Agricultural Education Program Assessment

Kristin Kovar, Assistant Professor of Agricultural Education

Overview of your Program Assessment Efforts to Date

As a new program area, the Agricultural Education program is currently between a Level 1 and a Level 2 on the assessment cycle.

Level 1: Development of student learning outcomes, assessment measures, and assessment plans

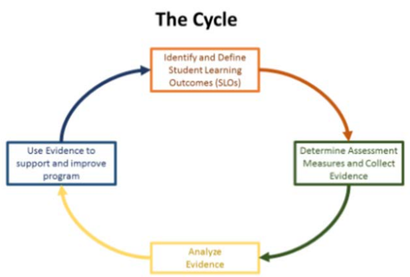
Level 2: the collection and analysis of data using previously defined assessment measures.

Level Three: Review of assessment data and implementation of new practices

The Plan for Assessment of Student Learning (PASL) by Dr. Desy, 2015 include the following steps:
Step 1: Goals
Step 2: Outcomes
Step 3: Course Map
Step 4: Assessment Plan
Step 5: Documenting Assessment
The Agricultural Education program has completed Step 3 and is the process of beginning Step 4.

As a department, we have come together on several occasions to work collectively and continue our plan for program assessment. There are eight program areas in the School of Agriculture, Culinology and Hospitality Management.

There are six agriculture specific program areas. Agricultural Education is one of those six. I am the only Agricultural Education faculty member. All faculty members within the department are all in different places in the assessment cycle, which has positives and negatives, but our goal is to help each other through this process.



Mission Statement

The mission of the Agricultural Education program at Southwest Minnesota State University (SMSU) is to prepare quality agriculture educators that are active participants in the development of teaching, learning, and leadership through engagement in critical inquiry, reflection, and practice of promoting agricultural literacy in schools and communities.

Learning Outcomes

Goal 1. Leadership

Student Learning Outcome 1.1
Identify basic theories and principles of leadership development including individual and group motivation.

Student Learning Outcome 1.2
Determine effective methods of program planning and the structures and development of youth organizations.

Student Learning Outcome 1.3
Manage an FFA chapter as the adult advisor, coach FFA contest teams, and supervise agricultural learning projects.

Goal 2. Agricultural Literacy

Student Learning Outcome 2.1
Evaluate basic content in animal science, horticulture, agronomic crops, agricultural mechanics and agricultural business and economics necessary for passing state certification assessment and effective teaching.

Student Learning Outcome 2.2
Apply learned content knowledge of agricultural related enterprises and natural resources occupations through experiential learning opportunities.

Goal 3. Pedagogy

Student Learning Outcome 3.1
Utilize strategies and best practices for planning curriculum, delivering instruction and for assessing learning in formal and informal settings.

Student Learning Outcome 3.2
Apply a variety of instructional strategies and technologies to address different learning styles and the needs of diverse learners to develop students' critical thinking, problem solving, and performance skills.

Student Learning Outcome 3.3
Apply techniques of reflection to assess the effectiveness of their actions in the classroom and other educational venues.

Goal 4. Engagement

Student Learning Outcome 4.1
Build relationships with school colleagues, parents, and educational partners in the larger community.

Student Learning Outcome 4.2
Determine strategies for independent as well as continual learning of the craft of teaching through regular reflection and professional development.

Goal 5. Communication

Student Learning Outcome 5.1
Communicate effectively, orally and in writing, to a variety of audiences and for a variety of purposes.

Student Learning Outcome 5.2
Write instructional plans, deliver teaching, and develop student learning assessments in agricultural subject areas.

Assessment Plan and Timetable

ALIGNMENT MATRIX

PROGRAM NAME: Agricultural Education DATE: 1/4/2017

LEP SLOS	PROGRAM SLOS	PROGRAM COURSES									
		ED 101	ED 102	AGED 201	ED 301	ED 304	AGED 301	AGED 351	AGED 401	ED 407	AG Courses	CAPSTONE ED 469
Communicate Effectively	3.1, 5.1, 5.2	A; 3.1, 5.1, 5.2	A; 5.1	A; 5.1, 5.2	B; 3.1, 5.1, 5.2	B; 3.1, 5.1, 5.2	B; 5.1	B; 5.1	C; 3.1; 5.1, 5.2	C; 3.1, 5.1, 5.2	A-C; 5.1	C; 3.1, 5.1, 5.2
Creative Thinking	1.2, 1.3, 2.2, 3.2, 5.2	A; 3.2, 5.2	A; 3.2	A; 5.2	B; 3.2, 5.2	B; 1.2, 1.3, 2.2, 3.2, 5.2	B; 1.2, 1.3	B; 2.2	C; 1.2, 3.2, 5.2	C; 3.2, 5.2		C; 1.2, 1.3, 3.2, 5.2
Critical Thinking	1.1, 1.2, 2.1, 3.1, 3.2, 3.3, 4.2, 5.1, 5.2	A; 3.1, 3.2, 3.3, 4.2,5.1, 5.2	A; 3.2, 5.1	A; 1.1, 3.3, 5.1, 5.2	B; 3.1, 3.2, 3.3, 4.2, 5.1, 5.2	B; 1.3, 3.1, 3.2, 3.3, 4.2, 5.1, 5.2	B; 1.2, 1.3, 4.2, 5.1	B; 4.2, 5.1	C; 1.2, 3.1, 3.2, 3.3, 4.2, 5.1, 5.2	C; 3.1, 3.2, 3.3, 4.2, 5.1, 5.2	A-C; 2.1, 5.1	C; 1.2, 3.1, 3.2, 3.3, 4.2, 5.1, 5.2
Physical & Social World	1.2, 1.3, 2.1, 2.2, 3.1, 3.2, 4.1, 5.1, 5.2	A; 3.1, 3.2, 4.1, 5.1, 5.2	A; 3.2, 4.1, 5.1	A; 4.1, 5.1, 5.2	B; 3.1, 3.2, 4.1, 5.1, 5.2	B; 1.2, 1.3, 2.2, 3.1, 3.2, 4.1, 5.1, 5.2	B; 1.2, 1.2, 4.1, 5.1	B; 2.2, 4.1, 5.1	C; 1.2, 3.1, 3.2, 4.1, 5.1, 5.2	C; 3.1, 3.2, 4.1, 5.1, 5.2	A-C; 2.1, 5.1	C; 1.2, 1.3, 3.1, 3.2, 4.1, 5.1, 5.2
Diversity	3.2, 4.1	A; 3.2, 4.1	A; 3.2, 4.1	A; 4.1	B; 3.2, 4.1	B; 3.2, 4.1	B; 4.1	B; 4.1	C; 3.2, 4.1	C; 3.2, 4.1		C; 3.2, 4.1
Moral Reasoning	1.1, 3.3, 4.2	A; 3.3, 4.2		A; 1.1, 3.3	B; 3.3, 4.2	B; 3.3, 4.2	B; 4.2	B; 4.1	C; 3.3, 4.2	C; 3.3, 4.2		C; 3.3, 4.2
Civic Engagement	1.2, 1.3, 2.2, 4.1	A; 4.1	A; 4.1	A; 4.1	B; 4.1	B; 1.2, 1.3, 2.2, 4.1	B; 1.2, 1.3, 4.1	B; 2.2, 4.1	C; 1.2, 4.1	C; 4.1		C; 1.2, 1.3, 4.1

KEY: A = (conceptual Acquaintance or exposing); B = (basic Building); C = (conceptually Commending)

REV: 12.17.2015

The above matrix is an alignment of LEP SLOs as well as program SLOs with courses from the program. The Agricultural Education major, along with other secondary education majors, is unique in the sense that students need to learn the content of WHAT they will teach (Agriculture) simultaneously while learning the skills and methodologies of HOW to teach (pedagogy).

The matrix is designed to include both of these aspects, with AG Courses being the content, the ED courses being the pedagogy. In addition, the AG ED courses allow students to learn the intra-curricular components of Agricultural Education such as leading their local FFA chapter, completing Supervised Agricultural Experiences, and the leadership required to be a successful member of a learning community.

Next Steps

The next steps would include identifying the assessments that provide evidence that student achieved each outcome, determine how that data will be collected and deemed successful, and generate a timetable and criterion for success. This is an area that has been hindered due to a lack of confidence and understanding of how to complete this process. My goal is to get to a point that I can begin collecting data in the Fall of 2018.

Challenges

The unique challenges include being a single faculty member program, a very new program that first had to meet the demands of developing courses and program implementation, as well as a new faculty member in general that is still learning the ropes of professorship.

I started this position in August of 2015. During the first year, my goal was to develop the courses and complete the process of program accrediting through the Minnesota Board of Teaching. This was achieved on August 12. 2016. We were able to meet as a department in January of 2017 and made immense progress in the assessment cycle by developing the goals, outcomes and course map/matrix. From here, I personally have made little progress since this point, but have made it a priority for this semester, especially with the catalyst of The Assessment Day to aid in the process.

There isn't a program without students…

Assessment Accomplishments

The biggest accomplishment to date is the accreditation of the program and the progress made from inception. Considering the challenges, growth and progress need to continue beyond those challenges in order for programmatic success.

Acknowledgements

As an army of one in Agricultural Education at SMSU, the support of others is immensely important. Agricultural Education at SMSU would never have existed or even continue to exist without the dedication and support of Dr. Gerry Toland. He is a champion for Agricultural Education and not many programs can say they have their very own champion!
The School of Agriculture, Culinology and Hospitality Management is made up of hand working, amazing individuals that I value greatly.

Assessment of Creative Thinking in LEP 400

Pamela Sanders
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Overview and Approach to Assessment

LEP 400: CIS: Sustainability of our Food Systems

In Spring 2012, I designed my new Contemporary Issues Seminar course around the Student Learning Outcomes developed by the SMSU Liberal Education Committee.

Major assignments were designed to address and assess as many of the SLOs as possible.

I created rubrics for the major assignments based on the SLOs, including many of the sub-outcomes, and CIS course descriptions. Items from the SMSU Information Literacy Rubric were included.

I have taught the course five times, wrote complete Assessment Reports for 2012 and 2013, and have assessment data to finish analyzing from 2015 and 2017.

Course has been modified in response to assessment from previous terms.

SMSU Contemporary Issues Seminars SLOs

Objectives for SMSU Contemporary Issues Seminars

-from SMSU Liberal Education Committee

Primary objective: the development of creative thinking, which can be defined as the ability to identify, formulate, and solve problems using interdisciplinary perspectives.

Another objective: to provide an opportunity to conduct formative and summative assessments of the core skills of communication, critical thinking, and information literacy in our students.

SMSU LEP Creative Thinking Outcome

-from SMSU Liberal Education Committee

1. Be creative thinkers able to identify, formulate, and solve problems using interdisciplinary perspectives.
2. Break a complex issue or task into incremental steps.
3. Comprehend the differences and similarities among fields of study, and how these augment our understanding of important issues.
4. Employ multiple modes of inquiry and analysis to arrive at a range of possible solutions to a problem or a task.
5. Apply a range of methods for producing creative results.
6. Exhibit increasing development of characteristics essential to being a creative thinker, including
    a. Curiosity
    b. Aesthetic appreciation
    c. Desire to make things better
    d. Enjoyment of challenge
    e. Ability to suspend judgment
    f. Acceptance of and willingness to learn from mistakes and failure

Creative Thinking Assessment Tools Created

Complex Issues Analysis Assignment used to assess creative problem-solving skills (SLOs 1-4, 6e in particular)

The creative thinking outcomes include specific skills and steps to use in analyzing issues.

- If students don't know you want them to break things down into steps, analyze assumptions, etc., they might not demonstrate abilities that they do have.

The students are given prompts that indicate the level of analysis expected.

- need to recognize the cues
- demonstrate analytical skills to respond to each step

Complex Issues Analysis Assignment:

- A week before the assessment, each student chooses one of three news articles presenting a complex issue related to the course; e.g. labeling GMO food, restricting fishing in the ocean.
- They receive a guide to the problem-solving steps to discuss and practice. (Preparatory Questions below)
- Outside of class, they apply the problem-solving steps to the article they chose and bring notes from this process to the final assessment to use while writing answers to related questions.

Preparatory Questions:

1. Identify the problem that is presented.
2. What info, data do you need to determine whether it is a problem?
3. Who are the stakeholders? Identify the competing values among the stakeholders in regards to the issue.
4. What are the challenges that make the problem complex?
5. What are some potential solutions that are discussed?
6. What do you want to know to evaluate the alternate solutions? Do you think all the evidence is available? What unknowns are there?
7. What benefits and negative trade-offs do you foresee from each proposed solution?
8. Are there additional solutions you can suggest?
9. What is your opinion and what are you basing it on?

Final Assessment Questions:

1. Identify and describe the problem and its importance.
2. Identify the stakeholders and perspectives or interests.
3. Clearly describe the proposed solution or potential solutions, including underlying values.
4. Identify information needed to evaluate the proposal, and the probable availability of that information.
5. Argue both for and against the proposal as a way of considering values, evidence and analyzing benefits and negative trade-offs.
6. Clearly describe your own opinion and your reasoning.
7. Do you have any additional solutions to propose?

Assessment Accomplishments

Assessment summaries here are to show the outcomes assessed with the rubrics and examples of the data collected.

Table 1. Complex Issue Analysis Assessment

% of students at each level for 2012 & 2013 pooled
N=32 1 student ≈ 3%

OUTCOME	BEGINNING	COMPETENT	ADVANCED
Analyzed issue by dividing it into steps	16%	25%	59%
Able to identify values, perspectives, assumptions, necessary information	13%	53%	34%
Able to lay out both arguments or multiple solutions, weigh evidence, suspend judgment	31%	19%	50%
Able to summarize their decision or opinion, clearly verbalize their reasons	31%	13%	56%
Showed creativity, thought outside given possibilities	16%	44%	41%

Other Major Assessments

The Finding Solutions paper assesses the following outcomes using a rubric I created from the course SLOs and course descriptions.

Table 2. Finding Solutions Paper Assessment

Data from 2013 N=19 & 2015 N=23

Outcome	% proficient	
	2013	2015
Organization of paper	68%	87%
Integration of course material	79%	100%
Use of multiple disciplines and perspectives	89%	100%
Included specific evidence and avoided unsupported generalities	79%	91%
Demonstrated creative problem solving	74%	91%
Information literacy skills	74%	92%
Writing skills	84%	82%

The Finding Solutions Oral PowerPoint presentation assesses the above outcomes plus presentation skills.

