To better understand our learners, we analyzed their majors, age, when they tend to take the class, marital status, academic standing, GPA and school attendance (full or part time). Results are shown in Figures 1. Our learners fell into a traditional college student demographic. They are mostly on-campus students who were between the ages of 18-23, and are taking a full load of classes. College is a highly stressful time of life and this course is designed to support students to combat this. Many students who were required to take this course were pre-med or student athletes, both of which could potentially experience high amounts of stress given the extra curricular involvement and rigor of their other courses. Our designs reflected the understanding that our students potentially could be experiencing higher than average stress due to more constraints on their time for scholastic involvement. Consequently, many of the problems and application activities used the context of college-related stress because it was relatable for most of the course student demographic.

We further investigated students' motivation for enrolling in this course (see Figure 2). We learned that there is a population that is taking this course for accessibility reasons and thus want to ensure that all of the incorporated activities meet accessibility standards. Uur learners will be upperclassmen who will have developed a basic understanding of physiology and human

anatomy; they are required to take the course, but often cite its accessibility and flexibility (with time) as motivating factors; and they are generally high-performing students (with 75% having a B average or better). The key implication of this chart was that we had students who were taking this course because this was the only format that worked in their schedules, and was quite possibly their first exposure to online learning. We incorporated and intro to BYU-online classes in order to mitigate potential tension.

Fig. 1 *Online vs Day students overview of student demographics including academic standing, marital status, primary college, class standing, gender, and age.*

Learner Readiness Survey
What are your motivations for taking this course online?
(Select all that apply)

| Scheduling | Flexibility | The class is only offered online or blended | Accessibility (physical, mental health, learning, and/or social interaction reasons) | I prefer online learning | Other |

45% (n=33) | 58% (n=5,233) | 45% (n=33) | 57% (n=5,233) | 64% (n=33) | 26% (n=5,233) | 6% (n=33) | 10% (n=5,233) | 6% (n=33) | 6% (n=5,233) | 3% (n=33) | 6% (n=5,233)

■ Course   ■ BYU Online

Fig. 2 *Motivation for Taking Course Online representation of different motivations students reported for taking an online course including scheduling, flexibility, accessibility, online format and other.*

10.4. Environmental Analysis

Our client used our help and expertise to enhance his current online class. He wanted the students to have an engaging experience while taking the class and can go out and apply their understanding of stress management to decrease stress in their lives and the lives of those they work with and coach. This course contains many units that are very applicable to daily activities such as sleep scheduling, budgeting, and time management. The course opens with this statement:

> "The purpose of this course is to teach students the basic principles, theories, and relaxation techniques to effectively manage personal stress. Students will gain a greater understanding of the mind-body relationship; learn to employ a holistic approach to stress; and adopt effective cognitive, coping, and relaxation techniques. Ultimately, with the help of this course, students will experience a more effective approach to optimal lifelong health."

With this in mind, the professor hoped that students will internalize the content so well that they will apply it to their daily lives. For him, students would be successful if they could better cope with their stress by the end of this class. Thus, an important design implication is that the course provides students with an opportunity to apply the content to their daily lives.

BYU-Online is another main stakeholder in this project. They funded the project and are the owners of the class. BYU-Online strives to bring the classroom experience to the students using the most current technologies to create a learning atmosphere that is engaging. They hoped to keep moving students towards graduation no matter what life circumstances they are

in. This class was particularly targeted by BYU-Online to get this course updated to use new and current technologies that are standards in many of the other online courses, such as learning checks, videos, flashcards, practice experiences, and visual representations. The prior EXSC 410 was mostly text and did not use any of the new tools that have been created in the past few years, such as h5p interactions, storyline practice problems, and instructional videos. This course was more successful at achieving learning outcomes by incorporating the new tools that are available to increase student practice and engagement.

Students who have participated in an online learning environment previously expressed the positives and negatives they saw in the online learning environment. Seven students were briefly interviewed and they were asked a series of questions. Their responses were analyzed by theme and these insights seemed to be most relevant to the design of the project. In general students enjoyed the flexibility of an online learning environment and felt like they could be more efficient in their time because they did not have to get to campus or go from class to class. Yet in response students largely felt that they missed the benefits of synchronous interaction such as getting answers to questions and having peers as a resource.

Skill implementation was also reported to be a struggle. Students often felt like these requirements were busy work and so motivation to really implement them was low. They also reported that staying engaged in an online class was difficult and thus they felt that they were just trying to do the minimum amount of work. They also struggled implementing things when they felt like there was ambiguity because they did not feel like they had a reference to resolve their lack of understanding. Students had difficulty committing to doing something they felt like they were not doing the right way. Thus, an important design implication is that students will need a demonstration of how to correctly complete tasks.

Students reported what they think would be most effective to increase the quality of their online education. Many of the responses indicated that they would like to make changes to their personal effort, and did not refer to the course design. They reported that they would like to have a separate space for online learning that would help them keep it separate from other activities. They also reported that they would like a more effective software for asking questions and getting feedback from the T.A.s and professors. They would appreciate something that felt more instantaneous.

This insight can inform our designs. The thing that stands out most to me is students' dislike for busy work. I would be interested to put some of our designs in front of students and ask them what aspects of them seemed like busy work and what aspects seemed meaningful. Motivation was another large complaint about online learning, often coming from lack of interaction with the Professor and peers. In Merrill's first principles of instruction he requires an application. Designing these activities to be interactive could alleviate this reported sensation of lack of connection with other learners (Redmond, 2018). Lastly, students do not seem to know how to be successful in online learning, and may need some instruction on how to do that effectively.

Canvas LMS Environment

The learning environment is similar across most online courses offered by BYU-online. They are participants in Canvas, which may be a new LMS for many students. Canvas is a learning management system that is available to the entire campus but is used by a minority of professors. Classes must be transferred from the Learning Suite, the previous learning management system, and thus requires a transfer of content and a skill to use the software must be acquired. This may be a difficult experience because most students are normally day time students and have not interacted with Canvas. There are stylization cues and activities that the students have never interacted with before. Some students may have not undergone the

conditioning necessary to feel comfortable navigating this new environment and thus they may miss crucial experiences. They may also experience frustration in the early units as they learn how to interact and navigate the course layout. There are also experiences built in using outside software such as Storyline 360 and H5P, which the students have most likely never encountered before because they are only used in some of BYU-Online courses. This learning environment has been used consistently in previous semesters and has not significantly detracted from the learning experience.

Fig. 3 Canvas Course Example *The standard layout of canvas courses landing page at BYU-Online*

Canvas has a standard online classroom set up. There is a homepage that shows different units (Fig 2.1). There is an introduction to the unit and 3 semester assignment units that are not

scheduled. There is also a module page that contains weekly units that currently contain one page with all of the content for the unit inside that page. Units are navigated to on the homepage and there are forward and backward navigation options. In this environment resources are embedded within the page and are immediately accessible. For example, There is planning and budgeting activities that suggest the use of online calendars and budgeting tools. There are portions on meditation and breathing and links to guided experiences. In an online environment the steps to accessing these tools are simple and efficient.

