



My name is Dr. Frederick Burrack. I have been Director of Assessment at Kansas State University for 13 years. With me is Dr. Dorothy Thompson, Assistant Director of Assessment

I imagine that you have chosen to participate in this workshop because CANVAS has been selected as the Learning Management System at your institution, as it has been at my institution. Fortunately for us, CANVAS has a very effective assessment structure built within its technology. Unfortunately, there is limited guidance on using this technology beyond its use in courses.

This workshop is designed to help CANVAS users implement its full potential for student learning assessment processes. We want this be be interactive throughout, but with the large number of participants, your mics will be muted and interaction will occur through questions or issues that you type into the discussion board. I will have moderators help me keep track of your questions, so please ask them when they come into your mind.

There will be a lot of information provided in the workshop so the powerpoint slides will be made available with the narrative, so you don't have to take copious notes. As far as taking notes, what might be useful is for you note information you find useful as well as the slide number found on the bottom right of each slide. This session is being recorded and will be made available in short segments. This way you can access any part of the session according to topic for your use in the future. And although I will say this at the end, I am available at the website you see on this slide and happy to video conference with your institution in the future.



The goal for this workshop is for you to gain a thorough understanding of the data collection capabilities that align with learning outcomes through CANVAS.

* We will explore the structure built into CANVAS (LMS),

* You will learn how to set-up CANVAS so it collects student achievement data for outcomes and associated criteria directly from coursework,

* You will learn how to export the data out of CANVAS,

* And ways to display the outcome data for effective use in decisions making. I will <u>not</u> be asking you to go into your institution's CANVAS. Much of what will be shared exists in the administrative portal. If you currently don't have access to this, understanding its capabilities will help you demonstrate the need for access and how to use it when it becomes available to you.



Before we more into the nuts and bolts of using CANVAS for automated student learning data collection, it is important that I share the assessment paradigm behind using CANVAS for data collection.



Assessment processes at my institution, as well as nearly all institutions of higher education, reflect an understanding that: *

- learning is best assessed through educational experiences through which students demonstrate indicators of achievement; (This is contrasting to an alternate paradigm that believes evaluation of learning occurs outside of the instructional process).
- 2. This paradigm recognizes that the ownership of preparation for and assessment of student learning resides with programs/co-curricular units;
- 3. And the primary value of assessment is exposing specific aspects of learning that can be used to guide improvement decisions.





Another important understanding is that technology alone will not fix an ineffective assessment process. Technology is a tool to facilitate efficiency through automation. Technology can collect, organize, and present information in ways to be understood and useful, and enable maintenance and analysis of data, but it is the tool for an effective assessment process.



The processes I will share could be used at any size institution, but it might be useful to know that my university is a large research institution. The assessment started without CANVAS in 2004 in response to regional accreditation expectations.

- Our assessment structure is designed around each program and co-curricular unit defining the
- the expected learning of program degree completion and co-curricular unit mission.
- Assessment measures are specifically aligned with the defined outcomes to indicate the quality of student learning.

Direct connections to curriculum

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The process applied at our institution involves identifying where, in the curriculum, each outcome is introduced, developed, and at what point the student is expected to demonstrate program completion competence of each outcome. This work is typically demonstrated through a matrix like you see on this screen.

The program or co-curricular unit defines the assessment tasks through which the students demonstrate successful learning achievement, which are embedded in the curriculum.

The process looks like this:



- Each assessment task is intentionally selected by faculty from coursework and educational experiences. Students demonstrate degree-credentialing competence within the curriculum process.
- Achievement data is collected through CANVAS learning outcomes and annually reviewed by the program faculty to provide feedback for instructional and curricular decisions. Student learning needs that are exposed from programmatic discussion * are communicated to faculty with suggestions for curricular and instructional adjustments.
- Annual assessment of student learning reports are submitted to the institutional Office of Assessment for * feedback to enhance the assessment process and providing guidance on improving validity and reliability of the measures.

It is within this process that CANVAS becomes a useful tool.

C	ampus Introd	uction into C	CANVAS
Since 2004	Beginning 2014		
in place	Gained oversight of	Prior to implementat	tion
	assessment module in CANVAS	Integrated current outcomes into CANVAS	Led implementation and training of faculty and staff
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One final bit of background information before we more into learning the structure of CANVAS assessment technology:

- It is important for you to know that the process I just described was already in place when our institution started using CANVAS for collecting student achievement data. Our assessment process began in 2004 but CANVAS was integrated in 2014. CANVAS is only a tool to assist the assessment process and not the process itself.
- In 2014 when our university began piloting CANVAS as a Learning Management System, the IT area was not planning to implement the assessment component in its initial implementation, but the Office of Assessment intentionally and actively pursued oversight for program development and implementation of the assessment module. We didn't want the faculty to learn how to use CANVAS one way and then to make assessment an add-on later. We wanted assessment of learning integrated in CANVAS right from the start.
- To facilitate a seamless integration, the Office of Assessment pre-populated each program's learning outcomes into CANVAS so when programs and their faculty began using the LMS, outcomes from the current assessment process were ready to be aligned with assessments for immediate collection of student achievement data.
- The Office of Assessment led the professional development for faculty and staff over several years to gradually integrate the technology within our current assessment processes.

The process that we will explore today does not happen over night and will require multiple steps of develop. But it works very well and has been accepted across our campus. Are questions at this point before we move into learning about the structure of CANVAS assessment portal.



The foundation of using CANVAS' assessment technology is understanding its structure.



The structure of CANVAS LMS is in a hierarchy.

 The facing layer into which the faculty interact is the course level. In this course level, faculty interact with students by sharing documents, scheduling instructional sequences, creating assignments, placing scores in a grade book, and many other aspects associated with teaching their course. This level is where student achievement for outcomes can be collected, but this is <u>not</u> the layer where the outcomes exists.

The layers above the hierarchy are accessible through administrative access:

- (a) the program level connects all of the courses that are under the program's oversight;
- (b) the college level connects all of the program within the college; and
- (c) the institution level that connects all of the colleges as well as any unit that is broadly administered across the institution.

Understanding this hierarchy is essential to effectively implementing the assessment module for automating data collection.



An understanding of the hierarchy is fundamental in outcome assessment in CANVAS. **The level in which an outcome is created is where the achievement score is retrieved**. A construct to understand is that an outcome in CANVAS can be used by any group in and below the level where the outcomes is created, but it will not be accessible to a level above.

- As an example, since much of our university assessments structure is focused around program outcomes, this is where the program outcomes are created.
- The outcomes are brought into the courses to score student demonstration of expected achievement.



Beyond the program level, if a college uses common outcomes across their programs, * then these outcomes should be created at the college level to make them available for use in courses that are within their purview.

