2016

Multiple Perspectives Community Engagement Assessment Model

Sally Blomstrom
Embry-Riddle Aeronautical University, blomstrs@erau.edu

Barbara Hayford
Wayne State College

Lori A. Mumpower
Embry-Riddle Aeronautical University, mumpowel@erau.edu

Andrelle Bobinsky
Embry-Riddle Aeronautical University, bobinska@my.erau.edu

Pedagogy

Multiple Perspectives Community Engagement Assessment Model

Sally Blomstrum (Embry-Riddle Aeronautical University), Barbara Hayford (Wayne State College), Lori Mumpower, Abdrelle Bobinsky (Embry-Riddle Aeronautical University)

Abstract

We propose a multiple perspectives assessment model for community engagement. The assessment model was developed for a service-learning project. The multiple perspectives included in the model were those from the community partner, the faculty member, students, and the associate director from the Center for Teaching and Learning Excellence (CTLE). The model assessed the effectiveness of the service-learning project using qualitative reflections and quantitative data. Assessment from each perspective produced positive results in the improvement areas of assignment instructions, pedagogy, process, and deliverables. Generalizability may be limited because this project is ongoing with the same representatives from the community partner, CTLE, and the faculty.

Multiple Perspectives Community Engagement Assessment Model

Background on the Collaborative Project

This service-learning project is an ongoing collaborative effort between the A. Jewell Schock Natural History Museum in Wayne, Nebraska and Embry-Riddle Aeronautical University in Daytona Beach, Florida. Students attending Embry-Riddle generally have an interest in science, technology, engineering, and mathematics (STEM), as most majors are STEM-related, e.g. aerospace and other engineering majors, aviation science and other aviation-related majors, aviation business, physics, mathematics, human factors, and security studies. This project investigated how service-learning enhanced STEM literacy.

During four semesters from Spring 2014 through Fall 2015, a total of 334 students in speech classes created audio tours describing information about specimens at the museum Students' interest in STEM, as suggested by their selected majors of study, was in an area other than biology. In this project the museum director provided the specimen list, gave instructions, and provided exemplars with resources including websites and articles. The students conducted outside research, wrote drafts of their presentations according to the organizational structure provided, received feedback from the museum director

on their written scripts or on their oral rehearsals, and then created audio files. The museum director evaluated each audio tour and selected those that met the museum's criteria. Throughout the process the CTLE associate director provided resources and input. The faculty member structured the assignment to address student learning outcomes and to increase engagement.

Most audio files included information about the general characteristics and description of the assigned specimen, its biomechanics, forces involved in flight or swimming, how the biomechanics compared with one other animal, and an application of the biomechanics to robotics and/or to products currently in use. Some audio tours focused on nanoscience topics, to coincide with a nanoscience exhibit hosted by the museum. Those nanoscience-related audio tours served the purpose of increasing interest and outreach for the museum for the special exhibit.

Assessment

The focus of this research was whether and to what extent the project was effective for students, the community partner, the faculty member, and for CTLE. We were also interested in looking at engagement in terms of process (Bowen, 2005) and product (Barkley, 2010). We used Mandernach's (2015) distinction that assessments of "process emphasize behaviors, activities and attitudes that contribute to student learning while assessments of product emphasize engagement as a cognitive or affective state resulting from the learning process." We wanted to use objective measures, and then go beyond using multiple indirect and direct methods of assessment to strengthen our multiple perspectives assessment.

Mueller (2005) pointed out that authentic assessment asks students to complete real-world tasks that demonstrate, not objective knowledge, but performative knowledge, which this assignment sought to do. The assignment fit well with the definition Wiggins (1998) proposed that an assessment task "is authentic if it

1. is realistic...
2. requires judgment and innovation...
3. asks the students to 'do' the subject...
4. replicates or simulates the contexts in which adults are 'tested' in the workplace, in civic life, and in personal life...
5. assesses the student's ability to efficiently and effectively use a repertoire of knowledge and skill to negotiate a complex task...
6. allows appropriate opportunities to rehearse, practice, consult resources, and get feedback on and refine performances and products." (pp. 22-24)

By integrating multiple perspectives, we developed an assignment that would provide authentic assessment, which is important because it reveals whether students can apply what they have learned in authentic situations beyond the walls of the university. The assignment evolved over time due to the inputs from each perspective. One important aspect of student learning is engagement, which can be difficult to measure, yet is often demonstrated when students are motivated to learn. By having the community partner give formative feedback to students, and be a part of the summative assessment, students gained an increased level of motivation for their work in the course. Consistent with Bowen (2005), students were engaged in at least two ways, first with the object of the study in this assignment, which was their assigned specimen or topic, and secondly with the context, for example the frequency and periods of time when the specimen was likely to be seen in one of the identified wildlife refuges.

