

Design Document
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Assessment Onboarding
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PART 1: OVERALL INSTRUCTIONAL PLAN

Purpose of the Course

Instructional Problem or Need

At a medical school, new faculty are meant to write questions for student exams (quick checks, quizzes, midterms, finals, etc.) with a specific formatting, as well as upload their questions, and finally locate and use different spreadsheets in the program Smartsheet to analyze the statistics of their questions (how well students did). Virtually all new and many existing faculty find the system confusing and don't properly format questions or understand how to navigate Smartsheet. They ask for help on a consistent basis.

Overall Goal of the Course

This course is meant to thoroughly walk faculty through the existing system (although the existing system may require adjustments) so they aren't wasting as much time and effort.

Learning Objectives

- Create usable assessment questions with the correct formatting.
- Identify where and how to upload assessment questions.
- Find past and present assessment questions in Smartsheet.
- Apply the Smartsheet filtering system to locate questions.
- Analyze the student performance data of previous and current test questions.

Significance of the Course

This course is needed because the Assessments Director (who is asking for it) doesn't have time to revise the existing system, nor does she have time to re-explain the onboarding process to individual faculty. It's also needed so faculty can focus on their teaching, creating curriculum, and writing the best content for their assessments vs. getting confused in the formatting and data. Faculty also need to be able to analyze the data on their test questions so they can recognize how to improve or recognize where students are struggling.

Learner Analysis

General Characteristics

There are two main learning groups addressed in this training course: new faculty (<1 year at this medical school) and existing faculty (>1 year at this medical school). Both groups are welcome to complete the training in full, but existing faculty are encouraged to pick the topics they find most useful, so they know their time is respected.

This is a highly educated group, all having an M.D., D.O., or Ph.D. degree. While they are all professors now, some have previously been doctors or researchers. The format of most of their classes involve filming and uploading videos, so they're not strangers to technology. However, the age range of this group is 30s to 70s, with the higher end of the

age range noticeably struggling more with new technology—especially Smartsheet. Some more (optional) guidance may be required for this population.

Otherwise, most of these faculty are White, American, and live in Provo, Utah—a sizable minority are practicing Mormons. Another minority of faculty are East and South Asian, with other races and ethnicities not as significantly represented. There are also remote faculty scattered across the United States, who are generally adept at using technology.

The new vs. experienced faculty will be a noticeable divide. Newer faculty have less experience writing/formatting questions *and* working within Smartsheet. However, some of the more long-term faculty have more experience doing the formatting incorrectly, so they may have a hard time breaking habits. Similarly, some more experienced faculty have expressed reluctance to use Smartsheet, since they found it initially confusing, and therefore may have a more biased attitude against it.

Specific Characteristics

Since this course is intended first and foremost to onboard new faculty, there isn't *much* foundational knowledge they need. Essentially, they should know that they are expected to write, format, and upload their own test questions for quizzes, midterms, and finals (or use some pre-existing questions from previous faculty). They should generally know that Smartsheet is a collaborative spreadsheet-like platform that houses all the information they need on previous and current test questions, although they don't need to know how to navigate it. Since they all have access to Smartsheet, they will need to know their login and password or be able to create them.

Regarding technology, learners will need access to an electronic device—preferably a computer, but a phone or tablet would suffice. Learners will need to be able to navigate a basic LMS course (once the Brightspace protocol is approved, the course might be transferred into Canvas, but it may also remain within Brightspace if it meets a test group's needs). They must be able to use either the browser or desktop version of Microsoft to format their own test questions for an activity.

Everything else the learners will need to know should be illustrated throughout the course.

Motivation, Attitude, and Learning Orientation

There is a mixed attitude. On a positive note, many faculty are glad to have more guidance and have asked for it, unprompted. New faculty are also grateful to have more resources and support as they adjust to their jobs.

However, since many of the experienced faculty have been repeatedly reminded to format their questions and navigate Smartsheet, the topic of Smartsheet has been somewhat of an annoyance. This is partially mollified by the fact that this course is optional, although everyone will be highly encouraged to use it and informed that the content will be more straightforward and “less confusing” than they remember it.

Optimally, the faculty will find that the additional education and job aids will make their workflow quicker and easier. Considering they are so highly educated, they can and have

learned through many different styles of teaching, so there is less concern for learning preference, as there is no real universal preference amongst them.

Goals, Expectations, and Career Relevance

Since faculty are expected to properly format their test questions and evaluate student test question data in Smartsheet, they hope that this course will resolve existing confusions and make their workflow smoother. They specifically hope they will establish at least a basic proficiency in Smartsheet, since it's so crucial to the assessment process.

