

Building an Academic Pathway for the Aerial Sensing Data Analyst: Year 1 Interim Evaluation Report

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June 2017

This material is based on work supported by the National Science Foundation NSF Proposal Number 1601038. The opinions, findings, conclusions, or recommendations expressed in this material are those of the authors and do not reflect the position or policies of the National Science Foundation.

Executive Summary

Sinclair Community College (Dayton, OH), was awarded grant funding from the National Science Foundation's (NSF) Advanced Technological Education Program (ATE) to develop and implement a new competency-based, multi-disciplinary UAS/GIS program as a certification for the new emerging role of Aerial Sensing Data Analyst. This certificate program will educate and train individuals in the skills needed to analyze and interpret specialized data collected from remote sensors flown on unmanned aircraft. The certificate can be earned as a stand-alone credential and it will be embedded within educational pathways latticed between the UAS and GIS disciplines. The goals of this project are to recruit more individuals into UAS/GIS educational pathways – particularly those from underrepresented populations including women and veterans – and to provide them with the specialized knowledge and skills needed in the growing interdisciplinary fields of UAS/GIS. After its first year of funding, the project is on track and progressing according to the project timeline. A competency model has been developed and served as the basis for new - and newly converted - courses for the new Aerial Data Sensing Analyst certificate program. Baseline data were collected from students who completed the pre-converted courses in the Spring of 2017. Project team members' participation in training offered by The Institute for Women in Trades, Technology, and Sciences (IWITTS) facilitated the development of evidence-based strategies for increasing the recruitment and retention of students from underrepresented populations into UAS/GIS degree programs. Finally, outreach activities are being developed to orient high school students to UAS/GIS career and will be implemented in schools starting in the fall of 2017.

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Background

Civil and commercial applications for the use of aerial sensing data are growing quickly in response to the easing of FAA regulations and the increasing reliability and affordability of Unmanned Aerial Systems (UAS) technology. This growth has created high demand, in both private and public sectors, for skilled individuals who can analyze and interpret the specialized data gathered with UAS technology. At the same time, it has also revealed a large gap between the specialized knowledge and skills needed by employers and the available education and training opportunities for those seeking careers in UAS/GIS fields. Adding to the challenge for employers is the lack of awareness among prospective high school students about the growing career opportunities in these fields, particularly those from underrepresented populations including women, veterans and ethnic minorities. Sinclair Community College (Dayton, OH) has received NSF funding for a project that is seeking to narrow the gap between industry needs and training/educational opportunities by providing an academic pathway for Aerial Sensing Data Analysts and to increase awareness to prospective students about this and the many other growing career opportunities in UAS/GIS fields.

The project objectives are as follows:

1. Increase community colleges' capacity to meet emerging employer needs through new competency-based, multi-disciplinary UAS/GIS certificate program that addresses a knowledge and skill gap.
2. Expand awareness of UAS/GIS careers and educational pathways among high school students and teachers.
3. Increase the number of female students enrolled in targeted undergraduate programs.

These overall project objectives are expected to be achieved by focusing efforts in four different areas. The project team will create a competency model for Aerial Sensing Data Analyst Short-term Certificate. Relatedly, they will also develop hybrid postsecondary courses for the certificate program. Also, towards meeting industry workforce demands, the project team will create recruitment and retention plans for underrepresented populations. These activities will involve outreach activities to orient high school students and teachers to UAS/GIS career pathways.

The overall deliverables of the project are as follows:

1. A Master syllabus and course description for each course comprising the new Aerial Sensing Data Analyst competency-based hybrid certificate.
2. Competency model for the Aerial Sensing Data Analyst occupation, developed and validated by industry representatives, using a proven Developing a Curriculum (DACUM) process.
3. Electronic versions of modules and a video to support high school teacher professional development and student career awareness.
4. Develop model recruitment and retention plans to support the involvement of underrepresented populations.
5. Disseminate project activities and outcomes through technical and academic journal articles.

The purpose of the current document is to summarize the evaluative findings as the project ends its first year of funding.

Purpose and Design of the Evaluation

The Rucks Group, LLC began working as the external evaluator with the Aerial Sensing Data Analyst project team at project initiation. The evaluation has a two-fold purpose: 1) To capture information regarding the implementation of project activities (formative evaluation); and 2) To assess the outcomes of the project (summative evaluation).