Assessment Model

We originally proposed assessing course learning outcomes from multiple perspectives. What we discovered in the process was more interesting and complex. We found to the extent we as partners (community partner, CTLE, faculty, and student) had congruent goals, those goals could be assessed from multiple perspectives. As expected, some of the course learning outcomes aligned with shared goals. In addition to our shared goals each partner had unique goals related to the group she represented and her role with that entity. A service-learning project's success and sustainability intuitively depends on the extent to which the project is effective for each partner. Accomplishing the shared goals is essential. Accomplishing partner's individual goals requires shared expectations and communication throughout the process, and was essential for the project's sustainability. Our initial approach to assessment from multiple perspectives is illustrated in Figure 1:

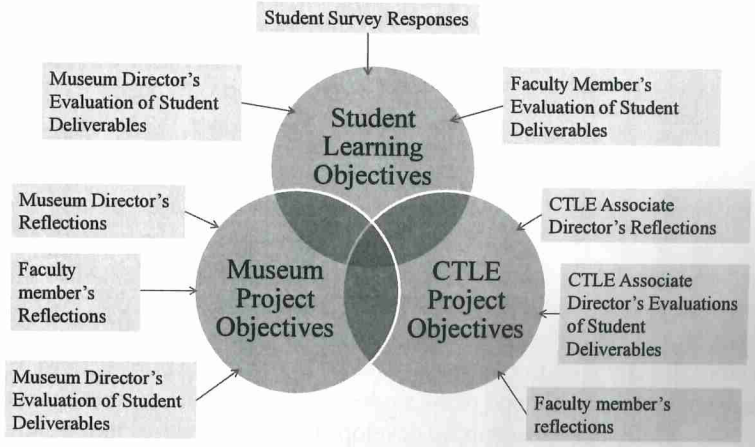

Figure 1 Multiple Perspectives Assessment Model for Service-Learning

This original Multiple Perspectives Assessment Model for Service-Learning served to frame this research, but we found that it fell short by not recognizing the larger shared goals, the student goals, and the faculty goals. Figure 2 shown later in the paper captures those elements.

Methods of Assessment

Reflective comments were written by the community partner, the CTLE partner, the faculty member and a student who participated in the project and later assisted with data analysis. Prior to writing her reflection, each person considered questions posed by other institutions for participants with similar roles in service-learning projects. The reflective comments were written to assess the project from that individual's perspective.

Additionally we assessed student learning outcomes for the course that were addressed through the service-learning project. In order to assess the student learning outcomes for this project we used two measures. The first was a student skill survey administered at the beginning and at the end of the course, in which students self-reported their skill levels on items in five areas: content, organization, delivery, team skills, and personal skills. Responses from students from spring and fall 2014 and spring and fall 2015 were included if the student completed the survey at both times. The analysis was based on 130 paired student responses. We selected relevant survey items for each of the student learning outcomes included here and reported the average at the beginning of the semester, the average at the end of the semester and the difference between those averages. The second measure was a reflective paper. We selected reflective responses from students that pertained to confidence building, audience analysis, and use of technology. We had 238 student reflective papers and every reflection was included in the analysis.

Results

Community Partner's Perspective

This project's objective, to inform museum visitors (on site and virtual) of the biology and biomechanics of museum specimens, serves the larger museum objective of preserving and conserving nature through science education and outreach. The goals of the project are for the students to produce an informative tour about the biology (including nano-biology in one assignment) and biomechanics of their chosen specimens and to produce an engaging and enthusiastic tour aimed at the target audience. By allowing me to work directly with the other participants, the multiple perspectives model has increased the likelihood of the student service meeting the museum goals.