Long-term, they hope that this course will allow them to easily search for specific past and present test questions and analyze the accompanying student data so they can decide whether to retire or revise any questions, restructure their class to devote more time to certain content, or offer additional study sessions dedicated to more difficult material.

Contextual Analysis

Learning Environment and Technology

The LMS internal content will be kept basic but efficient. There will be homepages for each module that include brief summaries and learning objectives, so they have a general idea of what content/technologies they will be using. LMS quizzes will be utilized to test new knowledge and encourage recall of previous knowledge.

Since faculty are expected to learn detailed aspects of formatting test questions and Smartsheet headers/cells, short Articulate Rise modules will be embedded into LMS pages that show necessary screenshots of pages they will encounter with interactive markers explaining the different components. Eventually, when faculty complete realistic assignments, they will be using Microsoft Word (a downloadable sample test question) and real Smartsheet pages.

Delivery Context and Constraints

This delivery context is fairly constrained. It needs to be asynchronous, optional, and most likely offered through the school's Canvas LMS (once the Brightspace prototype is accepted). Considering the faculty are busy, they will be allowed to complete the course on their own timeline, and the instructor or instructional designer will need to be available to answer questions quickly once faculty can dedicate time to the course. Because faculty will be, within their tight schedule, utilizing this course to either onboard or fill in knowledge gaps, the content needs to be streamlined.

The Assessment Department are excellent guides and SMEs in explaining the specific technical and content features that need to be taught within the course. They will also be available for faculty questions.

Access Patterns and Pacing

This is tricky to anticipate, since the course will be designed to be completed on the faculty's own time. It's expected (or highly encouraged) that the new faculty will complete the modules in

sequence while the more experienced faculty can pick and choose what knowledge gaps they want to fill in first. Most likely, faculty will dedicate larger blocks of time less frequently.

The instructor and instructional designer will be available during business hours to answer faculty questions or set up appointments for more detailed explanations. However, there probably won't be many issues with the asynchronous format of the course, as these faculty teach most of their material asynchronously and are used to the format.

Implementation and Sustainability

This course is going to be implemented in a real-world setting, and both the instructional designer and Assessment Department will oversee course delivery, learner support, and ongoing maintenance (with the instructional designer more active in the first and third components, and the Assessment Department more prominent in the second).

This course will probably only need to be updated if Smartsheet itself is updated or material is moved around within Smartsheet, which will be monitored by the Assessment Team on a biweekly basis. LMS (most likely Canvas) expertise will be required for successful implementation, as well as availability over Microsoft Teams, which is where most faculty ask their questions.

Modules/Topics

Backward Design rests at the foundation of this process. After analyzing the learner needs, I developed the learning objectives to fill in those performance gaps. I then crafted instructional strategies and activities to fulfill the learning objectives in an authentic, goal-oriented setting.

Course Modules	Description
Module 1: Formatting & Uploading Assessment Questions	This module is dedicated to formatting test questions for quizzes, midterms, and finals. Resources include an interactive Rise mini-course that explains the different formatting components and why they're important, a walk-through video, downloadable formatting job aids, and a downloadable sample "messed up" test question that they can turn into the correct content depot to receive personalized feedback. The location is more useful for newer faculty, as experienced faculty know where it is, but it'll be an authentic area to upload their sample question.
Module 2: Using Smartsheet to Access Past and Present Questions	Learners will be able to locate past and present assessment questions in Smartsheet using multiple filtering options (such as QID, LO number, Topic ID, etc.).

<p>Module 3: Analyzing Student Data in Smartsheet</p>	<p>This module involves analyzing the student data in the past and present assessment question pages. With a short interactive Rise course (and walkthrough video), they will learn what the different headers mean; where to find the correct answer percentage, the incorrect answers' percentage, the point by serial; and what the point biserial means. Real Smartsheet pages will be offered with real test questions and real statistics, which learners will analyze and answer questions about in an LMS quiz.</p>
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PART 2: MODULE PLANS

Module 1: Formatting and Uploading Assessment Questions

Purpose of the Module

This module's purpose is to teach (or refresh) faculty on how to format assessment questions that will be used for their class's quizzes, midterms, and finals. It's a crucial part of the learners' workflow and a task that often causes confusion (as well as inconsistent results), so these resources will help clarify and simplify the process for learners.

Module Objectives

- Create usable assessment questions with the correct formatting.
- Identify where and how to upload assessment questions.