Key elements of the evaluation are the project logic model, its objectives, and the evaluation questions. The logic model (see Appendix A) provides the frame for the evaluation while the evaluation questions guide the nature of the data to be collected. The evaluation questions are:

1. How effectively is the project being implemented? What successes are being achieved and what challenges are being addressed?
2. To what extent is/did the project increase the enrollment and success of students in UAS/GIS programs? of underrepresented populations in UAS/GIS programs?
3. To what extent did the new certificate content teach the skills and competencies needed by employers? To what extent are graduates prepared for industry?
4. What are the key lessons learned for sustainability and replication by others?

The logic model is a visual overview of the project's hypothesis on how it will achieve its goals. The theory of change underlying the project is that the development of a multi-disciplinary credit-bearing credential to train students in the knowledge and skills needed by UAS/GIS sector employers along with deliberate efforts to improve the recruitment of students from a broader range of populations will address the challenge of meeting the demand for highly-qualified candidates to meet the increasing need for Aerial Sensing Data Analysts.

As the project finishes its first year of funding, the primary focus of the evaluation was on project implementation. As such, the evaluation questions addressed in this report relate primarily to evaluation question #1 with some information to report regarding baseline data and plan development for evaluation question #2. Evaluation questions #3 and #4 will be addressed in subsequent reports.

Findings

Evaluative Question #1: How effectively is the project being implemented?

A summary of major project activities planned for Year 1 are listed below along with activity status. Most tasks outlined for Year 1 were accomplished. The development of the competency model for the Aerial Sensing Data Analyst was completed in September 2016 through a collaborative effort that included the PI, Co-PIs, and UAS/GIS sector industry professionals using the Developing a Curriculum (DACUM) process facilitated by the DACUM International Training Center at The Ohio State University's Center on Education and Training for Employment (CETE). The conversion of existing courses including AVT 1101, 1104, 2150, EET 1121, 1158, and GEO 1107 is complete with all courses being offered in the Fall 2017 semester starting in August. New courses including AVT 1120, 1121, 1122, and 1123 have been approved by the college. Development of these courses will continue during the Fall semester and completed by the end of November 2017 in time for Spring semester starting January 2018.

The professional development for faculty to develop plans for recruiting and retaining students from underrepresented populations was provided through the WomenTech Educators Training workshop offered by the National Institute for Women in Trades, Technology, and Science (IWITTS) in April of 2017. Efforts to provide demonstrations, modules, and other outreach activities to orient students to UAS/GIS careers are in the advanced planning stages and will be implemented in schools starting in the fall of 2017.

Major Implementation Project Activities for Year 1	Task Status
Create the competency model for Aerial Sensing Data Analyst short term certificate	Completed
Develop the competency-based, hybrid postsecondary courses for the new Aerial Data Sensing Analyst certificate program	Conversion of existing courses is complete and will be available to students in August at the start of the Fall 2017 semester. New courses have been approved and will be completed by end of November 2017 to be ready for the Spring semester starting January 2018
Conduct professional development on recruitment and retention strategies to encourage enrollment and course completion by underrepresented student populations	Completed
Disseminate high school demonstrations, modules, and a video to orient students to UAS/GIS career pathways	Advanced planning phase

Evaluative Question #2: To what extent is/did the project increase the enrollment and success of students in UAS/GIS programs? of underrepresented populations in UAS/GIS programs?

While intervention outcomes data will be gathered during the next two years of the project, baseline student survey data were collected in Year 1 that pertains to student success. In addition, the investigators received training and guidance that resulted in the development of initial plans for improving the recruitment and retention of underrepresented populations in UAS/GIS programs.

Student surveys

Sinclair Community College students who were enrolled in *Introduction to Geographic Information Systems* (GIS 1107) and *Introduction to Unmanned Aerial Systems* (AVT 1101) during the Spring semester of 2017 were asked to complete a brief survey at the end of the course that included items from validated measures to assess course satisfaction¹, student engagement², and self-efficacy³ (see Appendix B). A total of 26 students completed the survey. from various programs including 12 in Unmanned Aerial Systems, 5 in Geography, 3 in Aviation Technology, 2 in Business Management, 1 in Geospatial Technology, 1 in Geology, and 1 with a master’s degree in Biomedical engineering.

Student engagement and course satisfaction item responses were on an ordinal agreement scale ranging from 1 (Strongly disagree) to 5 (Strongly agree). The overall mean for student engagement items was 4.36 (SD=.79). The set of course satisfaction items included items that assessed both teacher and course quality. Items pertaining to teacher quality will be shared with instructors for their own professional development but will not be tracked as part of this project. Course-related items, however, are targeted at elements that the project team hopes to improve by redesigning them to align with the new competency model. The means for these course-related items are shown in Figure 1.