This learning environment does have its limitations. There are a limited amount of features that Canvas is able to provide. Most development is templated and can cause constraints. There is a limited format to the question you ask, and a limited type of practice activities provided by external software. Without knowing HTML an individual is constrained to stick to the pre-designed formats. This learning environment will help the students achieve learning outcomes because they have the opportunity to practice many of the skills. They have access to content, as well as links to resources that can help support them in experience. Therefore we must work within the constraints of the precreated formats. If we would like to do something outside of those constraints we will have to consider the time it will take for us to figure out solutions and coding problems.

10.5. Consulting Products/Precedent

This product has a few in-house competitors. BYU offers Stress Management online and as an independent study course. The independent study course is currently identical to the BYU-online course and contains text heavy modules with a few videos at the beginning of the course. The learning outcomes are identical and the population that is required to take this material is the exact same. The modules are broken down into the same sections but instead of working through one a week with deadlines there is one final deadline. The experience is hosted on a similar LMS. Our design needs to make improvements from the independent study course to make it more inline with the standards BYU-Online expects from their classes. This course is based on an asynchronous course and thus does not have any of the interactions that are possible in a synchronous course.

There was an in-person section that was taught through lectures that was also similarly constructed. This class is currently blended but is no longer offered following this semester. Though this class looked the same on the LMS, students had lectures once a week and did in-person discussions, instead of digital dialogs. The students had in-person access to the Professor and could engage in discussion with him. Though this allowed for students to explore their questions more immediately, they did not have the opportunity to access many of the tools used to help students gain the skills of stress management. (time management software, instructional videos from professionals, structured meditation clips.) Though we cannot make the professor as available as we would like, we would like to build some resources that students can easily access and find answers to their questions. We would also like to create some instructional videos to create variety in the way he expresses ideas and communicates with his students. Our designs hope to incorporate these tools so they are equally represented across modules. These tools allow students to practice the skills they are learning.

There are many types of online stress management courses that are offered outside of BYU. Udemy provides a stress management course that teaches the types of stress, the types of relief, and 40 methods that can be implemented. This course contains an hour's worth of videos from a stress management professional. There are 4 units that are covered and each unit contains a lecture overview of the strategies, a video containing 10 possible ways to implement

the strategy, an interactive dialog section where students can post implementation ideas/ experiences, and lastly there is a 4 question quiz. The course closes with a summary unit that contains a conclusion and a final. The total cost of this course is $12.35. This course does not contain deadlines and can be completed on any student's deadline. There is no accreditation for this course but students do gain a completion certification. This course takes a student an average of 2 hours to complete.

There are some aspects of this Udemy course that can provide guidance for the BYU course. For example, the Udemy course breaks down the skills into categories so that the student can learn a few different techniques to mitigate a specific type of stress. The different strategies listed out are easy to find, so if a student wants to try one they have access to a list to choose from. There is also a portion at the end where people can share their experiences and offer other strategies that they have found successful. This helps the course become a larger resource for the students and personal application can be assisted by other students' experience. This type of support would be beneficial for our students to obtain the learning outcomes by implementing stress management principles in their life.

Fig. 4 *Udemy course module structure showing the breakdown of explanation application and practice*

BYU-Online has many classes that have been designed in the past few years that we would hope to emulate. Currently, most courses being designed are structured by module. Each module contains an introduction that contains a summary, learning outcomes and an introduction to the topic. The following pages contain sections of the module, content understanding questions, practice activities, videos, and links to other resources. Studies have shown that when the material is chunked in smaller sections, learners perform better on post-tests and have higher retention rates over time (Méndez-Carbajo & Wolla, 2019). BYU-online would like to redesign this course to follow this layout to keep the classes uniform across classes.

In conclusion, there are qualities of other products that can inform the design of our stress management class. Namely, content topics, easy access to resources, and social support. We plan to implement aspects from the In-person class that seemed to be effective, the solutions Udemy used to increase application, and BYU-Online successful strategies.

10.6. Content or Task Analysis

The goals for the students as provided by the syllabus are as follows:

"The purpose of this course is to teach students the basic principles, theories, and relaxation techniques to effectively manage personal stress. Students will gain a greater understanding of the mind-body relationship; learn to employ a holistic approach to stress; and adopt effective cognitive, coping, and relaxation techniques. Ultimately, with the help of this course, students will experience a more effective approach to optimal lifelong health."

Within that purpose are many different skills. Employing a holistic approach to stress management requires students to gain basic skills in nutrition, exercise, religion, communication, budgeting, and mediation. Students at least should be able to gain a correct awareness of what the current literature states as healthy for each of these topics. Ideally, students would be able to implement this knowledge into their lifestyle.

The remaining Items can be broken down similarly. The material contains what expert performance is meant to be and the online interactions allow students to practice those, and then reflect and apply them at the end of the unit. Not all units have action-oriented outcomes (such as stress physiology) and thus the expert performance for those units is just doing well on the end of unit quizzes and exams, which test lower-level declarative knowledge. Table 1.1 outlines which units will have expert performance analysis:

Table 1.1
Subjects Requiring Task Analysis task

Exercise Science Units	Skill-based
What is stress?	
Stress Physiology	
Stress and Disease	
Stress and Perspective	
Stress and Cognitive Therapy	x
Stress and Meditation	x
Stress and Anger	
Stress Management Communication	x
Stress and Fear	
Stress and Spirituality	
Financial management	x
Time Management	x
Health Behavior	x

Stress and Cognitive Therapy

This section addresses students' ability to better understand their thoughts, and restructure thoughts that are not irrational. For someone to do that they need to be able to identify common cognitive distortions and then understand the thought process of restructuring their thoughts. To do this students will use the Cognitive Behavioral Therapy model of cognitive restructuring.

This model has 4 steps. Step 1 is awareness. An individual must take time to identify why they are feeling the way they are. They will ask questions like why is this situation stressful? Or are these automatic thoughts cognitive distortions? Step 2 is to challenge your thinking. You can evaluate your thought processes and challenge the assumptions that are made. Step three is reappraisal where you choose to accept and alternative thought processes than the one you currently have. There are a few ways this can be done. The first is selective awareness, where you choose to see the good in the situation or focus on the positive. Similarly one can choose an "attitude of gratitude" and reevaluate the situation to be a positive or growing experience. One can also reframe the situation and choose to look at it from a different perspective. Choose to look at the situation through the lens of humor, hardiness, big-picture perspective, positive affirmations, or creativity. Lastly step 4 is adoption. Once you have rewritten a cognitive distortion you must accept it as reality and allow your actions to be congruent with your new understanding. This is a more difficult step to adopt and takes practice and reflection.

Stress and Meditation

Meditation is more difficult to outline a course of action because there are many ways to meditate and many different schools of thought for best practice. This section outlines many of the different ways one could meditate but sticks to the fundamentals of meditation. Mediations are a practice of mindfulness and mindfulness is the ability to be present and evaluate a current mental state without judgment. To meditate there are no defining things to do with your body, but there are with your mind. Mediation requires an individual to focus on something in the present, an object, one's breathings, or a sound. As one practice being present they can learn to move their thoughts away from worries of the future or pressing stressors and find a state of peace in which one can more effectively cope with current issues. After this is established there are many types of meditation are introduced.