Learning Strategies

First, learners can move through an interactive Rise mini-course that explains the different formatting components and why they're important through interactive markers over relevant screenshots, with each section broken down into its own page. One page will include a video walk-through of how to fill in header information, paired with a downloadable guide. On the next LMS page, job aids will be offered—an assessment question template and a sample test question (with brief annotations added). Lastly, there will be an activity where faculty can download an artificial (but authentic) “messed up” test question, which they can format and turn into the real Content Depot (instructions on the Content Depot page will then inform them how to turn it in). Near the end of the module, there will be an area where learners can submit any additional questions or concerns they have. At the very end of the module, a “Resources” page will collect all the downloadable content and walkthrough video in one convenient location.

The approach is to keep content simple but efficient, scaffolding it so learners explore the lesson with heavy instructional annotations and guidance, then examine materials with either less or no annotations, and then complete their own situated task. The instructional model emphasized is constructivism, where the learning is all highly relevant to the faculty's workflow and their resources and activities are situated in this context.

Participation will be strongly encouraged, especially regarding the sample test question activity, with the engagement increased with the promise of specific, personalized feedback. Learners will also be encouraged to post questions in a group discussion board, and the instructor will engage in immediacy behaviors by answering as soon as possible.

Learning preferences will be accommodated to the extent that the learners are welcome to complete any level of the scaffolding they feel most meets their current needs.

Assessment

Learner progress will be assessed with the final sample test question formatting activity that is turned into the real Content Depot, which will be returned with personalized feedback. They can turn this in as many times as they would like, receiving feedback each time. There will be no specific grades, but the feedback will explain how to improve. As the learners go on to format real test questions, they can continue to assess their own progress by comparing the documents to their activity.

Feedback

Instructor feedback and annotations are embedded into the sample assessment question the learners can download. Each time they turn in their final assessment question activity, they will receive personalized feedback on areas they performed well in and areas they can improve. The feedback will mainly address accuracy, and will be updated during any future times they turn it the activity in. They will also receive specific answers to any questions they ask at the end of the module.

Resources and Materials

The technology that will be used during this module is the LMS, Zoom for recording my walkthrough video, Adobe Premiere for simple editing, YouTube to house the video, Articulate Rise for the more detailed formatting explanations, Microsoft Word for the sample test questions and test question activity, and the Smartsheet Content Depot for question submission. As for other resources, the assessment question template, assessment question example, and assessment question activity will all be available for download.

Module 2: Using Smartsheet to Access and Filter Past and Present Questions

Purpose of the Module

This module's purpose is for both new and select experienced faculty to find past and present assessment questions within the Smartsheet framework, which will include navigating the main landing page and utilizing the filtering system.

The module fits within the learning sequence by continuing the situated workflow from the last module—locating real test questions in real Smartsheet pages. This module is especially important because there have been numerous faculty questions about how to navigate Smartsheet and where to find specific questions.

Module Objectives

- Find past and present assessment questions in Smartsheet.
- Apply the Smartsheet filtering system to locate questions.

Learning Strategies

The faculty will learn how to, in Smartsheet, locate past test questions (in the Archive section) and present test questions (in Dynamic Views). A short interactive Rise module will clarify the most important points in the Smartsheet dashboard one Dynamic Views page, including the filtering system, with an accompanying video and downloadable job aid. A final activity for locating real questions will be described in the “Assessment” section below.

Once again, this module is entrenched in a constructivist, situated learning perspective. Through scaffolding, they will be taught *how* to maneuver through this part of the workflow and then engage in situated artificial but authentic activities that mimic their real-life necessary tasks.

The different learning preferences are accommodated by allowing the learners to choose what information and activities they want to utilize for their needs, and a focus on learner engagement will be achieved through the interactivity of the Storyline module and the usefulness of the final assignment.

Assessment

The final “assessment” is based on completion and will include four assessment questions built into real Smartsheet pages. Sometimes, when the faculty need to locate questions, they may have the QIDs (question identification numbers) and sometimes they may not but know some other key words. Through the filtering system, the faculty will locate two past test questions within the Archive section and two in Dynamic Views, all with increasingly less “obvious” information to filter with. An accompanying LMS quiz will test their completion by asking about some other component in the same row as the questions they find.

Feedback

The feedback is unfortunately sparser in this section—the instructor and instructional designer will be available for any questions, but since the final assessment is based on completion, there is less feedback to offer. However, there will be an opportunity at the end of the module for faculty to submit any questions they have, which will receive prompt responses. Similarly, the instructor and instructional designer will be open for 1:1 consultations for more specific questions.