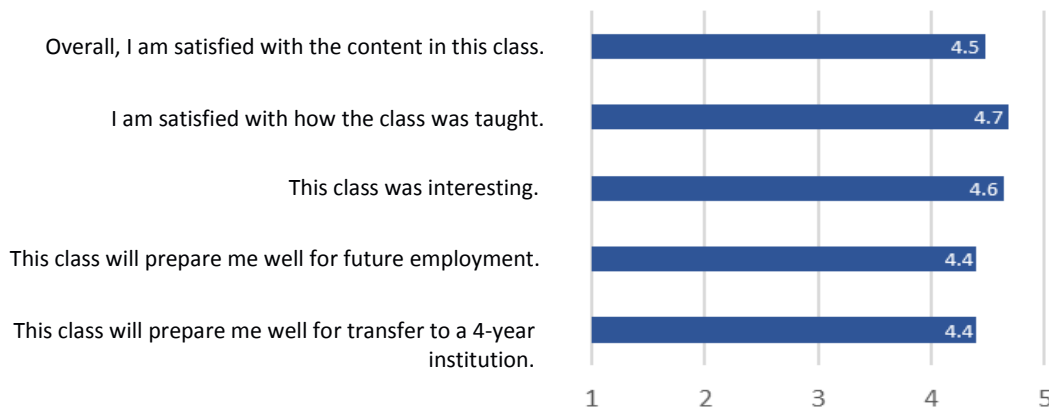


Figure 1. Mean ratings regarding the extent to which students agreed or disagreed with each item (from Strongly disagree=1 to Strongly agree=5)

The set of questions designed to assess self-efficacy were asked using a “counterfactual” designed which asks respondents to read each item and indicate the extent to which it was true after completing the course and

then the extent to which it was true of them before taking the course. Overall self-efficacy item mean ratings before and after the course are shown in Figure 2.

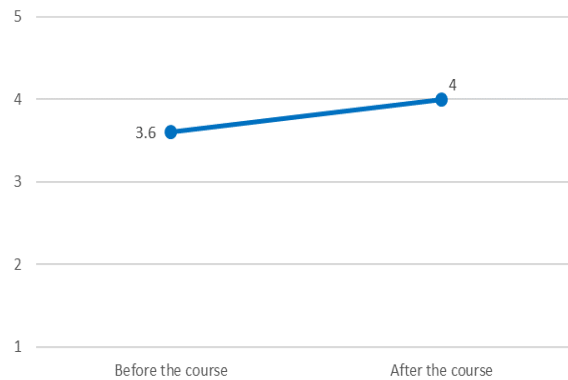


Figure 2. Overall self-efficacy item mean ratings before and after the course (from Not true at all = 1 to Extremely true = 5)

IWITTS training and planning

A total of 25 individuals comprised primarily of faculty and staff from community college Unmanned Aerial Systems (UAS) and Built Environment programs participated in a two-day WomenTech Educators Training workshop offered by the National Institute for Women in Trades, Technology, and Science (IWITTS). The UAS and Built Environment programs are engaged in separate NSF-funded programs but share the goal of attracting and retaining more students from underserved populations. Consequently, this training session was funded through equal contributions by each program. On both days participants were presented with information regarding best practices, engaged in small group discussions, and worked with program colleagues to develop improvement strategies and action plans. The focus of the first day was on recruitment of women and other underrepresented populations with day two centering on issues and strategies related to retention.

Training evaluations were administered at the end of both days. Following the first session, which focused on recruitment, 56% (14 of 25) of participants completed the evaluation and 52% (13 of 25) completed the evaluation after the second day which focused on retention. Most participants rated the overall quality of the training session after both days as being “good” or “excellent” (Figure 3).

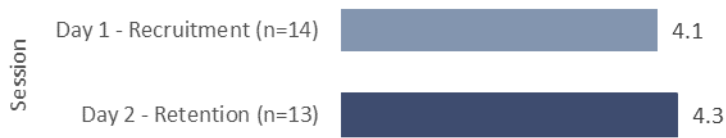


Figure 3. Mean ratings for overall training quality (from Poor=1 to Excellent=5)

Participants also reported an increase in their knowledge of effective practices for recruiting female students into their STEM programs as well as an increase in their knowledge of effective practices for retaining them (Figure 4).