Stress and Communication

Stress Communication uses basic models from the book crucial conversations. The context focuses on the STATE model (Share your facts, Tell your story, Ask for others' paths, Talk tentatively, Encourage testing). An expert in this situation should be able to take these steps and apply them to a variety of interactions.
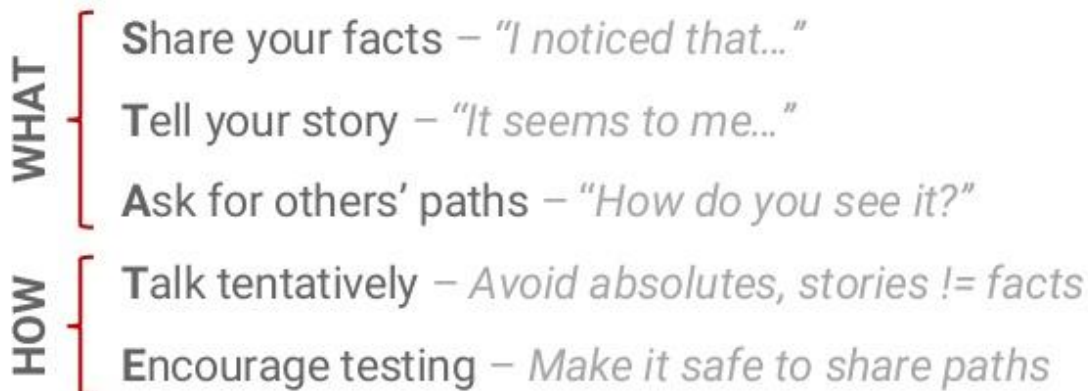
STATE your Path

| See & Hear | Tell a story | Feel | Act |

WHAT
Share your facts – *"I noticed that..."*

Tell your story – *"It seems to me..."*

Ask for others' paths – *"How do you see it?"*

HOW
Talk tentatively – *Avoid absolutes, stories != facts*

Encourage testing – *Make it safe to share paths*

redgate

Fig. 5 *State your Path model: a representation of the 5 steps needed to have a crucial conversation*

To best understand these steps we can walk through how an expert would approach a difficult conversation.

Scenario: At a recent work party you were recognized for your good work and the company gave you a gift card to the local mall. During the party your gift card got misplaced and you were not able to find it again. A few days later your co-worker's wife thanks you for the gift card that you gave them. You are going to need to have a conversation about the situation. When you approach your co-worker you want to use the STATE model to have the conversation.

1. *First,* you will state the facts. The facts are that your gift card was lost, your co-worker's wife thanked you for the gift, and you do not remember giving them the gift card.
2. *Second*, tell your story. In this step you can express your narrative to the facts and say something like, I feel like you may have taken my gift card.
3. *Lastly*, ask for other paths. Give the other person an opportunity to share their side of the story by asking "did I get that right?" or " Am I wrong here?". While making these opening statements into a conversation there are two things to keep in mind. First, talk tentatively and do not be accusatory. If you say something like "I know you stole the gift card," the person may become defensive. This will cause them to withhold information and you will not be able to have the communication you need to answer your questions. Second, Encourage testing, make sure that the person you are communicating with feels that your story is not set in stone and can be changed by their explanation.

Financial Management

In this section, expert practice is creating and sticking to a budget. There are different types of ways to create a budget and implement it that are discussed based on the MoneyWise Financial Workshop. The three principles of budgeting practices are to spend less than you earn,

keep good records for spending, taxes, and other purposes, use a budgeting method that meets your individual and family needs and objectives. To accomplish this there are 5 steps that someone needs to take.

1. Know what you want to accomplish.
2. Track spending.
3. Develop a cash budget.
4. Implement your budget.
5. Compare your budget to your actual expenses and make changes where necessary to achieve your goals.

There are a few methods suggested implementing this. First is the envelope method, this requires someone to place the amount of money that they will spend for each group of expenses in an envelope and once the envelope is empty the money for those expenses is gone and you do not spend anymore. There are also software methods that have their structure, excel spreadsheets that can be personalized, or the 60% method where one only spends 60 percent of their income and saves and invests the other 40%. Elaborations and helpful tips are present.

Time Management

The Eisenhower Matrix as taught in the 7 Habits of Highly Effective People by Stephen R. Covey is what was used for the expert practice of time management. Someone was supposed to create a list of things that needed to be done. This is not a list of only urgent tasks but all the things a person would like to accomplish within a time frame. Then the individual would use the Eisenhower Matrix to organize those tasks.

	URGENT	NOT URGENT
IMPORTANT	Quadrant I urgent and important DO	Quadrant II not urgent but important PLAN
NOT IMPORTANT	Quadrant III urgent but not important DELEGATE	Quadrant IV not urgent and not important ELIMINATE

Fig. 6 *7 habits decision-making matrix*

Each of your tasks should fall into one of these categories and then you can make plans to accomplish what is urgent and important and eliminate those things that are not. This tool is most effectively implemented with a calendar and scheduled reevaluations of one's progress and goals.

Health Behavior

Expert practice in health behavior requires a balance of nutrition, exercise, hydration, and sleep. Nutrition is often one of the most difficult habits to form, and stress impacts the body's nutritional requirements. Under pressure, individuals tend to over and under nourish themselves. Understanding one's habits during stressful times and knowing how to maintain a balanced diet. The food pyramid is a great reference for how someone should be eating habitually. Exercise is one of the most effective stress relievers and has the most benefits (Fiuza-Luces, Garatachea, Berger, & Lucia, 2013). There is not a rule for how or which exercise is the most beneficial, but there are more benefits if it is done effectively. Hydration is a simple but important principle. The color of urine has proved to be a very effective way of evaluating hydration levels. During exercise, every pound lost in water weight needs to be replaced with 16 oz of fluid. Sleep is the final health behavior. Young adults should be getting 7-9 hours of sleep a night and

In summary, the analysis for these subjects will help us understand the desired behaviors we are trying to teach and the steps necessary to get there. We can take our current expert practices and use them to structure the learning processes and ensure that our current learning activities will assist the student in obtaining our learning outcomes.

10.7. Annotated Bibliography

The following section outlines the best practices for stress management education. This research helps inform what is effective to teach behavioral changes in stress management. It also outlines common formats and topics that are covered throughout a course. This information will help support educational structure throughout the instructional design.

Conley, C. S., Travers, L. V., & Bryant, F. B. (2013). Promoting psychosocial adjustment and stress management in first-year college students: The benefits of engagement in a psychosocial wellness seminar. *Journal of American College Health*, *61*(2), 75–86. https://doi.org/10.1080/07448481.2012.754757

This article used a seminar format to deliver a stress management course. This course used reading as an activation for the topic at hand. There was often some sort of presentation on the covered content or a quiz, and each unit ended with a journal entry that encouraged the student to identify principles of the weekly subject and apply them in their life. They saw improvement in students' perceived abilities to cope with stress. The engagement was measured by attendance and quiz success and indicated to be most beneficial.

