Final Evaluation Report for Optimal Video Length Training

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Executive Summary

Overview

This evaluation report provides an analysis of the quality and effectiveness of the asynchronous self-paced Optimal Video Length Training for the Office of Digital Learning (ODL) at the University of Arizona (UA). My sponsor Matthew Romanoski of the ODL asked for this evaluation to be done to assess the training's efficiency and the possibility of improvement and later implementation. Included in this report are relevant data sources, the evaluation methods and procedures, major findings, actionable recommendations, and a budget outlining the major expenses of this evaluation and the creation of this training.

Another side of this evaluation is to test its functionality and to ensure that there are no glitches, broken links, or unworking videos. On the functional side, my findings are that the training modules and links worked as planned, but that if quizzes are to release feedback to participants, I will need to allow this in gradebook settings. While participants liked the training modules and all agreed or strongly agreed that they were effective in accomplishing its learning objectives in finding the optimal video length, common criticisms would be to provide further resources into how to create interactive videos, how I personally did it, and to more fully incorporate this video interactivity throughout the training.

Data Sources

Those taking this course training are educators in higher education familiar with online learning. My collection of data sources came from a mixed method survey of both qualitative and quantitative questions, together with a technical audit of the training's functionality as presentation.

Evaluation Procedures

This evaluation is formative and summative measures, which includes a post-test survey of ten Likert questions as well as 3 open-ended questions. The formative evaluation includes 7 participants who were asked and agreed to take the training and complete the post-training mixed-method survey of both qualitative and quantitative questions. The importance of the quantitative questions was the establish a broader sense of the course's effectiveness, while the open qualitative survey questions help interpret the data. A technical audit was conducted to identity incongruities between the modules and the technological efficiency, as well as how well the course stacked up against acceptable professional standards of online education.

Budget

The total budget for this training development was $3,657.50. These costs include all expenses, including course planning, development, material creation and production, planning meetings, survey creation, evaluation (both summative and formative), and final report preparation.

Results and Implications

The overall reaction to the training module on the Optimal Video Length was positive. Post-test survey analysis demonstrated that the big points of emphasis toward improving the training were fivefold: 1) Quizzes and assessment; 2) Requests for more interactivity; 3) The need for further resources; 4) Video examples and their expansion; and 5) Suggested technical Changes. While these 5 points of emphasis were made, there was agreement that the training learning objectives were overall successful.

One implication for these adjustments has to do with ODL's vision for what they want to do with this course. If it is hoped to go beyond being a resource for undergrad online instructors at the university, then these adjustments need to be broadened out in order to fill that need. If, however, they are to remain "in house" as a resource for the university itself, then there needs to be a discussion concerning it being strictly self-pace asynchronous, or it there will be some level of oversight that can provide community discussion and feedback. This becomes particularly relevant when discussing the question of feedback for quizzes, the types of quizzes, together with the tallying of scores. For example, should participants taking the training need to pass quizzes with a certain score to achieve their end-of-training certificate, or will there be less oversight? Either way, the discussion can be had of its future vision and potential as a resource for the university.

Further developments with this training module could include further interactivity and assessments that would be helpful in broadening out the utility of this training. In being a powerful resource supplied by ODL, there is also the question as to the level of resource development that is necessary. This training covers the science of cognitive load and how that relates to video length, but another side that can be taken up, and that two participants outlined as potentially useful, is that it would be helpful to develop "how" interactive videos can be done, as well as a demonstration of how to make course videos, produce them, and to make them interactive. Part of this challenge pertains to the software tools instructors have free access to, but part of it is more about being aware of what is already available. There are many technical tools that can be integrated into instructor courses and currently these resources are largely available, however scattered and in some cases lacking user friendliness. It would be helpful for

these resources to be gathered into a single training course and a discussion about bringing in new technologies.

This evaluation offers recommendations to improve the training module and its effectiveness and efficiency. There are several points outlined here that can be improved and adjusted and this evaluation goes into more detail in a later section. Users reported in their survey that they felt a strong connection to the material and that there were sufficient examples as to how to apply the material to their own course videos, but there are points, such as the bringing in of further resources and examples, as to how they can do it. For example, it would be helpful to show exactly how I made my videos, inclusive of its software tools and recording equipment, rather than just simple show the final product. With free access to a recording and production studio through ODL, all have plenty of support. Instructors want to know what kinds of technologies are available for them to record videos in a way that can maximize student cognitive load, and though much is available, this training could gather these resources.

Introduction

Overview

This evaluation is to determine the effectiveness and efficiency of the Optimal Video Length Training for the ODL at the University of Arizona (UA). The effectiveness of this module is defined by the feedback given by participants in the survey given at the end of the training through Google Forms. A technical audit has also been performed to demonstrate its ease and technical utility.

Program Description

The Office of Digital Learning (ODL) was created by the University of Arizona in 2014 to serve as a resource for the University's new emphasis on developing effective online learning. With Instructional Designers, web designers, adobe specialists, and directors, the ODL focuses on aiding instructors in the creation of high-quality and research-based online courses. A new online campus, called Arizona Online has now been created, offering its own majors and minors, as well as a Global Campus and its own Quality Matters experts who work with faculty to improve courses, and other professional development courses. Two of the main missions of ODL is to aid online development that is informed by scholarship and to model effective practices with training workshops.

The focus with this online training concerning the optimal video length represents a professional development training that models effective practices that are informed by recent scholarship. The central question pertains to the optimal video length for instructional videos in online courses and the central learning objective, aside from content proficiency, is that of application. These training modules that are now provided do not provide a single answer to this question of the optimal length of learning videos, but instead equip teachers with a broader vision, based in research, of how they can create the optimal video length for their own courses from within their own unique contexts. The central theoretical argument is that there is no optimal video length that applies universally, but instead principles that need to be understood to maximize video length and retain student interest for the longest period of time. Rooted in academic peer-review sources emphasizing Cognitive Load Theory, this learning module provides suggestions from various recent studies that serve as a type of theoretical framework.

There is no project timeline as to how long this video would be made available, but it is expected to be available for at least two years, depending on the success of its rollout. Those expected to be taking this training are university instructors at the UA who teach online general education courses. A broader audience includes those associated with the ODL and the university's recording studio that instructors have access to. Upon the request of my sponsor, the primary delivery modality will be three online training modules in Bright Space (D2L) that are freely accessible to university teachers. By bringing together current research on the topic of optimal video length, this training makes their findings accessible to a broad array of instructors and provides instruction as to how to optimize the length of online videos.

Program Objectives

This training course has three learning objectives that are aimed at helping instructors at the UA begin the process of finding the optimal length of videos for their own courses, as based within cognitive theory. Beyond this, these models are used to provide opportunity for application of these cognitive principles whereby participants can be strengthened through the application tools to find their own optimal length for their own course videos.