- Extending this construct more broadly, if outcomes are to be assessed in courses across the entire institution,
- then these outcomes are created at the institutional level so to be available to all courses.

Similarly, since co-curricular units often involve students across the institution, their outcomes would also be created on the institution level. In general, the hierarchy defines who will have access to the outcomes to be imported into a CANVAS course for use in scoring student achievement.



Since achievement data in an outcomes assessment process are intended to be aggregated and analyzed beyond individual courses, the highest level at which aggregation occurs is where the outcome should be created in the technology. Having a well-designed assessment process is important in order to use CANVAS to its fullest potential.

Before I show you what this looks like in CANVAS, are there any questions up to this point that need a response?



The process for creating outcomes in CANVAS is the same at all levels. One thing that is essential for those creating the outcomes is to have access to the program/college/institutional area into which the outcomes will be hosted.

Course instructors already have access to their courses. But those that oversee the broader assessment will need administrative access. Your institutions IT group that oversee the CANVAS technology on your campus can provide individuals access to specific access points.

 When administrative access is given to individuals for their particular area, an icon that looks like a key on a shield will be visible at the top of the left access panel on the CANVAS page. Once you receive access to the specific program/unit level for which outcomes will be created,...



The outcome button on the left side of the page will open the outcome creating page. This page will be empty unless outcomes have already been created. One of the most important constructs to understand is a difference in terminology used by CANVAS as compared to the meaning understood by most assessment processes.

- When the term 'Learning Outcome' is referred to in an assessment process, it usually means a specific category of learning.
- And in assessment lingo, each time an outcome is assessed, that outcome is usually comprised of multiple criteria that provide indicators of achievement. These criteria are often seen as part of a scoring rubric or individual questions on an exam.
- For example, an outcome that states "Students will be able to communicate effectively in writing", this usually is comprised of multiple criteria that are assessable such as:
- 'Structure is clear, logical, and easy to follow', 'Uses correct mechanics such as grammar, spelling, and punctuation', 'Effectively incorporates appropriate supporting materials', etc. In CANVAS, the criteria are what CANVAS calls Outcomes. These are the components that are scored in an assignment.
- What a typical assessment process calls an outcome is called a Group. In CANVAS, we create a Group (outcome folder) for each of the outcome categories



As an example, this is a screen shot from CANVAS. It comes from the administrative portal of an Engineering program but would look similar to any outcomes page at the college or institution level.

- After opening the outcome window,
- the best strategy would be to create a folder for each of the program outcomes using the group button. As I mentioned previously, what most of us call Outcomes are considered groups in CANVAS. Think of these as folders of assessable criteria that are used as the indicators of student achievement.
- Inside of each folder are the assessable criteria that CANVAS calls outcomes.
- These are created with the Outcome button.
- In CANVAS, by using the GROUP folders to organize criteria outcomes, we can design an assessment structures as granular as we want because we can create organizing folders inside of folders.
- For sorting and filtering purposes, we find it best to use a numbering system. When a
 program is accredited, the number system often comes from the accreditation
 expectations. This structure becomes a valuable aspect for aligning the data to
 accreditation reporting expectations. Even when a program is not accredited, the
 numbering system makes organization during analysis easier.
- Another thing we have discovered is an importance to keep the name of the Groups and Outcomes short with the descriptive words at the beginning. You notice the challenge in this example. When a window truncate titles, they all look the same when each begins with "An ability to...". This is something we discovered in the process.
- A full description can be placed in outcome statement textbox provided and is available in the data export for use in reporting.

Using CANVAS for Automated Data Collection

	© 1.1 Con	nection to	Theory		
Outcomes in CANVAS • Wording must be: - Clear - Applicable - Useful across multiple assignments	Exceeds Standards - Can relate all theoretical concepts to practical problem solving 4 Points Mastery: 3 Points Canculation Method	Meets Standards - Can relate most theoretical concepts to practical problem solving 3 Points or Highest Score	Progressing Towards Standards - Can connect theoretical concepts to practical problems with prompting 2 Points	Below Standards - Cannot see the connection between theory and practical problem solving 1 Points	Total Points 4 Points
Kansas State u ni v e r s i t y	Calculation Met Examp 1- Item scor 2- Final sco	h Highest Sco le: Mastery sco assignment es: 1, 4, 2, 3 re: 4	ore ore reflects the highest or quiz.	score of a graded	18

When creating an outcome, defining the levels of differentiated achievement is important. An outcome (*remember in CANVAS that the word OUTCOME refers to each criterion that is assessed in an outcome category or Group*). It is important that there is clear categorical differentiation of achievement so multiple scorers can reliably use the scoring device with assignment tasks. The description of each level defines the rigor expected for the Outcome (criterion).

- The description provided for each category is dependent upon its use in a scoring device. In
 most cases, students, as well as the scorer, will see the description so clarity of expectations is
 important. These descriptors of expected achievement might be designed to reflect a single
 assessment task, but it is equally as likely that the criterion will be used across multiple
 assignments. Decisions on appropriate wording is important as it cannot be edited when
 imported a class. As far as the point values, they are numerical indicators of an achievement
 level and not necessarily the points used in grading. Grading is done on the course level. I will
 explain how this aligns in a course a little later in the workshop.
- You **will** need to set a Mastery score. Note that mastery in CANVAS does not mean perfection. It means the level that fully meets the rigor of achievement expectation.
- There could be a level beyond meeting expectations where a student exceeds the expected achievement level. If a level of exceeding expectations is used and appropriately scored, this level is used sparingly. We have found that the exceeds expectations level is sometimes confused with the grading process of A B C D. Some programs consider these achievement differentiations like the do grades. Others consider exceeds as 96% or higher with meeting as below 96% to a particular percentage of achievement somewhere around 80%. Each program understands their own grading process as compared to how they gain the most information about outcomes achievement.
- Thinking ahead to analysis, we have found that it useful that all outcomes in a program's process to use the same number of achievement categories. This consistency makes it easier to understand and compare achievement across outcomes.
- When creating outcomes, below the achievement differentiation is a selection for Calculation Method. Our university usually selects 'Highest Score'. CANVAS keeps track of every score that is obtained each time the Outcome is used so calculations we calculate achievement outside of CANVAS.

I have just shared a lot of information about creating outcomes. Are there any questions at this point that we should addressed before we move into creating common rubrics using these outcomes?



If there is an intent to use a common rubric made up of Outcomes (criteria), this should be accomplished on an administrative level (program, college, or institution) and not individually in courses.