Through partnership we developed a script for me as the community partner to direct and encourage the students in delivering appropriate content

through use of appropriate sources. We created and modified the STEM literacy tool (STEMSL) in response to our testing. We use the tool to assist in evaluating the student deliverables of the service learning project. I applied the tool to assess whether students met the first goal of the project for the museum. The tool allows me to assess whether student participants have included the information needed for the tour and whether they have explained the information in common vernacular for the museum audience. For example, students were asked to apply general biomechanical principles of flight in describing how their chosen bird specimen flies. An adequate tour would simply refer to the use of pronation and supination in rotating the wing in flight. A more appropriate tour would explain what pronation and supination are and how they produce rotation. An excellent tour would include analogies by example to illustrate how pronation and supination work and then relate this analogy to how their chosen specimen flies. The tool is less effective in assessing whether students met the second goal of engaging the museum visitors with an enthusiastic tour.

Overall, this model of interaction between partners and participants produced numerous scripts that have been valuable additions to the museum's products used on science education and outreach. The museum display is in a small room on the Wayne State College campus. The display is rarely changed over the course of an academic year. The digital audio tours have created a versatile, dynamic virtual display that can be accessed during an on-site tour or remotely. I would like to see this collaboration or similar collaborations continue and grow over the foreseeable future to build a virtual museum based on actual specimens and regional conservation efforts.

Student's Perspective

The resources that I was provided with for the service-learning project made me feel prepared for this speech. Having access to a research database helped me research facts about my bird. Also the advice the class was given about who the audience would most likely be helped me decide the technicality of the speech. The service-learning experience helped me understand different ways in which speeches are being used. It also helped me understand audience analysis. Coming from a technical school, we are often expected to explain highly technical subjects, or subjects that we are very familiar with, in a way that anyone can understand. For me, I knew little about my bird or how planes fly. This experience not only allowed me to learn about these things, but it also taught me how to teach others a subject that I know little about. This speech helped me realize I have to become more knowledgeable on a subject in order to explain it simply to someone.

I do think that the service learning project was beneficial for the community partner, because they were able to take some of these speeches and use them in a way that will teach the community for hopefully many

years. I think that it served their needs because they had a variety of perspectives on flight and bird's flight to offer to the community. I think that communication with the community partner was useful because we were able to see a real world application of our work that was outside of a classroom.

The best parts of the project were learning about the bird and about how planes fly, also having a real application for the speech. A suggestion I have would be to have more time with the community partner to discuss what is right and wrong about my speech. Due to time constraints this was difficult to do. I did think that this experience was worthwhile because it gave me a different perspective about speeches that I hadn't had before. It was also cool to think that our speeches could be used in a museum and listened to by a lot of people.

CTLE Member's Perspective

My position as an Associate Director for the Center for Teaching and Learning Excellence at ERAU allows me to work with faculty across campus to develop faculty teaching skills, to help solve technology problems, to develop assessment strategies, and the like. One of my early contributions to this project was to help solve a technology problem that Sally was having with the collection and distribution of documents and files. We found a way to simplify this process for her, which is saving her a significant amount of time better spent working directly with students.

My academic background is in English, and my sub-discipline is rhetoric, so I've been able to provide a perspective on this project in a way that another faculty development expert may not be able to. One of the Student Learning Outcomes, "the ability to speak to multiple audiences for multiple purposes," is an example of register-shifting, or code-switching. Because of my background knowledge in this area of language research, I was able to provide Sally and Barbara with some of the relevant scholarship on this topic to better inform their reading of student artifacts for that particular learning outcome and to contribute to their review of research for publication.

From a CTLE perspective, this is a successful project because

1. it has encouraged innovation on the part of the faculty member,
2. it is a SOTL project, which contributes to two of the three parts of the faculty contract,
3. it is a high-impact pedagogy (service learning) which benefits a number of constituents of the community and the university, and
4. it improves student learning in an authentic, and therefore a deep, way.

