

Assessment Method: Student Annual Reports (poster and platform technical presentations given).

2.2. Students will improve written communication skills by submitting manuscripts to peer-reviewed publications such as scholarly journals, conference proceedings, books, or similar outlets.

Assessment Method: Student Annual Reports (manuscripts submitted and accepted for publication).

Program Goal 3

Define Goal:

Program Goal 3: Add new concentrations to the Environmental Sciences PhD program.

Assessment Method for Program Goal 1: Comprehensive Exams

Goal/ Outcome/ Objective: Program Goal 1/Outcome 1.1

Type of Tool: Other

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regional journal. These details can be used to generate a more refined analysis of the TTU EVS program's impact on the wider discipline of environmental sciences. Annual reports have the added benefit of student professional development because their CVs are current and updated with each successive year's accomplishments.

Results: Comprehensive Exam

Goal/Objective/Outcome Number: Program Goal 1 / Outcome 1.1

Results:

Comprehensive Exams: All EVS students successfully passed their comprehensive exams on the first attempt during the 2016-2017 reporting period, as was also the case in the previous year. Student performance and interdisciplinary proficiency on both written and oral aspects were approved by the EVS faculty graduate advisory committees.

Results: Student annual reports

Goal/Objective/Outcome Number: Program Goal 2 / Outcomes 2.1, 2.2

Results:

Annual Reports: Student productivity related to written and oral communication in 2016 was generally higher compared to 2015 productivity (Table 1). Students gave more presentations and published more manuscripts in 2016 than in the previous two years. The number of manuscript publications ($n = 12$) reached its highest point since data collection started in 2012.

Table 1. Scholarly activity related to oral and written communication skills shown by EVS Ph.D. students in the current (2016) and previous 12-month reporting periods.

Type of scholarly activity	Student annual report period				
	Jan.-Dec. 2012	Jan.-Dec. 2013	Jan.-Dec. 2014	Jan.-Dec. 2015	Jan.-Dec. 2016
Conferences attended	25	14	13	15	25
Poster presentations	22	8	8	14	17
Oral presentations	6	5	8	8	9
Manuscripts submitted	9	5	6	12	10
Manuscripts published	2	6	6	8	12

In calendar year 2016, students attend eight local u r

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Goal/Objective/Outcome Number: For Outcome 2.2 (student publications and communication skills)

Program Changes and Actions due to Results:

For Outcome 2.2 (student publications and communication skills):

The EVS 7900 Scientific Writing and Grantsmanship course was altered to allow students the option to develop a journal manuscript (instead of only allowing a grant proposal). In Fall 2016, many of the EVS 7900 students elected to prepare a journal manuscript and worked one-on-one with the instructor during editing sessions. In addition, the EVS Executive Committee created a new policy in 2016 to require doctoral students to submit at least a portion of their dissertation for peer review before they can defend their dissertation. The new policy was submitted to GSEC and has now been approved and finalized. The implementation date for the peer-review policy was August 2, 2017. We expect this new policy to further increase student proficiency in their scientific writing and publication skills.