Fiuza-Luces, C., Garatachea, N., Berger, N. A., & Lucia, A. (2013). Exercise is the real polypill. Physiology, 28(5), 330–358. https://doi.org/10.1152/physiol.00019.2013

This article supports the claim that exercise is one of the best types of stress relief, as claimed in the paper "if exercise was a pill it would be the most prescribed". Especially when referring to heart disease, and other stress-related illnesses, exercise is the cheapest and most effective treatment.

Hayes, D.M. & Eddy, J.M. (1985). Stress management education: A life skills approach for health promotion professionals. Wellness Perspectives, 2, 4, 9-11.

This article discusses the important topics that need to be covered to effectively teach stress management. These include: Life Skills Related to Stress Management, Values Clarification, Decision Making, Communication Skills, and Coping Skills. If an individual does not learn these skills it can negatively affect many aspects of their life, most dangerously health. We hope to cover similar topics and though they will not be the same, many of them will overlap, to effectively teach stress management.

Lumley, M. A., & Provenzano, K. M. (2003). Stress Management through Written Emotional Disclosure Improves Academic Performance among College Students with Physical Symptoms. Journal of Educational Psychology, 95(3), 641–649. https://doi.org/10.1037/0022-0663.95.3.641

Written reflection increases the success of implementing stress management techniques. Two groups of participants took time to write about topics related to stress management, but one was structured to be an informative expression of what was being learned, and the other was a personal reflection about the individual's feelings, struggles, and successes. They found that the students who wrote personal reflections were able to improve grades in the following weeks. This outcome seemed to work for students across race, gender, and socioeconomic status. This informs the design of this project to ensure that students can reflect on their own lives and use writing to support implementation.

10.7.1. Merril's First Principles of Instruction

This section covers the main learning theory that was used as a framework for the instructional design. Merrill's first principles of instruction guided the ideation processes and informed the proposal of structural changes to the current model. This section outlines the principles and benefits of this theory.

Lee, S., & Koszalka, T. A. (2016). Course-Level Implementation of First Principles, Goal Orientations, and Cognitive Engagement: A Multilevel Mediation Model. Asia Pacific Education Review, 17(2), 365–375.

This article designs and tests a study to better understand the effectiveness of the first principles of instruction. This study found that students who participated in courses that use the first principles of instruction saw differences in students' intrinsic goal orientation. When students were implementing goals they were able to cognitive engagement was reported to be higher. This informs the design because engagement issues are a constant struggle in online education. This model allows students to do some self-regulation.

Merrill, M. D. (2002). First Principles of Instruction. Educational Technology Research and Development, 50(3), 43–59.

Merrill's learning model is a 4 step process based around a real-world problem. This process requires knowledge activation, Integration, application, and demonstration. By the end of an instructional period, students should have the opportunity to face a problem and gain the required elements of knowledge required to solve it. This model utilized previous experiences and knowledge structures to promote the assimilation of new knowledge. This will guide the structure of our redesign. The problem-centered approach that ends in demonstration fits the learning outcomes of this course because they are often behavioral changes.

Merrill David, M. (2007). First-principles of instruction: A synthesis.(Trends and Issues in Instructional Design and Technology, (2nd ed)), 62-71. Retrieved from
http://citeseerx.ist.psu.edu/viewdoc/summary?doi=10.1.1.470.6681

This article discusses each of the different principles that are stated in the first principles of instruction. Each principle is discussed and then cross-referenced to multiple other references that support the methods. This informs our design by solidifying the benefits of the intended structure.

10.7.2. Instructional Design Methods

This section informed many of the structural decisions made during the design. Many application exercises were created and these articles established the benefits and best practices required to create those. There is a variation of components but largely they are centered on the topic of reflection and learning through repetition.

Brame C. and Biel R., (2015). Test-enhanced learning: The potential for testing to promote greater learning in undergraduate science courses. CBE—Life Sciences Education 14, 1-12. The information in this guide has been published in CBE—Life Sciences Education (www.lifescied.org/content/14/2/es4.full.pdf+html)."

Testing students has shown to be an effective way to promote learning. Creating opportunities to recall information helps solidify its presence in memory. Often teachers worry that testing only strengthens students' ability to recall information, but this study shows that there is learning that occurs during the event of testing. Testing with feedback increases the likelihood of learning. This informs our design because we count testing opportunities as learning opportunities.

Clark, R. C., Mayer, R. E. (2014). E-Learning and the Science of Instruction. Pfeiffer Publications, 67-90.

This chapter contains best practices for using graphics in online learning. It outlines when graphics are present versus when they can become transformative for learning. Graphics that can show processes that are not easily visualized through words are beneficial. Having students using the graphics to use as references to answer questions supports learners in becoming familiarized with the concepts it's displaying. This is helpful because in an online learning environment that is text-heavy we hope to increase the visual elements but would like to do it strategically.

Din, F., Wienke, E. (2001). The Effects of Flash Card Use on Students' Comprehension of
    Chemistry Vocabulary.

A study was done using flashcards to increase performance on mastering vocabulary. They found that students who were able to use the flashcards performed significantly better on a vocabulary comprehension test than students who studied the material without flash cars. To support students in mastering the vocabulary essential to obtaining learning outcomes, I intend to use flashcards to support them.

Karpicke, J. D., & Grimaldi, P. J. (2012). Retrieval-Based Learning: A Perspective for Enhancing
    Meaningful Learning. Educational Psychology Review, 24(3), 401–418.

This article discussed the benefits of active recall as a learning practice. Often retrieval is used as evidence in an assessment but there are learning benefits that come from practicing for those assessments. Every time information is reproduced and the information encoding is strengthened and thus the ability to reproduce. The more opportunities someone has to retrieve information the stronger it will encode, and the stronger something is encoded, increasing the amount of learning. In our design, we hope to give students opportunities to practice retrieval using the tools online learning provides.

Kozma, R. B. (1994). Will the media influence learning? Reframing the debate. Educational
    Technology Research and Development, 42(2), 7-19

This article states that one of the largest impacts of media is that it supports the construction of mental models in a way that other mediums can't. Expert models can be complicated and transferring that to novices by text does not always work effectively. Media also allows teachers to bring in more context as these models are being built. Students can do better problem solving when they understand the context and the more context you give the student the better problem solving they can do. Videos and Images allow students to create those contexts more effectively.

MacQuarrie, L. L., Tucker, J. A., Burns, M. K., & Hartman, B. (2002). Comparison of Retention Rates Using Traditional, Drill Sandwich, and Incremental Rehearsal Flash Card Methods. *School Psychology Review*, *31*(4), 584–595.

Different types of flashcard schedules were tested to see which ones would work more effectively. They used three schedules, a traditional schedule, an incremental rehearsal schedule, and a drill sandwich schedule. They found that the incremental rehearsal performed the best, so students who went over their flashcards one time and then organized them into categories of things they already know and things they do not and then cycle out known flashcards performed the best. It was better for students to receive their words one at a time, instead of in a list format.