Courses			
People	Title: Some Rubric		
Statistics			
Permissions	Criteria	Ratings	Pts
Outcomes Rubrics Grading Question Banks Sub-Accounts Themes Canvas Data Portal	Description of criterion Range + Criterion Q Find Outcor	5 pts Full Marks 0 pts No Marks	5 pts Total Points: 5
Admin Tools Portfolio Moderation	CATE		ວດ

While in the administrative portal at either the program/college/institutional level,

- by selecting 'Rubrics' on the left ribbon,
- you can add a rubric and build it with Outcomes (criteria) using
- the 'Find Outcome' command.
- Do not use the 'Add Criterion' because what is created will not be outcomes so will not collect the scores.
- The sample criterion that is automatically provided should be deleted because it also will not be an outcome.

ourses eople tatistics ermissions Jutcomes ubrics	1) Notation Competency 2) Melodic Competency 3) Harmonic Competency 4) Rhythmic Competency 5) Analytical Skills	S 2.1.1 Score Notation Th	© 2.1.1 Score Exceeds expectations by including notational components through composition software or handwritten skills	Appropriately used composition software for all required elements with hand-written components easily legible.	Theory 1 There were some, but minimal errors in notation visible in software or handwritten documents.	There were numerous errors in notation visible in software or handwritten documents.	Did not use a notation software and the hand- written score is illegible.	Total Points
irading Juestion Banks ub-Accounts			beyond assignment requirements. 4 Points	3 Points	2 Points	1 Points	0 Points	4 Points
hemes anvas Data Portal dmin Tools			Use this criterion for Calculation Method: H	r scoring lighest Score				
Portfolio 1oderation			Calculation Methor Example	d: Highest Score e: Masterv score	eflects the highe	st score of a grad	led assignme	nt or

When you select "Find Outcome", a window will appear with all of the outcomes that are available from which you select the criteria to be imported into the common rubric. When you click on the chosen outcome, leave the "Use this criterion for scoring" checked and import the criterion. You can add as many criteria that you want to be in the common rubric.

				BRUA	RY 1		13]	
Courses People Statistics	Aural Skill	Aural Skills Aural Skills						
Permissions	Criteria		Rati	ngs		Pts		
Outcomes Rubrics Grading	C 4.4 Sight Singing threshold: 3.0 pts	3.0 pts Pass (meets expectations)	2.0 pts Almost (needs more work)	1.0 pts Does not meet expectations	0.0 pts Not assessed yet	3.0 pts		
Question Banks Sub-Accounts Themes	C 4.5 Triads threshold: 3.0 pts	3.0 pts Pass (meets expectations)	2.0 pts Almost (needs more work)	1.0 pts Does not meet expectations	0.0 pts Not assessed yet	3.0 pts		
Canvas Data Portal Admin Tools ePortfolio Moderation	4.1 7th Chords threshold: 3.0 pts	3.0 pts Pass (meets expectations)	2.0 pts Almost (needs more work)	1.0 pts Does not meet expectations	0.0 pts Not assessed yet	3.0 pts		
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Rubrics that are created in the program, college, or institutional level can be brought into a course assignment to be used in its entirety. But faculty also have the opportunity to selectively remove criteria that does not fit the particular assignment. They may also add additional rubric lines to be used in scoring. When the common rubric is used for scoring, each criterion score will be automatically collected at the level where the outcomes were created.

• The target icon at the beginning of a criteria line indicates that this is an outcome that will collect scoring data.

Usofi	l Evamples	Beginning Band Teaching Episode - MUSIC 513							
Userc		Criteria		Pts					
Institution	Value RubricsGeneral Education	6.1.1.1 The teacher understands repertoire and pedagogy appropriate for various developmental stages. view longer description threshold: 3.0 pts	4.0 pts Exceeds Standard	3.0 pts Meets Standard	2.0 pts Approaching Standard	1.0 pts Unsatisfactory	4.0 pts		
	• Co-curricular	6.1.1.3 Variety of Pedagogies view longer description threshold: 3.0 pts	4.0 pts Exceeds Standard	3.0 pts Meets Standard	2.0 pts Approaching Standard	1.0 pts Unsatisfactory	4.0 pts		
College	LicensurePortfolioCollege outcome	6.1.2.1 Representative Works view longer description threshold: 3.0 pts	4.0 pts Exceeds Standard	3.0 pts Meets Standard	2.0 pts Approaching Standard	1.0 pts Unsatisfactory	4.0 pts		
	• Common rubric	6.1.2.2 Ensemble Performance view longer description threshold; 3.0 pts	4.0 pts Exceeds Standard	3.0 pts Meets Standard	2.0 pts Approaching Standard	1.0 pts Unsatisfactory	4.0 pts		
Program	across course sections • Assignment rubrics	6.1.2.3 Musical Resources view longer description threshold: 3.0 pts	4.0 pts Exceeds Standard	3.0 pts Meets Standard	2.0 pts Approaching Standard	1.0 pts Unsatisfactory	4.0 pts		
KAN	SAS STATE VERSITY	6.1.2.4 Appropriate Pedagogy view longer description threshold: 3.0 pts	4.0 pts Exceeds Standard	3.0 pts Meets Standard	2.0 pts Approaching Standard	1.0 pts Unsatisfactory 2 .	4.0 pts		

Using pre-created rubrics is an ideal way to utilize a common scoring device such as

- Value Rubrics, General Education Rubrics, or assessments co-curricular units. Each criterion is created separately as an outcome and brought together in a common rubric, which will be connected to an assignment or activity for scoring.
- Here you see an example. Our university uses the Institution level to create a common rubric to assess learning in our first-year experiences because these courses occur across every college.
- At the College level, this example comes from our College of Education that uses a common rubric to address licensure and accreditation expectations. The rubrics are used for portfolio scoring and internship scoring with all programs in the college using the common scoring device. The scores are automatically collected by the college and used within each program.
- At the Program level, the scoring devices used in a course or across multiple courses are created for automatic data collection.

Are there any questions about creating common rubrics on the administrative level?



Following a 5-minute break

- I will respond to questions added during the break.
- Then we will explore how to develop this process across a campus.
- And what faculty have to learn.



Before we move on, there are several notions I would like to reinforce:

- The first is the understanding that a well-defined learning outcomes structure is important. Without (a) thoughtfully defined learning outcomes, (b) assessable criteria that provide indicators of achievement, and (c) clarified differentiation for levels of attainment, the value of the CANVAS hierarchy would not be easily developed.
- In the process of learning to use CANVAS assessment portal, we have found that the process of programs and co-curricular units thinking through and defining what students learn has been the most valuable result of using CANVAS. Programs and units that did not understand assessment and were often most resistant developed into some of our university's champions of assessment. Academic programs came to realize that outcomes are not defined by what is being taught but by what student learn from and do with what is taught. Co-curricular units shift from counting attendance at activities they host instead to assessing what students learn from the activities. In nearly every instance, the most valuable result of implementing the CANVAS assessment technology were the discussions with and among the program and unit leaders.
- I often am asked how to get faculty/programs to buy-in to the process. I actually don't want to coerce buy-in with using this technology. What I want is for programs to implement an assessment processes that provides useful data for them to make decisions for improvement. I will show you the process that we use.