Accomplishments Continued

Course improvements made based on assessments:

- Providing the rubrics to the students clarified expectations in all areas, except information literacy in the oral presentation
- To provide more practice using step-by-step problem-solving skills, I added an exercise similar to Complex Issues Analysis during students' development of their Finding Solutions project.
  With a partner, they work through similar questions about their topic.

Challenges

Some outcomes seem difficult to assess or attain:

- #6 and its sub-outcomes, except suspending judgment
- #5 producing creative results (distinct from creative analysis process)
    - I rated this outcome generously.

Is it unrealistic to expect students to develop creative solutions to complex problems in a course outside of their major?

The Framing Language with the AAC&U Creative Thinking VALUE Rubric notes that a thorough knowledge of the field of study is required (Rhodes, 2010).

The Complex Issue Analysis Assignment was graded first and reassessed with the rubric.

An appendix to the Finding Solutions paper is meant to evaluate sources and reflect on their use of multiple disciplines. This isn't working well.

- An Annotated Bibliography may work better.

Literature Cited

Rhodes, T.L. (Ed.). (2010). *Assessing outcomes and improving achievement: Tips and tools for using rubrics.* Washington, DC: Association of American Colleges and Universities. pp. 26-27.

Acknowledgments

Thanks to Prof. Emily Deaver for inspiring discussions about this course and to Prof. Sang Jung for contributing several guest lectures on agricultural economics every year.

Mapping of Biol487 rubrics to the LEC core skills rubrics as a means for simultaneous program and LEC data collection

Sandy Craner, Vaughn Gehle, Tony Greenfield, and Pam Sanders

Biology Program

Introduction

Biol487: Senior Seminar serves as the capstone course for the biology program. Students in this course conduct an extensive literature review on a topic of their choice that is also approved by the faculty.

This course supports five of the program student learning outcomes

- SLO1.1: Demonstrate knowledge of scientific content, including core concepts and principles in biology
- SLO 3.1 - Demonstrate competency in data analysis including the preparation and interpretation of graphs and tables
- SLO 4.1 - Demonstrate information literacy skills by ability to identify, locate, and evaluate biological information.
- SLO 4.2 - Demonstrate competency in communicating experimental findings or data interpretations both orally and in writing.
- SLO 5.1 - Use scientific evidence to evaluate biological and societal issues.

The biology faculty have routinely used Biol487 as a means to gather assessment data for the program; showcasing how students perform after near completion of the biology curriculum.

This course also serves as an upper level core skills course for the major. As such, student should demonstrate competency in the core skills of written and oral communication, critical thinking, and information literacy

In 2015, the biology faculty developed a means to simultaneously collect data for the program SLOs as well as some LEP SLOs by mapping the assignments and grading forms from Biol487 to the faculty approved rubrics for written communication, oral communication, information literacy, and critical thinking.

Methods

Students in Biol487 are primarily evaluated based on the following criteria:

- Research logs
- Annotated bibliography
- Oral poster presentation
- Research paper

The biology faculty have been using grading rubrics for the written research paper and the oral poster presentation for many years.

The various sections of these program grading rubrics were matched with their corresponding sections in the LEC rubrics for written communication, oral communication, information literacy and critical thinking.

Section scores >90% were deemed the highest proficiency level (advanced). Section scores between 75-89% were deemed second highest proficiency level, while scores <75% were marked as lowest proficiency level

Mapping Biol487 course assignments and grading rubrics to LEP core skills rubrics

Biology Program grading rubrics

Biology Seminar Evaluation Form **Speaker** _____

Circle the most fitting rating within each category.

Introduction and Background:
A. clear, understandable 5 4 3 very hard to follow 2 1
B. explicitly stated key issue 5 4 3 no key issue stated 2 1
C. thorough background 5 4 3 little background info 2 1

Experimental Evidence:
D. appropriate primary sources 5 4 3 inappropriate sources 2 1
E. detailed description of exps. 5 4 3 ~no description of exps. 2 1
F. clearly understood exps. 5 4 3 didn't understand exps. 2 1
G. explained results clearly 5 4 3 poor explanation of results 2 1

Presentation of Data (Figures):
H. figures described clearly 5 4 3 confusing poor description 2 1
I. figures large, clear 5 4 3 figures messy, small, unclear 2 1

Critique & Conclusion:
J. evaluated strengths/weaknesses of articles 5 4 3 no evaluation of articles 2 1
K. clear evidence-based conclusion 5 4 3 no conclusion 2 1
L. full discussion of significance 5 4 3 no discussion of significance 2 1

Response to Questions:
M. poised thoughtful response 5 4 3 poor response 2 1

Overall presentation:
N. well-organized 5 4 3 hard to follow, disorganized 2 1
O. appropriately difficult topic 5 4 3 superficial coverage/topic 2 1
P. careful preparation of poster 5 4 3 careless preparation of poster 2 1
Q. displayed complete knowledge of topic 5 4 3 insufficient knowledge of topic 2 1

Speaking:
R. good volume and speed 5 4 3 inappropriate volume, speed 2 1

Citations:
S. cited sources correctly in writing 5 4 3 lack of written citations 2 1
T. verbally cited main articles correctly 5 4 3 lack of verbal citation 2 1

Comments and notes:

Seminar paper grading form

INTRO/BACKGROUND	_____ OF 10
DATA: DISPLAY	_____ OF 5
USE, INTERPRET.	_____ OF 10
CRITIQUE	_____ OF 10
CONCLUSION	_____ OF 5
OVERALL	
ORGANIZATION	_____ OF 7
WRITING MECHANICS	_____ OF 10
SUBJECT KNOWLEDGE	_____ OF 10
CLARITY/STYLE	_____ OF 10
LITERATURE CITED/BIB.	
FORMAT	_____ OF 5
TEXT CITATIONS	_____ OF 5
#, QUALITY OF SOURCES	_____ OF 5
ANNOTATIONS	_____ OF 3
ABSTRACT	_____ OF 5
TOTAL	_____ OF 100
GRADE _____	_____ %

Assessment of program SLOs

Mapping of sections from program rubrics to LEP rubrics

Red text in LEC rubrics indicate the corresponding section in the program rubrics

LEC cores skills rubrics

Biol487 data mapped to SMSU Writing Rubric

Writing Competencies	First-Year Outcome: Beginning Competencies	Second-Year Outcome: Developing Competencies	Third-Year Outcome: Practicing Competencies	Fourth-Year Outcome: Accomplished Competencies
		< 75%	75%-89%	90% and above
Purpose and Audience (Total paper score)				
Main Idea (All scores from paper rubric minus lit cited section scores)				
Development and Support (All scores from paper rubric minus lit cited section scores)				
Organization (Paper rubric organization score)				
Style (Paper rubric clarity/style score)				
Conventions (Paper rubric mechanics score)				
Citing Sources (Paper rubric Lit cited section: Format and text citations)				

Biol487 data mapped to SMSU oral communication rubric

Speaking Competencies	Not Present	Emerging	Developing	Advanced
		< 75%	75%-89%	90% and above
I. Invention: Effective selection, restriction, research and focus of topic appropriate to audience and purpose.				
A. Determine the purpose of oral discourse. (not applicable)				
B. Choose a topic and restrict it according to the purpose and the audience. (Scores on research logs)				
C. Locate and evaluate information resources effectively. (Scores on annotated bibliography)				
D. Utilize appropriate and adequate supporting material. (Total score on poster)				
E. Utilize effective audience analysis in preparation.(Total score on poster)				
F. Work effectively in a group context to complete the invention process. (Not applicable)				
II. Organization: Demonstration o				
A. Utilize suitable and effective organizational strategies. (Poster rubric scores A, B, and N)				
B. Provide effective transitions. (not applicable)				
C. Work effectively in a group to organize a presentation. (not applicable)				
III. Delivery: Transmit the messag audience.				
A. Demonstrates vocal variety and appropriate diction. (not applicable)				
B. Demonstrate nonverbal behavior that supports the verbal message. (not applicable)				
C. Manage communication anxiety effectively. (Poster rubric scores R & M)				
D. Utilize presentation aids effectively. (Poster rubric scores E, G, H, I, and P)				
E. Work effectively in a group to deliver a presentation. (not applicable)				
IV. Style/Language Use: Employ langa				
I. Listen for literal comprehension (Active Listening) (not applicable)				
II. Listen for critical comprehension (Critical Listening).(not applicable)				
III. Manage barriers to effective listening.(not applicable)				

Bio487 data mapped to SMSU critical thinking rubric

Critical thinking Competencies	Emerging	Developing	Advanced
	< 75%	75%-89%	90% and above
1. Interpret Problems, Questions, Issues or Arguments (average of paper and poster scores)			
2. Evaluate Reasons and Evidence (Paper rubric scores for critique and conclusion and data use + Poster rubric scores for J, K, L)			
3. Construct Arguments/Formulate Hypotheses (Paper rubric scores for critique, conclusion, and data use + Poster rubric scores for B, J, K, L, M)			
4. Reasoned Approach to Using Information (Paper rubric scores for critique and conclusion and quality of sources)			
5. Dispositions Towards Critical Thinking Not applicable			

Biol487 data mapped to SMSU information literacy rubric

ACRL competencies	Beginning Indicators	Proficient Indicators	Advanced Indicators
	< 75%	75%-89%	90% and above
1. Determine and articulate extent of information needed (Scores on research logs)			
2. Access the needed information effectively and efficiently (Scores on research logs)			
3. Evaluate information and its sources critically and incorporate into knowledge base and value system (Scores on annotated bibliography)			
4. Use information effectively to accomplish a specific purpose (total score on paper and poster)			
5. Understand economic, legal, and social issues surrounding use of information; access and use information ethically and legally (not part of sr seminar)			

Assessment of LEP

Assessment results

The figures below show the number of students at each proficiency level for the listed competency

Biol487: Senior Seminar student writing performance 2013-2017
Number of students at each competency level

Writing competencies	First-Year Outcome: Beginning Competencies	Second-Year Outcome: Developing Competencies	Third-Year Outcome: Practicing Competencies	Fourth-Year Outcome: Accomplished Competencies
Purpose and Audience	1	3	28	31
Main Idea	1	5	27	30
Development and Support	1	5	27	30
Organization	0	0	12	51
Style	1	6	15	40
Conventions	1	4	20	38
Citing Sources	0	2	18	43

Biol487: Senior Seminar oral communication performance 2013-2017
Number of students at each competency level

Speaking Competencies	Not Present	Emerging	Developing	Advanced
I. Invention: Effective selection, restriction, research and focus of topic appropriate to audience and purpose.				
B. Choose a topic and restrict it according to the purpose and the audience.	0	6	14	44
C. Locate and evaluate information resources effectively.	0	3	22	39
D. Utilize appropriate and adequate supporting material.	0	4	27	32
E. Utilize effective audience analysis in preparation.	0	6	26	31
II. Organization: Demonstration of the necessity of sound structural elements in effective discourse.				
A. Utilize suitable and effective organizational strategies.	0	4	24	35
III. Delivery: Transmit the message by using delivery skills suitable to the topic, purpose, and audience.				
C. Manage communication anxiety effectively.	0	8	25	30
D. Utilize presentation aids effectively.	0	8	27	28
IV. Style/Language Use: Employ language appropriate to the designated audience and purpose	0	6	26	31

Biol487: Senior Seminar critical thinking performance
Number of students at each competency level 2013-2017

critical thinking competencies	Emerging	Developing	Advanced
Interpret Problems, Questions, Issues or Arguments	3	28	32
Evaluate Reasons and Evidence	14	24	25
Construct Arguments/Formulate Hypotheses	13	25	25
Reasoned Approach to Using Information	13	17	33

Biol487: Senior Seminar information literacy performance
Number of students at each competency level 2013-2017

ACRL competencies	Beginning Indicators	Proficient Indicators	Advanced Indicators
Determine and articulate extent of information needed	6	14	44
Access the needed information effectively and efficiently	6	14	44
Evaluate information and its sources critically and incorporate into knowledge base and value system	3	22	39
Use information effectively to accomplish a specific purpose	1	28	32

Conclusions

The majority of students were in the upper two proficiency levels for each of core skills competencies. However, it is concerning that there are still a significant number of students at the emerging proficiency level for critical thinking.

Assessing LEP Goal 1 Outcome of Communicating with Confidence

Mark A. Fokken, Communication Studies Program Coordinator
Communication Studies Program

Overview

The Communication Studies Program has comprehensive assessment plans for all its majors as well it's primary Liberal Education Program (LEP) offering, COMM 110 Essentials of Speaking and Listening. The program is involved in robust data collection and analysis that is directed by assessment timelines and calendars for both its majors and the LEP. This poster spotlights one assessment measure that is used in the COMM 110 course, adjustments that have been made as a result, and additional on-going assessment.

Programmatic Approach to Assessment

The Communication Studies Program recognizes the COMM 110 course as an integral component of Southwest Minnesota State University's Liberal Education Program. To ensure consistency in the content of instruction, the Program requires that a common syllabus and textbook are used in teaching all sections of the course. The syllabus and text are reviewed regularly through the assessment process to maximize accomplishment of the course's educational goals. The curriculum for the course has been designed to ensure students attain proficiency on SMSU's LEP outcomes for Goal 1: Communicate Effectively.

The following sources of data have been or will be used to assess the achievement of outcomes:

1. Course Exit Survey: Administered in all sections of the course each term. The instrument is designed to measure student perceptions of the course meeting its objectives.
2. Qualitative Performance Assessment: The program faculty will collect samples of random speeches from sections of the course and perform blind assessments of them using the oral communication rubric.
3. Listening: Samples of student evaluations will be selected at random and reviewed to ascertain achievement of listening competencies.
4. Pre/Post-test: To measure the cognitive domain, a pre-test and follow-up post-test will be administered in all sections of the course. The test was designed by the faculty to target specific course outcomes.
5. Outline Samples: Outlines from student speeches will be collected and reviewed randomly to assess students' outlining competencies.
6. Communication Apprehension: The PRCA-24 test for assessing communication apprehension will administered pre- and post-course in all sections.

Personal Report of Communication Apprehension -24

The PRCA-24 is the instrument most widely used to measure communication apprehension (CA). It is highly reliable and has a very high validity. It yields sub-scores in the contexts of public speaking, dyadic interaction (interpersonal), small groups and large groups (meetings). Overall scores on the PRCA can range from 24 to 120 with an average of 65.6, based on a study of 40,000 college students.

- Between 83 and 120 indicates a high level of CA.
- Between 55 and 83 indicates a moderate level of CA.
- Between 24 and 55 indicates a low level of CA.