At the completion of this training module, learners will be able to:

1) Identify important trends in current academic research on optimal video length with 80% accuracy.
2) Explain the meaning of "best practices" as it applies to optimal video length.
3) Describe a research-grounded video of optimal-length as it relates to their courses.

Program Components

This training is designed to be a 1-hour asynchronous self-paced instructional module that is broken up into three smaller modules. There is an Overview file that includes training Instructional Objectives, as well as a Start Here module that includes resources and tools that aid online learning, together with technology resources and help. Module 1 is an introduction to the diverse research and explains why the answer to the question of optimal length is more complex than at first appears. This module includes a short video that serves as an introduction as to what participants can expect from the training. Module 2 represents the central material of the training and introduces Cognitive Load Theory in depth and how it applies to the question of optimal video length. The recorded lecture in this module includes interactive features and questions that provide assessment but also an example into the topic of "best practices" when it comes to maximizing cognitive load in learners who are viewing our videos. While there are several articles referenced in the lectures under resources, this module includes access to one study that relates to the content of this module, so that learners can easily access it for more detail. The final Module 3 represents a conclusion on the topic and encourages participants to apply the principles of Cognitive Load Theory and best practices to their own course videos.

For this asynchronous self-paced learning module on the optimal length of videos, each of the three modules are followed by a short 5-question quiz. Quiz questions are True/False and multiple choice and cover basic details of each learning module. The final quiz in module three include 4 essay questions that focus on application of what has been learned in the entire course.

At the end of module 3, there is a post-module survey created in Google Forms that participants will fill out that contains 10 Likert-scale questions that are designed that provide opportunity for participants to leave feedback on the learning modules. Within this same post-

module survey, there are 3 open-ended questions that allow participants to leave detailed feedback on what worked well and did not work well about the training itself. Taken as whole, this survey allows for the designer (myself) to revise the training modules accordingly.

Within module 2, the lecture titled “Applying CLT” includes interactive questions that are designed to engage participants and to provide an example of different ways learning modules can interact and thus increase engagement among students. While these interactive features are designed as examples, they also test learner attention and provide opportunities for the review of information. At the completion of the training, participants receive a “completion certificate” through the university’s Brightspace Badgr program.

The below represents a breakdown of the training learning modules:

1. Overview
    a. Overview of the entire training module
    b. Instructional Objectives listed
2. Start Here
    a. Instructor bio
    b. A list of resources and tools that can be used in video production, such as Playposit, Panopto, and VoiceThread (among others)
    c. A file that includes a discussion of online classroom rules, such as mindful communication and internet etiquette
3. Module 1
    a. Module overview, inclusive of more narrow learning objectives for this module
    b. Video lecture that is an induction to the finding of the optimal video length

    c. Short 5 question quiz called Test Your Knowledge

4. Module 2
    a. Module overview that includes module learning objectives
    b. A short text-based lecture pertaining to video length and the principle of cognitive load theory
    c. A video lecture that demonstrates Cognitive Load Theory and how to apply it to course videos and looks at best practices of video production that pertains to video length
    d. End of module quiz made up of 5 questions
    e. Optional article, Cynthia Brame, “Effective Educational Videos”
5. Module 3
    a. Module overview that includes module learning objectives
    b. Video lecture that serves as a conclusion of the training with an encouragement to find one’s own optimal video length from within their own context
    c. End of module quiz made up of 3 essay questions.
    d. Google Forms survey

Statement of Purpose and Major Questions of the Evaluation

Because the ODL is seeking to role this training out as part of its instructor training for online education, they seek an evaluation to provide insight into areas of improvement and to catch technical problems. A few important questions have to do with the appropriateness of the length and intensity of the training itself, together with a sense of its effectiveness in discerning the optimal video length at the university.

The following questions were answered to determine whether the training on the Optimal Video Length were being met and to evaluate its overall effectiveness and appropriateness.

Each of the 10-questions are a Likert-scale question:

Evaluation question #1: My perspectives of the optimal video length have changed since participating in this learning module.

Evaluation question #2: I found the supplemental materials (ie., assigned articles helpful.

Evaluation question #3: There were no technical difficulties with the e-learning module.

Evaluation question #4: I found the amount of information in this e-learning module reasonable.

Evaluation question #5: As a result of this training module, I plan on rethinking the length of my course videos.

Evaluation question #6: I found the overall quality of the e-learning module content to be satisfactory.

Evaluation question #7: I found the overall learning experience valuable.

Evaluation question #8: The learning module equipped me with the ability to apply the principles of Cognitive Load Theory to my own videos

Evaluation question #9: The videos in this training were good examples of how effective videos can be done.

Evaluation question #10: I find Cognitive Load Theory to be helpful in thinking about the length of my own course videos.

The remaining three questions were open-ended question responses:

Evaluation question #11: What did you feel to be the greatest strengths of this learning module?

Evaluation question #12: What did you feel to be the greatest weakness of this learning module?

Evaluation question #13: What are some ideas as to how this training module could be improved?

Evaluation Methods

Participants

The intended audience for this e-learning program targets university instructors who teach online general education courses. A broader audience includes the stakeholders, those associated with the ODL and the university's recording studio facilities that instructors have access to. Depending on the success of this training, it may also be made available to anyone interested in following online training courses at the UA, with or without university affiliation.

To better understand participant experience with this e-learning module, my sponsor sent out an invitation to friends and co-workers to survey the training. Because of time constraints and it being summer with many out of the office, we were able to recruit 7 participants to take the training modules and complete the end-of-training survey in Google Forms. The end survey represents a post-test that allows for analysis of participant reaction to the course content and medium. Those who took the training module come specifically from the higher education environment, teach undergraduate courses, or work in the ODL and thus have direct responsibilities over those who do. All of them, then, are familiar with

online education at the UA and recognize the need for quality course material and are familiar with effective online course design.

Data Sources

The data sources used to answer key evaluation questions are formative and summative. Through a post-test survey that includes quantitative and qualitative questions, the data sources solicited information on learner satisfaction, learning effectiveness, module efficiency and ease of delivery, and long-term goal attainment. Another source of information was that of my own technical audit to recognize potential problems when it comes to usability and accessibility of all its components. Two data sources were used:

1) Learner Experience Survey

To gauge feelings regarding the Optimal Video Length training, participants were given a 13-question Google Forms survey upon successful completion of this short training course. The survey inquired about course content, utility of the content, the functionality of the program, the supplemental materials referenced by the program, the participants likelihood to apply what they experienced in their futures, and their overall perception of the quality and value of the short training course. Using a 10-point Likert scale, each statement contains 6 response options, ranging from Strongly Agree (1), Agree (2), Slightly Agree (3), Slightly Disagree (4) Disagree (5) and Strongly Disagree (6). Numerical values are attached as part of the quantitative data collection and analysis. Inclusive of three open-response questions, these options afford the evaluation team a holistic view of participants' opinion regarding aspects of the e-learning module and their level of agreement. The survey questionnaire went through calibration and pilot testing to ensure validity and reliability.