We usually begin with

- demonstrating to the program and units' assessment coordinator(s) the usefulness
 of CANVAS assessment technology. This is done by showing authentic examples
 from other programs or units emphasizing the flexibility of the technology and
 exploring how it might fit within their assessment processes.
- If outcomes and assessment plan is already designed and in place by the program, we give the assessment coordinator administrative access to create the Groups (outcome folders). Although some programs already have defined criteria with scoring differentiation, this is when current assessment practices are reviewed and discussed.

When the Groups (outcome folders) and the Outcomes (assessed criteria) are developed in the appropriate CANVAS level:

 we pilot the process in a class. We never bring CANVAS to the entire program without a pilot. The pilot is designed to work out the problems that may occur. We never want the faculty to run into challenges that could have been solved in advance. Through the pilot we also can develop authentic examples of success before initiating further implementation.

A typical timeline is to develop the Groups and Outcomes during one semester. A second semester pilots implementation and collects data.

- The data collected is visualized for assessment analysis to be used as an example for a demonstration to the entire program/unit at the beginning of the third semester.
- Then a gradual integration is developed across the program/unit's assessment process.

We have found success with this process and continue to see faculty and programs/units enhance their assessment processes.



Now let's discuss what this looks like in a CANVAS course, (whether this is a scheduled academic course or a created course that has been aligned with a program/unit). The Outcomes (remember that these are the assessed criteria) can be integrated into whatever is used in CANVAS to score students' attainment of the desired outcome. I'm not going to show the process of how to create the variety of assignments that can be created in CANVAS because as there are many online tutorials to do so. But there are a few important steps in aligning an outcome that are important to know.



There are two ways of bringing outcomes into courses. The way with the most flexibility is to import each outcome individually to be aligned to an assignment.

- This is accomplished by selecting the 'Outcomes' button that is in the left ribbon on the CANVAS page. When the outcomes panel opens,
- the command to use is 'Find'.
- You will not use the '+Outcome', '+Group", or Import because what is created at the course level will not be tied to a level outside of the course itself.

	Home	Back	+ Outcome	+ Group	1 Import	Q Find	
	Announcements						
Find Outcomes							×
🛅 Graduate	C Academic and Professi						*
🖰 Undergraduate	Critical Thinking						
	@ Diversity						
	@ Knowledge						
	@ Oral Communication						
	@ Written Communication						•
							Cancel Import
	Photo Roster						
	Copy Grades to KSIS						
	MyMediasite						20
							<u>4</u> 9

When 'Find' is selected, this will bring up the outcomes that are available from the associated Program/College/and Institution level.

• Each selected outcome can be imported individually into the course. The next step is aligning the imported outcome to an assignment.

	Home	Back	+ Outcome	+ Group	1 Impor	t Q Find				
	Announcements			er Cuit	and Th	tin Life a				
	Assignments)		© Crit	ical In	Inking				
	Discussions			Students v	vill demonst	rate the ability to	access and interpret in	nformation, resp	ond	
	Baaala			evaluate a	ctions.	tomplex decisions, sor	ve problems, an	iu i		
	Pages									
On the	Files	Critic 🖉	al Thinking	Thinking Exceeds Program Expectations (Advanced) 3 Points	Program tations	Meets Program Expectations (Proficient)	Meets Minimum Acceptable Level (Developing)	Does Not Meet Expectations	Total Points 3	
	Syllabus				nced)					
course level	Outcomes				oints	2 Points	1 Points	0 Points	Points	
	Quizzes			Madara - O Delata						
	Modules			Mastery: 2 Points						
	Conferences			Calculator Method. Fighest score						
	Collaborations									
	Chat			Calculati	Example:	Highest Score Mastery score re	flects the highest sco	re of a graded		
	Photo Roster					assignment or qu	iiz.			
	Copy Grades to KSIS			1- It 2- F	inal scores:	1, 4, 2, 3 4				
	MyMediasite									
							30			

A faculty member may bring in as many outcomes as are intended to be assessed in the course.

• Each outcome can be aligned with a scoring device in an assignment.

		1
Home	Search for Quiz	+ Quiz
Assignments	* Assignment Ouizzes	
Grades	- Week 1	Manage Ouestions Banks
People Outcomes	33 Due Feb 3, 2015 at 11:59pm 7 pts 7 Questions	
Quizzes	2 Practice Quiz lest Type 7 pts 2 Questions	•
Scantron (previous)	Practice Quiz 8 pts 3 Questions	•
Photo Roster Announcements	Practice Quiz 3 7 pts 2 Questions	•
		31

One type of assessment is Selected response type of assessment. Specific questions can be aligned to an outcome from within an exam using

• Questions Banks. This process needs to be taught to faculty as it is not intuitive. We use campus workshops and individual meetings with faculty.

lome	Course Question Banks	\longrightarrow	+ Add Question Bank
ssignments iscussions rades	AVM 700 - Feline Cardiovascular Criteria 1 2 Questions Last Updated: Jun 14 at 11:05am	∃ ∿ ×	☐ View Bookmarked Banks
ople	Critical Thinking Last Updated: Oct 5 at 10:50am	□ 🔌 🗙	
uizzes antron revious)	Diversity 2 Questions Last Updated: Mar 28 at 9:51am	$\mathbb{A}\mathbb{A}$	
oto Roster nouncements	Exam 2 - Citation Skills 2 Questions Last Updated: Sep 25 at 3:23pm	$\square \ {}^{\wedge} \times$	
es ges	Oral Communication 4 Questions Last Updated: Oct 5 at 12:06pm	$\mathbb{R}\mathbb{N}\times$	
odules	Professional Integrity 2 Questions Last Updated: Aug 29, 2017 at 3:39pm	$\mathbb{R}\mathbb{N}\mathbb{X}$	
onferences lass Notebook	Testing Point Values 2 Questions Last Updated: Feb 9, 2017 at 9.03am	$\square \mathrel{{}^{\!$	
opy Grades to SIS lyMediasite	Unfiled Questions 0 Questions Last Updated: Oct 5 at 10:50am	$\square \ {}^{\wedge} \times$	32

When a quiz, or test is made, all of the questions automatically get filed * in a folder titled Unfiled Questions.

To align questions to an outcome, * a Question Bank will have to be created for each outcome assessed.