LEP Goal 1: Communicate Effectively

Upon completion of Goal 1 of the LEP at SMSU, students will be able to:

- Determine the nature and extent of information needed to formulate and develop a coherent and unified thesis.
- Understand and select the best communication methods for achieving a given purpose.
- Comprehend and synthesize messages conveyed in both oral and written contexts.
- Recognize and employ various methods of verbal, nonverbal, cultural, and emotional communication.
- Consider and account for the nature of audiences when presenting written and oral arguments.
- *Present ideas with comfort and confidence in written and oral formats.*
- Develop an appreciation for the significance and aesthetics of language.

Assessment Plan and Timetable

The program has created more specific SLOs for the COMM 110 course that focus on oral communication competencies. These appear in the chart below. These SLO's are based on SMSU's LEP Goal 1 outcomes. The program has a comprehensive and targeted assessment plan and timetable (see chart below) for collecting and analyzing assessment data. Beginning in the Fall of 2013, the program faculty committed to the administration of the PRCA-24 in all on-campus sections of COMM 110 in a pre- and post-test format. While this instrument can shed light on several outcomes, the most relevant is the final one of presenting with comfort and confidence.

GOAL: To bring the average CA score of students leaving this course to a level below national means.

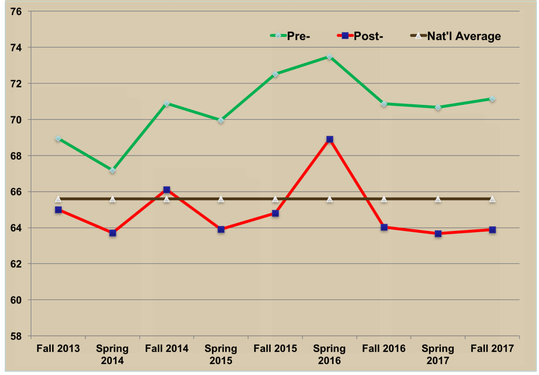
Student Learning Outcome	F 2017	S 2018	F 2018	S 2019	F 2019
1. understand/ demonstrate the speaking process through invention, organization, drafting, revision, editing & presentation.	Exit Survey Outline & Speech Samples PRCA	Exit Survey, Pre-/Post-test PRCA	Exit Survey PRCA	Exit Survey Outline & Speech Samples PRCA	Exit Survey Pre-/Post-test PRCA
2. locate, evaluate and synthesize in a responsible manner from diverse sources and points of view.	Exit Survey Outline & Speech Samples Peer Critique Samples	Exit Survey	Exit Survey	Exit Survey Outline & Speech Samples Peer Critique Samples	Exit Survey
3. select appropriate communication choices for specific audiences	Exit Survey	Exit Survey Pre-/Post-test	Exit Survey	Exit Survey	Exit Survey Pre-/Post-test
4. construct logical and coherent arguments.	Exit Survey Outline & Speech Samples	Exit Survey Pre-/Post-test	Exit Survey Outline Samples	Exit Survey Outline & Speech Samples	Exit Survey Pre-/Post-test
5. use authority, point of view, and independent voice and style in their speaking	Exit Survey Speech Samples PRCA	Exit Survey Pre-/Post-test PRCA	Exit Survey PRCA	Exit Survey Speech Samples PRCA	Exit Survey Pre-/Post-test PRCA
6. employ syntax and usage appropriate to academic disciplines and the professional world.	Exit Survey Speech Samples	Exit Survey	Exit Survey	Exit Survey Speech Samples	Exit Survey
7. present ideas with comfort and confident in public speaking and small group contexts.	PRCA	PRCA	PRCA	PRCA	PRCA

PRCA- 24 Assessment Data and Analysis

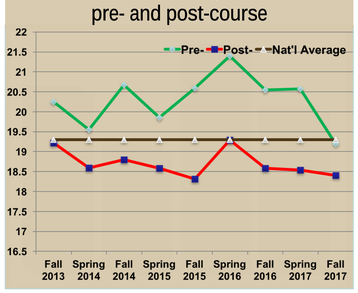
Data from all the semesters since the inception of this assessment measure suggest that completion of the course lowers communication apprehension scores by an average of 5.73 points. With the exception of the Spring of 2016, it appears that the reduction in apprehension scores post-class has either stayed the same or increased from when data collection began in the Fall of 2013. This suggests the changes implemented in the course over the past few years have had a positive impact on students' communication apprehension. With the exception of Fall 2014 and Spring 2016, the program has met its goal of lowering average CA scores post-class to a level below national norms. Detailed figures for reduction in PRCA scores are reflected in the table and charts.

Term	Pre-course Score	Post-course Score	Difference
Fall 2013	68.94	65.01	-3.93
Spring 2014	67.18	63.72	-3.46
Fall 2014	70.89	66.11	-4.78
Spring 2015	69.95	63.91	-6.04
Fall 2015	72.52	64.80	-7.72
Spring 2016	73.49	68.91	-4.58
Fall 2016	70.88	64.03	-6.85
Spring 2017	70.67	63.68	-6.99
Fall 2017	71.14	63.89	-7.25
Average drop in PRCA scores:			-5.73

PRCA Composite Scores pre- and post-course



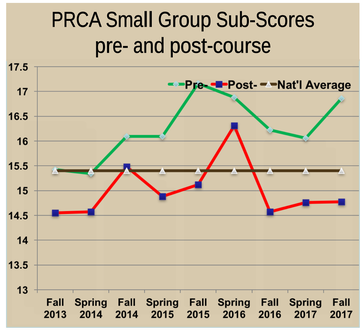
PRCA Public Speaking Sub-Scores pre- and post-course



Results of the Public Speaking sub-score show that overall, students begin the course with apprehension that is above the national average and exit the course with confidence levels that are at or below it.

PRCA small group communication composite sub-scores show that, with the exception of Spring 2016, after the course students have less apprehension than national norms on the instrument.

PRCA Small Group Sub-Scores pre- and post-course



Changes as a result of Assessment Findings:

In the fall of 2014, in response to PRCA-24 and other assessment data, the program syllabus was altered to give instructors more freedom in the required impromptu speaking assignment. Rather than a formal speech of at least 3 minutes, as had been required previously, instructors were given latitude to incorporate more relevant impromptu speaking activities in the course and the required minimum time was reduced to 2 minutes. This change allowed for more experimentation and flexibility in impromptu speaking opportunities. In addition, in the fall of 2016, the program faculty began actively encouraging (and in many cases requiring) students to submit evidence of rehearsal sessions. Some of these recordings made use of the SMSU Speech Center equipment, as well as consultation with tutors. PRCA-14 assessment following these efforts seems support the benefit of these new practices.

Next Steps

The program plans to continue collecting PRCA-24 data on a consistent basis as it not only provides a means of monitoring CA outcomes, but also because it provides a meaningful introduction to the discussion of CA and subsequent ways to manage it effectively. In addition, the program is piloting the collection of similar data in College Now (concurrent enrollment) sections of the course. This data will be compared to on-campus sections to ascertain whether or not outcomes are being met similarly in both delivery methods. In addition, since the summer of 2016, the program has offered the course online and the PRCA-24 has been administered in these sections as well. Analysis of data thus far shows little difference in the change (pre- to post-course) in CA scores between traditional and online sections. On a related note, for the past two years, the program has administered the instrument via D2L/Brightspace, greatly streamlining the collection of data.

Challenges

The program faces several challenges with respect to the overall assessment of the LEP outcomes of this course:

- Time for collection and analysis of data is limited.
- College Now data collection is challenging, although the use of D2L/Brightspace is one means of streamlining this.
- While a valid and reliable instrument, the context of the administration of the PRCA-24 instrument could impact results.

Acknowledgements/References

Thank you to the following individuals who assisted in the collection and analysis of data:

- Dr. Richard Herder
- Dr. Joseph Ullian
- Mr. Ben Walker
- Ms. Julie Walker
- Ms. Diana Holmes

McCroskey, J.C. *An Introduction to Rhetorical Communication (9th Ed).* Allyn and Bacon.

Culinology and Hospitality Management Program Assessment

Joyce Hwang, Yumi Lim and Zhenlei Xiao
Culinology and Hospitality Management

Overview of your Program or Program/LEP alignment assessment efforts to date

1. Identifying Student Learning Outcome (SLO)
- The Culinology and Hospitality Management program began with identifying SLOs. There are one track for Culinology majors, and three tracks for Hospitality Management majors

2. Alignment Matrix
- After SLOs have been identified, courses required for the degree were reviewed to connect a specific SLO.
- We then checked if the overall curriculum covers all the SLOs in a balanced way before students graduate.

3. Assess Learning
- After Alignment Matrix was complete, specific courses were designated to be an assessment point where student learnings are going to be measured.

4. Measurements
- Measurement tools were identified. Some are from existing rubric items and some needed to be identified (We are in the process of compiling measurements to assess the learning of each SLO).

5. Collect data
- Using measurements determined in step 4, collecting assessment data should happen.

6. Data analysis and finding areas for improvement.

Programmatic Approach to Assessment

When identifying SLOs for our majors, we kept two principles in mind.

- First, as a member of the entire University, Culinology and Hospitality Management SLOs should align with SMSU's seven learning outcomes.
- Second, we need reflect key competencies important for working in the Hospitality and Food Industry.

As a result, program SLOs were created for each program, one for Culinology and the other for Hospitality Management.

We then reviewed each course in each curriculum track and determined if students have balanced experience to learn each SLO throughout their academic career. This was achieved by marking the course with either I (Introduce), R (Reinforce), or M (Master). Our goal was to have balanced I, R, and M for each of the SLOs throughout our curriculum.

Everyone of the faculty members in the program was involved in every step of developing assessment plan.

Learning Outcomes - Hospitality Program SLOs

1. Communication
1) Synthesize messages with a clear point
2) Present a message effectively in an oral context for business situations

2. Critical Thinking
1) Identify and analyze external and internal environmental factors that affect the hospitality organizations.
2) Evaluate the extent to which various recourses are reasonable, relevant, and accurate for resolving an issue.
3) Develop alternative options to resolve identified issues.

3. Diversity
1) Demonstrate awareness of different personal identities existing in a hospitality industry setting

4. Social and Moral Reasoning
1) Recognize ethical issues in the hospitality organizations.
2) Demonstrate understanding of and respect for a variety of ethical viewpoints.

5. Responsible Citizenship in Their Local and Global Communities
1) Identify different knowledge, skills, values, and dispositions specific to local and global communities.
2) Evaluate the impact of different cultures to the global hospitality organizations.

6. Teamwork
1) Demonstrate effective interpersonal skills and the ability to work effectively as part of a group.

Program Alignment Matrix – Hospitality Management

This is an example of Hospitality Management Program Alignment Matrix. Only Hospitality major core courses are addressed here.

LEP SLO's	Communicate Effectively			Critical Thinking			Diver.
Program SLOs	1.1	1.2	1.3	2.1	2.2	2.3	3.1
HOSP 100	I	I	I	I	I	I	I
HOSP 300	R	R	R	R	R	R	
HOSP 320	R						R
HOSP 340	R	R	R	R	R	R	I
HOSP 460	M	M	M	M	M		
HOSP 497	I		I	I	I	I	I
HOSP 498	R		R	R	R	R	R
HOSP 499	M		M	M	M	M	M

LEP SLO's	Social & Moral Reasoning		Responsible Citizenship		Diver.
Program SLOs	4.1	4.2	5.1	5.2	6.1
HOSP 100			I	I	I
HOSP 300					R
HOSP 320	M		R	R	
HOSP 340	I	I		I	R
HOSP 460	M	M	M	M	M
HOSP 497			I	I	I
HOSP 498			R	R	R
HOSP 499	M	M	M	M	M

Learning Outcomes - Culinology Program SLOs

1. Communication
1) Synthesize messages with a clear point
2) Present a message effectively in an oral context
3) Present a message effectively in a written context

2. Creative and Critical Thinking
1) Apply a range of methods for producing creative results
2) Formulate a solution for a problem using the identified resources
3) Explain basic concepts, methods, and theories designed to develop new food products

3. Diversity
1) Demonstrate awareness of different personal identity related to food as the result of a broad set of influences

4. Moral Reasoning
1) Recognizes ethical issues in the food industry
2) Demonstrate understanding of and respect for a variety of ethical viewpoints

5. Responsible Citizenship in Their Local and Global Communities
1) Identify different knowledge, skills, values, and dispositions specific to local and global culinary communities
2) Evaluate the impact of different cultures to the global food industry

6. Teamwork
1) Demonstrate effective interpersonal skills and the ability to work effectively as part of a group

Program Alignment Matrix – Culinology

This is an example of Culinology Program Alignment Matrix. Only Culinology major core courses are shown here.

LEP SLO's	Communicate Effectively			Creative and Critical Thinking			Diver.
Program SLOs	1.1	1.2	1.3	2.1	2.2	2.3	3.1
CULG 100	I	I	I	I			I
CULG 200				I		I	
CULG 210	R		R	R	R	R	R
CULG 310	R	R	R		I	I	
CULG 390	R	R	R	R	R	R	R
CULG 450	R	R	R		R	R	
CULG 490	M	M	M	M	M	M	R
CULG 498			R				R
CULG 499			R				M
HOSP 301	R	R	R				R

LEP SLO's	Moral Reasoning		Responsible Citizenship		Teamwork
Program SLOs	4.1	4.2	5.1	5.2	6.1
CULG 100	I	I	I	I	I
CULG 310	R	R	I		R
CULG 360			R	R	R
CULG 390					R
CULG 450	R				R
CULG 490					M
CULG 498	R	R			
CULG 499	M	M			
HOSP 301			M	M	R

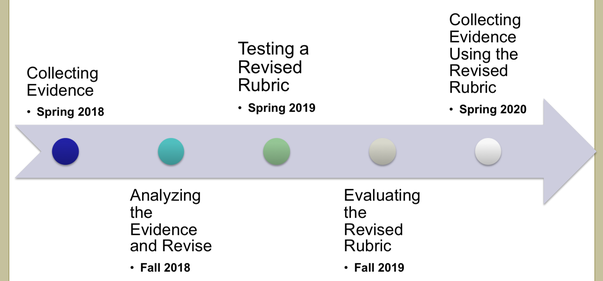
Assessment Methods – Hospitality Management

Courses	Program SLOs	Assessment Methods
HOSP 460	1.1 Synthesize messages with a clear point	Team project report and its rubric
	1.2 Present a message effectively in an oral context for business situations	Team project presentation with the presentation evaluation form
	1.3 Present a message effective in a written context for business situations	Team project report
	2. Critical thinking	Team project report
	6. Team work	Team project peer evaluation
HOSP 499	3. Diversity	Supervisor's evaluation form
	4. Social and moral reasoning	Supervisor's evaluation form
Senior Survey	5. Responsible Citizenship	Senior Survey

Assessment Methods – Culinology

Courses	Program SLOs	Assessment Methods
CULG 490	1.1 Synthesize messages with a clear point	Team project report and its rubric
	1.2 Present a message effectively in an oral context	Team project presentation and evaluation form
	1.3 Present a message effectively in a written context	Team project report
	2. Creative and critical thinking	Team project report
	6. Teamwork	Team project peer evaluation
CULG 499	3. Diversity	Supervisor's evaluation form
	4. Moral reasoning	Supervisor's evaluation form
Senior Survey	5. Responsible Citizenship	Senior Survey

Assessment Timeline



Persons in charge: Joyce Hwang and Yumi Lim for Hospitality MGT. and Joyce Hwang and Zhenlei Xiao for Culinology.