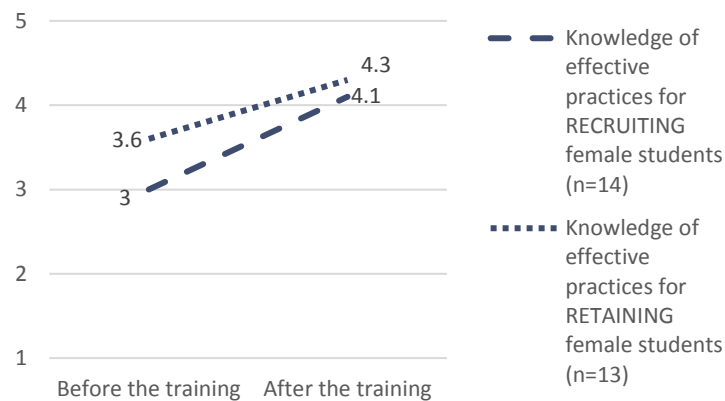


Figure 4. Mean ratings for levels of knowledge of effective retention and recruitment practices before and after the training session (from Very low =1 to Very high=5).

Many participants provided responses to open-ended questions about the training sessions. When asked to identify the most useful aspects about the training, most of the responses related to the themes of “developing plans” or “learning what others are doing/experiencing.” Responses to other open-ended questions were more varied and can be found in the full training evaluation report produced by IWITTS in Appendix C. This full report also includes the frequencies and mean ratings for each closed-ended question.

Project group members who attended the IWITTS training workshop developed draft plans for increasing the enrollment and retention of students from underrepresented populations. Team members will continue working on these strategic plans which will include specific goals and targeted actions. An update on the specific strategies and any evaluative information regarding their implementation and progress toward goals will be provided in subsequent reports.

Recommendations

The project appears to be on track and moving forward as expected. In this first year, activities have primarily centered on the development of a competency model, the conversion and development of new courses, providing training to personnel regarding the recruitment and retention of underserved populations, including women, to the academic programs being targeted, and outreach to high school students. As the project moves into its second year of funding the following recommendations are provided:

- Continue to monitor the progress of the development of new courses and conversion of existing courses slated for completion by December 2017. Ensure that these new courses are also aligned with the competency model.
- The draft plans for increasing the recruitment and retention of students from underserved populations are a good start on this important project goal. With the increase in major project activities in the second year of funding there is a risk that planning for these strategies might become subordinated. We encourage the project team to consider ways in which recruitment and retention strategies might be incorporated within the major activities to be conducted this year.
- As high school outreach plans are implemented be sure to address any barriers that arise and modify the plans as needed based on any evaluation data collected.

References

1. Zhai, L. (2012). Generalized Self-Efficacy scale. Validation of an instrument to measure community college student satisfaction. *Community College Journal of Research and Practice*, 36, p.47 -58
2. Appleton, J. J., Christenson, S. L., Kim, D., Reschly, A. L. (2005). Measuring cognitive and psychological engagement: Validation of the student engagement instrument. *Journal of School Psychology*, 44, 427-445.
3. Schwarzer, R., & Jerusalem, M. (1995). Generalized Self-Efficacy scale. In J. Weinman, S. Wright, & M. Johnston, *Measures in health psychology: A user's portfolio. Causal and control beliefs* (pp.35 – 37). Windsor, UK: NFER-NELSON.

Appendix A – Logic Model - Increasing Technician Preparedness in the Built Environment