• For example, Critical thinking. Once folders are created for each outcome, * the Unfiled Questions folder will be opened.

w Question Details		\rightarrow	\rightarrow Move Multiple Questions
			≻ Delete Bank
3			Already Bookmarked
What do you think of this student?	Move/Copy Questions	×	Aligned Outcomes
	Move/Copy Multiple Questions		Ø Align Outcomes
	→ Ø 3		
	What do you think of this student?		
Question	✓ Question		
	Question 1		
Question 1	Question		
	File Upload		
	Select the destination question bank for this question:		
Question	AVM 700 - Feline Cardiovascular Criteria 1		
-	Assess 100		
Enter Text Here	Oritical Thinking		
	Assess 100		
	O Diversity		
	Assess 100		
Question	Cancel Move	e Questions	
		h.	
File Upload			
			22
	move/copy question to anoth	ner bank	33

In the unfiled questions folder are all of the questions created on an exam. From this folder of questions, individual questions are aligned with outcomes. To do this you

- select 'move multiple questions'. This brings up a window that shows all of the questions and all of the available question banks. The questions that are to be aligned to an outcomes are selected.
- Then the outcome folder needs to be selected to which the selected questions needs to be aligned.
- Then select Move Questions. By doing this, the question are not moved out of the exam but aligned to an outcome group. I always have to communicate to the faculty that this move does not take the questions out of their test but aligns the specific questions with an outcome.

emember, changes to que	CLO 1 CLO 4: Written Commu Old Outcomes	Critical Thi Students will demonstra changing situations, ma	nking ste the ability to access ke complex decisions.	s and interpret informatic	on, respond and ad	lapt to	t Bank Details
Show Question Details	Academic and Professi Critical Thinking Critical Thinking Diversity	Exceeds Program Expectations (Advanced)	Meets Program Expectations (Proficient)	Meets Minimum Acceptable Level (Developing)	Does Not Meet Expectations	Total Points	ve Multiple Quest ete Bank
3 What do you think of t	 Formula Creation and Overall Excel Computer Spreadsheet Formatting Use of Spreadsheet Dat Use of Spreadsheet Fun 	3 Points Set mastery for any sco Calculation Method: Hi	ady Bookmarked Outcomes				
Question	🛞 Written Communication	Calculation Method Example 1- Item scores 2- Final score	Highest Score Mastery score refle quiz. 1, 4, 2, 3 4	ects the highest score of a	a graded assignme	nt or	;n Outcome
Question 1						Cancel	Import

Once they are in the Outcome Folder

- You select Align outcome,
- In the window that appears in which you select the outcome for which the entire folder of questions are to be aligned, then select import.
- Now whenever any questions in this folder are answered, the scores will go to the program.

When aligned, the answered response of each question in an aligned bank will be recorded at the appropriate program/college/institution level. The meta-data collected will enable sorting of the student identifier, date recorded, applied semester, and all necessary data for each time the question was answered. There are many online tutorials for creating selected response assessments, sorting questions into questions banks, and aligning question banks to outcomes. The analysis of the data will occur outside of CANVAS, which will be described later in this article.

Before I show how to align outcomes in a rubric, are there questions about the selected choice alignment for outcomes?

Home	Final P	aper			
Assignments					
Discussions	No Conte	nt			
Grades					
People		Points	8		
Outcomes		Submitting	a file upload		
Quizzes		File Types	doc and docx		
Scantron (previous)	Due	For		Available from	
Photo Roster	870	Ever	yone		
Announcements	+ Rubric				
Syllabus				35	

If an Outcome (assessable criterion) is to be scored within a rubric, there are many choices to make because the assessment technology is very flexibility:

• It all begins by selecting "Add Rubric"

Title:	Some Rubric				Q Find a Rubric
	Criteria		Rat	ings	Pts
Descri Range	く ption of criterion	5 pts Full Ma	rks	0 pts No Marks	5 pts
+ Cri	iterion Q Find Outcom	ne			Total Points: 5

If the program/college/institution has a pre-created rubric that is intended to be used across multiple assignments,

• the button 'Find a Rubric' will open a window to find the appropriate rubric and import it to the assignment.

	Reflective Essays - MU	SIC 670				<mark>⊗(</mark> Հան
	Criteria	/		Ratings		Pts
	6.7.1.1 Student Development view longer description threshold: 3 pts	4 pts Exceeds Standard	3 pts Meets Standard	2 pts Approaching Standard	1 pts Unsatisfactory	4 pts
	6.7.1.2 Community Connections view longer description threshold: 3 pts	4 pts Exceeds Standard	3 pts Meets Standard	2 pts Approaching Standard	1 pts Unsatisfactory	4 pts
	6.7.1.3 Professionalism view longer description threshold: 3 pts	4 pts Exceeds Standard	3 pts Meets Standard	2 pts Approaching Standard	1 pts Unsatisfactory	4 pts
	6.7.2.1 Philosophy view longer description threshold: 3 pts	4 pts Exceeds Standard	3 pts Meets Standard	2 pts Approaching Standard	1 pts Unsatisfactory	4 pts
<u>Kansas State</u> u niversity	6.7.2.2 Career Development view longer description threshold: 3 pts	4 pts Exceeds Standard	3 pts Meets Standard	2 pts Approaching Standard	1 pts Unsatisfactory 3	4 pts

When the rubric is imported:

- in the edit mode:
- Individual criteria lines (Outcomes) could be deleted if they are not relevant to the particular assignment.



Additional criteria lines can be added to be used for assignment scoring, but scores from added criterion on the course level will only go to the assignment grade and not the program/college/institution level.

- Choose to use the rubric for assignment grading or not.
- Removing points from the rubric enabling the instructor to assign their own points for grading while the level will still be scored for the program/college/institution.

When the Rubric Creator comes up

- Title the rubric
- Below this is where the faculty member would create any part of the scoring device that is not specifically assessing the outcome.
- To add an outcome scoring line, the faculty member would click Find Outcome.
- The list of outcomes brought into the course will come up, so select the outcome desired. Once imported it become a part of the rubric.

 6.7.1.1 Student Develop 6.7.1.2 Community Con 6.7.1.3 Professionalism 6.7.2.1 Philosophy 	© 6.7.2.6 Le Teachers seek leader advance the profess	adership rship roles and co ton.	illaborative opportuniti	es to ensure learner grov	vth and to	
6 6.7.2.2 Career Develop 6 6.7.2.3 Cultural Diversit OCSC 0 6 7.2.4 Classroom Mana	Exceeds Standard 4 Points	Meets Standard 3 Points	Approaching Standard 2 Points	Unsatisfactory 1 Points	Total Points 4 Points	
ang () () () () () () () () () () () () ()	Use this criterion Calculation Method:	for scoring	ge			
I'lline (a) 6.8.4 Professionalism (a) A.8.4 Professionalism (a) 6.8.5 Diversity (b) C.7 (a) 6.8.5 Diversity (b) C.7 (b) 6.8.5 Diversity (c) C.7 (c) 6.8.5 Diversity	Last Item: 65 Between 1% and 99	%	Calculation Method: Example: 1- Item scores: 2- Final score:	65/35 Decaying Average Most recent result coun mastery weight, average results count as 35% of (there is only one result, score will be returned. 1.4, 2, 3, 5, 3, 6 4,95	e ts as 65% of cof all other veright. If the single	
Calo						

Another option is to create an assignment specific rubric and include scoring lines from outcomes as part of the overall assignment scoring. When the Rubric Creator comes up

- The rubric must be titled
- Below this is where any part of the scoring device that is not specifically assessing the outcome is created.
- To add an outcome scoring line from one of the outcomes imported into the course, click Find Outcome.
- The list of outcomes that had been brought into the course will come up.
- Select the outcome desired and import it into the rubric.
- It is important to note that before the outcome is imported to select or unselect 'Use this criterion for scoring'. The faculty has the option to use the outcome scoring line as part of the assignment score or not use it for the assignment score and simply score it for the program use only.