Next Steps

Currently, rubrics and evaluation forms are close to being finished and they will be used this semester to student learning data in the target courses. Data collection process will be evaluated for the quality of measurements and data collected to improve the measurement if necessary.

Standards of Effective Practice and Student Learning Outcomes Alignment

Dr. Sonya Vierstraete, Chairperson, and Dr. Matt Loyd, Director of Assessment & Accreditation
The School of Education – Teacher Education Program

LEP SLOS	PROGRAM SLOS	TEACHER EDUCATION PROGRAM COURSES										CAPSTONE Student Teaching
		ED 101	ED 102	ED 251 /PSYCH341	SPED 290	ED 312 /SOC212	ED 301	ED 423	ED 443/444	ED 304 PSTE	EMSP ED MN STUDENT PROGRAM	
Communicate Effectively	SEP 6	I	I	R	R	R	A	A	A	A	R	A
Creative Thinking	SEP 4	I	I	R		R	A	A	A	A	R	A
	SEP 7	I	I		R		A	A		A	R	A
Critical Thinking	SEP 8	I	I	R	R	R	A	A	A	A	R	A
Physical & Social World	SEP 9	I	I				A	A	A	A	R	A
	SEP10	I	I	R	R	R	A	A	A	A	R	A
Diversity	SEP 2	I	I	R			A	A	A	A	R	A
	SEP 3	I	I		R	R	A	A		A	R	A
Moral Reasoning	SEP 9	I	I		R		A	A	A	A	R	A
Civic Engagement	SEP 5	I			I		A	A		A	R	A
	SEP 10	I	I	R	R	R	A	A	A	A	R	A

KEY: SEP = Standard of Effective Practice:
1 - Subject Matter
2 - Student Learning
3 - Diverse Learners
4 - Instructional Strategies
5 - Learning Environment
6 - Communication
7 - Planning Instruction
8 - Assessment
9 - Reflection & Professional Development
10 - Collaboration, Ethics, & Relationships

*Each course incorporates both K- knowledge & A- assessment of the SEPs identified.

Levels of Understanding:
I - Introductory
R - Reinforced
A - Advanced

Acknowledgements:
The alignment of the SEPs and SLOs was done in collaboration with the Teacher Education Program Faculty in AY2017 and AY2018.

*Please note this is a work-in-progress.

Teacher Education Accreditation

Dr. Sonya Vierstraete, Chairperson, and Dr. Matt Loyd, Director of Assessment & Accreditation
The School of Education – Teacher Education Program

Overview of Teacher Education Program Assessment

The School of Education Teacher Education Program is accredited by the Professional Educator Licensing and Standards Board (PELSB) formerly named the Board of Teaching (BOT) for the State of Minnesota.

By state legislation, the PERCA cycle is every two years. This involves the review and approval of licensure programs.

The unit review occurs every five years. This requires a site visit by PELSB staff and peers. Requirements include a written Institutional Report for Teacher Education, supporting artifacts, and interviews.

Learning Outcomes for Teacher Education

Standards of Effective Practice:

1 - Subject Matter
2 - Student Learning
3 - Diverse Learners
4 - Instructional Strategies
5 - Learning Environment
6 - Communication
7 - Planning Instruction
8 - Assessment
9 - Reflection & Professional Development
10 - Collaboration, Ethics, & Relationships

Content Standards

Programmatic Standards:

Subp. 2. Professional, Pedagogical, and content studies.
Subp. 3. Field Experience.
Subp. 4. Candidate selection.
Subp. 5. Candidate advising.
Subp. 6. Monitoring candidate progress and demonstrating standards.
Subp. 7. Monitoring program effectiveness.
Subp. 8. Qualifications and assignment of faculty.
Subp. 9. Unit Leadership.
Subp. 10. Unit governance and resources.

Assessment and Accreditation Requirements

Checklist for Program Requirements:

-SEP Title Alignment
-Scope of license
-At least one methods course
-A required reading course
-Minimum 100 field experience hours
-Minimum 12 weeks student teaching
-3 admission criteria
-Candidate competency: at least one assessment evaluates content skills, assessment of specific standards (ex. SEP 4A; ABS 2A2), progress monitored throughout the program
-3 exit criteria
-Signed fiscal attestation form
-Program development includes P-12 school partners and current teachers in program content area
-Unit leader has advanced degree in content area

LIVETEXT -
The Teacher Education Program collects data via Livetext each term.

EPPAS – Educator Preparation Program Application System

RIPA Process – Request for Initial Program Approval

PRP – Program Review Panel

PERCA Process – Program Effectiveness Report for Continuing Approval

Unit Approval Site Visits –
This occurs every five years for a state-approved program. Programs with national accreditation host site visits every seven years.

edTPA – Teacher Performance Assessment

EAS/MTLEs – Essential Academic Skills and Minnesota Teacher Licensing Exams

MANDATED SURVEYS – Data Summary Report

CAMPUS LIAISON – Content-area colleagues

TEAC – Teacher Education Advisory Council

TITLE II REPORTING -
In addition to the accreditation cycle with the Minnesota Professional Educator Licensing and Standards Board, the School of Education Teacher Education Program is required to complete the Title II Federal Reporting.

Programmatic Approach to Assessment

Livetext is the platform used to collect data regarding the Teacher Education Program.

Check Points:

Checkpoint One:
SEP Program
ID when: ED 101 Introduction to Education - candidates complete a philosophy of teaching and are also evaluated on a 15-hour field experience which includes observation and writing/teaching one lesson.
ID MN Standards addressed: ED 101 Philosophy of teaching: SEPs 7A, E, F; 9B, D, E; 10A, C
Evaluation of ED 101 field experience: SEPs 4B, C, H; 6C, D, J; 9H, J, L; and dispositions

Checkpoint Two:
SEP Program
ID when: SOCI 212 Human Relations - candidates complete a Native American project and complete a text analysis for bias.
ID MN Standards addressed: SOCI 212 - 3D, J; 9C, G, I; 10D, E,G

Checkpoint Three – statement:
Fall of junior or senior year, candidates submit their key assessments based on the state content standards.

Checkpoint Four:
SPED 466 Student Teaching
ID when: Completion of student teaching, end of the program:
Student Teaching evaluation, aligned to each of the 10 SEPs, are completed by the classroom mentor teacher and the university supervisor. Candidates must receive a positive recommendation to complete the student teaching experience and to be recommended for graduation and licensure.

All candidates are required to complete the EdTPA during student teaching and submit to Pearson for scoring. If they do not meet the state recommended threshold, candidates are required to revise their submission and resubmit. In 2014-2015 and 2015-2016, they resubmitted to an Education faculty member who used the Local Evaluation Rubric to assess. Beginning in 2016-2017, they will receive remediation from Education faculty members and will then resubmit to Pearson for official scoring. Candidates are required to meet competent levels in order to be recommended for graduation and licensure.

A Graduation portfolio Portfolio Review, aligned to each of the 10 SEPs, is conducted during the last week of the student teaching semester. Each candidate is assigned to an Education Department faculty member to complete a review of their portfolio, showcasing their best work in each of the 10 SEPs and in their knowledge of their content area. Candidates must receive a positive recommendation to be recommended for graduation and licensure.

ID MN Standards addressed: All 10 SEPs and content area standards are assessed during the portfolio review process and the student teaching evaluation.

Assessment Accomplishments

Unit approval per the BOT Accreditation Site Visit on November 5-7, 2017. Approval continues until 2023.

Challenges

External accreditation requires a high level of compliance and an ongoing process throughout the year and the accreditation cycle. Analyzing and sharing data with stakeholders, state officials, and federal officials is critical to our work and is incredible time-consuming.

Acknowledgements

The accreditation process requires collaboration within the School of Education Teacher Education Program as well as across campus. We thank everyone involved in the accreditation process as we continue to improve our program as we prepare teacher candidates to serve the community and region.

Long Term Assessment of Environmental Science Senior Capstone Research Projects

Emily Deaver and Thomas Dilley
Environmental Science Program

Introduction

Value of Undergraduate Research

Undergraduate research opportunities improve participants' understanding of scientific processes, increase their confidence in their abilities, and enhance their awareness of career options in STEM fields (Russel et. al 2006, Seymour et al 2004). Students also strengthen both written and oral communication skills and enhance their critical thinking skills while working closely with a faculty mentor.

History of Undergraduate Research in ENVS Program

The Environmental Science Program undertook a Program Review in 2005-2006. It was clear from this review that our science students needed more experience conducting research and communicating the results. This assessment resulted in a variety of changes to the ENVS major:

- Fall 2006: Sr. Capstone experience changed to research project instead of term paper
- Fall 2006: ENVS program established the annual SMSU Undergraduate Research Conference
- Spring 2008: Assessment determined a single semester Capstone course not adequate; added Research Methods class (ENVS 390)
- Spring 2013: increased credits (2 credits ENVS 390 in spring; 2 credits ENVS 400 in fall) for Capstone sequence

Alignment of ENVS SLOs with LEP SLOs

ENVS SLOs addressed in the capstone sequence align with 4 LEP SLOS including Communicate Effectively, Creative Thinking, Critical Thinking and Physical and Social World.

Assessment Methods

ENVS Capstone students conduct an independent, year-long research project under close supervision of faculty in a two-semester sequence.

- Spring Research Methods (ENVS 390)- design research project and write research proposal with extensive literature search
- Summer/Fall- collect data
- Fall Capstone Class (ENVS 400)- analyze data, prepare paper & poster, & present oral at URC

Projects evaluated every December using a rubric relating LEP SLOs and ENVS SLOs. Data analysis for 73 individual projects includes:

- Rank of projects through time
- Rank By GPA
- Rank by sex
- Rank by minority

In addition, course evaluation comments and student debriefings are used to gain student perspectives on the research experience.

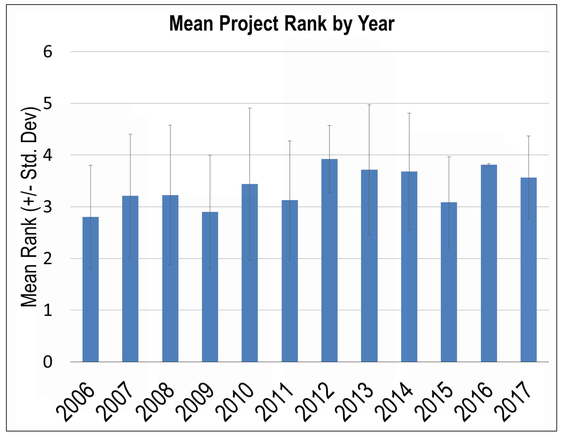
ENVS Capstone Rubric

Environmental Science Senior Research Project Critique Rubric

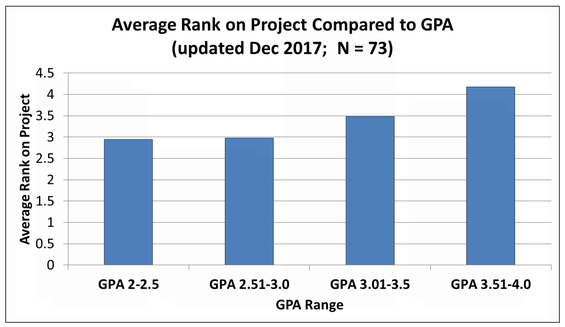
Competency Category	LEP SLO	Competency Criterion	Assessment Level
Originality: Effective Selection; Restriction	Creative Thinking	Satisfies the application of the scientific method in project selection	0 1 2 3 4 5
		Hypothesis development	0 1 2 3 4 5
		Appropriate literature search for background	0 1 2 3 4 5
Rigor/ Depth	Critical Thinking	Appropriate Methodology	0 1 2 3 4 5
		Quality and quantity of data	0 1 2 3 4 5
Involvement/ Commitment		Time invested in planning	0 1 2 3 4 5
		Time invested in data collection and analysis	0 1 2 3 4 5
		Time invested in final products	0 1 2 3 4 5
Data Quality		Research notebook	0 1 2 3 4 5
		Is appropriate to hypothesis	0 1 2 3 4 5
Data Analysis	Critical Thinking	Understanding of analytical methods	0 1 2 3 4 5
		Appropriate creation of graphs and figures	0 1 2 3 4 5
		Conclusions drawn from analysis	0 1 2 3 4 5
Understanding & Implementing Scientific Method	Physical & Social World	Overall implementation of scientific method at all stages of project	0 1 2 3 4 5
Communication	Communicate Effectively	With research advisor	0 1 2 3 4 5
		Paper	0 1 2 3 4 5
		PowerPoint	0 1 2 3 4 5
		Poster	0 1 2 3 4 5
Student Growth			0 1 2 3 4 5
Overall Impression			0 1 2 3 4 5

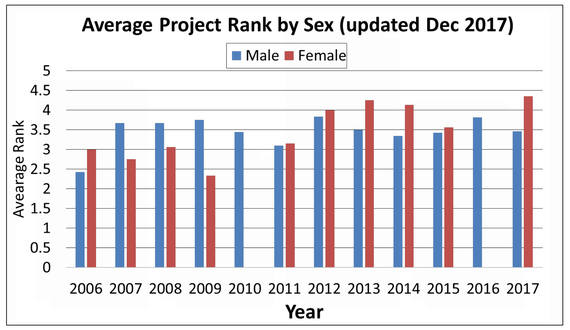
Assessment Scale: 0= not present; 1= poor; 2= below average; 3=average; 4=above average; 5=excellent

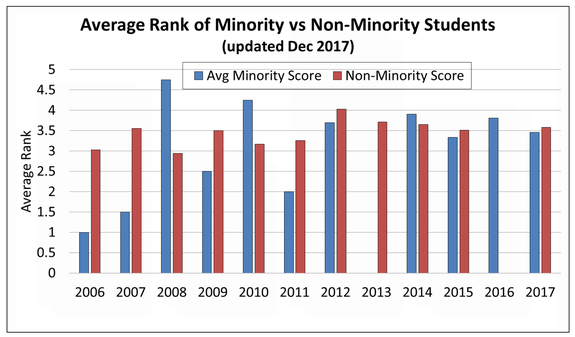
Assessment Results



Assessment Results, cont.