ACTIVITIES	OUTPUTS	SHORT-TERM OUTCOMES	INTERMEDIATE OUTCOMES	LONG-TERM OUTCOMES
1. Conduct a comprehensive DACUM process on the Aerial Sensing Data Analyst occupation	<p>Identification of the tasks, knowledge, skills, equipment, and work behaviors needed by high performing Aerial Sensing Data Analysts.</p> <p>An in-depth understanding of the content and learning objectives to include in the new competency-based curriculum</p>	<ul style="list-style-type: none"> Increased interest in occupation of Aerial Data Sensing Analysts by underrepresented populations Student enrollments (especially female students) in new certificate and/or UAS/GIS pathways 	<ul style="list-style-type: none"> Strengthened relationships with high schools serving underrepresented populations, as evidenced by the number of events/activities that involve new modules and partnerships Increased student efficacy regarding their ability to succeed as Aerial Sensing Data Analysts or in other STEM careers High student retention rates in the program supported by student retention and success strategies 	<ul style="list-style-type: none"> Likelihood of ongoing use and adoption of modules at high schools High completion rates of students pursuing the new certificate (especially female and minority students) Changed self-perceptions about students seeing themselves in STEM careers
2. Development of new competency-based, hybrid certificate program	Certificate description, syllabi, and course content			
3. Internal professional development for Sinclair faculty and staff related to recruiting and retaining underrepresented populations	Secondary and postsecondary professional development sessions conducted for STEM faculty, chairs, deans, administrators and advisors			
4. Outreach to high schools serving underrepresented students	Number of demonstrations to students and number of high school teacher training sessions			
5. Use of websites to disseminate project outcomes	Number of website hits			
6. Presentations and articles to disseminate outcomes	Number of presentations			

Appendix B – Student Survey

Q1. COURSE SATISFACTION - Indicate the extent to which you agree - or disagree - with each item regarding this class.

	SA (2)	A (1)	N (0)	D (-1)	SD (-2)
I feel at ease talking with my teacher outside of the classroom.					
In general, my teacher attempts to be fair and objective in their presentation of course materials.					
My teacher clearly defined how I will be graded.					
My teacher cares about my success.					
My teacher has been available for help outside of class.					
I believe this class will prepare me well for future employment.					
I believe this class will prepare me well for transfer to a 4-year institution.					
Overall, I am satisfied with the content in this class.					
The amount of homework in this class was fair.					
This class was interesting.					
I am satisfied with how the class was taught.					

Note: SA = Strongly agree, A=Agree, N=Neither agree nor disagree, D=Disagree, SD=Strongly disagree

Q2. STUDENT ENGAGEMENT - Indicate the extent to which you agree - or disagree - with each item regarding this class.

	SA (2)	A (1)	N (0)	D (-1)	SD (-2)
The tests in this class did a good job of measuring what I'm able to do.					
Most of what is important to know you learn in school.					
What I learned in this class will be important in my future.					
After finishing my work/assignments for this class, I checked over it to see if it was correct.					
When I did schoolwork for this class, I checked to see whether I understood what I was doing.					
Learning is fun because I get better at something.					
When I did well in school it's because I worked hard.					
I feel like I have a say about what happens to me at school.					
Going to school after high school is important.					
School is important for achieving my future goals.					
My education will create many future opportunities for me.					
I am hopeful about my future.					

Note: SA = Strongly agree, A=Agree, N=Neither agree nor disagree, D=Disagree, SD=Strongly disagree

Q3. SELF-EFFICACY - Indicate the extent to which each is true of you AFTER completing the course and BEFORE.

	Before	After
I can always manage to solve difficult problems if I try hard enough.		
If someone opposes me, I can find the means and ways to get what I want.		
It is easy for me to stick to my aims and accomplish my goals.		
I am confident that I could deal efficiently with unexpected events.		
Thanks to my resourcefulness, I know how to handle unforeseen situations.		
I can solve most problems if I invest the necessary effort.		
I can remain calm when facing difficulties because I can rely on my coping abilities.		
When I am confronted with a problem, I can usually find several solutions.		
If I am in trouble, I can usually think of a solution.		
I can usually handle whatever comes my way.		

Note: Drop-down choices were "Not true at all"=0, "Hardly true"=1, "Moderately true"=2, "Very true"=3, "Extremely true"=4

Demographic Questions

Q4. Your gender

- Male
- Female

Q5. Which of the following degrees have you completed? (Select all that apply)

- Some college but no degree
- Associate degree in college (2-year)
- Bachelor's degree in college (4-year)
- Master's degree
- Doctoral degree
- Professional degree (e.g., JD, MD, DDS) (6)

Q6. Please specify the degree(s) obtained

- Some college but no degree
- Associate degree in college (2-year)
- Bachelor's degree in college (4-year)
- Master's degree
- Doctoral degree
- Professional degree (e.g., JD, MD, DDS)

Q7. Please select the Sinclair degree program(s) you're currently enrolled in.

(Respondents selected from a drop-down list)

Q8. What is your current Sinclair cumulative GPA?

(Respondents selected from a drop-down list)

Q9. Other college GPA's (even if you didn't obtain a degree) - Write "None" or "NA" if applicable

Q10. How many years of experience do you have in the industry related to the topic of the course?