Assignment Rub	ric Details			>
Discussion Rubric				
1 Criteria		2 Ratin	ngs	3 Pts
Follow Instructions	Full Marks 4.0 pts		No Marks 0.0 pts	4.0 pts
First Post	Full Marks 3.0 pts		No Marks 0.0 pts	3.0 pts
Second Post	Full Marks 3.0 pts		No Marks 0.0 pts	3.0 pts
© Discussion Outcome threshold: 3.0 pts	Exceeds Expectations 5.0 pts	Meets Expectations 3.0 pts	Does Not Meet Expectations 0.0 pts	5.0 pts
			Total	Points: 15.0

The criterial lines that are Outcomes will be designated with a target icon in the top left corner meaning that when it is scored, the assessment for that outcome will be collected at the level in which the outcome was created.

The most valuable aspect of using Outcomes in CANVAS is that the faculty do not have to duplicate their efforts in scoring of students for a grade and then later in a report for the unit. The scores that are collected simultaneous with the assignment scoring. The other advantage is that the score is authentic to the student demonstration of achievement that occurs within coursework. Of course tests of validity and reliability on the assessment task and instrument should be confirmed over time. This is important no matter how the assessment scoring is collected.

This is a good time to stop for a few questions.

E	xtracting	g Data from CANVAS
CANVAS is used for data	Courses People Statistics Permissions Outcomer	Settings Quotas Admins Announcements Reports Apps Feature Options Account Settings Account Settings Music. Theatre and Dance. School of Music. Theatre and Dance. School of Music. Theatre and Dance. School of
Analysis	Rubrics Grading Question Banks	Default Language: Not set (defaults to English (US)) This will override any browser/OS language settings. Preferred languages can still be set at the course/user level.
occurs outside of CANVAS	Sub-Accounts Themes Canvas Data Portal	Restrict students from accessing courses before start date Lock this setting for sub-accounts and courses Restrict students from viewing future courses in enrollments list Lock this setting for sub-accounts
Z	Admin Tools ePortfolio Moderation Analytics	 Restrict students from accessing courses after end date Lock this setting for sub-accounts and courses Disable comments on announcements
KANSAS STATE UNIVERSITY	Settings	Lock this setting for sub-accounts and courses 41

We consider CANVAS as a data-collection technology. The analysis of data occurs outside of CANVAS. Assessment data can be downloaded in multiple ways. CANVAS has cloud access to data for an extra fee, but for our institution as well as many others this may not be financially feasible.

- Data from the program/college/institution levels is retrieved on the administrative level in the settings.
- By opening 'Reports', which is in the top ribbon of links, you will get to a page with many different options.

Settings	Quotas Adm	nins An	nouncements	<u>Reports</u>	Apps	Feature Op	tions	
	Na	ime				L	ast Run	
Course Stor	rage 🕐			Never				Configure.
Grade Expo	ort (?)			Never				Configure.
LTI Report (0			Never				Configure.
Last Enrolln	ment Activity 🕐			Never				Configure.
Last User A	ccess (?)			Never				Configure.
MGP Grade	Export (?)			Never				Configure.
Outcome E	xport ②	-		May 22 a	it 5:06pm ↓	*		Run Repor
Outcome R	esults ⑦	-		May 22 a	it 5:09pm (T	erm: Spring 20	020;) 🕁	Configure.
Provisionin	ıg 🕐			Never				Configure.

In this page, the areas that provide the data needed are the Outcome Export and Outcome Results.

- the hierarchy of Groups and Outcomes are downloaded by selecting 'Outcome Export'. This .csv file includes all learning outcomes that exist within this account and will show the details of all associated attributes with each outcome.
- The achievement data collected from the outcomes are downloaded when selecting 'Outcome Results'. The technology provides the entire dataset of scores or you have the option of selecting individual semesters.

			E	Exti	ra	cti	ng	Da	ata f	ro	m	C/	4N	V	AS	6) 6))jj	[4]	
sude	Toone is the sub	It's destruct	the street of street and	e subrise	10 scot	e biton	atempt	, d	soft and a start a start and a start a start and a start a sta	stof use couse	, name course	course course	estion section	Inane	id seion sid	early carries	estines.	and a strong	porto outone out
Huey	6469 ####	Final ###	# assigr 2020-	29 2	2.1.1	9710	1	4		Music	####	####	MUSI	####	22021https:S	core	4	3	1 Excee
Huey	6469 ####	Final (###	# assigr 2020-	29 2	2.2.1	9711	1	4		Music	####	####	MUSI	####	22021https:N	1elo	4	3	1 Excee
Huey	6469 ####	Final (###	# assigr 2020-	29 2	2.3.1	9712	1	4		Music	####	####	MUSI	####	22021https:C	horc	4	3	1 Excee
Huey	6469 ####	Final (###	# assigr 2020-	29 2	2.4.1	9713	1	4		Music	####	####	MUSI	####	22021https:R	hyth	4	3	1 Excee
Huey	6469 ####	Final ####	# assigr 2020-	29 2	2.5.2	9714	1	4		Music	####	####	MUSI	####	22021https:S	core	4	3	1 Excee
Boul	7416 ####	Oral E ###	# assignment	S	5.2.a.	####	1	0		Maste	####	####	THTR	####	22021https://	/k-st	4	3	0
Bou	7416 ####	Oral E ###	# assignment	S	ŝ.2.b.	####	1	0		Maste	####	####	THTR	####	22021https://	/k-st	4	3	0
Bou	7416 ####	Oral E ###	# assignment	S	S.2.c.	####	1	0		Maste	####	####	THTR	####	22021https://	/k-st	4	3	0
Во	7416 ####	Oral E ###	# assignment	S	S.2.d.	####	1	0		Maste	####	####	THTR	####	22021https://	/k-st	4	3	0
Во	7416 ####	Oral E ###	# assignment	S	\$.2.e.	####	1	0		Maste	####	####	THTR	####	22021https://	/k-st	4	3	0
Bc	7416 ####	Maste ###	# assignment	5	S.3.a.	####	1	4		Maste	####	####	THTR	####	22021https://	/k-st	4	3	1 Uses
в	7416 ####	Maste ###	# assignment	S	s.3.b.	####	1	3		Maste	####	####	THTR	####	22021https://	/k-st	4	3	1 Writir
F.	#### ####	Dr. D. ###	# assigr 2020-	28 1	1.1 Tc	9162	1	7		Sprin	####		Spring	####	https://	/k-st	10	8	0 Advai
	KANS	AS ST	ATE TY																43

This .csv report shows the learning outcome results of all outcomes for all students. It includes all of the scoring data and meta-data associated with the course, assignment, outcome, and time-stamps needed for many types of analysis. From these .csv files, data can be organized in many ways to make the data useful.