For future iterations of this project, Sally and I have been strategizing how to utilize one of our new resources on campus, the Digital Studio, a tutoring space for students to develop digital literacies while working on a media

project. Students will now produce their own audio tours with help from tutors in the Studio, when previously Sally had to produce them in her office through individual conferences. Many, many hours of Sally's time will be saved through her students' use of this campus resource. More importantly, by using the Studio as an extension of Sally's class, students will create the media themselves and will be developing a whole set of digital literacies that would require design, aural, and editing skills.

Faculty Member's Perspective

Service-learning is a pedagogy I have been putting into practice for approximately 10 years. When the community partner and I discussed the project, I could see the potential and was excited to be part of the project. Our community partner is ideally suited for this project. She brings considerable credibility, remarkable effort, and enthusiasm. Her organizational skills and her ability to interact well with students combine in fortunate ways that aid greatly in making the project run smoothly. This project made course content relevant, which was likely to increase engagement and enhance learning. Students were more engaged through this project than they would have been had the audience for all of their speeches been our speech class. This service-learning project engaged the students and showed them practical applications for the skills they were learning in the course. The project made the course content relevant beyond the classroom. Through the reflective papers for this required assignment, students indicated they liked having a subject matter expert evaluate their presentations. I appreciated that they learned the importance and value of rehearsals and of conducting research. This project made clear that students needed to use credible sources and they needed to cite those sources appropriately. Following instructions was critical for success in this project. Additionally students engaged in service which benefitted the community, defined in this case as virtual and in-person museum visitors. Several students commented that they were pleased their audio tours would be made available. I witnessed students' enthusiasm and saw their confidence increase. Some students like the assignment more than others, yet most seem to view the assignment favorably.

I benefited from the experience by getting to teach students who were more engaged. I also benefited by getting to know students better. We talked outside of class and I learned about them as individuals. I perceive my relationships with students were improved through this project more than I had not incorporated service-learning. Additionally I had the opportunity to work with the student who assisted on the data analysis, and I appreciate the insights and information she shared. I also saw improved relationships with my chair and dean, as they became aware of the project due to the marketing efforts of CTLE. Lori provided valuable support through suggestions that improved the process and the products. She has been and continues to be a

wonderful resource offering suggestions that have saved me a great deal of time previously spent dealing with technical issues that now has been redirected to other teaching tasks. Her suggestions have improved the project in very visible ways and improved my teaching. I also want to acknowledge CTLE for having provided stipends for this project.

The service-learning project aligns with my research agenda. Data analysis provided useful information that improved my teaching. The project logistics required time, for example, Skype was not installed on the classroom computers when we started. We met in different classrooms and had multiple Skype sessions scheduled over several days. I had to install the program and set up the equipment for each session. We did have a few delays. Since that time IT has installed the software and now I simply need to take and set up a camera. I believe the outcomes far outweighed the costs. We encountered some technical challenges. We dealt with them and have made some changes for future semesters, including the sequencing of the manuscript and the rehearsal.

Student Skill Survey and Reflective Responses

We assessed student learning outcomes for the speech course that were addressed through the service-learning project looking at responses from the student skill survey, students' reflective comments, and/or at the evaluation of the community partner. For this part of the assessment we focused on data related to the student learning outcomes for the course.

SLO1: Demonstrate increased confidence and oral communication skills in public, personal, and a variety of career contexts.

Community Partner. The community member accepted 16 of 71 (23%) audio files from students enrolled in spring 2014, 35 of 71 (49%) files from students enrolled during the fall 2014 semester, 33 of 97 (34%) files from students enrolled in spring 2015, and 18 definite and 16 possible of 71 (34-48%) files from fall 2015.

Student Data. Students indicated sizable gains in their delivery skills over the course of the semester according to the changes shown in Table 1.

Table 1: Changes in Student Skill Survey Responses related to Delivery Skills.

	Use Vocal Variety	Articulate Clearly	Speak Confidently	Speak Dynamically	Use Creativity in Delivery	Incorporate Critiques
Post-Test Average	4.10	4.11	4.37	4.16	4.19	4.45
Pre-Test Average	3.14	3.25	3.34	3.09	3.05	3.66
Difference	.96	.86	1.03	1.07	1.13	0.80

The results from the survey were supported by the analysis of the reflective comments which indicated that of 238 student reflections, 50 students did not respond to that part of the prompt. Of the 188 student who did respond, 161 (86%) people said that they did gain confidence and 27 (14%) said they did not gain confidence through the project, with several of those students indicating they felt confident speaking prior to the assignment.