While we did not have time to conduct interviews, my sponsor and I wanted to know more details about how the training could be improved and what worked well. The post-test survey included three questions that asked these questions and allowed participants to detail their perspectives.

2) Technical Audit

A technical audit was performed by me in order to access the technical flow of the training modules, accessibility, mobility, and interactivity. An important part of this was to check for the latest 508 compliance standards through ANDI (Accessible Name & Description Inspector) and a Color Contrast Analyzer. ANDI can scan for compliance when it comes to elements, links, buttons, images, structure headings, etc. The Color Contrast Analyzer scans the contrast ratio between text, images of text, and its background. Supportive links, such as a downloadable text version of lectures worked properly.

Evaluation Procedures

1) Post-test Survey

The 7 e-learning module participants were asked by my sponsor (Matthew Romanoski) to participate in and review the training module and take a short 13-question survey, inclusive of 10 Likert quantitative questions and 3 open-response qualitative questions. Each participant was sent an email of invite and were then signed up to take the module through their own link and password. The post-test survey consisted of questions pertaining to prior knowledge, course technological ease, and quality and effectiveness of the training itself. This survey created through Google Forms takes students outside the Learning Management System. The final

essay questions asked open-ended questions that allowed participants to discuss what worked well and did not work well, together with offering the opportunity to relay ideas for further improvement.

2) Technical Audit

A technical audit was performed after the learning module went live for participants, to find technical deficiencies when it came to color contrast, closed captioning, working links such as lecture text for download, and technological transfer from laptops, ipads, and phones. The auditor used the ANDI checklist for technical glitches and accessibility as well as Color Contrast Analyzer.

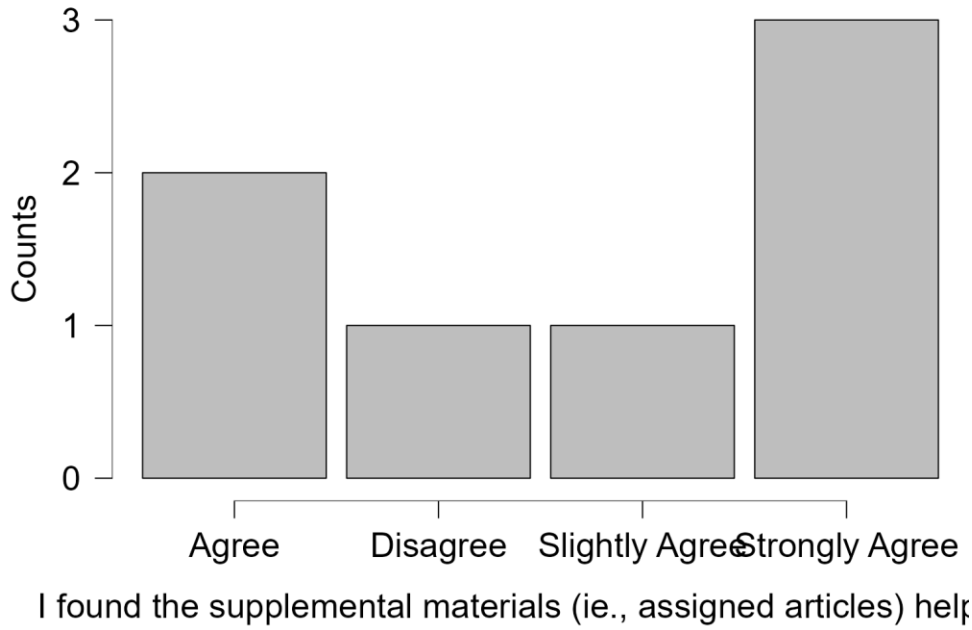
Results

Post-training Learner Experience Survey Results

The first question pertains to participant perspectives of the optimal video length and if their views have changed since taking the training. The implication is that they have some pre-knowledge that they came into the training with and how this training's relevance related to that pre-knowledge. The mean was 2.43, with 2 being agree and 3 slightly agree. The majority (57.1%) slightly agreed that their perspectives changed with the training, while the rest agreed (28.6%) or strongly agreed (14.3%). The significance is that all agreed that the training was transformative, though the majority did not feel strongly about it. This reading could be partly because participants taking the training were already well versed in online course material and video production, and it would be expected that this training would have a higher impact on those less familiar with online teaching. What many respondents believed was that the training

would be better with more examples of how to discern video length in different example settings. One example was to observe "a course or module objective and showing faculty how that objective influenced your choices on video production and length." A way of doing this, as one comment put it, would be to include "any multiple choice or matching where the instructor has 3 objectives and can match those with different video lengths and/or engagement types."

The second question asked about the usefulness of supplementary material, specifically attached articles pertaining to relevant research on optimal video length. The mean was 2.14, with 2 being agree. A sizeable number (42.9%) found the material useful (strongly agree), while 28.6% agreed that it was useful. 14.3% slightly agreed and 14.3% disagreed that it was useful, which brought the average down. It is useful to look at the mode, which is 2, which shows that many agreed that the material was useful and proves similar to the mean. Nonetheless, this demonstrates a weakness in the utility of the material and a diverse array of viewpoints. The supplementary material that was attached was the article on optimal video length by Cynthia Brame and it would be beneficial to have included more essays and even a summary of each article that can serve as a quick resource for those interested in looking deeper at the material. The final module also includes useful resources when it comes to accessing the people and technology of the office of Digital Learning. One participant comment explained that it would be useful to have resources on how "you filmed and set up your videos so some additional resources for applying these principles would be great – even walking through how you did your own for transparency."



With question 4, the amount of information in the learning modules appeared reasonable, with all either strongly agreeing (57.1%) or agreeing (42.9%). The mean was 1.43, with 2 being agree. No changes would be suggested on this account, though there were requests for additional material to be included into the modules. For example, a deeper discussion into the content of Cognitive Load, specifically the differentiation of Germane and Intrinsic load, as well as examples that help with clarity. Most requests for additional material, however, pertain to expanding the interactive components of the videos themselves, such as reminding students to take notes within more complex material. These suggestions are to be taken carefully, though one does not want to overwhelm students with interactivity that makes it bothersome to get through the material.

By way of the quality of the training in question 5, all agreed (14.3%) or strongly agreed (85.7%) that the content was satisfactory and that the overall learning experience was valuable (85.7% strongly agreed; 14.3% agreed). The mean was 1.86, with 1 representing strongly agree.

In the comment section, one participant appreciated “the scaffolding of the modules, with the first module giving a broad overview of brain science, then a module that was more complex and detailed, and finally a module that is focused on application.” Others positively commented that the videos were good examples of what optimal length videos would look like, together with videos that maximized student cognitive load with examples and non-example. As one put it, the “videos were well done, and they were a strong model of the topic being taught.” Several others spoke of the video lectures as being “great models!” and the content was seen as “useful without being overwhelming.” Nonetheless, there were suggestions for improvement on the videos, as with increasing interactivity in all the videos, allowing for actual discussions with other course members (ie., Padlet, Playposit), or matching questions that serve as ways to apply the material to real situations.