Redmond, P., Abawi, L.-A., Brown, A., Henderson, R., & Heffernan, A. (2018). An Online Engagement Framework for Higher Education. Online Learning, 22(1), 183–204.

This framework suggests that there are five aspects of engagement associated with online learning. Those are social, behavioral, cognitive, emotional, and collaborative engagement. When

activities and designs incorporate these things learners can engage with the content. In the learner's analysis, students reported difficulty in engaging with the material. We hope that using collaborative and social engagement in our activities will alleviate that issue.

10.7.3. Evaluation Support

Nielson, J. Why You Only Need to Test with 5 Users. (2000, March 18). Retrieved February 26, 2020, from https://www.nngroup.com/articles/why-you-only-need-to-test-with-5-users/

This article talked about why 5 users are sufficient for user testing. The insight from testing one user sufficiently increases a designer's understanding. Watching one user moves the designer away from their current cognitive model of how users see their product and shows them how users do see the current product. User tests 2 and 3 can be drastically different but the pattern of product use will start to surface. User 4 and 5 solidify what is a pattern and what isn't, and anything after that is less likely to bring insight but does bring confirmation. This rule is important to this project because we can efficiently get the feedback we need to get the product we are working on pivoting without wasting time.

10.8. Design Specifications

The design we built is an online course. It is hosted on Canvas and made available by BYU-Online. This course is 15 units long, one for each week of the semester, as well as a shortened 7-week long version for spring and summer. This course maintained the basic structure already created. Using the First principle of Instruction as a guiding structure I designed the flow of our learning experience accordingly. The course introduction provides an initial problem, then within each unit is another cycle of the four steps. The course is set up to be conducive to this learning model because it starts with a review of physiology for the first 4 units thus activating prior knowledge. That knowledge is then integrated into the causes and symptoms in the next 3 units. Application strategies for stress reduction take up the remaining units of the course, and a stress journal is produced during the final week of the course showing the reflection of the students demonstrating their abilities to implement stress management behaviors. Each unit starts with a problem that college students would most likely encounter during their time at a university. Each unit would be broken up into this same pattern established by the First Principles Model, providing activation content, integration, application activities, and each weekend with a journal entry of implementation/demonstration.

To more effectively explain the design concepts of what the learner experiences is provided. This covers the section on cognitive distortions. Each student starts on an introductory page that will set up a problem to be solved during the unit, and some activation materials.

Fig. 7 *Example mock-up of a unit introduction page*

Students then move on to the integration and application sections. These do not always be as structured as the introductions, and the order of these sections will vary depending on the content. For this unit, the integration activity is cognitive distortion flashcards specifically to assist the students in gaining the understanding necessary to identify cognitive distortions (see Figure 8).

Types of Cognitive Distortions

There are many ways in which we distort reality. These habitual thought processes alter our perspective. While there are many of these, we will talk about twelve common cognitive distortions that are discussed by Dr. David Burns in his book, *The Feeling Good Handbook*.

Use these cards to become familiar with the common cognitive distortions.

✎ Edit

This type of cognitive distortion could also be referred to as perfect-or-poop thinking. This is black-or-white thinking, or in other words, if it is not perfect, it is a total failure.
Example: Someone on a diet eats a small cookie, and they think to themselves, "I've blown my diet completely."
Example: A student gets a B on an assignment and feels their world is coming to an end because it is not an A.

⟳ Turn

Fig. 8 *Mock up of flash card activities that are placed with in the unit page*

There are also application activities that allow students to discuss with each other how cognitive distortions, specifically perfectionism, applies to them in their life.

Topic 4 Discussion

Perfectionism can be viewed as a very influential factor in an individual's life, especially among the LDS community. After reading about perfectionism in Lesson 4 and watching the short video clip above, answer the following questions:

-How do you see perfectionism affecting the BYU society and perhaps even yourself? Please give a specific example. Ex: Someone crying in the bathroom because they missed one point on a 100 point question.

-How do you personally try to continually improve yourself without falling into the trap of perfectionism? Give an example of when you've balanced this well, and an example of when you haven't.

-Please also share at least one insight from the Lesson, the video clip, **or** some other source that you found interesting about Perfectionism.

Fig. 9 *Application activity for students to discuss their personal experiences and feelings about using or understanding principles.*

Students are then challenged to incorporate this knowledge into their daily lives by identifying their own thought processes that they think may be distorted. The learner will then journal about their insight.

The main purpose of this course is to "teach students the basic principles, theories, and relaxation techniques to effectively manage personal stress. Students will gain a greater understanding of the

mind-body relationship; learn to employ a holistic approach to stress; and adopt effective cognitive, coping, and relaxation techniques"

With this design, students were able to interact with the content with a problem solving approach. As content was framed within the context of each individual's life, I anticipate that application will require less cognitive load to apply into real-life situations.

I used the first principles of instruction as the design for the modules. Each unit had activation, integration, application, and demonstration in it. I created flashcard opportunities to impact the working knowledge and vocabulary for the students. This is described in the bibliography as an effective way to structure learning (Din & Wienke, 2001). An assignment to use reflective journals was created with the intent to increase behavior change (Lumley & Provenzano, 2003). I used online education literature to inform how to most effectively use graphics; for example, pairing them with words, or using the graphics in transformational ways (Clark & Mayer 2014). I took many of the diagrams that represent information and turn them into learning checks. I also used a few articles about basic stress management education. They were used to ensure the topics covered in our modules were the ones the literature said were most effective at managing stress (Hayes & Eddy 1985).

I reviewed the independent study version of the course and outlined the BYU course similarly. I also picked the parts of a Udemy course that I thought would be useful. One of these was an open discussion board for personal application. I want to create opportunities for students to discuss concepts and their application at the end of each unit so they would have a similar support system to the Udemy class.

This design has many constraints and some we have chosen to accept and others we have done our best to mitigate. After doing an overview of each of the tools in BYU-Online resources I felt they are sufficient to accomplish our desired outcomes. The breadth of tools does limit what we can do, for example, h5p tools are fairly templated and functionality changes are not possible but we feel that what they have to offer is enough to complete what we need. The professor is not highly involved in the updates that I created but he did have a good vision for the update. The structure of the first principles of instruction is represented in some of his previously created content and thus a restructure to make that more intentional did not change his lesson plans drastically. The first principles of instruction were intentionally picked because they seemed to align with the professor's pedagogy. So though the professor did have the final say in what will be implemented, I felt that the designs were congruent with his desired learning outcomes.

10.9. Assessment Reports and Instruments

To assess if students were meeting the stress management learning outcomes I created a Qualtrics survey that we presented to the students at the end of the semester. This assessment asked the students which units decreased their stress. The students indicated which ones they found most impactful. We asked the students which skills that were taught reduced their stress during the semester and lastly, we asked the students which skill they would continue to use even after the semester was completed. Though this assessment relied on the students self-report and interpretation of their experiences it was also the first time anywhere in the course where students were asked to report on any usage of the skills. While working with the professor on potential options such as weekly right-ups of how they tried to use the skill, the professor did not want to incorporate more work and felt that his quiz and test were sufficient. During the

development of the expercisees, the professor started to understand the benefits of aligning the assessment tools with the learning outcomes. He stated that he hoped to give this more thought and in the coming semesters.