Year (N)	% at each Rank				
	1 Poor	2	3	4	5 Excellent
2006 (9)	11.11	44.44	22.22	22.22	0
2007 (6)	16.67	16.67	33.33	33.33	0
2008 (11)	18.18	0	54.55	27.27	0
2009 (5)	20.00	0	60.00	20.00	0
2010 (4)	25.00	0	0	75.00	0
2011(10)	10.00	30.00	20.00	40.00	0
2012 (13)	0	0	46.15	38.47	15.38
2013 (7)	0	14.29	42.86	28.57	14.29
2014 (7)	0	14.28	57.14	28.57	0
2015 (5)	0	16.67	83.34	0	0
2016 (1)	0	0	100	0	0
2017(9)	11.11	11.11	66.67	11.11	0

Evaluation

Useful information gained from this assessment includes:

- Initial rubric needed to be expanded to include more detail & different components & aligned with LEP
- Mean project rank by year shows increased values each time a change was initiated
  - Increase to 2 semester sequence clearly improved quality of projects
  - Increase in credit hours also improved quality of overall experience for students & faculty
- Students with higher GPAs do better quality projects
- Projects conducted by females show an overall increase in quality through time while male scores have remained consistent
- Rankings of minorities varies with number enrolled
- Overall the % of projects ranking average or above has increased over time
  - The largest improvement in the quality of the projects occurred with the increase to a 2 semester sequence
  - In general, larger class enrollments make it more difficult to increase the average rank of all projects
- Program goals and LEP goals are being met and we are seeing an increase in the level of achievement for each goal
- Student comments reflect that research is a positive and meaningful experience
- In addition to the academic achievements, students exhibit personal and professional growth

Closing the Loop

The next steps in this process include:

- More detailed evaluation of individual competencies
- Increased emphasis on scientific literature
- Intentional connection of student projects and facultys' professional interests
- Demonstrate that science is a fulfilling and engaging endeavor

Literature Cited

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Acknowledgements

Thanks to many faculty who lend their expertise and help with ENVS research projects: Jay Brown, Frank Schindler, Tony Greenfield and others.

Assessment of Capstone Research

Jeffrey W. Bell, Kris Cleveland, Mostafa Hegazy, & Brent Jeffers
Exercise Science Program

Overview of Exercise Science Program

- Exercise Science has been a stand-alone major since Fall of 2010
- In 2013, Exercise Science differentiated two emphasis areas: Allied Health (original major) and Corporate Wellness/Exercise Leadership
- In 2015, Exercise Science added a third emphasis for Coaching and Human Performance
- In 2015, Exercise Science began offering the Corporate Wellness/Exercise Leadership major on 3 Twin Cities campuses
- At all campuses combined, there are ~225 majors
- All Exercise Science majors, regardless of emphasis area or campus are required to take a Capstone Research course that requires the collection of original data, data analysis, interpretation of results, and formal presentation as a poster

Programmatic Approach to Assessment

Exercise Science program goals that are addressed within the capstone reserach course include:

Goal 4: Students will develop critical thinking skills and problem-solving techniques within exercise science.

Student Learning Outcome 4.1: Demonstrate competence in data analysis including preparation and interpretation of graphs and tables:

Goal 5: Students will be able to generate, evaluate, and communicate exercise science oriented information.

Student Learning Outcome 5.1: Utilize the scientific method to create hypotheses, experimental designs, and data

Student Learning Outcome 5.2: Communicate experimental findings and data analysis both orally and in writing.

- To evaluate SLOs 4.1 and 5.1, we used the The Biology Thesis Assessment Protocol (BioTAP)
- To evaluate SLO 5.2 we used the SMSU oral and written communication rubrics along with a self-designed rubric

Assessment Plan and Timetable

- In the first round of programmatic assessment since the program inception, we have put our courses on a 5-year rotation
- We chose to assess several SLOs in some courses and several courses for other SLOs
- The plan was designed to capture student performance on Knowledge as well as Skills/Aptitudes related to broad areas of Exercise Science as an interdisciplinary field

BioTAP Rubric Background

- Formative and summative assessment tool
- Designed to evaluate undergraduate theses in biology
- Three main sections:
  - higher-order writing issues and fundamental elements of academic writing
    - Target audience, contextualizing scientific literature, communication of research aims
    - Requires critical thinking skills to synthesize sources, analyze data, & evaluate hypotheses
  - Mid-order and lower-order writing
    - Manuscript organization, writing mechanics, citations, figure and table presentation
    - This section was critical to evaluate SLO 4.1
  - Quality of scientific work
    - Accuracy and appropriateness of the research
- Moderate to substantial inter-rater reliability (Reynolds et al., 2009)
- BioTAP has been determined to be appropriate for other disciplines, especially STEM

BioTAP Results

BioTAP Rubric Component	No	Somewhat	Yes
Higher-Order Writing Issues			
Is the writing appropriate for the target audience?	0 0%	4 40%	6 60%
Does the manuscript make a compelling argument for the significance of the student's research within the context of the current literature?	0 0%	8 80%	2 20%
Does the manuscript clearly articulate the student's research goals?	0 0%	2 20%	8 80%
Does the manuscript skillfully interpret the results OR does the thesis provide an insightful explanation of the reasons underlying the lack of clear results?	1 10%	8 80%	1 10%
Is there a compelling discussion of the implications of findings OR is there a thoughtful and thorough discussion of possible future studies or alternative approaches?	0 0%	9 90%	1 10%
Mid- and Lower-Order Writing Issues			
Is the manuscript clearly organized?	0 0%	4 40%	6 60%
Is the manuscript free of writing errors?	4 40%	3 30%	3 30%
Are the citations presented consistently and professionally throughout the text and in the list of works cited?	0 0%	2 20%	8 80%
Are the tables and figures clear, effective, and informative?	2 20%	4 40%	4 40%
Quality of Scientific Work			
Does the manuscript represent the student's significant scientific research?	0 0%	0 0%	10 100%
Is the literature review accurate and complete?	1 10%	7 70%	2 20%
Are the methods appropriate given the student's research questions?	0 0%	0 0%	10 100%
Is the data analysis appropriate, accurate, and unbiased?	0 0%	1 10%	9 90%

Oral/Poster Presentation Rubric Results

Rubric Component	Beginning Competency	Emerging Competency	Proficient Competency	Advanced Competency
Layout/Navigation of Display on Poster	0 0%	0 0%	8 30.8%	18 69.2%
Overall Visual Appeal of Display on Poster	0 0%	2 7.7%	8 30.8%	16 61.5%
Language Usage on Poster & Presentation	0 0%	3 11.5%	11 42.3%	12 46.2%
Abstract	0 0%	6 23.1%	5 19.2%	14 53.8%
Use of Scientific Terminology on Poster & Presentation	0 0%	2 7.7%	11 42.3%	13 50.0%
Research Question & Hypothesis on Poster & Presentation	0 0%	5 19.2%	6 23.1%	15 57.7%
Introduction on Poster & Presentation	0 0%	5 19.2%	12 46.2%	9 34.6%
Methods on Poster & Presentation	0 0%	3 11.5%	8 30.8%	15 57.7%
Results on Poster & Presentation	0 0%	6 23.1%	15 57.7%	5 19.2%
Conclusions on Poster & Presentation	0 0%	3 11.5%	14 53.8%	9 34.6%
References on Poster	1 3.8%	1 3.8%	11 42.3%	13 50.0%
Question Period on Presentation	0 0%	6 23.1%	11 42.3%	9 34.6%
Overall Presentation	1 3.8%	2 7.7%	12 46.2%	11 42.3%

Oral Communication Results

Rubric Component	Beginning Competency	Emerging Competency	Developing Competency	Advanced Competency
Purpose of Oral Discourse	0 0.0%	0 0.0%	6 42.9%	8 57.1%
Organizational Strategies	1 7.1%	2 14.3%	6 42.9%	5 35.7%
Effective Transitions	0 0.0%	5 35.7%	3 21.4%	6 42.9%
Demonstrates Vocal Variety & Appropriate Diction	0 0.0%	3 21.4%	8 57.1%	3 21.4%
Demonstrates Nonverbal Behavior that Supports Verbal Message	0 0.0%	3 21.4%	6 42.9%	5 35.7%
Manages Communication Anxiety Effectively	0 0.0%	2 14.3%	10 71.4%	2 14.3%
Utilizes Presentation Aids Effectively	0 0.0%	1 7.1%	7 50.0%	6 42.9%
Style/Language Use	0 0.0%	1 7.1%	12 85.7%	1 7.1%

Written Communication Results

Rubric Component	Beginning Competency-1st Year	Developing Competency-2nd Year	Practicing Competency-3rd Year	Accomplished Competency-4th Year
Purpose and Audience	0 0.0%	1 10.0%	3 30.0%	6 60.0%
Main Idea	0 0.0%	2 20.0%	4 40.0%	4 40.0%
Development and Support	0 0.0%	2 20.0%	6 60.0%	2 20.0%
Organization	0 0.0%	2 20.0%	3 30.0%	5 50.0%
Style	0 0.0%	6 60.0%	4 40.0%	0 0.0%
Sentence Structure	0 0.0%	1 10.0%	5 50.0%	4 40.0%
Mechanics and Presentation	0 0.0%	6 60.0%	3 30.0%	1 10.0%
Vocabulary and Word Usage	0 0.0%	7 70.0%	3 30.0%	0 0.0%
Citing Sources	1 10.0%	1 10.0%	3 30.0%	5 50.0%

Notes: ~ 25% of all students in Capstone Research were assessed via BioTAP or via the Written Communication Rubric regardless of campus. ~50% of Marshall campus students were assessed via the Oral Communication Rubric during Celebrate Science Week 2017.

Key Findings

- *Table and Graph creation needs improvement (SLO 4.1)*
- *Basics of Data Analysis have been mastered (SLO 4.1)*
- *Difficulties in writing Abstracts (SLO 4.1)*
- *Some concerns with Data Interpretation (SLO 4.1)*
- *Strong ability to articulate research goals (SLO 5.1)*
- *Strong ability to develop and explain methods (SLO 5.1)*
- *Some difficulty in discussing implication of findings (SLO 5.2)*
- *Ability to present table and figure meanings needs substantial improvement (SLO 5.2)*
- *Did not always possess a deep understanding of the scientific literature and the implications of findings upon questioning by science faculty (SLO 5.2)*
- *Similar overall performance of students at Marshall and Normandale campuses where assessed*

Program Recommendations

- *Students need greater exposure to reading and writing abstracts*
- *Students need greater experience creating and interpreting figures and graphs*
- *A programmatic discussion about the efficacy of preparing our students for the writing challenges in capstone research using other disciplines' courses should occur*
- *A greater programmatic discussion should occur regarding the appropriateness of Capstone Research for all emphasis areas in the major as opposed to those that most often lead to graduate or professional school study*

Challenges

We are a relatively new program that has grown rapidly. This growth has been exciting but has made it challenging to keep up with a large number of student majors on 4 different campuses. Having adjunct faculty deliver courses makes assessment challenging, in theory, but our colleagues on the 2-year campuses who teach our courses are very engaged in these collaborative processes. As our programmatic understanding of assessment has grown, we have had to refine the assessment timeline and even some of our assessment tools to ensure we are evaluating the SLOs consistently with our goals and delivery methods. The greatest challenge our program has faced regarding assessment is the time that it takes to coordinate our efforts and discuss the meanings of our findings.

Next Steps

Assessing Goal 1: Students will understand the scientific principles governing human movement and Student Learning Outcome 1.1 anatomical principles of movement, physiological adaptations to exercise, components of movement patterns and nutritional/ energy needs during normal daily activities and exercise

References

Reynolds, J., Smith, R., Moskovitz, C., & Sayle, A. (2009). BioTAP: A systematic approach to teaching scientific writing and evaluating undergraduate theses. *Bioscience*, *59*(10), 896-903.

Buffalo, Salmon & Pandas...Oh My!
An Interdisciplinary Approach to LEP Assessment

By: Cindy Aamlid, Anita Gaul, & Rick Herder

Overview

We teach courses that fulfill the LEP Diversity Goal:

- HUM 230 World Religions
- COMM 230 Interpersonal & Cross-Cultural Communication
- SOCI 211 Marriage and Family

Problem: How do we demonstrate that students are meeting the LEP goal? Can faculty across disciplines come together to assess an LEP goal area, using different assignments from each course?

Solution: Use a common rubric to assess a single assignment that is a regular part of each course

What we hope to accomplish…

- Learn to conduct assessment *as a group: **Don't be a silo***
- Determine if one assignment can be used to assess LEP SLOs for Diversity
- ***Will this be like herding cats?***

Common Rubric: VALUE Rubric

Why the AAC&U VALUE Rubric

- Designed to be used across disciplines, across preparation levels, and across universities (Rhodes & Finley, 2013)
- ***We didn't want to reinvent the wheel***

Table 1. Alignment of LEP SLOs with Intercultural Knowledge and Competence VALUE Rubric

LEP Sub-outcomes	VALUE Rubric Criteria
Demonstrate awareness of personal identity	Knowledge: Cultural self-awareness
Engage in cross-cultural interactions	Attitudes: Openness Skills: Communication
View other cultures from multiple perspectives	Knowledge: Cultural worldviews
Explore own bias	Knowledge: Cultural self-awareness
Integrate and apply diverse perspectives	Attitudes: Curiosity
Develop an informed concern for greater good	Skills: Empathy

The Process: Interdisciplinary Approach

AAC&U VALUE Assessment Process

(Rhodes & Finley, 2013)

- Collected a sample of 5 papers from one assignment per course

- Participated in a 3-hour "scoring workshop"
  - ❖ Discussed assumptions of the rubric and ground rules
    - *Level 2 or 3 would be expectations for students in 200-level courses*
    - *Start with 4 and work to the right*
    - *Zero is an option*
    - *We are not changing the rubric today*
    - *Look for concrete statements*

  - ❖ Scored a sample paper for norming, in order to ensure some sort of interrater agreement

  - ❖ Double scored student papers
    - *Assigned each paper an "animal name" (a tip from English…Thank you!!)*
    - *Faculty member could not score own class*
    - *Reconciled scoring differences if more than 1 value apart*

  - ❖ Reflected on outcomes
    - *What we have learned*
    - *How we can revise our assignments so students can demonstrate what they know*
    - *Tips for using this process*

Assessment Findings

Table 2. Intercultural Knowledge Results

Dimension	Percent of Work Products Scored 2 or Higher	Percent of Work Products Scored 3 or Higher
IK1 Cultural Self-Awareness	97%	53%
IK2 Cultural Worldview	87%	37%
IK3 Empathy	93%	50%
IK4 Communication Skills	57%	7%
IK5 Curiosity	97%	57%
IK6 Openness	97%	63%

For work scored a 2 or higher:

- o Students scored consistently high on 5 of the 6 dimensions of the rubric:
- o Students scored the lowest on dimension of communication skills (IK4), with 57% scoring a 2 or higher.