When it comes to the long-term utility of this training as asked in question 6, we get a mixed set of responses. For example, while the majority (57.1%) agreed that they plan to rethink the length of their own course videos, only 28.6% strongly agreed and a smaller portion (14.3%) slightly agreed. The mean was 1.14, demonstrating a strong leaning toward strongly agree. In survey responses, there were comments that suggested ways of making the modules more effective in providing opportunity to practice or think through real-life examples that would have boosted a sense of transfer. Beyond this, of those who felt equipped to apply the principles taught in the modules, most (71.4%) strongly agreed that the videos presented strong examples of how effective videos could be done, while the rest (28.6%) agreed. Examples of improvement then include making feedback visible, providing examples of real-life scenarios that work out optimal video length, and that allow for discussion with other participants.

In question 7, a major theme of this training was that Cognitive Load Theory helped make sense of optimal video length, and most (71.4%) strongly agreed that it was helpful in thinking about the length of their own course videos. The rest (28.6%) agreed. The mean was 1.14, demonstrating a strong leaning toward strongly agree. The videos and information were helpful in bringing this information together. One comment, however, mentioned that it would be helpful in lectures to be more detailed and provide more examples into this subject, but also to allow for more feedback for quizzes. Nonetheless, participants were largely happy, commenting that videos and information were "based on important sources, focused, videos served as great models!" "The course is clearly and consistently presented. The content is useful without being overwhelming."

The training module contained multiple-choice and True/False quizzes after each module, but these scores were not assessed since they were not graded. This was a significant weakness of this training, since as one participant put it, “while the quizzes are helpful for assessment, I would have liked more opportunities to take note of specific information in module 2.” Module 2 has a lot of detailed information, and it would be useful to have feedback and opportunities for participants to have more guidance. One participant suggested “adding feedback to incorrect answers in quizzes.” They mentioned that this is done in Module 2, but not in Module 1. A particularly helpful comment said to change the Module 3 quiz from open-ended responses that that are not facilitated, to one that is. “I’d urge you to consider transferring this final ‘quiz’ to a discussion activity to bolster learner to learner engagement.” This shift would require teacher facilitation, which may be tricky being a self-sustaining training module. One way of dealing with this would be to create a potential for participant discussion. The intent of these quizzes was to provide engagement and an opportunity to work through questions but were not designed to be graded or assessed, though the idea of a discussion is a possible area of adjustment. The same was true of open essay questions in the final module that provided opportunity for participants to work through potential revisions to their own course videos in relevance to what they believed to be the optimal video length for their context, though as one explained, while they understood why it was there, it was “unlikely that people will complete the short answer-based quiz.” Most likely a public discussion would be better and should be explored, an idea that resonated with different participants.

Question 8 asked participants whether the learning module equipped them with the ability to apply the principles of Cognitive Load Theory to their own videos. An overwhelming 71.4% said they agree, while 14.3% strongly agreed and 14.3% slightly agreed. The mean was 2,

providing a solid agree score overall. What this implies is that most agree that they were supported in applying cognitive load theory to their future courses, but also that there is significant room for improvement in the training itself. For example, the training could include better resources for Cognitive Load Theory and better examples of how to discern it in different situations. As one participant explained, matching questions could allow participants to practice the material, while quizzes could focus on better feedback. Videos would also benefit by reminding students to take notes during important parts of lecture videos so as to emphasize important material.

An important theme of the training was to provide examples of what an optimal video length looks like, together with how you can maximize cognitive load by way of minimizing extrinsic load in student brain processes. Question 9 asked if this training was a good example of how effective videos could be done. The majority (71.4%) strongly agreed, while the rest (28.6) agreed. The mean then was 1.29, indicating that the videos are on solid footing in completing this training objective. Still, as indicated by the agree column, is it clear that there is room for improvement. An example of improvement would be to provide more examples of interactivity, which I have in the Module 2 video lecture, but not the other two modules. This neglect represents a space of improvement, where this training can integrate suggestions from the research, specifically that which is posted from Cynthia Brame. Directly connecting videos to this article would make their connections clearer and provide a stronger resource for participants.

Question 10 asked about Cognitive Load Theory and whether participants found it helpful in thinking about their own course videos. What is partially implied here is the continued utilization of these principles in the creation of later course videos, both introductory and lecture. Here, 71.4% strongly agreed while the rest (28.6%) agreed. The mean was 1.29, which like

question 8, implies solid footing for the success of the training in accomplishing its overall learning objectives. However, this less-than-perfect score reveals rooms for improvement. In the essay portion of the survey, there were indications that this theory could have been more clearly laid out, and there could have been more interactive activities that participants could work through in order to solidify information and to provide experiences that would help the information move toward active learning, engagement, and transfer.

Technical Audit Findings

When it came to technical difficulties as asked in question 3, most (57.1%) strongly agreed that there were no technical difficulties. The mean was 1.71, with 2 an agree. Another sizeable portion agreed (28.6%), while a few (14.3%) slightly disagreed. The larger concerns were not so much with how well the module worked, since not a single comment noted any issues, but instead course access to feedback. In the creation of this learning module, there are three quizzes with programmed feedback. However, since there was no gradebook, participants were not able to access it. For this to be fixed, one comment explained that I would need to go into quiz settings and make the changes for them to be visible.

Beyond this aid toward the technological audit, I found no irregularities when it came to color contrasts and there were no compliance issues with ANDI standards. One Quality Matters standard was cited as needing to be adjusted as it pertains to the wording of learning objectives in each learning module overview file. This pertained to speaking to students directly, rather than indirectly. Each video had functioning closed captioning that worked, followed proper color contrasts, and each link throughout all the module worked without a problem.

The “Start Here” module contains useful information when it comes to important technological resources for participants. These resources include hyperlinks to help pages, IT support, consulting, accessibility statement, the importance of using a VPN, and an orientation course to D2L for those who are new to it. There is also a link to free and discounted software that students have access to, such as Microsoft, malware protection, and Creative Cloud. Other important information includes browser support with an explanation that certain browsers work better with D2L than others, such as Chrome, Firefox, and Edge. Safari does not seem to work well.

Discussion and Recommendations

Requests for more Interactivity

One of the larger concerns of the learning module consists of the question of interactivity. Participants appreciated the use of interactivity in the Module 2 lecture on Cognitive Load Theory but wanted to see it in Module 1 and Module 3. On top of this, there were comments that wanted to see more of this in Module 2 as well, such as an interactive button that would remind students when and where to take notes.

While this is a self-sustaining training module, there was the idea presented by participants that discussions would be had between participants, such as through Playposit or Padlet, for “people to post their ideas and reflections publicly, so anyone that takes this module can see how others plan on applying content.” This is a clear opportunity that can be integrated into this training so as to increase its engagement and to bridge the alienation gap that often comes through self-paced online trainings and courses. Another comment explained in response to how to improve things, “More interactive sections. I liked that portion where you would be

quizzed while the video was playing. Maybe more of that would be great, it would keep me engaged."