I used Qualtrics to circulate the survey to students and it was embedded as one of the assignments required to do during the finals period of the course. For my purpose I just wanted to get some insight on implementation in the students personal life. There was currently no feedback on if those learning outcomes were being done. The success metric for the survey was which skills were getting implemented most frequently, and did they line up with our practices. I also wanted to know which skills were not getting implemented to know where we would need to lean in next on the following iterations.

I used the qualtrics reporting feature to report the finding to the professor and BYU-Online designer. I reported the different frequencies of skills and units. The professor looked through all the raw data that was produced in qualtrics. We did not run any statistical analysis on the report because for our purposes we just wanted to see what was happening, and we did not have any previous data to compare it against.

Which of these units did you find most helpful in dealing with personal stress?
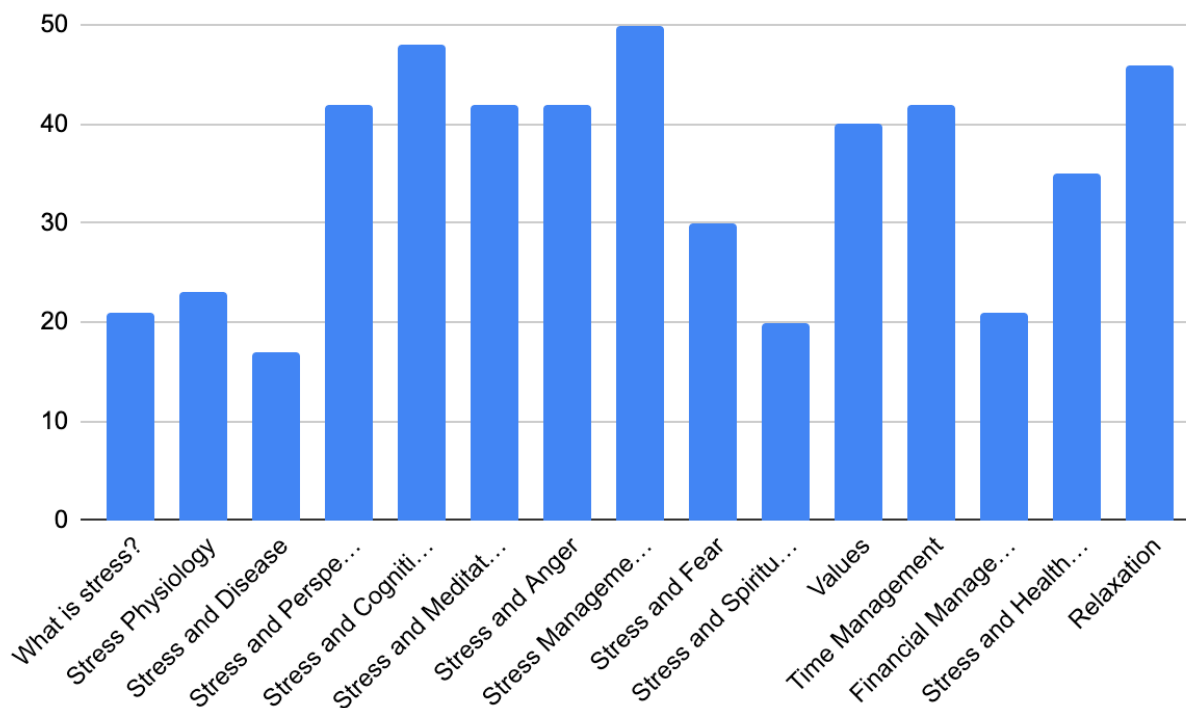
Which of these stress management skills do you feel lowered your stress during the semester?

Which of these stress management skills do you feel you will continue to use on a consistent basis?