SLO2: Demonstrate the ability to conduct and report research in accordance with professional standards.

Community Partner. Selection of audio tours by the community partner indicated research was conducted and reported in accordance with professional standards.

Student Data: In addition to looking at the community partner's evaluation of research skills, we looked at students' self-reported research skills. The average ratings of students' research skills at the beginning and end of the semester are shown in Table 2. The items shown are from the content area of the survey. The average of all content items was .79. The differences for the first two items: locating, evaluating and using information; and selecting appropriate support materials, showed a larger increase than the average for all content items, and the last one showed a smaller than average increase. The community partner did not accept some tours because the sources were not cited properly.

Table 2: Changes in Student Skill Survey Responses related to Research

	Locate, evaluate, and use information	Select appropriate support materials	Cite sources appropriately
Posttest Average	4.48	4.45	4.27
Pretest Average	3.61	3.50	3.55
Difference	0.87	0.94	0.72

SLO3: Demonstrate the ability to speak to multiple audiences for multiple purposes.

Student Data. The student skill survey indicated students reported a large improvement in their ability to adapt their speeches to the audience. The results are shown in Table 3. The assignment required students to adapt the content to the audience of museum visitors, and the change suggests they were

aware of learning those skills. The reflective comments analysis indicated students did use audience analysis in developing their presentations.

Table 3: Changes in Student Skill Survey Responses related to Audience Analysis		
	Select language appropriately	Adapt speech to audience
Posttest Average	4.42	4.32
Pretest Average	3.72	3.21
Difference	0.70	1.11

Results from the community partner's selestions, students' self-reported increases in skills, and their reflective comments indicate the assignment effectively addressed these course student learning outcomes.

Updated Model

Based on the multiple perspectives and outcome of the student skills survey and reflections we have created a more applied model focused on the shared goals for the project (Figure 2). We have identified that the shared goal was focused on effective STEM communication, defined as creating effective audio tours for the museum. This updated model does not feature fully overlapping individual goals generated from each perspective since each group's or individual's perspective indicated goals that did not overlap with those of the other's goals.

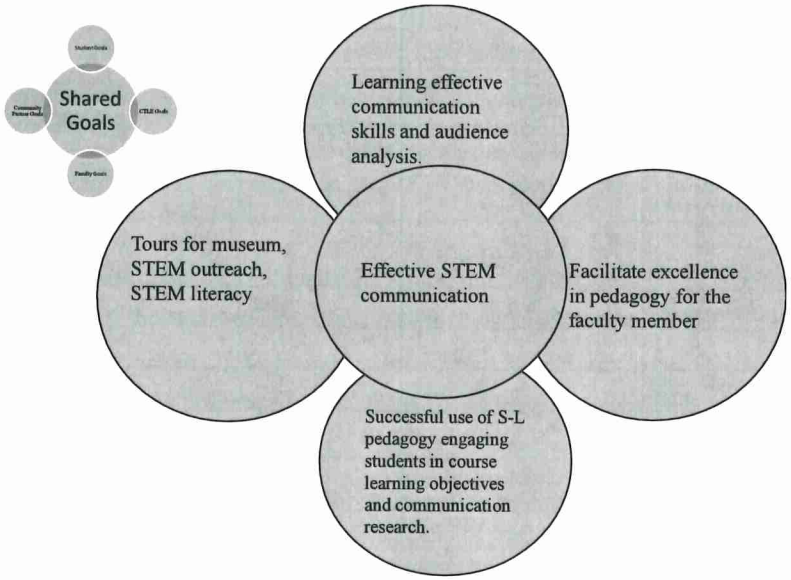

Figure 2 Revised Multiple Perspectives Assessment Model

Discussion and Next Steps

The updated model is a descriptive product derived from this research. We found that including perspectives from the ‚stakeholders' in this project allowed us to identify and work toward both shared and individual goals. We have used the model to improve the project in an iterative fashion.