Strengths and weaknesses show up more clearly for the work scored at 3 or above:

- o Almost two-thirds of students (63%) demonstrated an openness toward culturally different others (IK6).
- o 57% of students exhibited a curious attitude (IK5) by asking deeper questions about other cultures.
- o Half of the student work (50%) showed empathy towards differences (IK3) and about half (53%) exhibited a cultural self-awareness (IK1).
- o Students had the most difficulty demonstrating a sophisticated worldview (37% on IK2) and demonstrating communication skills (7% on IK4).

Conclusions

- Students in these three lower-level Diversity courses are starting to see themselves as part of a larger global community and are developing a set of skills needed for appropriate cross-cultural interactions. These students have a solid base from which to continue developing these skills over the course of their college career.

- This is just a snapshot of our students in lower level courses. There is a continued need for students to be exposed to multiple cultural practices, beliefs, values, etc., to increase knowledge and understanding of cultural worldviews.

- IK4 Communication Skills: A lower score was due to the assignment not asking for this directly

Recommendations

- ❖ Identify rubric before semester begins: rework assignments to align with rubric

- ❖ Have conversations: can one assignment cover all six of the sub-outcomes

- ❖ Collaborate: there is value in sharing across disciplines

- ❖ Discuss appropriate sampling plan: we scored 30 papers since that was doable

- ❖ Share rubric with students: make them active participants in assessment

Final thoughts:
You do not have to reinvent the wheel,
we can break down silos,
and this was not like herding cats!

Reference

Rhodes, Terry & Ashley Finley. 2013. Using the VALUE Rubrics for Improvement of Learning and Authentic Assessment. Association of American Colleges and Universities: Washington, DC.

Source Evaluation Assessment: Annotated Bibliographies in First Year Seminar

Pam Gladis, Māra Wiggins, Chelsea Wyman
McFarland Library

Assessment Project Overview

Since the 2013-14 academic year, librarians have introduced a source evaluation tool (CRAAP) as part of the information literacy component of First Year Seminar (LEP 100). This tool has students look critically at sources for

- Currency
- Relevance
- Authority
- Accuracy
- Purpose

While group active learning tasks were taking place during the library instruction sessions as a way to gauge learning, we wanted to see how well individual students could apply the CRAAP test. With that goal in mind, we developed an Annotated Bibliography assignment for faculty to use in their LEP 100 classes. The assignment idea was introduced during regularly scheduled meetings about LEP 100. Many faculty agreed to give the assignment a try and for many classes this replaced a research paper assignment.

Since LEP 100 wasn't designed as a writing course but includes an information literacy component, the annotated bibliography assignment moves emphasis to gathering and evaluating sources vs. writing a paper.

Many of the faculty who incorporated this into this course also agreed to provide the bibliographies to the librarians for scoring.

Assessment Project Data

2016-2017 Academic Year

- 12 LEP 100 sections participated
  - Nine Fall 2016
    - Frankie Albitz
    - Mary Ellen Daniloff-Merrill (2 sections)
    - Emily Deaver
    - Brett Gaul
    - Lisa Lucas (2 sections)
    - Sheila Tabaka (2 sections)
  - Three Spring 2017
    - Frankie Albitz
    - Emily Deaver
    - Sheila Tabaka
- 229 Student Annotated Bibliographies
- 3 Librarians Scoring
  - Pam Gladis
  - Māra Wiggins
  - Chelsea Wyman

Learning Outcomes

LEP Outcome: Critical Thinking

Be critical thinkers who evaluate information wisely and examine how assumptions and positions are shaped.

FYS Library Instruction

Goal 4: To introduce the CRAAP tool for evaluating sources

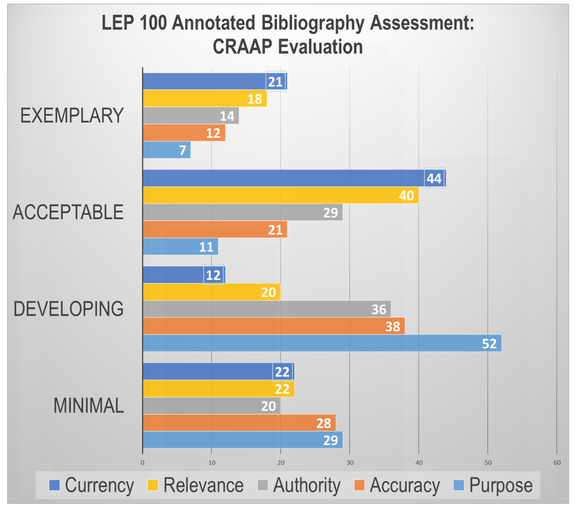
Student Learning Outcome 4.1: Students will be able to apply the five criteria of the CRAAP test to evaluate sources

Original Scoring Rubric - 2016-17

	Exemplary	Acceptable	Developing	Minimal
Quantity of Sources	Cites the number of sources outlined in the assignment.	Cites one source under the required number of sources.	Cites two to three sources under the required number of sources.	Cites more than three less than required.
Grammar	Writing is well-organized and is clearly written without spelling or grammar errors.	Writing is well-organized and is clearly written with fewer than three spelling or grammar errors.	Writing contains three-five errors in writing mechanics and is reasonably organized.	Writing contains more than five errors in writing mechanics.
Citations	Citations are formatted correctly.	There are a few formatting errors in the citations.	There are many and/or frequent formatting errors in the citations.	There is little or no adherence to the citation format.
Summary	Key findings are summarized clearly and thoroughly for all sources.	Key findings are summarized clearly and thoroughly for most sources.	Key findings are either unclear or limited in scope.	Key findings are not clearly identified.
Currency of Source	Annotations identify when the item was published and indicates impact for topic.	Most annotations identify when the item was published.	Some of the annotations identify when the item was published.	Date of publication is not addressed in the annotation.
Relevance of Source	Relationship of ideas in sources to paper topic or project clearly described.	Attempt is to relate ideas in sources to paper topic or project sometimes fuzzy or unclear.	Attempt to relate ideas in sources to paper or project topic results in inaccurate representations.	No attempt is made to relate ideas in sources to paper topic.
Authority of Source	Annotations largely, or fully, characterize author, audience, and publisher of sources.	Annotations usually accurately characterize author, audience, and publisher of sources.	Annotations often lack such information or frequently mischaracterize author, audience, or publisher of sources.	Annotations do not accurately describe author, audience, or publisher of most sources.
Accuracy of Source	Each annotation addresses the verifiability of the information in the source.	Most annotations address the verifiability of the information in the source.	Some annotations address the verifiability of the information in the source.	No attempt to address verifiability is in the annotations.
Purpose of Source	Each annotation clearly identifies the reason the information exists and identifies potential biases.	Most annotations clearly identify the reason the information exists and identifies potential biases.	Some annotations clearly identify the reason the information exists and may or may not identify potential biases.	No attempt to identify the purpose or potential biases of the source.
Source Reflection/ Justification	All annotations explain and justify potential use of each resource.	Most annotations include a justification for using the source.	Some annotations include a justification for using the source.	Few or no annotations include a justification for using the source.

Aggregate Assessment Data

The following table indicates the percentage of students from all 12 sections who scored at each level of the rubric for the five areas of the CRAAP test.



What We Learned

- Rubric needed revision
- Not all aspects of the rubric could be used to score each bibliography
  - *Summary & Source Reflection/Justification* weren't required by all faculty
- *Quantity of Sources* was unnecessary information for an evaluative (not grading) rubric
- Faculty had varying expectations of
  - how many sources to evaluate (two to eight)
  - how to do a modified annotated bibliography assignment
  - citation formats (difficult for us to discern expectations)
- Realized we could use part of the SMSU Writing Rubric to capture assessment data applicable to the Communication LEP Outcome
- Recognized specific areas of confusion by students using the CRAAP test
  - e.g., Students could identify the date of the source, but not articulate the impact of that date on their research
  - e.g., Students confused popularity with accuracy
  - e.g.. Students struggled distinguishing source types
- Scoring 229 bibliographies was a bit crazy ☺; a random sample will be considered in the future
- It would be awesome to have every LEP 100 class participate

Adjustments to the Rubric

Revisions made to the scoring rubric:

- Added *Source Types*
- Removed *Quantity of Sources*
- Separated *Grammar* into two specific areas and used two lines from the SMSU Writing Rubric
  - *Sentence Structure*
  - *Mechanics & Punctuation*
    - This allows for potential use of that data to be used as a baseline for the Communication LEP Goal
- *Currency* separated into two areas:
  - Date
  - Impact
- *Purpose* separated into two areas
  - Reason
  - Bias
- Removed *Source Reflection/Justification*

(Updated rubric available for review upon request)

Adjustments to Source Evaluation Instruction Session

- Needed to change from single format examples (websites) to evaluating multiple formats (book, journal article, newspaper article, website)
- Decided to move to a common theme (health benefits of chocolate) instead of tailoring examples to each LEP topic
- Revised the CRAAP evaluation handout
  - Adjusted talking points
  - Created an active learning handout with blank spaces for note-taking vs. all information provided
- Provided incentives for participation

Sources

Rinto, E. (2013). Developing and Applying an Information Literacy Rubric to Student Annotated Bibliographies. *Evidence Based Library and Information Practice, 8*(3), 5-18. doi:http://dx.doi.org/10.18438/B8559F

Acknowledgements

- Thanks to each faculty member who was willing to try the Annotated Bibliography assignment and submit their student papers for review.
- Thanks to Liz Fladhammer for making copies of the bibliographies for us and for creating our Excel spreadsheet for scoring.
- Thanks to Tony Greenfield for leading the LEP 100 discussions and for providing feedback on our data.
- Thanks to Emily Deaver for reviewing our poster.
- Thanks to the CIA and Assessment Academy for hosting the Assessment Day Poster Reception.

Is There A Nurse in The House? RN to BSN Program Assessment

Nancyruth Leibold, EdD, RN, PHN, CNE & Laurie Jo Johansen, PhD, RN
Department of Nursing, Southwest Minnesota State University

Purpose of Evaluation

- Assess the effectiveness and value of the entire RN to BSN Program through careful appraisal, focusing on strengths and areas for development in the program
- Multifaceted data from
  - Course syllabi
  - Curricular mapping
  - Course evaluations
  - Course pass rates
  - Student/alumni/employer satisfaction
  - Employment rates
  - Graduation/completion rates
  - Alumni progression
  - Program and Institution Mission
  - Senior exit interviews
- Level Four Program Assessment
- In this poster, we share our latest program assessment.

RN to BSN Program Courses

- Transitions to Baccalaureate Nursing
- Transcultural Nursing
- Chronic Illness in Rural Settings
- Health Care Policy & Informatics
- Pathophysiology
- Prevention & Population Health
- Practicum Seminar
- Evidence Based Practice
- Organizational & System Leadership
- Clinical Practicum
- Nursing Electives – Clinical Reasoning and Judgment and Comprehensive Health Assessment

Assessment Plan and Timetable

- The Overall Program Assessment Plan (OPAP) is our guide.
- We rotate a Goal Assessment for each Semester.
- For example, Fall 2017 is Goal 1, Spring 2018 is Goal 2, Fall 2018 is Goal 3, Spring 2019 is Goal 4 and repeat
- Overall Program Assessment completed every two years - involving Faculty and Nurse Review Team
- Alumni Surveys at 1 and 3 years

RN to BSN Program Learning Outcomes and 2017 Data

- The RN to BSN Program Learning Outcomes and Assessment Data are reported in Table 1 below.
- We have revised how we do group work to promote team-focused skills in students. Faculty have observed more harmonious teamwork on course projects and more likelihood to work in teams, when teamwork is made optional.
- Students have also requested that courses are offered more frequently, so they can progress through the program at a faster rate.

Table 1. Achievement of the RN to BSN Program Learning Outcomes by Graduates

Program Learning Outcomes	Average Value (1 – 5 scale; 5 high)
Examine the Scope and Standards of Practice and the Standards of Professional Performance (Level/Goal 1)	4.92
Construct an appreciation of cultural diversity through cultural assessment (Level/Goal 1)	4.87
Successfully complete liberal education program (Level/Goal 1)	4.68
Integrate awareness of issues related to chronic illness in rural settings and apply nursing process to meet diverse and unique needs of individuals and families (Level/Goal 2)	4.95
Utilize evidence based resources in the community assessment process and propose patient-centered health teaching interventions (Level/Goal 2)	4.95
Demonstrate the ability to apply scientific method to a public health concern (Level/Goal 3)	4.87
Analyze evidence related to pathophysiology to promote patient safety and quality outcomes (Level/Goal 3)	4.89
Evaluate evidence based practices for integration into nursing practice (Level/Goal 3)	4.95
Demonstrate collaboration as a healthcare team member through the formulation of connection with community health agencies and nurse leaders (Level/Goal 4)	4.97
Apply theory, research findings, and evidence to address common situations in health care system leadership (Levels/Goals 3 and 4)	4.92
Combine the knowledge, skills, and attitudes of the BSN nurse through community health and nurse leadership precepted opportunities (Level/Goal 4)	4.89

Student Satisfaction

Program Goal is to Earn 80% or 4.0 or Higher

Satisfaction with: Value	Average (1 – 5 scale)
SMSU RN to BSN Program	4.82
Option of Online Course	4.89
Program Curriculum	4.39
Quality of Curriculum	4.74
Quality of Faculty	4.84
Clinical Experiences	4.66
On-Campus Experiences	4.42
Would recommend the nursing program to a friend/colleague	5.00

Student Exit Interviews

Student Exit Interviews – personal growth

- "My critical thinking has really developed. I now look for evidence to support what I am saying and using in my practice. I can articulate what I need to in much more in depth. This helps me communicate better with providers and different medical disciplines."