- 0
- less than 1 year
- 1 to 2 years
- 2 to 3 years
- 3 to 4 years
- 4 to 5 years
- More than 5 years

Appendix C – WomenTech Educators Training Evaluations

WomenTech Educators Training Evaluation – Recruitment Sinclair Community College – April 20, 2017 Trainer: Ede Slovin

Survey Response Rate: 56% (14 of 25 participants)

1. Please rate the following aspects of today's WomenTech Educators Training. Select "Not Applicable" if you didn't experience this aspect of the training. Circle one for each statement.

	Excellent (5)	Very Good (4)	Good (3)	Fair (2)	Poor (1)	N/A (0)	Average
Quality of training overall	6	5	2	1	0	0	4.1
Overall, I would rate the Personal Encouragement Conversation Exercise	3	6	4	1	0	0	3.8
Overall, I would rate the Plan Development Exercise	4	6	3	0	0	1	3.8
Overall, I would rate the Training Participant Manual	6	6	2	0	0	0	4.3

2. Please record your level of agreement (or disagreement) with each statement. Select "Not Applicable" if you didn't experience this aspect of the training. Circle one for each statement.

	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	N/A (0)	Average
The content of today's training was useful to me	6	7	1	0	0	0	4.4
I learned new strategies to recruit and enroll female students in STEM courses/programs at my institution	8	5	1	0	0	0	4.5
I plan to implement the recruitment plan I developed at my institution	6	5	2	0	0	1	4.0
I plan to share something I learned with a peer or colleague	9	5	0	0	0	0	4.6

3. Please consider how your knowledge and confidence about recruiting female students in STEM courses has changed based on today's training. Indicate your level of knowledge and confidence BEFORE the training and NOW (following the training) in the following areas. Circle one for each statement.

	Very high (5)	High (4)	Medium (3)	Low (2)	Very low (1)	Average	Change Score
A. Knowledge of effective practices for recruiting female students to STEM BEFORE the training	1	3	7	1	2	3.0	+1.1
NOW (following the training)	3	6	2	0	0	4.1	
B. Confidence in my ability to increase the enrollment of female students in my STEM courses BEFORE the training	1	6	4	1	1	3.4	+0.7
NOW (following the training)	3	7	2	0	0	4.1	
C. Awareness of resources related to recruiting female students to STEM BEFORE the training	1	2	7	1	3	2.8	+1.4
NOW (following the training)	5	7	2	0	0	4.2	

WomenTech Educators Training Evaluation – Recruitment
Sinclair Community College – April 20, 2017
Trainer: Ede Slovin

Survey Response Rate: 56% (14 of 25 participants)

4. Please explain how you would apply what you learned at today's training to your own work on campus.

- To increase enrollment.
- As a grant writer, I am not directly involved with recruitment but I believe the information has helped me better understand the issues with recruiting STEM students and better ways to articulate them and their situations in the grant proposals I work on.
- Need to do a better job of sharing program information with others on a continual basis versus one time.
- Direct link to NSF grant goals.
- Will engage with marketing services to get collateral support materials. Will ask Research for more data. Will engage with college credit and STEM community.
- I will educate myself on the programs and career paths we offer. Develop a method for getting all the information I need about programs from requirements to job performance/availability.
- Share with colleagues.

5. What was the most useful aspect of today's training for you?

- Interactions with others, some ideas.
- It was helpful to hear the feedback/stories from the attendees. I learned a lot about the way things are done in different departments within my institution as well as at other institutions.
- Applying the idea to partner with a company to do an advertising campaign.
- Recruiting exercise.
- Conversation – learning of coordination and collaboration.
- The identification of resources available for recruitment.
- Learning about the "parent/spouse" orientation program. Parents/spouses have knowledge of the potential student that can be useful in guiding the student to career/program information that would benefit them.
- Binder as a resource.

6. What do you feel would improve today's training?

- Few, if any, examples of two year.
- Remove the outdated slides. "Mars versus Venus" is a very sexist way of looking at these issues. As a woman, I always related more to the "Mars" perspective, so saying that "men think this way/like these things" versus "women like/think this" is very inaccurate. Most people have facets of both genders in varying degrees.
- Make group activities shorter.
- Exercise scenario example.
- Perhaps some updated video/data.
- Update statistics!
- Utilization of applied strategies for recruitment.
- Afternoon break.