If you could choose a method to show your professor what you have learned in the past semester, which do you feel would encourage you to use stress management in your personal life?
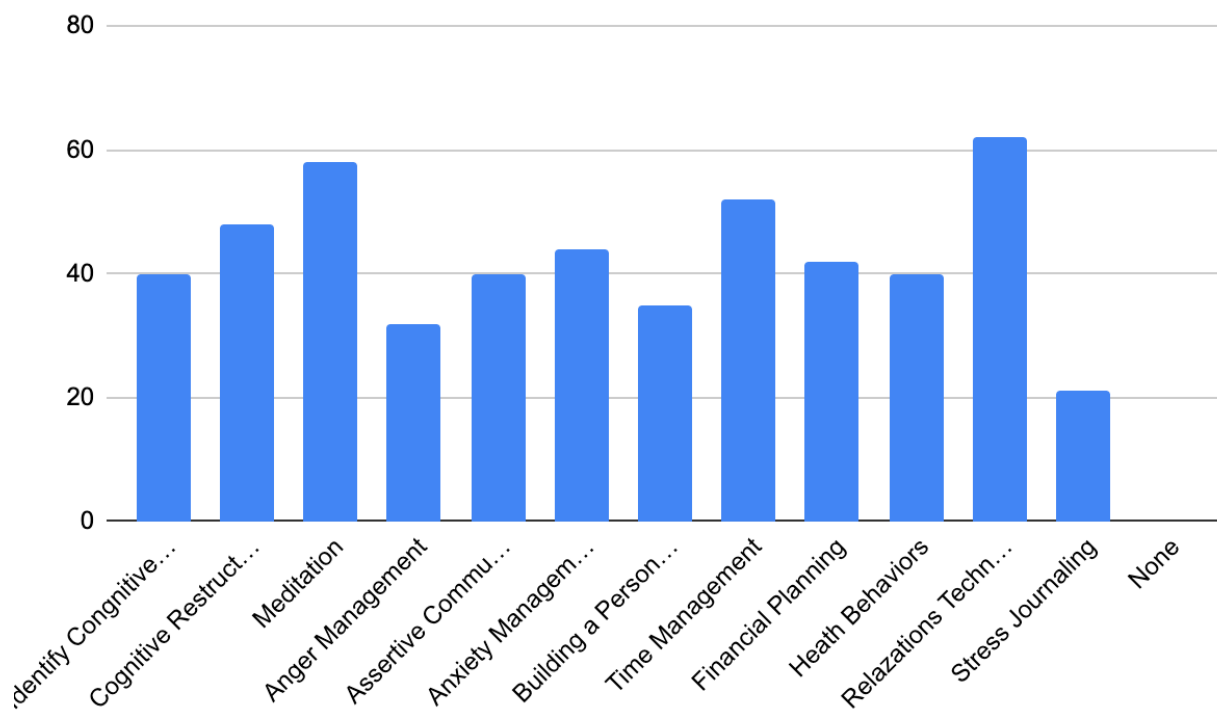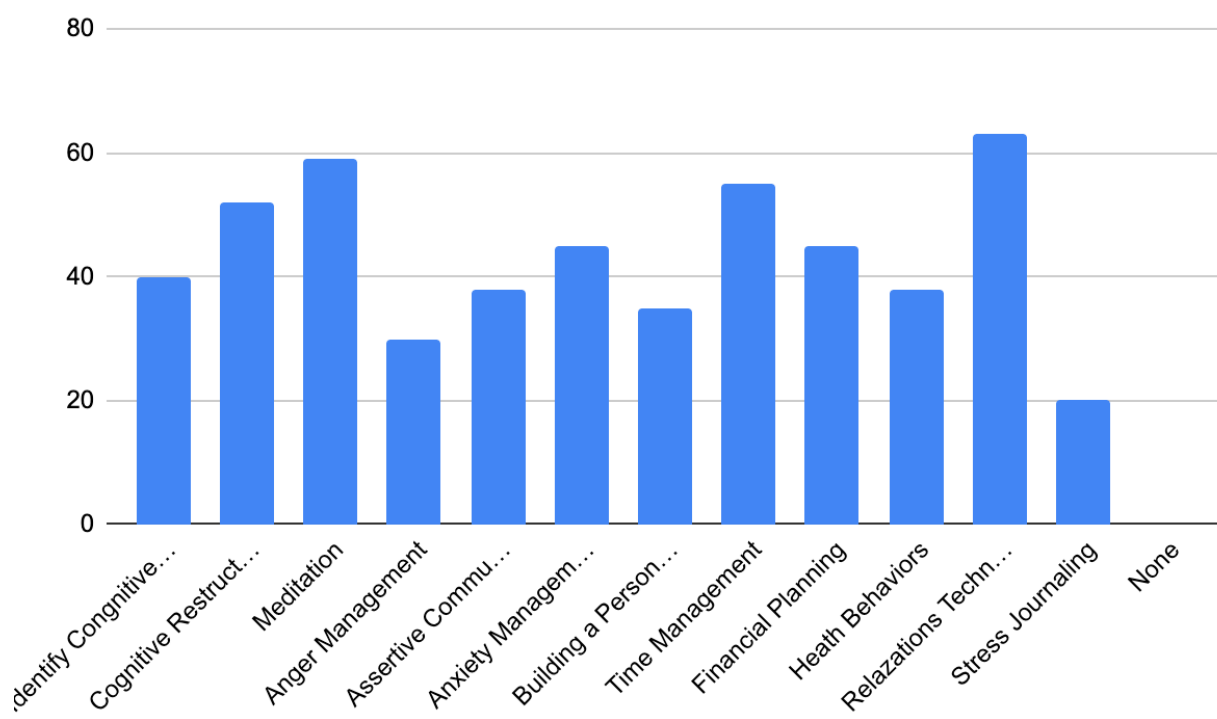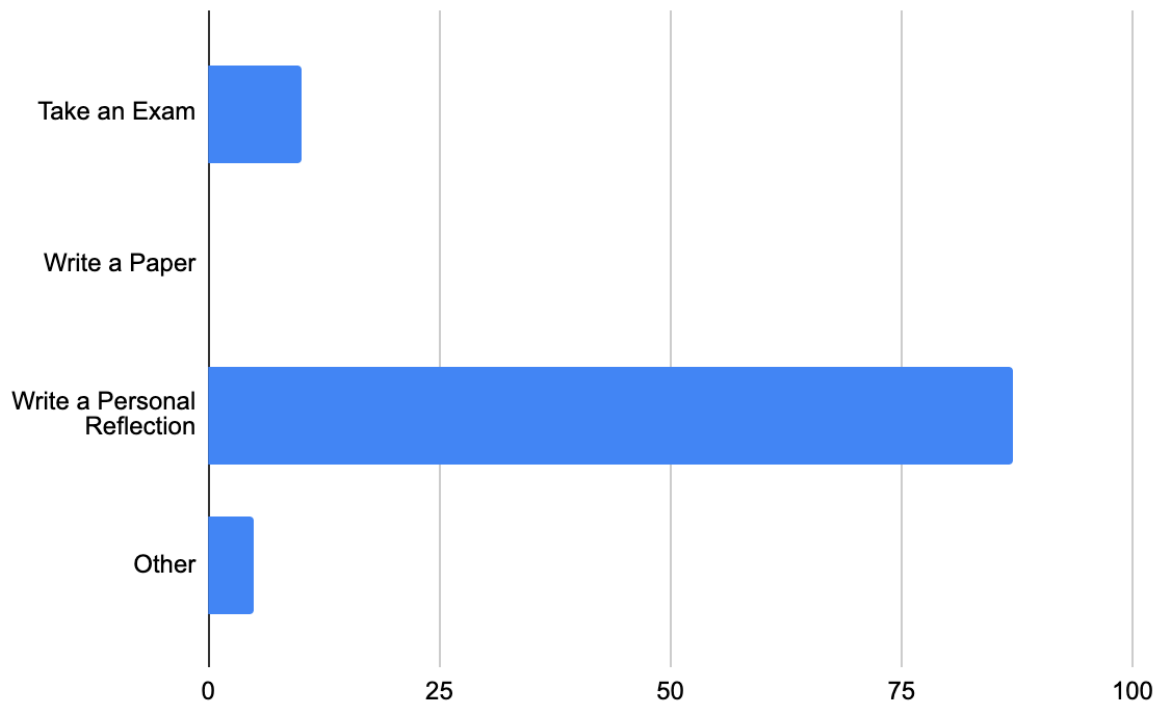

10.10. Implementation Instruments

This product is hosted by BYU-Online so it needs to be loaded on to the server. It is a canvas course so assuming that BYU continues with using canvas for online education there should not be a need for maintaining the course. There are links from h5p and storyline so if there are any major updates or changes that would need to be checked to ensure that formatting stays compatible. We tried our best to use downloaded fully embedded content on our server so problems in this area are unlikely. For a student to access this course they must be enrolled in it through BYU, and have access to an internet connection and browser.

.

For a student to use and navigate this course there is no required prerequisite knowledge. Familiarity with canvas would benefit maneuvering the course structure. It would be beneficial for the student to become familiar with the structure of the BYU-Online courses, but if the student has taken one course, the schema and structure are roughly the same (landing page with units that contain multiple pages and assignments that are accomplished over a defined amount of time. The weekly modules are similar with reading and practiced followed by a quiz and discussion board.

Each module contains a section that guides the students through the course structure and canvas interface. Students became familiar with the layout and were able to navigate to all required places within the course. I also did extensive usability testing to ensure that the exercises were intuitive (refer to evaluation instruments in appendix 10.11).

10.11. Evaluation Instruments

[1) Describe the stakeholders to whom you needed to provide evaluation data, and the criteria they were interested in.

The stakeholders for the evaluation were the BYU-Online instructional designer and myself. We were most interested in the usability criteria, ensuring that students could navigate the designed experience and minimize frustration and confusion that could detract from the learning outcomes.

2) Describe the evaluations in which you engaged as a designer to help ensure you adequately monitored and adjusted your own work.

The feedback from these evaluations always encouraged changes to the designs and sometimes the evaluation process itself. They kept the designs informed by the user and thus we were able to create interactions that were as smooth as possible while working within the limitations of the different software.

3) Describe the type(s) of evaluation you used to learn whether your product satisfies stakeholder and other needs (e.g., development, formative, summative)?