Contacts

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We do Nursing Program Assessment
What's Your Superpower?

Other Sources of Data

- Spring 2016 Attrition Rate 7%
- Spring 2017 Attrition Rate 5%
- 50 Graduates from program (2017)
- 100% Employment Rate after Graduation
- Employer satisfaction (new, so only two responses)
- Consistent Program Template used for Course Syllabi

Qualitative Data

Student Qualitative Comments:

"Quality Program! "
"The (change) project was a fun assignment that required you to critically think through the process of implementing change at a facility."
"The online nursing conference was a great way to have us present a topic."

Senior Exit Interview Comments:

"The program itself is good. Professors are there for me. I told one of my friends – I've never been able to school where you are welcomed and seem to matter. This is one of its own kind. I do matter."
"Student interaction with faculty – the faculty listened and understood that the student is there to learn. Approachable. Don't tell you what to learn – but lead you to learning. Really developed personal relationship as colleagues. We felt like we are all nurse colleagues."
"Impressed with program. I'm being recruited for employment at a public health agency because I am at SMSU."
"I'll be sending students in your direction."
"I am proud to be an SMSU grad! You listened to what we said and made changes…it has been huge."

What's Next?

The Faculty follow the OPAP as the guide to continuous quality improvement in the RN to BSN Program.
Upcoming re-evaluation of offering courses more frequently
Continued re-assessment of teamwork processes

LEP Assessment of Written Communication and Critical Thinking in the RN to BSN Program

Nancyruth Leibold, EdD, RN, PHN, CNE & Laurie Jo Johansen, PhD, RN

Level 4 Project to Assess Communication and Critical Thinking in the RN to BSN Program

- LEP = Liberal Education Program
- SLO = Student Learning Outcomes
- The purpose of evaluating LEP SLOs is to assess quality and effectiveness of LEP SLOs in order to meet the needs of our students and the people we serve.
- Currently, the RN to BSN program is conducting a Level 4 Project
- Communication and Critical Thinking is being assessed.
- During a 2016-17 Assessment Project, we identified the RN to BSN students show development with:
  - Critical Thinking
  - Communication
- Areas identified for improvement are:
  - being aware of assumptions
  - challenging or checking assumptions
  - citing all sources within student work (in-text)

Programmatic Approach to Assessment of LEP SLOs

- The RN to BSN Program Faculty use the Overall Program Assessment Plan (OPAP), which includes our LEP assessment
- The RN to BSN Faculty work together as a team to discuss assessment findings together.
- The Focus of Faculty Discussions are on:
  - What is going well and working to move learners toward the intended outcomes
  - What could be improved
  - Sharing of ideas and strategies by faculty in course design, resources, curriculum, and teaching/learning strategies to support intended course and program outcomes

Learning Outcomes and Assessment Accomplishments!

- The Learning Outcomes of focus for this Assessment Project, the 2017 data, and interventions are summarized in Table 1.
- Faculty have taken interventions to improve the importance of citing sources in the text of the project and referencing full sources at the end of the project (papers, posters, and PowerPoint presentations).
- Faculty devised learning activities and assessment focused on being aware of assumptions and checking assumptions.

Table 1. RN to BSN Learning Outcomes, Goals, LEP SLOs and Assessment Summary

Nursing Courses	Nursing Program Goals	Programmatic Level Student Learning Outcomes	LEP Student Learning Outcomes	2016-17 Data (Level 3 Data)	Interventions Based on 2016-17 Data
NURS 300 (Level/Goal 1 Course in Program)	Integrate nursing knowledge, liberal arts, cultural awareness, and caring through collaboration with the health care team to provide patient centered and holistic care	Examine the Scope and Standards of Practice and the Standards of Professional Performance	Communicate Effectively	All students met the Third Year LEP Writing Outcomes	Strengthened areas (citations/references and assumptions) into assignment review videos and included Dr. Leibold's Citation/Reference video Created APA resources in D2L RN to BSN Program Information Center. Started need for awareness of assumptions in discussion assignments - building on this throughout course.
NURS 435 (Level/Goal 4 Course in Program)	Combine critical thinking, health care information technology, and evidence based findings to make decisions that promote safety and quality to improve patient outcomes	Apply theory, research findings, clinical reasoning, and evidence to address common situations in quality improvement leadership.	Communicate Effectively Be critical thinkers who evaluate information wisely and examine how assumptions and positions are shaped.	All students met the Fourth Year LEP Writing Outcomes and Advanced LEP Critical Thinking Outcomes in NURS 435. Faculty observed these areas were not met in other Level/Goal 4 Courses, so this is an area for development.	Produced a video (Leibold) to clarify the differences between citations and references. Integrated assumption awareness activities into NU 310, NURS 430, and NURS 435. This includes videos, on-campus learning activities, and assignments.

Assessment Plan and Timetable

- The Overall Program Assessment Plan (OPAP) includes our timetable for assessment of all items in the RN to BSN Program, including LEP SLOs.
- Next assessment is the Spring 2018 semester.

Next Steps

- In 2018, we continue with our LEP Assessment to study the interventions that we implemented in Fall of 2017 to improve citation and reference use and increase awareness and checking of assumptions

Challenges

- Finding the time to complete the Assessments is a Challenge!
- Starting everything from new since the RN to BSN Program is new to SMSU.
- Every student has an individualized academic plan and progresses through the RN to BSN program at a unique pace. This could skew data collected to assess interventions.
- Less time to stress importance of developing habits with students who progress through the program at a rapid rate.

2.105
LEP
Liberal Education Program

Additional Comments

- Now that we have a process in place to integrate LEP SLO assessments into our Overall Program Assessment Plan, it is much easier to fit this into our routine assessments.

A Special Thank You

- A special thank you to the CIA and Academic Affairs for granting our mini-grants to fund this project!

Contacts

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Critical Thinking Gains in LEP 100: First Year Seminar and HONR 140: Introduction to Honors

Dr. Brett Gaul, Professor of Philosophy

The Modified Moorburg Letter

The Modified Moorburg Letter is a critical thinking assessment developed by Brett Gaul that is based on the Ennis-Weir Critical Thinking Essay Test. After reading an eight paragraph long letter to the editor (The Moorburg Letter), students identify the conclusion and evaluate the argument.

While the original Ennis-Weir requires students to write nine paragraphs—one paragraph evaluating the reasoning in each paragraph of the letter and then a paragraph making an overall assessment of the reasoning—the Modified Moorburg Letter makes grading easier by requiring abbreviated assessments of the reasoning in each paragraph and only one written paragraph about the overall evaluation of the argument.

Modified Moorburg Letter Scoring

In the original Ennis-Weir, paragraphs 1-8 are worth up to three points each, and paragraph 9 is worth up to five points. Best possible score: 29.

In the Modified Moorburg Letter, students receive up to two points for identifying the conclusion, up to three points for their evaluation of each paragraph, and up to three points for their overall evaluation of the argument. Best possible score: 29.

Pretest and Posttest

Students in all sections of LEP 100: First Year Seminar are supposed to take The Modified Moorburg Letter twice—once before using Morrow and Weston's *A Workbook for Arguments*, and once afterwards.

I have taught nine sections of LEP 100: First Year Seminar.

Average Overall Modified Moorburg Letter Scores for My Sections of LEP 100

Semester	Pretest	Posttest	Gain
Fall 2010	10.4	18.4	8.0
Fall 2011	11.6	11.9	.3
Sp. 2013	9.3	8.2	-1.1
Fall 2013-1	9.6	13.3	3.7
Fall 2013-2	8.9	11.0	2.1
Fall 2014-1	7.6	10.7	3.1
Fall 2014-2	10.1	11.2	1.1
Fall 2016	10.1	10.3	.2
Fall 2017	9.4	13.3	3.9
Average	9.7	12.0	2.3

Percentage of My LEP 100 Students Able to Correctly Identify the Conclusion

Semester	Pretest	Posttest	Gain
Fall 2013-1	17%	70%	53%
Fall 2013-2	21%	73%	52%
Fall 2014-1	4%	96%	92%
Fall 2014-2	11%	81%	70%
Fall 2016	32%	56%	24%
Fall 2017	21%	87%	66%
Average	18%	77%	59%

HONR 140: Introduction to Honors

Like LEP 100: First Year Seminar, HONR 140: Introduction to Honors also counts for MnTC Goal 2: Critical Thinking. Since I teach the latter course as well, I also use the Modified Moorburg Letter in it.

I have taught two sections of HONR 140: Introduction to Honors.

Average Overall Modified Moorburg Letter Scores for HONR 140

Semester	Pretest	Posttest	Gain
Fall 2016	13.2	15.2	2.0
Fall 2017	11.4	14.9	3.5
Average	12.3	15.1	2.8

Percentage of HONR 140 Students Able to Correctly Identify the Conclusion

Semester	Pretest	Posttest	Gain
Fall 2016	44%	100%	56%
Fall 2017	42%	83%	41%
Average	43%	92%	49%

Analysis

Although the average increases in The Modified Moorburg Letter scores from pretest to posttest of 2.3 points in LEP 100 and 2.8 in HONR 140 might not seem like much, these amount to a 19.9% average increase in LEP 100 and an 18.6% average increase in HONR 140.

While these increases represent a modest improvement in students' argument evaluation abilities, much greater gains in critical thinking were made in the students' ability to correctly identify the conclusion of the argument. In the pretest, only 18% of the LEP 100 students and 43% HONR 140 students could correctly identify the conclusion of The Moorburg Letter. In the posttest, however, 77% of the LEP 100 students and 92% of the HONR 140 students could correctly identify the conclusion.

The takeaway: At least regarding the critical thinking skills assessed by The Modified Moorburg Letter, both LEP 100 and HONR 140 produced measurable gains in critical thinking that should not be dismissed.

Acknowledgements

I thank Dr. Maureen Sander-Staudt and Dr. Steve Kramer for their feedback on The Modified Moorburg Letter.

Assessment Narrative of SMSU's Professional Writing & Communication (PWC) Major

Drs. Amanda Bemer & Teresa Henning
Professional Writing & Communication

Introduction

This poster offers an assessment narrative for the PWC major. The narrative discusses:

1. the processes we used;
2. the data we currently have;
3. our responses to this data;
4. and our future plans.

FIG. 1: Graduates Guide Our Processes

Assessment Processes Used

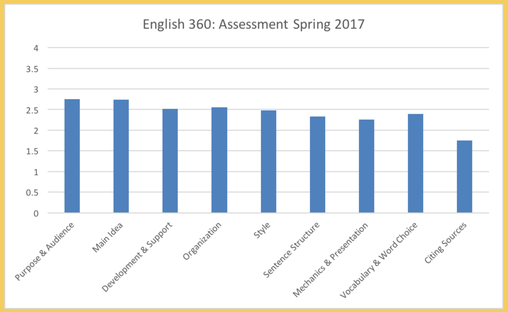
- Program review
- LEP Matrix
- Prioritization Report
- PWC Student Portfolios (see Fig. 1 & Fig. 2.)*
  *NOTE: Two different groups of portfolios have been read and assessed per program goals
- PWC Student Videos
- Grade data for ENG 492 cover letters and resumes before and after ENG 289 was added to the major (see Fig. 1)
- ENG 360 final project data**
  **NOTE: Two different groups of final projects have been read and assessed per the LEP Writing Rubric

FIG. 2: One PWC Portfolio Homepage

Assessment Data

- **Program Review:** Students are meeting PWC goals but more emphasis is needed on core writing courses, internships, and promoting the major.
- **LEP Matrix:** All LEP goals are present across the major but assessment data all relate to the LEP communication outcome and/or PWC goals.
- **Prioritization report:** Current practices should be continued.
- **PWC Student Portfolios:** Students are meeting PWC goals.
- **PWC Student Videos:** Students who convey a clear identity as a professional writer in their videos seem to have easier job placement.
- **Grade data:** When PWC students take ENG 289, their ENG 492 resumes and cover letters are a grade-level better than those not taking ENG 289.
- **ENG 360 data**: All students are performing near level 3 of the LEP Writing Rubric, but as has been true of English 151 and 251 writing courses, students are underperforming in the area of citing sources (**see Fig. 3**).

FIG. 3: How ENG 360 Student Writing Meets LEP Writing Rubric



Response to Assessment Data

Program Review & Grade Data	1. Reduced the number of overall credits in major while increasing the number of writing credits in the major
2. Added ENG 289 as a required course to the curriculum	3. Kept most core courses and course sequencing the same
4. Added 251 as a hard prereq. for ENG 360	5. Increased visibility of internships to students

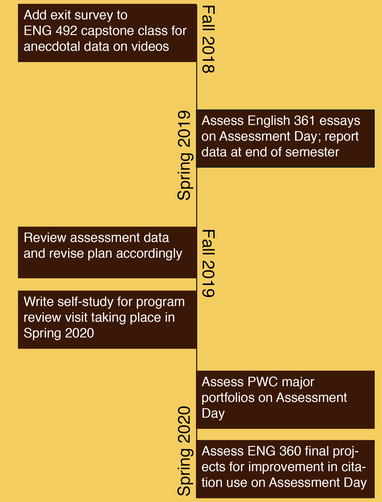
LEP Matrix & 360 Data	1. Added ENG 361 to our regular assessment cycle as this is a core skills course for some SMSU majors
2. Noticed the SMSU writing rubric does not address PWC major goal related to visual design	3. Noticed assessment data best demonstrates our major's overlap with the LEP Communication Learning Outcome
4. Added more citation activities to ENG 360	5. Made assessed project individual rather than group

PWC Portfolios & Videos	1. Revised program goals
	2. Added exit survey to ENG 492 about perceived professional identity and career success

Conclusions

- Program review data, grade data, and portfolio data all have been used to improve the PWC's program's focus on writing. Data also suggest that students are meeting program goals.
- Data about how specific courses in the PWC major that also serve the LEP show that students are meeting communication goals as expressed by the writing rubric.
- The LEP writing rubric only partially captures PWC program goals suggesting that LEP data from ENG 360 and 361 is not sufficient for PWC program assessment.
- The PWC program will continue to gather data for program assessment by following the timeline in FIG. 4.

FIG 4: Assessment Timeline



Assessment of Program/LEP SLO's of Communication, Creative and Critical Thinking: Research Poster Assessment Form

Ben Anderson, Ph.D.