7. Any additional comments you have about today's training.

- More interactive, two year failure and success case studies.
- I really enjoyed Ede's training style! She was very knowledgeable and had many great examples we could apply.
- Some slides in presentation seemed out of date.
- Presenter well prepared, very knowledgeable.

WomenTech Educators Training Evaluation – Retention
Sinclair Community College – April 21, 2017
Trainer: Ede Slovin

Survey Response Rate: 52% (13 of 25 participants)

1. Please rate the following aspects of today's WomenTech Educators Training. Select "Not Applicable" if you didn't experience this aspect of the training. Circle one for each statement.

	Excellent (5)	Very Good (4)	Good (3)	Fair (2)	Poor (1)	N/A (0)	Average
Quality of training overall	8	2	2	1	0	0	4.3
Overall, I would rate the First Week Conversation Exercise	4	2	2	2	0	3	2.9
Overall, I would rate the Plan Development Exercise	5	4	2	1	0	0	4.1
Overall, I would rate the Training Participant Manual	5	5	3	0	0	0	4.2

2. Please record your level of agreement (or disagreement) with each statement. Select "Not Applicable" if you didn't experience this aspect of the training. Circle one for each statement.

	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	N/A (0)	Average
The content of today's training was useful to me	5	6	1	1	0	0	4.2
I learned new strategies to retain female students in STEM courses/programs at my institution	5	6	2	0	0	0	4.2
I plan to implement the retention plan I developed at my institution	7	3	1	0	0	2	3.8
I would recommend this training to my colleagues	6	4	3	0	0	0	4.2
I plan to share something I learned with a colleague	9	3	1	0	0	0	4.6

3. Please consider how your knowledge and confidence about retaining female students in STEM courses has changed based on today's training. Indicate your level of knowledge and confidence BEFORE the training and NOW (following the training) in the following areas. Circle one for each statement.

	Very high (5)	High (4)	Medium (3)	Low (2)	Very low (1)	Average	Change Score
A. Knowledge of effective practices for retaining female students in STEM BEFORE the training	3	4	5	0	1	3.6	+0.7
NOW (following the training)	5	7	1	0	0	4.3	
B. Confidence in my ability to increase the retention of female students in my STEM courses BEFORE the training	1	8	3	0	0	3.8	+0.6
NOW (following the training)	5	7	0	0	0	4.4	
C. Awareness of resources related to retaining female students in STEM BEFORE the training	3	2	7	0	1	3.5	+1.1
NOW (following the training)	7	6	0	0	0	4.5	

WomenTech Educators Training Evaluation – Retention
Sinclair Community College – April 21, 2017
Trainer: Ede Slovin

Survey Response Rate: 52% (13 of 25 participants)

4. Please explain how you would apply what you learned at today's training to your own work on campus.

- Planning retention plan development for CBE program.
- More retention strategies and activities should be employed prior to a student's first course campus wide, rather than only employing this strategy in select programs.
- The information can help me better articulate retention problems and solutions in the grants I help to write with faculty. I am fairly new to higher education, so this training has been helpful on so many levels.
- Keep doing what we do.
- Remember to keep changing things up.
- Will improve my syllabus information on student resources. Will engage with Research for more data. Will work on better team activities.

5. What was the most useful aspect of today's training for you?

- Retention exercises.
- Completing the retention plan. Although I've completed recruitment plans several times, I've never done a retention plan.
- The feedback/stories from the trainer and attendees.
- Other's experiences.
- Learning what others were doing.
- It was very helpful to meet in teams to discuss what we are doing.
- Identification of retention practices.
- Time to develop a plan. Various resources available online.

6. What do you feel would improve today's training?

- Update some of the examples and images in presentation.
- More up-to-date slides, strategies implemented at specific institutions and their impact.
- Remove outdated information from presentation slides.
- Retention not an issue with us. Relate to community colleges, not 4-year. Less on IT/Computing. Too much old data.
- PowerPoint needs to be updated (2002 data).
- This information on male/female differences in learning style seems dated. We see individual differences, not necessarily gender differences. More time on our plan.
- Combining it into Day 1.
- Updated video/data for some issues.

7. Would you like to be a part of a larger online community of practice on increasing the number of female students in STEM where educators from around the country can go to share strategies, get advice, and learn new research?

Yes (2)

No (0)

Don't Know/Need More Information (6)

8. Any additional comments you have about today's training.

- Very informative!
- Great job of modifying the basic curriculum to meet our specific needs.
- Well done – good management of time and process.