One way in which the multiple perspectives model is beneficial for us is that it helped the researcher identify spaces where the project could be improved and encourages an iterative approach to teaching. Several changes have been implemented since the beginning of this project and as a direct result of perspectives from each of the project partners. Specifically, we noticed that several students developed very good content, yet they used little inflection when recording the presentations. The community partner made individual and collective comments to students, but the resultant audio tours showed little improvement in terms of vocal variety. These changes may produce improved content and delivery.

Another way that the multiple perspectives model is significant is because of its contributions to the authenticity both of the project and of the assessment. With many assessment models focusing on student performance alone, and performance generated by inauthentic situations (such as multiple-choice testing), this assessment model mirrors for students the complexity of writing itself, the multiple stakeholders involved, the multiple contexts in which students write. Students are witness to the level of feedback and revision made in the creation of a short audio tour. This deepens their understanding of writing as an iterative process.

The results from our reflections, the reflections of the students, and the student skill survey indicate the project was effective, and also provided important insights into how the process and products could be improved. The process of assessment provided ideas for changes being implemented this semester. One area of change we are incorporating is in the process. Each student now receives written feedback from the community partner on her or his draft script. Students met with me in groups of 6 to rehearse their presentations. Four students listened for each of the assignment details, one timed the rehearsal, and we used software to project a visual representation of vocal variety on the screen, which another student observed and reported on. Each speaker received feedback from the other students and from the faculty member. The students have been recording their audio tours and editing them with help from the Digital Studio. These changes may result in more comprehensive content and improved delivery. Additionally students practiced their listening skills and possibly improved their skills related to giving and incorporating critiques. We plan to continue assessing from multiple perspectives to further develop the service-learning project. In the future we would like to analyze feedback from museum visitors. That feedback may provide insights into changes of length, format, or accessibility. We look forward to receiving information from the assessments and to continue improving the project.

References

Barkley, E. F. (2010). *Student Engagement Techniques: A Handbook for College Faculty*. San Francisco, CA: Jossey-Bass.

Bowen, S. (2005). Engaged learning: Are we all on the same page? Peer Review, 4-7.

Mandernach, B. J. (2015). Assessment of student engagement in higher education: A synthesis of literature and assessment tools. *International Journal of Learning, Teaching and Educational Research,* 12, (*2*), pp. 1-14.

Mueller, J. (2005). The authentic assessment toolbox: Enhancing student learning through online faculty development. *JOLT,* (1). http://jolt.merlot.org/documents/vol1_no1_mueller_001. pdf.

Wiggins, G.P. (1998). *Educative assessment: Designing assessments to inform and improve student performance.* San Francisco: Jossey-Bass.

Construction of the "Real World" in a Communication Studies Curriculum: An Opportunity for Insight from the Voices of Faculty, Student and Alumni

Lori L. Britt, Shannon Brockman, Wesley Casson, Maxine Johnson (James Madison University)

Abstract

A focus on perceptions of the construction of the "real world" through the voices of faculty, recent alumni, and current students in a communication studies program is situated within the larger social discourses of the role and value of a college education. The qualitative inquiry in one program offers holistic understanding of how each group of stakeholders makes sense of the connections between communication coursework and the real world. The study finds that the tensions over education being about job preparation or a broader conception of education are evident in local discourses.

Key words: Real World, Communication Curricula, Student Preparation

Introduction

In the midst of continuing discourse that is growing louder about the purpose of a college education, it is important to understand how this discourse is impacting teaching in the communication discipline and how students are making sense of what they are learning. It is important to understand how local discourses are taking up or negotiating the tensions of whether a college education should prepare students for jobs, or teach students how to think to more broadly to contribute to the world in any variety of ways, as workers, as citizens, and as individuals. This research project considers how this discourse is evident in the sensemaking of faculty, students, and alumni of a communication studies program at one university.

Before presenting and exploring the local discourses found in the research, the larger social discourses of the role of a college education are offered followed by an overview of how the communication discipline is positioned regarding this larger conversation. Finally implications for our pedagogy and how we frame student experiences that emerge from this multivocal narrative are offered.

The Role of a College Education

Most Americans agree a college education is a significant factor for success in society (Pew, 2011). However, even though public opinion rates higher education as important, there are several elements that cause concern. The continually increasing price tag leads Americans to question the value