



Evaluation for all: Findings and lessons in evaluating postsecondary STEM programs for students with disabilities

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Abstract: Post-secondary programs especially designed to improve access and success for students with disabilities have been implemented by a team in Alabama. Two evaluation studies use unique methods to demonstrate program impacts on student and on the institutions that serve them. Study #1 compares student impact for students with disabilities, students from racial groups underrepresented in STEM, and students from low-income backgrounds. Study #2 examines the use of asset maps to look at institutional capacity to serve individuals with disabilities.

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Study #1: Comparing student impact among three retention programs for underrepresented students in STEM.

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Self-reported student scores for several academic constructs and scales were examined for participants in three NSF scholarship/retention programs: INCLUDES (students with disabilities); LSAMP (underrepresented minorities); and S-STEM (low income).

While SWD generally reported facing greater challenges, an examination of a matched sample of participants (fall-spring), revealed that a higher percentage of students with disabilities (INCLUDES program participants) reported improvement when compared with LSAMP and S-STEM participants on 15 of the 18 constructs summarized in Table 1.

Study #2: Using asset mapping to identify institutional capacity to serve students with disabilities.

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In a multi-institutional INCLUDES alliance funded by the NSF, asset mapping was used to assess variables related to institutional capacity for serving students with disabilities. Institutional assets were defined in 17 categories; pre- and post- data were collected from websites, interviews and surveys. Institutional assets related to students with disabilities in STEM increased from 541 to 751 and demonstrated increased confidence, knowledge, and services to students with disabilities in STEM overall for project institutional partners (see Figure 1). A statistical analysis was performed to determine whether a difference exists in the number of assets between the pre and post phases, indicating a statistically significant difference.

Table 1: 2017-2018 Academic Year Scale/Variable	INCLUDES		LSAMP		S-STEM	
	N	% improving	N	% improving	N	% improving
Accommodations/Disclosure	8	5 (62.5%)	NA		NA	
Self-Advocacy Behaviors	8	5 (62.5%)	NA		NA	
Academic Issues	8	7 (87.5%)	51	28 (54.9%)	48	25 (52.1%)
Time Management	8	6 (75%)	51	27 (52.9%)	48	26 (54.2%)
Social Issues	8	5 (62.5%)	51	30 (58.8%)	48	28 (58.3%)
Overall College Persistence	8	7 (87.5%)	55	23 (41.8%)	52	23 (44.2%)
Academic Integration	8	6 (75%)	55	31 (56.5%)	52	28 (53.8%)
Motivation to Learn	8	5 (62.5%)	55	29 (52.7%)	52	24 (46.2%)
Academic Efficacy	8	5 (62.5%)	55	32 (58.2%)	52	31 (59.6%)
Financial Strain	8	5 (62.5%)	55	31 (56.4%)	52	31 (59.6%)
Social Integration	8	7 (87.5%)	55	27 (49.1%)	52	30 (57.7%)
Collegiate Stress	8	6 (75%)	55	33 (60%)	52	31 (59.6%)
Advising Effectiveness	8	5 (62.5%)	55	37 (67.3%)	52	31 (59.6%)
Degree Commitment	8	6 (75%)	55	38 (69.1%)	52	36 (69.2%)
Institutional Commitment	8	4 (50%)	55	29 (52.7%)	52	30 (57.7%)
Scholastic Conscientiousness	8	6 (75%)	55	26 (47.3%)	52	34 (65.4%)
Study Skills Behaviors	8	5 (62.5%)	51	16 (31.4%)	48	20 (41.7%)
Research Interest	8	6 (75%)	50	26 (52%)	46	21 (45.7%)
Research Confidence	8	6 (75%)	50	29 (58%)	46	20 (43.5%)
Research Outcome Expectations	8	4 (50%)	50	29 (58%)	46	29 (63.0%)