My formal evaluation process was developmental. The work that would have benefited from formative evaluation was done and the summative evaluation and final assessment seemed to have a decent amount of overlap. For more evaluation information please refer to the evaluation procedure section

6) Include your evaluation instruments or reports that provide additional information about the evaluation findings.]

410 Evaluation

▼ Default Question Block

☑ **Q1**
⚙

How easy was it to complete the task?

○ Extremely easy

○ Somewhat easy

○ Neither easy nor difficult

○ Somewhat difficult

○ Extremely difficult

☐ **Q2**
⚙

How confident do you feel in understanding [X Outcome] ?

○ Confident

○ Somewhat Confident

○ Neither confident nor unconfident

○ Somewhat unconfident

○ Strongly disagree

☐ **Q3**
⚙

if you were to make any improvements, what would they be? And why?

Left column

Q1 - How easy was it to complete the task?

1	Extremely easy	20.00%	1
2	Somewhat easy	60.00%	3
3	Neither easy nor	20.00%	1
4	Somewhat difficu	0.00%	0
5	Extremely difficu	0.00%	0

Q2 - How confident do you feel in understanding the stress curve?

1	Confident	20.00%	1
2	Somewhat Confi	20.00%	1
3	Neither confiden	60.00%	3
4	Somewhat uncor	0.00%	0
5	Strongly disagre	0.00%	0

Q1 - How easy was it to complete the task?

1	Extremely easy	20.00%	1
2	Somewhat easy	40.00%	2
3	Neither easy nor	20.00%	1
4	Somewhat difficu	20.00%	1
5	Extremely difficu	0.00%	0

Q2 - How confident do you feel in understanding stress response ?

1	Confident	80.00%	4
2	Somewhat Confi	20.00%	1
3	Neither confiden	0.00%	0
4	Somewhat uncor	0.00%	0
5	Strongly disagre	0.00%	0

Q1 - How easy was it to complete the task?

1	Extremely easy	20.00%	1
2	Somewhat easy	80.00%	4
3	Neither easy nor	0.00%	0
4	Somewhat difficu	0.00%	0
5	Extremely difficu	0.00%	0

Q2 - How confident do you feel in understanding aquired immunity?

1	Confident	100.00%	5
2	Somewhat Confi	0.00%	0
3	Neither confiden	0.00%	0
4	Somewhat uncor	0.00%	0
5	Strongly disagre	0.00%	0

Right column

Q1 - How easy was it to complete the task?

1	Extremely easy	20.00%	1
2	Somewhat easy	40.00%	2
3	Neither easy nor	20.00%	1
4	Somewhat difficu	20.00%	1
5	Extremely difficu	0.00%	0

Q2 - How confident do you feel in understanding the nervous system anatomy ?

1	Confident	80.00%	4
2	Somewhat Confi	20.00%	1
3	Neither confiden	0.00%	0
4	Somewhat uncor	0.00%	0
5	Strongly disagre	0.00%	0

Q1 - How easy was it to complete the task?

1	Extremely easy	0.00%	0
2	Somewhat easy	40.00%	2
3	Neither easy nor	20.00%	1
4	Somewhat difficu	40.00%	2
5	Extremely difficu	0.00%	0

Q2 - How confident do you feel in understanding crucial coversation skills ?

1	Confident	20.00%	1
2	Somewhat Confi	0.00%	0
3	Neither confiden	40.00%	2
4	Somewhat uncor	40.00%	2
5	Strongly disagre	0.00%	0

Q1 - How easy was it to complete the task?

1	Extremely easy	0.00%	0
2	Somewhat easy	0.00%	0
3	Neither easy nor	60.00%	3
4	Somewhat difficu	20.00%	1
5	Extremely difficu	20.00%	1

Q2 - How confident do you feel in understanding the time management pyramid?

1	Confident	40.00%	2
2	Somewhat Confi	40.00%	2
3	Neither confiden	20.00%	1
4	Somewhat uncor	0.00%	0
5	Strongly disagre	0.00%	0

10.12. Budget and Timeline

BYU-Online had designated a substantial proportion of effort and resources to EXSCI 410. I was working 15-18 hours a week for them and they allotted a variable amount of time for Stress Management, depending on its priority compared to other work. There were no other Instructional Design assistants assigned to the projects so there were no contingencies based on other individuals. This project was front-loaded in time distribution because we hoped to have the heavy lifting for the changes starting in fall of 2019 - winter 2020. The course was supposed to be released with all of its updates during spring 2020 but because of the increased need to get courses online during Covid-19 the pilot version of the course was not released until fall of 2020.

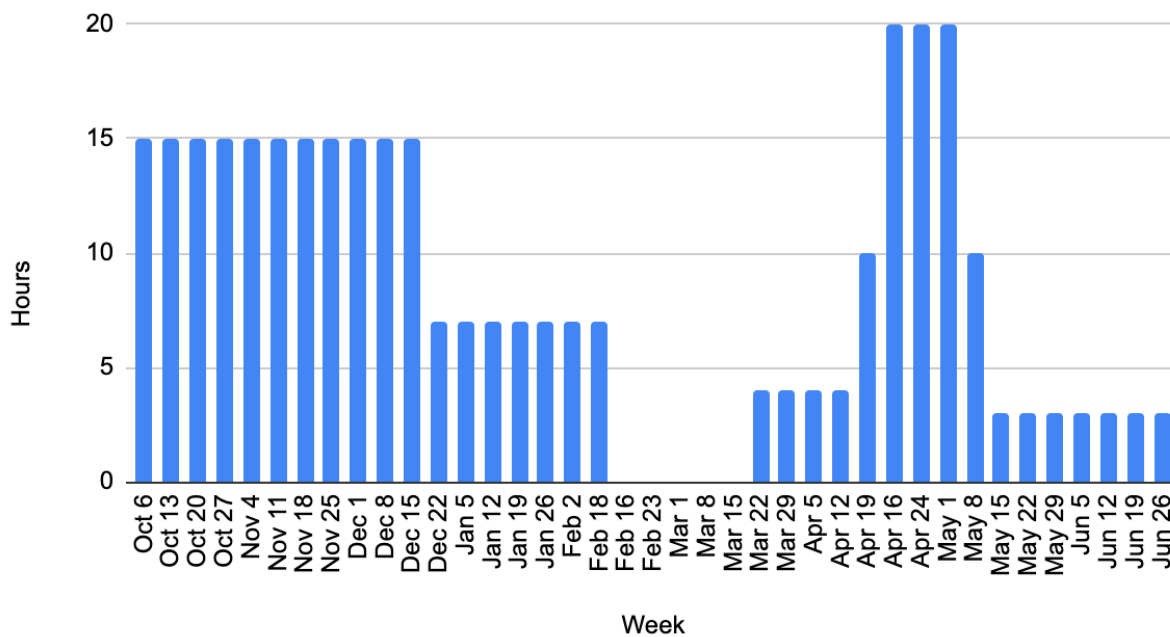Assessment data could not be collected until students had taken the course.

Hours vs. Week

Fig. 18 *Budget and timeline*