Resources and Materials

The LMS, Articulate Rise module, Zoom and Adobe Premiere and YouTube for the video, Microsoft Word for a downloadable job aid, and Smartsheet pages (dashboard, Archives section, and Dynamic Views section) will be utilized to support learning in this module.

Module 3: Analyzing Student Data in Smartsheet

Purpose of the Module

This module's purpose is for new faculty to learn and experienced faculty to learn or re-learn how to evaluate student statistics within specific assessment questions. This is a continuation of the last learning sequence, as the learners will be navigating one of the same Smartsheet pages they found before. This is especially significant for faculty development because, to perform at the best of their teaching ability, they should analyze the statistics for each of their assessment questions to decide if they need to revisit difficult material in class or review sessions, teach material in a different manner, or even scrap certain questions and rewrite them. This will allow them to have a better sense of the content their students struggle with the most.

Module Objectives

- Apply the Smartsheet filtering system to locate questions.
- Analyze the student performance data of previous and current test questions.

Learning Strategies

In this section, there will be another Articulate Rise module that shows a screenshots of a typical student data page and has interactive markers for the different headers and statistics, defining them and describing their importance. A walkthrough video will accompany this.

Then, this section will end with an activity and LMS quiz that continues from the last module, with several Archives and Dynamic Views pages. The LMS quiz will provide filtering information that the learners will use to locate the correct question, and then will test them on the different statistical values and the meanings behind them, with a short-answer section of what recommendations they'd make.

As the final module, this module continues the trend of the constructivist, situated learning perspective. The learners walk through the different components of a real Smartsheet page then analyze real student data in a copy of their workflow process.

Once again, the different learning preferences are accommodated by allowing the learners to choose what information and activities they want to utilize for their needs, and a focus on learner engagement will be achieved through the interactivity of the Storyline module and the situated realism of the final assessment.

Assessment

The LMS final assessment will test previous knowledge and current knowledge with real Smartsheet pages. Based on the previous module, it will force learners to search up the correct

questions based on provided filtering data. It will then ask questions identifying elements such as the correct answer percentage, the incorrect answers' percentage, the point by serial, and if the point by serial is good or bad (.2 and above is good, which means the higher-scoring students got the answer right and the lower-scoring students got the question wrong and not the reverse). Lastly, there will be a short-answer section where they suggest their recommendations—if they might give a review session about the question content, scrap the question, or leave it alone). This is the cumulation of all the information they'll need for their workflow.

Feedback

Feedback will be immediately revealed for the multiple-choice quiz questions on the correct and incorrect answers, but personalized feedback will be returned as soon as possible for the faculty's recommendation sections. This will be beneficial for their short-term workflow, so they know how to navigate the past and present Smartsheet pages and understand the statistics, but also helpful for long-term developments, where faculty may decide to tweak their teaching style to be more student-centered.

Resources and Materials

For this module, the technology involved is Articulate Rise, specific Smartsheet pages, Zoom and Adobe Premiere and YouTube for the video, and an LMS quiz.

PART 3: ENGAGEMENT AND INTERACTION STRATEGIES

Learner Engagement and Motivation

Thankfully, since many of the learners have asked for additional resources or education, some intrinsic motivation is already present. Because these faculty are so busy, there will be fewer external references and point systems; although this could help to establish a personable environment, the audience would prefer streamlined content.

The strategies that will encourage engagement and motivation are all related to situated learning. Faculty will complete activities that are either highly similar or identical to their real job tasks, so they feel this course is relevant to their needs. These activities include a sample test question which they will be able to format and reupload for personal feedback, an opportunity to upload this sample test question to the correct Content Depot, and real past and present test questions existing in real Smartsheet pages (which they will find themselves using the taught filtering techniques) that they will search up and evaluate statistics within.

Peer Collaboration and Interaction

Peer collaboration and interaction will be difficult in this course, since the content is optional and designed to be done on their own timeline. However, there will be available discussion boards where learners and instructors are encouraged to ask and answer questions, as well as post resources that expand upon the course content (like tips for *writing* questions vs. formatting them, or other Smartsheet features they found helpful).

Instructor Presence

Similarly, it will be difficult to maintain a consistent instructor presence, but some strategies will be to offer personalized feedback on activities (as well as the option to re-submit and receive new feedback), check the discussion board on a daily basis and answer questions promptly, and even establish weekly or biweekly “office hours” and express availability via 1:1 appointments to assist with more specific learner questions.