One aspect of interactivity was to have accessible feedback from the quizzes. Though there was feedback for incorrect answers, the university's LMS (D2L) will not show this feedback unless it can be shown through gradebook. Switching this through settings is an easy suggested fix and would work to boost assessment throughout the modules.

Quizzes and Assessment

Many found the quizzes helpful, which were short and designed for minimal engagement. There were other quizzes within the Module 2 lecture. These quizzes need to have accessible feedback, which can be adjusted through Quiz settings. There is feedback in place, but unless quizzes are scored in the LMS gradebook, they are not accessible. One comment advised how this could be accomplished through change settings. The last quiz is more open response, which one comment explained that few would ever take advantage of. By changing these responses into a type of public discussion would be beneficial, especially since the training module is not monitored. This question could also be addressed if the training module was revised to be monitored by an instructor, even if lightly so. This adaptation to being asynchronous but not self-paced would allow for this possibility. Taking up this challenge would need to be more of a discussion with my sponsor Matthew Romanoski and other stakeholders with the ODL.

The Need for Further Resources

In seeking to move forward with this information, which is one of the courses learning objective, it was suggested that more resources were provided. For those seeking to utilize the use of video software and screencast tools, this module would be improved with an extra module that provides an overview of these tools and resources. Recording a lecture that demonstrates this

would be helpful but would also be useful to show how more readily available software would be useful as well, such as Playposit, Camtasia, Prezi, and many other technological options. Since this would be a lot for any one person to do, this training could create a support page where others who have had success with these various tools could provide short demonstrations. Other resources would be supportive articles and research that provide reviews of these tools, though it would be important with these new additions not to expand the "reasonable" length of this course.

Beyond the "how to" resources that are available in the learning module, it would be helpful, as one put it in response to how the course could be improved, to start "with a short survey, to get us thinking about the topic in advance (assumptions, preferences, etc) and therefore be more prepared for learning the material." While a pre-training survey was not included due to time constraints, this would be a strong suggestion for later training development.

Video Examples and their Expansion

One of the strengths of this training are the video lectures and introductory and concluding videos. Participants found these to be excellent examples into how to create course material. Suggestions were to slightly tweak lesson material to expand on Germane and Intrinsic load, since it was unclear how they were different. Videos could also do better to address interactivity and tools such as the interactive tool H5P, which can aid teacher lecture creations. Overall, however, course videos and textual lectures are simple to follow and provide good examples for video length and method.

Suggested Technical Changes

There are a few points of technical changes that need to be dealt with. For example, one comments mentioned that the ODL is no longer called the Office of Digital Learning but has since changed its name to UCATT. I had been informed that ODL is changing its name, but I did not realize that it was already happening, and I have not been able to discern what UCATT means. The university website contains nothing that would help with this either, therefore this question of office name will be important to have this discussion with the sponsor Matthew Romanoski to clarify this for further revisions.

Another point of technical change is that of Quality Matters (QM) rubrics, which states that learning objectives within the modules should address students, rather than the course itself. As such, learning objectives that say, “students will be able to,” should be revised to “you will be able to.” Beyond this, this training module followed proper QM rubric standards.

References

Malamed, C. (2015). *Visual design solutions: Principles and creative inspiration for learning professionals.* Wiley.

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Mertens, D.M. (2020). *Research and evaluation in education and psychology: Integrating diversity with quantitative, qualitative, and mixed methods*. (5th edition). Sage.

Russ-Eft D and Preskill, H, (2009). *Evaluation in organizations: A systematic approach to enhancing learning, performance, and change* (2nd edition). Basic Books.

Project Costs

The table below contains a comprehensive and itemized breakdown of the costs incurred in completing this training module and evaluation. Please note that the overall cost for the training and evaluation was $3,657.50, which is lower than the projected costs of $5,250.00. The discrepancy comes from my high estimation of how long the module would take to create and evaluate, to not exceed the projected budget.

Category 1	**Price**
Develop Structural Framework Model (4 hours, @$35/hr)	$140.00
Project Proposal (6 hours, @$35/hr)	$210.00
Statement of Work (2 hours, @$35/hr)	$70.00
Needs Analysis (4 hours, @$35/hr)	$70.00
Module planning (3 hours, @$35/hr)	$105.00
Develop Project justification document (3.5hours, @$35/hr)	$122.50
Three planning meetings with sponsor (3 hours, @$35/hr)	$105.00
Project development (35 hours, @$35/hr)	$1,225.00
Video recording and production (24 hours, @$35/hr)	$840.00
Two sponsor meetings (2 hours, @$35/hr)	$70.00
Survey creation (2 hours, @$35/hr)	$70.00

User Guide Creation (6 hours @$35/hr)	$210.00
Evaluation Report (12 hours @$35/hr)	$420.00
Total Cost of Project	**$3,657.50**

Appendix

Appendix A: Frequency Tables for Learner Experience Survey Questions

Frequency Table for Question 1

My perspectives of the optimal video length have changed since participating in this learning module

	Frequency	Percent	Valid Percent	Cumulative Percent
Agree	2	25.000	28.571	28.571
Slightly Agree	4	50.000	57.143	85.714
Strongly Agree	1	12.500	14.286	100.000
Missing	1	12.500		
Total	8	100.000		

Frequency Table for Question 2

I found the supplemental materials (ie., assigned articles) helpful.

	Frequency	Percent	Valid Percent	Cumulative Percent
Agree	2	25.000	28.571	28.571
Disagree	1	12.500	14.286	42.857
Slightly Agree	1	12.500	14.286	57.143
Strongly Agree	3	37.500	42.857	100.000
Missing	1	12.500		
Total	8	100.000		

Frequency Table for Question 3

There were no technical difficulties with the e-learning module.

	Frequency	Percent	Valid Percent	Cumulative Percent
Agree	2	25.000	28.571	28.571
Slightly Disagree	1	12.500	14.286	42.857
Strongly Agree	4	50.000	57.143	100.000
Missing	1	12.500		

There were no technical difficulties with the e-learning module.

	Frequency	Percent	Valid Percent	Cumulative Percent
Total	8	100.000		

Frequency Table for Question 4

Frequencies for I found the amount of information in this e-learning module reasonable.

	Frequency	Percent	Valid Percent	Cumulative Percent
Agree	3	37.500	42.857	42.857
Strongly Agree	4	50.000	57.143	100.000
Missing	1	12.500		
Total	8	100.000		

Frequency Table for Question 5

Frequencies for As a result of this training module, I plan on rethinking the length of my course videos.