Psychology's Program/LEP Student Learning Outcomes on Communication, Critical Thinking, and Creative Thinking

Program Goal 2: Scientific Inquiry and Critical Thinking (Aligns with LEP Goals 2 and 3 on Creative and Critical Thinking)

1. Use scientific reasoning to interpret psychological phenomena
2. Demonstrate psychology information literacy
3. Engage in innovative and integrative thinking and problem solving
4. Interpret, design, and conduct basic psychological research
5. Incorporate sociocultural factors in scientific inquiry

Program Goal 4: Communication (Aligns with LEP Goal 1 on Communication)

1. Demonstrate effective writing for different purposes
2. Exhibit effective presentation skills for different purposes
3. Interact effectively with others

Programmatic Approach to Assessment

The Poster Assessment Form is being used to assess the program/LEP SLO's of Communication and Critical Thinking from our Advanced Experimental Psychology courses including Sensation & Perception and Learning & Memory. Both of these courses require a research project in which students design a study, collect data, analyze data, and design a poster that they present during the annual Undergraduate Research Conference.

Faculty from the psychology program used the form to rate each group's poster. The scores shown in the table on the right include averages across the 3 raters that scored the posters from students in our Sensation & Perception course from fall of 2017.

Scoring Rubric for Each Item

5 = very high quality
4 = high quality
3 = average quality
2 = low quality
1 = very low quality
0 = item is relevant but not present
NA = item is not applicable

Advanced Experimental Psychology Poster Assessment Form

Semester: _____

Author Name(s):

_____

Poster Title:

_____

Please rate each individual item on a 1 to 5 scale, using the scoring rubric.

Introduction
_____ Statement of research purpose or problem
_____ Review of related research included
_____ Hypothesis clearly stated
_____ Overview of experiment
_____ IV(s) and DV(s) identified appropriately

Methodology
_____ Participants described clearly
_____ Complete list of materials included
_____ Procedures clearly presented
_____ Appropriate methodology for research problem

Results
_____ Complete description of results
_____ Data presented in understandable way
_____ Appropriate statistical analysis performed
_____ Correct interpretation of statistical tests
_____ Good use of charts and graphs

Discussion
_____ Data interpreted appropriately
_____ Hypothesis addressed
_____ Relevance and implications of study
_____ Limitations and future research

Overall Quality
_____ Poster well organized
_____ Attractive presentation
_____ Clarity of poster presentation
_____ Availability and competence of presenters

General Comments:

Advanced Experimental Psychology Poster Presentation Scores

	Group 1	Group 2	Group 3	Group 4	Group 5	Overall
Introduction	**3.47**	**4.47**	**4.73**	**4.33**	**4.33**	**4.27**
Statement of research purpose or problem	4.00	4.67	5.00	4.33	4.67	4.53
Review of related research included	3.67	4.67	5.00	4.33	3.67	4.27
Hypothesis clearly stated	3.67	5.00	5.00	4.00	4.67	4.47
Overview of experiment	3.33	4.67	4.67	4.00	4.33	4.20
IV(s) and DV(s) identified appropriately	2.67	3.33	4.00	5.00	4.33	3.87
Methodology	**3.96**	**4.58**	**4.25**	**4.50**	**4.50**	**4.36**
Participants clearly described	4.67	4.33	3.67	5.00	4.67	4.43
Complete list of materials included	3.67	4.67	4.33	5.00	4.67	4.43
Procedures clearly presented	4.00	4.33	4.33	4.50	4.33	4.29
Appropriate methodology for research problem	3.50	5.00	4.67	3.50	4.33	4.31
Results	**3.60**	**4.80**	**4.53**	**3.90**	**4.67**	**4.33**
Complete description of results	3.33	5.00	4.33	3.50	4.33	4.14
Data presented in understandable way	4.33	4.67	5.00	4.00	4.67	4.57
Appropriate statistical analysis performed	3.00	5.00	4.33	4.50	4.67	4.29
Correct interpretation of statistical tests	3.33	4.67	4.00	3.50	4.67	4.07
Good use of charts and graphs	4.00	4.67	5.00	4.00	5.00	4.57
Discussion	**3.67**	**4.75**	**3.83**	**3.75**	**4.67**	**4.18**
Data interpreted appropriately	4.00	4.67	4.00	3.00	4.67	4.14
Hypothesis addressed	4.00	5.00	4.33	4.00	5.00	4.50
Relevance and implications of study	3.00	5.00	3.67	4.00	4.67	4.15
Limitations and future research	3.67	4.33	3.33	4.00	4.33	3.93
Overall Quality	**3.58**	**4.67**	**4.67**	**4.13**	**4.75**	**4.38**
Poster well organized	3.67	5.00	5.00	4.50	4.67	4.57
Attractive presentation	3.33	4.33	5.00	4.00	4.67	4.29
Clarity of poster presentation	3.33	4.33	4.33	4.00	4.67	4.14
Availability and competence of presenters	4.00	5.00	4.33	4.00	5.00	4.50
Poster Average	**3.66**	**4.65**	**4.40**	**4.12**	**4.58**	**4.30**

Interpretation and Next Steps

The Poster Assessment Form provides a quantitative measure that allows for the assessment of Program/LEP student learning outcomes of Critical Thinking and Communication.

The form can yield overall average scores as well as scores for sub-sections of the poster. These scores will be tracked across the assessment cycle.

The Poster Assessment Form can allow us to isolate areas that students may need further assistance while developing their posters. For example, "relevance and implications of study" was somewhat lower for the data reported above. This could be addressed when teaching the course in the future.

Acknowledgements

Thanks to my colleagues in psychology: Corey Butler, Bill Pavot, Scott Peterson, and Christine Olson for their assessment efforts.

Special thanks to Scott Peterson for developing the poster rating form that we use for our advanced experimental courses and for other student projects.

Assessment of the Undergraduate Research Conference at SMSU

Emily Deaver
Environmental Science Program, Southwest Minnesota State University

Overview of URC Assessment

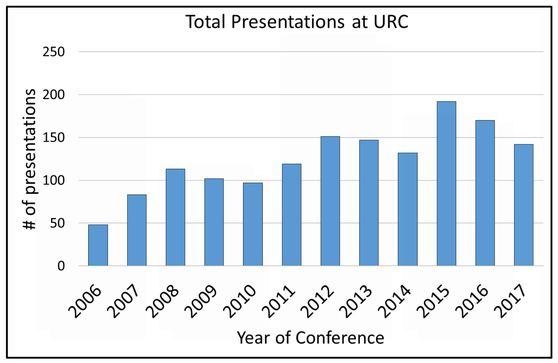
The SMSU Undergraduate Research Conference (URC) began in fall 2006 with just Science students. It has now become an integral part of the university with an increasing number of programs, students and faculty advisors participating each year.

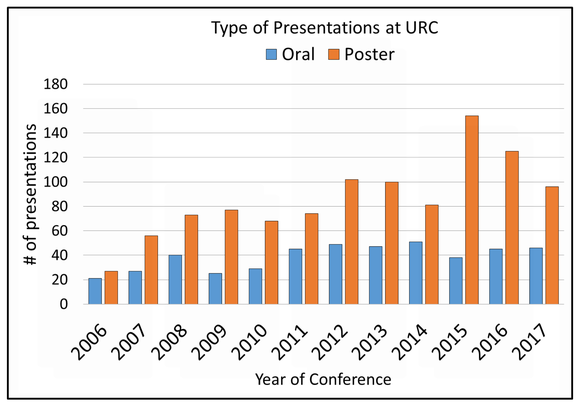
As part of the conference, student presenters can apply to be judged for the *Library Research Award* (1 best poster & 1 best oral). During 2015, Teresa Henning, Emily Deaver and Maria Kingsbury used the pool of students being judged as a resource for gathering assessment data relative to the 10th SMSU URC.

The LEP Oral Communication Rubric was modified and used as the assessment tool. Five judges (Pam Gladis, Pat Brace, Will Thomas, Teresa Henning & Maria Kingsbury) attended a norming session several days before the conference to ensure standardized use of the judging rubric.

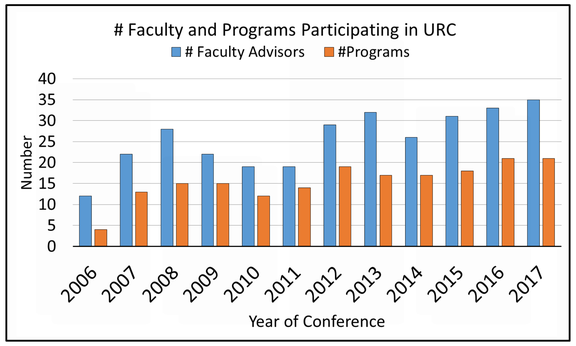
Sample size was 19 presentations with 2 or more evaluators present at each presentation. Data presented are scores from all judging sheets.

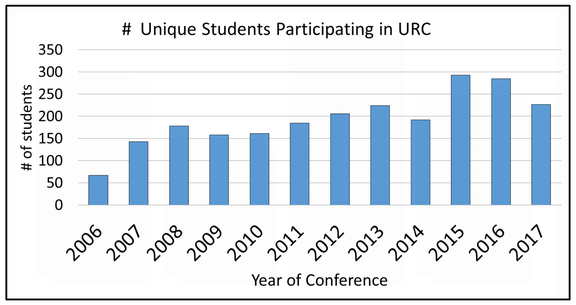
History of URC at SMSU





History of URC at SMSU, cont.





Evaluation Rubric Used

URC Presentation Rubric

Adapted from LEP Oral Communication Rubric

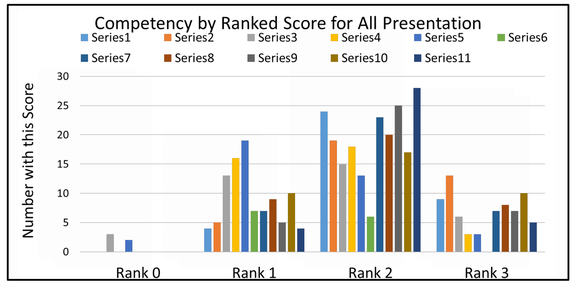
Series	Competency	0 Not Present	1 Emerging	2 Developing	3 Advanced
1	determines the purpose of oral discourse				
2	chooses a topic and restricts it according to the purpose and the audience				
3	locates and evaluates information resources effectively				
4	utilizes suitable and effective organizational strategies				
5	provides effective transitions				
6	works effectively in a group to organize a presentation				
7	demonstrates vocal variety and appropriate diction				
8	demonstrates nonverbal behavior that supports the verbal message				
9	manages communication anxiety effectively				
10	utilizes presentation aids effectively				
11	employs language appropriate to the designated audience and purpose				

Series 1-3 relate to research selection & focus
Series 4-6 relate to organization
Series 7-11 relate to delivery

Assessment Data

Presentations types consisted of :

Bio Capstone Posters	ENVS Capstone Orals
Exercise Sci Capstone Posters	History Capstone Orals
Math Capstone Posters	Sociology Posters
Theatre Posters	FYE Posters



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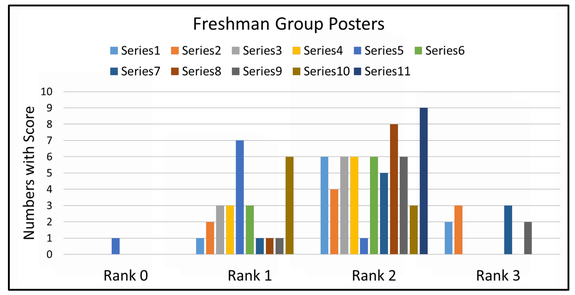

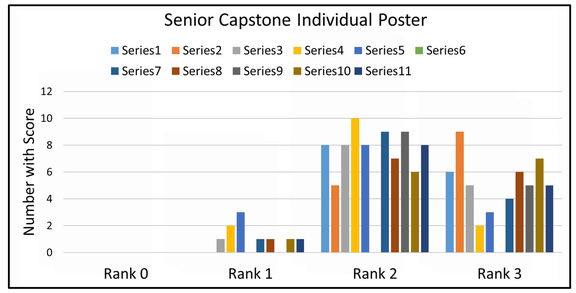

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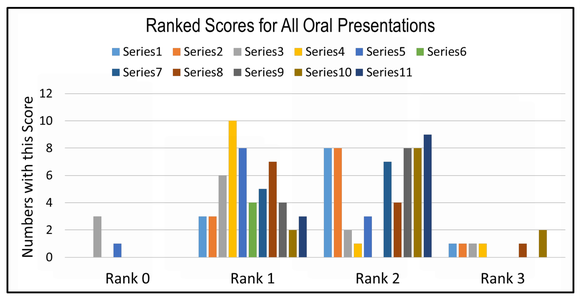
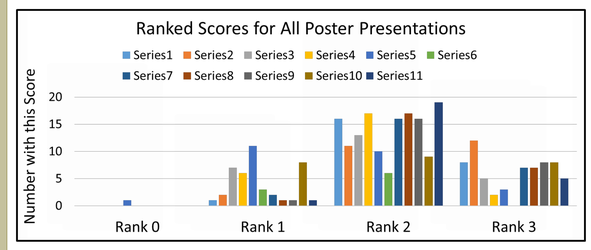


Assessment Data, cont.



Discussion and Evaluation

- Most common score was Competency Rank 2, Developing
- Competencies that got the lowest rankings overall are:
  - Series 3: Locates and evaluates information resources effectively
  - Series 4: Utilizes suitable and effective organizational strategies
  - Series 5: Provides effective transitions
- Generally higher rankings on Poster Presentations than Oral presentations
- Senior Capstone Posters had higher rankings on all competencies compared to Freshman posters
- Comments from evaluators indicated that the rubric did not capture all of the components they wished to evaluate (particularly for the posters)

Student comments from 45 students who completed a written survey within a week of the conference:

- 94% cited some form of 'personal growth'
  - "It took me out of my comfort zone & forced me to get more creative with my work"
  - "It was a great experience for me to help me get over my fears of speaking in public"
- 94% saw value in participating in research & the conference
  - "It took a lot of work & dedication"

Next Steps

- Need to design a rubric specifically for this event; possibly separate rubrics or poster and oral presentations
- Judges noted lack of in-text citations in many projects; need to improve information literacy skills
- Very small data set and presentations were self-selected for evaluation. Would eventually like to see ALL presentations at the URC evaluated

Acknowledgements

Thanks to Teresa Henning and Maria Kingsbury for all their work collecting and analyzing assessment data. Thanks also to all faculty research advisors who put in the time and work to supervise undergraduate research at SMSU.