We are going to take a short break and then finish the last segment with ideas for visualization. Don't forget to add your question in the chat.

after the 5 – minute break, the last segment will cover

- What to do with the data.
- Ideas for visualization.
- Further discussion and additional questions.
- Examples inside of CANVAS if you would like.



Whether visualizations include tables or graphs, it is essential that the data is presented so the stakeholders (usually the program/unit and its faculty/staff) can assess the meaning and implications for student learning.

• The most important reason for collecting student achievement data by outcome categories and the assessable criteria is to identify successful learning as well as areas in which learning could be improved. There are multiple ways to visualize assessment data. Depending upon technology skills, the .csv files can create visualizations in the form of tables and charts using Excel, RStudio, PowerBI, Tableau, Python, or other visualization products.

Please ask questions anytime that they appear to you.



Earlier we talked about the Groups and Outcomes in the administrative levels.

 The usefulness of creating outcome categories (Groups in CANVAS) and the component criteria (Outcomes in CANVAS) comes in the producing visualizations to be used in analyzing the data to better understand learning. When combining achievement scores over time and across assignments, student achievement can be easily understood through a chart.

	(Graphi	c Visualiz	ations	ARY 16	
		Direct Ass	essment Scores by Outcom	e and Achievement Leve		
	Exceeded expectations	nimum expectations	Did not meet expectations			
	A. Critical Thinking A.2 Use of	31	%	43%		25%
	A. Critical Thinking A.3 Influen	8%	35%		36%	21%
	A. Critical Thinking A.4 Explan		57%		31%	10%
	B. Written Communication B.1	20%	26%		48%	5%
	B. Written Communication B.2	16%	23%	37%		25%
	E. Intercultural Competence E	22%		47%	24%	8%
	E. Intercultural Competence E	10%	45%		27%	18%
	E. Intercultural Competence E	14%		55%	18%	14%
$\boldsymbol{\prec}$	F. Quantitative Literacy F.1 Ma		59%		29%	12%
	F. Quantitative Literacy F.2 Cal	14%	21%	28%	37	6
	F. Quantitative Literacy F.3 As	14%	37%		41%	8%
	G. Inquiry G.1 Analysis Assess	8%	47%		37%	8%
Outcom	nes (assessed Criteria)	i i	20%	40%	50% 80%	100%
	NSAS STATE					47

The same data can be expanded to see achievement in each criteria. Because all scores were collected as Outcomes (assessed criteria), achievement can be disaggregated to better understand successful demonstration and challenges the qualities of learning the make up each outcome category group. As you see in each grouping, there is one criterion with which students experienced greater challenges. Without disaggregation into component criteria, this would have remained hidden in the data.



Visualized another way, by sorting from lowest to highest levels of achievement, a visualization like this can expose the most challenging criteria for students to demonstrate in the selected assessments. This has been useful to many programs to guide curricular discussion.

-	Exceeded ex	pectations	Met expe	ectations	Met mir expecta	nimum ations	Did no expect	t meet ations	То	tal
Outcome	Count	%	Count	%	Count	%	Count	%	Count	%
A. Critical Thinking	234	38.9%	222	36.9%	121	20.1%	25	4.2%	602	100.09
A.2 Use of Evidence	79	30.6%	111	43.0%	64	24.8%	4	1.6%	258	100.09
A.3 Influence of Context and Assu	7	8.1%	30	34.9%	31	36.0%	18	20.9%	86	100.09
A.4 Explanation of Issues	148	57.4%	81	31.4%	26	10.1%	3	1.2%	258	100.09
B. Written Communication	92	17.8%	126	24.4%	220	42.6%	78	15.1%	516	100.09
B.1 Context and Purpose	52	20.2%	67	26.0%	125	48.4%	14	5.4%	258	100.09
B.2 Syntax and Mechanics	40	15.5%	59	22.9%	95	36.8%	64	24.8%	258	100.09
E. Intercultural Competence	23	15.0%	75	49.0%	35	22.9%	20	13.1%	153	100.09
E.1 Cultural Self-Awareness	11	21.6%	24	47.1%	12	23.5%	4	7.8%	51	100.09
E.2 Attitude of Openness	5	9.8%	23	45.1%	14	27.5%	9	17.6%	51	100.09
E.3 Empathy	7	13.7%	28	54.9%	9	17.6%	7	13.7%	51	100.09
F. Quantitative Literacy	54	24.2%	65	29.1%	65	29.1 %	39	17.5%	223	100.09
F.1 Mathematical Interpretation	30	58.8%	15	29.4%	6	11.8%			51	100.09
F.2 Calculation	12	14.0%	18	20.9%	24	27.9%	32	37.2%	86	100.09
F.3 Assumptions	12	14.0%	32	37.2%	35	40.7%	7	8.1%	86	100.09
5. Inquiry	4	7.8%	24	47.1%	19	37.3%	4	7.8%	51	100.09
G.1 Analysis	4	7.8%	24	47.1%	19	37.3%	4	7.8%	51	100.09

KANSAS STATE

Sometimes a table is a preferable way for some to view achievement data. The most important factor in visualization is presenting student learning data from CANVAS in the way it is most useful for understanding by the stakeholders, as well as to expose what is not visible in the typical grading scheme. Course grades and GPA presents averages of multiple learning outcomes. Courses or assignments seldom teach only one learning outcome. Grades are aggregations of multiple criteria from multiple outcome groups. To fully understanding what students are learning, and more importantly what challenges their learning achievement, disaggregating scores by criteria is essential. The advantage of collecting these scores using CANVAS assessment technology is in its automation. Faculty score student demonstration of learning though assessment tasks embedded in the learning process while simultaneously automating the collection of assessable criteria scores across multiple assignments and courses.