	Frequency	Percent	Valid Percent	Cumulative Percent
Agree	4	50.000	57.143	57.143
Slightly Agree	1	12.500	14.286	71.429
Strongly Agree	2	25.000	28.571	100.000
Missing	1	12.500		
Total	8	100.000		

Frequency Table for Question 6

Frequencies for I found the overall quality of the e-learning module content to be satisfactory.

	Frequency	Percent	Valid Percent	Cumulative Percent
Agree	1	12.500	14.286	14.286
Strongly Agree	6	75.000	85.714	100.000
Missing	1	12.500		
Total	8	100.000		

Frequency Table for Question 7

Frequencies for I found the overall quality of the e-learning module content to be satisfactory.

	Frequency	Percent	Valid Percent	Cumulative Percent
Agree	1	12.500	14.286	14.286
Strongly Agree	6	75.000	85.714	100.000
Missing	1	12.500		
Total	8	100.000		

Frequency Table for Question 8

The learning module equipped me with the ability to apply the principles of Cognitive Load Theory to my own videos.

	Frequency	Percent	Valid Percent	Cumulative Percent
Agree	5	62.500	71.429	71.429
Slightly Agree	1	12.500	14.286	85.714
Strongly Agree	1	12.500	14.286	100.000
Missing	1	12.500		
Total	8	100.000		

Frequency Table for Question 9

The videos in this training were good examples of how effective videos can be done.

	Frequency	Percent	Valid Percent	Cumulative Percent
Agree	2	25.000	28.571	28.571
Strongly Agree	5	62.500	71.429	100.000
Missing	1	12.500		
Total	8	100.000		

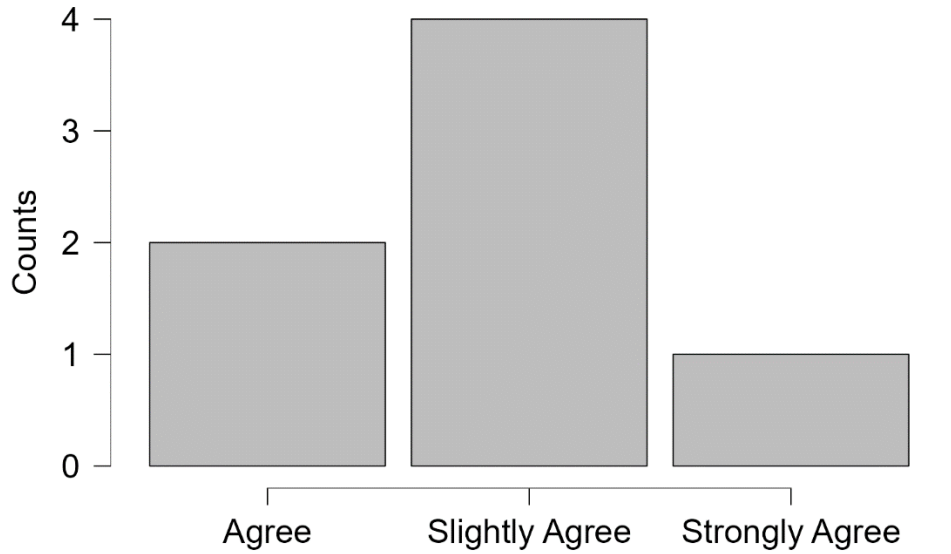
Frequency Table for Question 10

I find Cognitive Load Theory to be helpful in thinking about the length of my own course videos.

	Frequency	Percent	Valid Percent	Cumulative Percent
Agree	2	25.000	28.571	28.571
Strongly Agree	5	62.500	71.429	100.000
Missing	1	12.500		
Total	8	100.000		

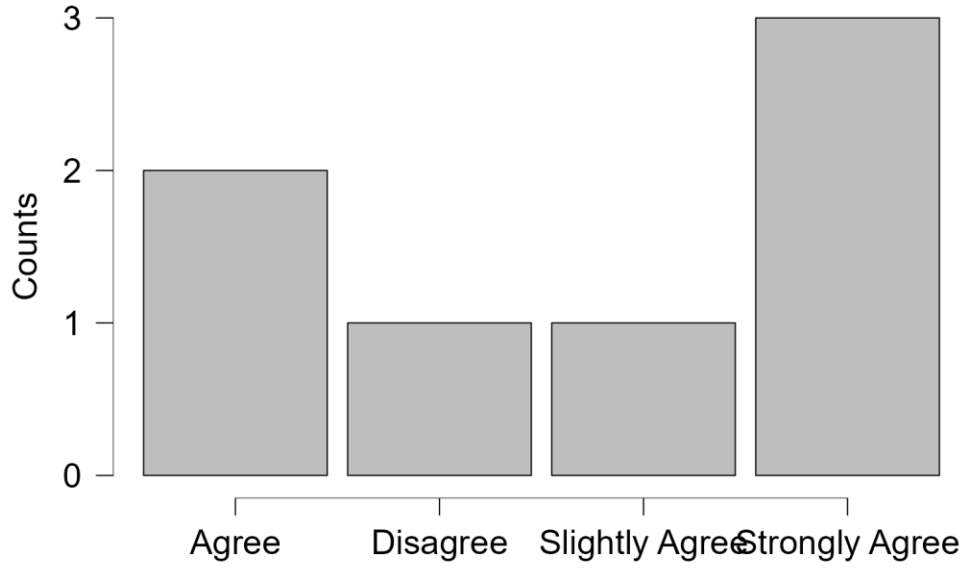
Appendix B: Histograms for Learner Experience Survey Questions

question_1



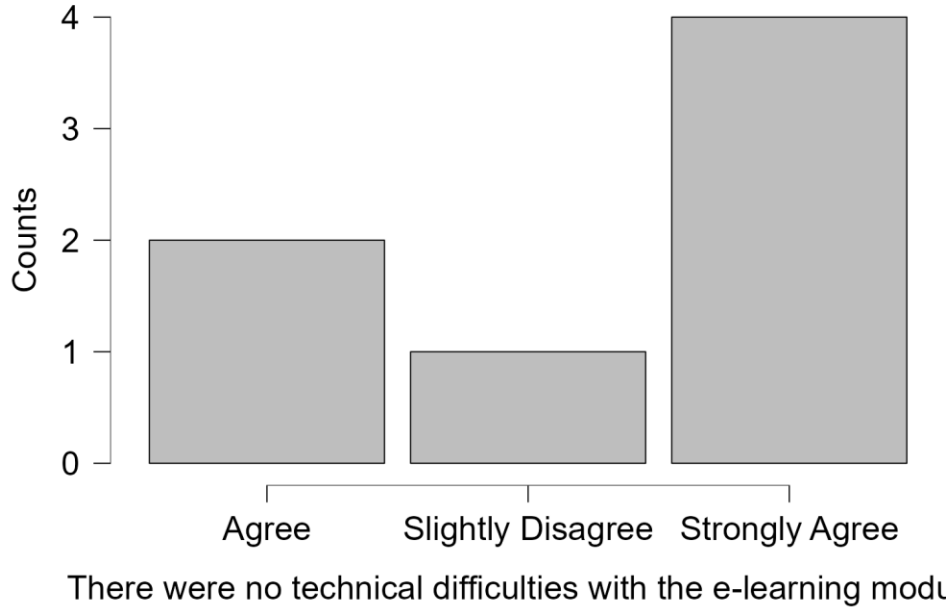
es of the optimal video length have changed since participating i

question_2

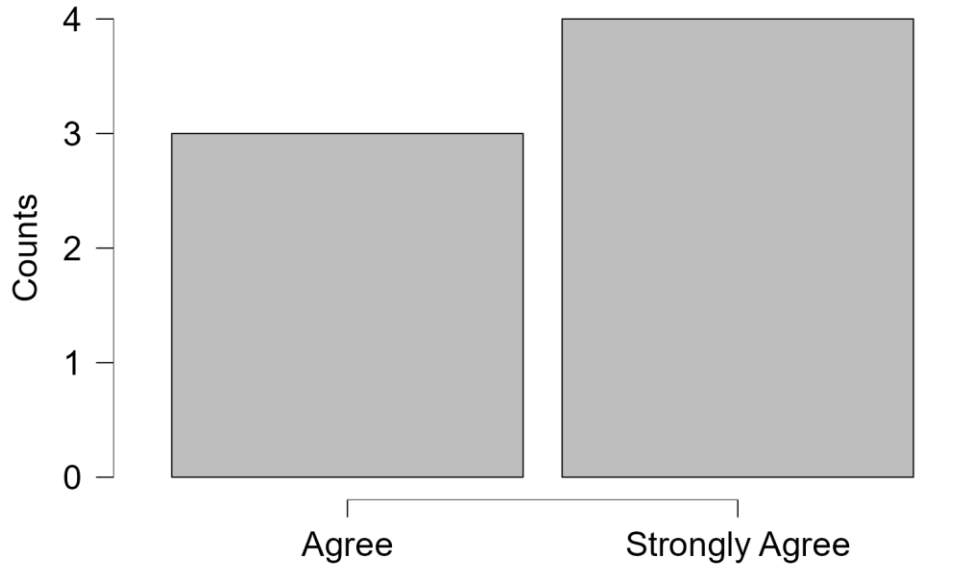


I found the supplemental materials (ie., assigned articles) help

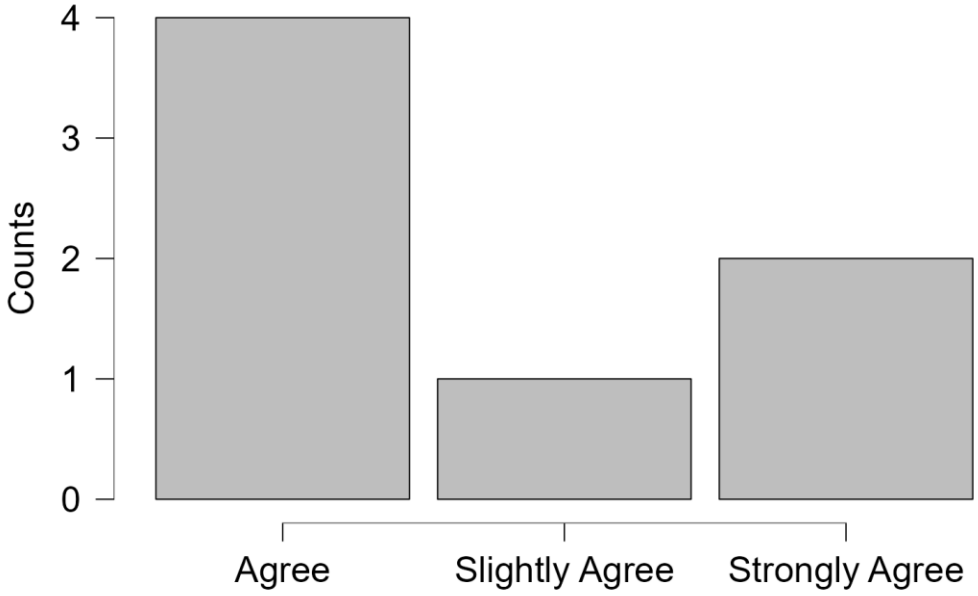
question_3



question_4

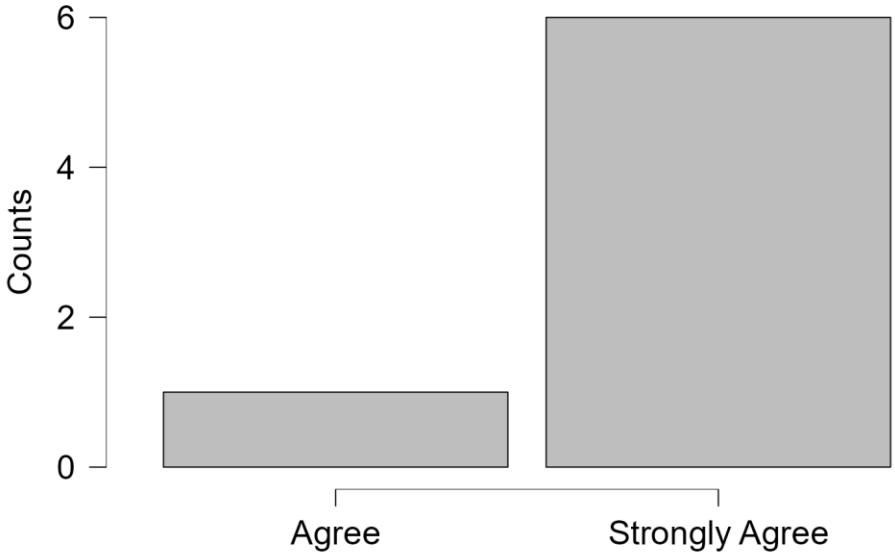


question_5



sult of this training module, I plan on rethinking the length of my

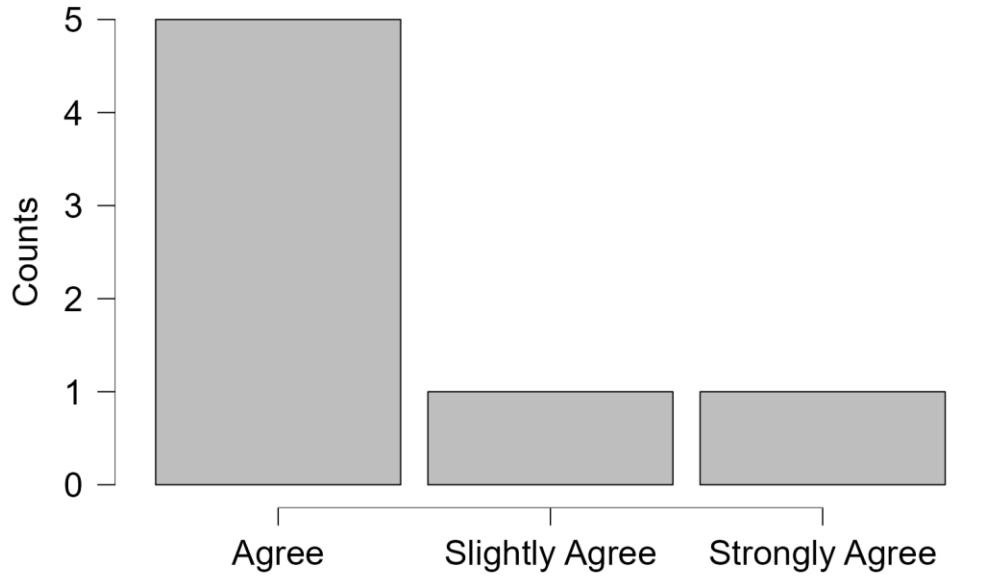
question_6



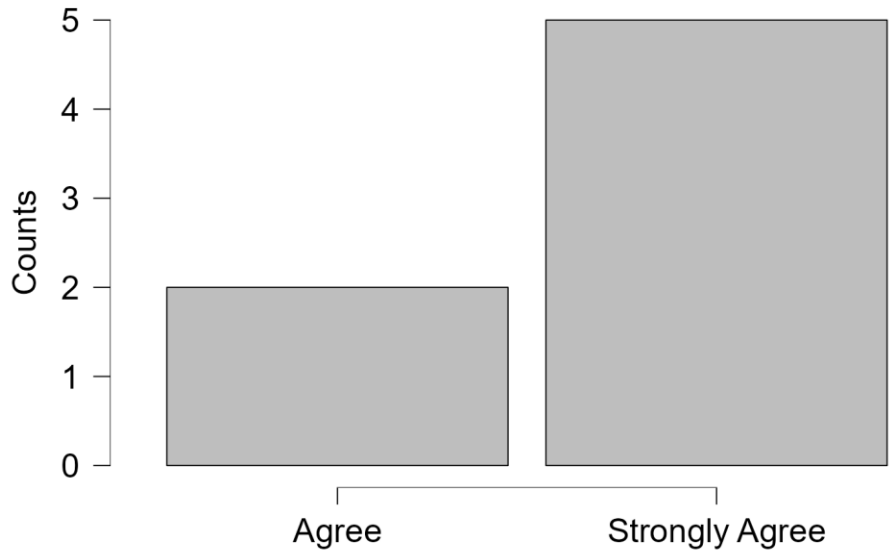
und the overall quality of the e-learning module content to be sa

question_7

question_8

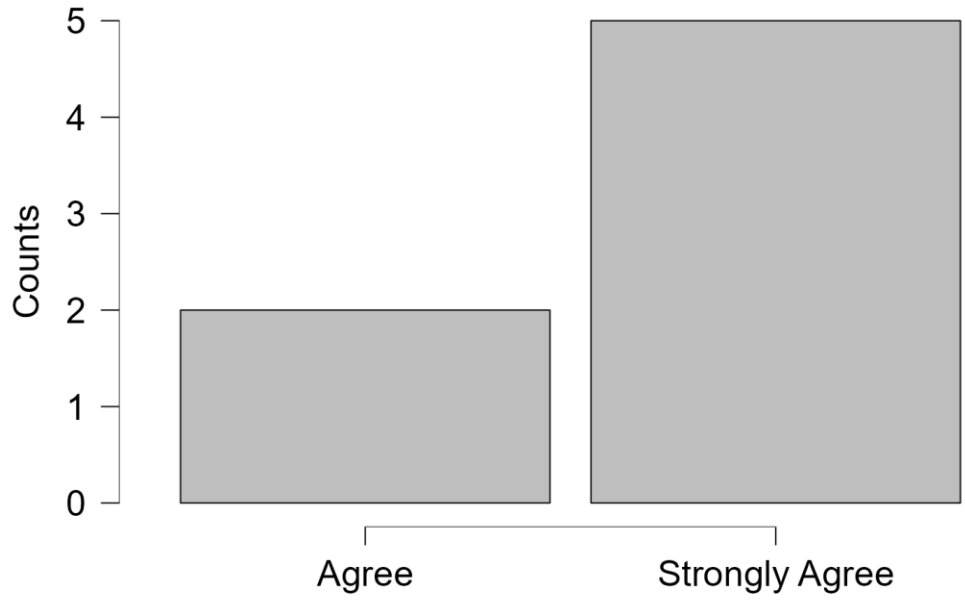


question_9



leos in this training were good examples of how effective videos

question_10



ive Load Theory to be helpful in thinking about the length of my

Appendix C: Learner Experience Survey

Please fill out your experience with this e-learning module. Survey is made up of 10 multiple choice questions and 3 open-ended questions.

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1. My perspectives of the optimal video length have changed since participating in this learning module.

   Mark only one.

   - Strongly Disagree
   - Disagree
   - Slightly Disagree
   - Slightly Agree
   - Agree
   - Strongly Agree

2. I found the supplemental materials (ie., assigned articles) helpful.

   Mark only one.

   - Strongly Disagree
   - Disagree
   - Slightly Disagree
   - Slightly Agree
   - Agree
   - Strongly Agree

3. There were no technical difficulties with the e-learning modules.

   Mark only one.

   - Strongly Disagree
   - Disagree
   - Slightly Disagree

Slightly Agree

Agree

Strongly Agree