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The CANVAS assessment technology can be administered with flexibility to provide data in ways that programs find valuable. When skills are developed and assessed over time, visualizations can differentiate gradual progress toward the outcome development. This is implemented in programs like the visual and performing arts, teacher training, public speaking, and other developmental skill areas. Developmental tendencies can be visualized over students' educational experience to provide evidence when the greatest development occurs or when learning plateaus.



One important advantage to collecting student achievement data through CANVAS outcomes technology is its connection to the student identifier. With student identifier column in the csv file, student achievement data collected can be aligned with the Student Information System enabling filtering by demographic identifiers

- such as gender,
- Transfer status,
- Residency status
- registered major,
- First-generation applicants, GPA, And other such as ethnicity, academic status, and any other identifier that could differentiate learning needs.

In this example, the identifiers serve two purposes: (1) visualizing the calculations of what percentage make up the demographic category and (2) as a filter to selected to change the adjoining tables showing the results from the selected cohort. For example, when I select non-transfer

KANSAS STATE UNIVERSITY Office of Assessm	Direct	Assessment	Ana	alysis S	Sampl	e Repo	ort	
% Students by Entry College Other Colle 17%	^{:"} 1545 Count Scores	Direct Ass	essmen et expectat	t Scores by C	Outcome and	d Achievemen	t Level	S
		A. Critical Thinking		31%	34%	6	26%	9%
	65	B. Written Communication	13%	22%		41%	2	4%
Same Colle 83%	Count Students	E. Intercultural Competence	13%		58%		21%	8%
% Students by Entry Major	% Students by Conder	F. Quantitative Literacy		30%	20%	27%	2	3%
Other Major	F 9%	G. Inquiry	13%	25%		50%		13%
35% Same	0	0'' % Pro	[%] ficient (1	20% top two achie	40% evement leve	60% els) by Outcor	80% me	100%
€2 % Students by Transfer Status	% Students by Residency	Proficient B.2 Syntax and Mechanics F.2 Calculation C 1 Archevia		26.	3%			1
Transfer 18% Non 82%	Out of State 19%	 G.1 Anaysis A.3 Influence of Context a B.1 Context and Purpose F.3 Assumptions E.1 Cultural Self-Awareness A.2 Use of Evidence E.2 Attitude of Openness 	%	20%	37.5% 41.7% 44. 45	6 7% 8% 62.5% 60%	6 75.0% 80%	52 100%

I now see the scores of those that started on our campus

KANSAS STATE UNIVERSITY Office of Assessm	Direct	Direct Assessment Analysis Sample Report									
% Students by Entry College Other College 15%	1281 Count Scores	Direct Assessment Scores by Outcome and Achievement Level Exceeded expectations Met expectations Did not meet expectations									
\mathbf{O}	292	A. Critical Thinking B. Written Communication	409 19%	5 25%	37% 43%	19% 14%					
Same College 85%	Count Students	E. Intercultural Competence	16%	47%	23%	14%					
% Students by Entry Major Other Major 43%	% Students by Gender	G. Inquiry	7% 20%	32% 51%	30% 35%	7%					
Same Major		% Proficient (top two achievement levels) by Outcome Proficient 									
57%	% Students by Residency	F.2 Calculation B.2 Syntax and Mechanics A.3 Influence of Context a B.1 Context and Purpose		33.9% 40.5% 43.5 46	%						
Non 82%	In-State 79%	E.2 Attitude of Openness F.3 Assumptions G.1 Analysis E.3 Empathy E.1 Cultural Self-Awareness	% 20%	40%	53.2% 53.1% 67.4% 69.8% 60% 80	s 53 100%					

As compared to the scores of those that transferred into the program. The connection to student information enables the ability to disaggregate data by any cohort category for which the institution has access.

Comparing Direct to Indirect Assessment Scores												
Outcome Select all 0.1.a* Communicate Effectively by Creating appropriate oral presentations. 0.1.b* Communicate effectively by Creating appropriate written documents 0.1.c Communicate effectively by Applying appropriate graphic depictions.							The Outcome Score is the average of direct and Indirect assessments on shown on this page	Outcome Score 4.45				
					Senior Survey Response							
Outcome#	# of Scores	% Exceeds	% Meets	% Does Not Meet	Program	How well is CN	Average					
•		Expectations	Expectations	Expectations	Score	01.b* Communicat	4.19					
01.a*							,, , , ,					
CNS 660 B	37	51%	49%		5	Alumni 2-year Survey Response						
01.b*						How well has	Average					
CNS 660 B	37	62%	30%	8%	5	01.a* Communica	3.73					
01.c						01.b* Communica	4.09					
ARE 310 A	11	73%	18%	9%	5	 01.c Communicate effectively by Applying appropriate graphic depictions. 4. 						
CNS 321 01L	63	48%	33%	19%	4							
CNS 321 D	1	100%			5	How well has	Average					
						01.a* Communica 01.b* Communica 01.c Communicat	ate Effectively by Creating appropriate oral presentations. ate effectively by Creating appropriate written documents te effectively by Applying appropriate graphic depictions.	4.00 4.14 4.23				
						How well has	CNSM fulfilled the goal of preparing students to:	Average				
						01.c Communicat 01.b* Communicat 01.a* Communicat	te effectively by Applying appropriate graphic depictions. ate effectively by Creating appropriate written documents ate Effectively by Creating appropriate oral presentations.	3.96 3.86 3.77				

Another use of the student identifies is alignment with other data sources such as surveys and tools that exists outside of CANVAS. Programs/units have aligned outcomes used in CANVAS to questions surveyed to students, alumni, internship directors, or other data sources that can provide alternative scoring of the outcomes and assessable criteria.



One example that some programs have found useful is to compare the score of students' perceived level of achievement to the faculty score using the same scale. When student self-assessed scores (which are indirect assessments) are compared against the faculty's direct assessment scores, what can be exposed are students' inflated concept of their learning or lack of conception of proficiencies. In this example, the bars that go up show the percentage students over-inflate the capabilities on certain criteria as compared to the instructor scores. Bars the go down demonstrate the percentage that student do not recognize the level of achievement as scores by the instructor.



Other ways that have been useful is comparing faculty scores of achievement in coursework as compared to internship scores for fieldwork. When validity of the measure and reliability of scoring is confirmed, these comparisons could expose the level of scoring rigor in coursework as compared to applied expectations beyond the institution.



It is possible to purchase or to build automated connections to the CANVAS data that would eliminate the step of downloading data to align into the visualizations. Our university has created an automated download of all CANVAS data into a datawarehouse. With an automated connection, data flows directly to the visualization so unit faculty can efficiently analyze and assess the meaning to support instructional and curricular decisions. Our data flow will refresh 4-times daily.



There are many other ways that CANVAS outcomes can be useful to guide instructional and program improvements. Using the automation of data collection and the organizational structure through CANVAS is the foundation necessary for effective and efficient integration.