4. I found the amount of information in this e-learning module reasonable.

Mark only one.

Strongly Disagree

Disagree

Slightly Disagree

Slightly Agree

Agree

Strongly Agree

5. As a result of this training module, I plan on rethinking the length of my course videos.

Mark only one.

Strongly Disagree

Disagree

Slightly Disagree

Slightly Agree

Agree

Strongly Agree

6. I found the overall quality of the e-learning module content to be satisfactory.

Mark only one.

Strongly Disagree

Disagree

Slightly Disagree

Slightly Agree

Agree

Strongly Agree

7. My I found the overall learning experience valuable.

Mark only one.

Strongly Disagree

Disagree

Slightly Disagree

Slightly Agree

Agree

Strongly Agree

8. The learning module equipped me with the ability to apply the principles of Cognitive Load Theory to my own videos.

Mark only one.

Strongly Disagree

Disagree

Slightly Disagree

Slightly Agree

Agree

Strongly Agree

9. My The videos in this training were good examples of how effective videos can be done.

Mark only one.

Strongly Disagree

Disagree

Slightly Disagree

Slightly Agree

Agree

Strongly Agree

10. I find Cognitive Load Theory to be helpful in thinking about the length of my own course videos.

Mark only one.

Strongly Disagree

Disagree

Slightly Disagree

Slightly Agree

Agree

11. What did you feel to be the greatest weakness of this learning module?

12. What did you feel to be the greatest weakness of this learning module?

13. What are some ideas as to how this training module could be improved?
