LEARNING FROM PEERS TO MAXIMIZE THE IMPACT OF ENGAGEMENT

ARIZONA INTERNSHIP STUDY 2014

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• In FY 2013, AZSGC conducted a unique peer STEM engagement study to enhance our capacity to identify, recruit and engage underrepresented students.

• Our new approach? Learn from peers what works and what does not!
• Workforce development has been AZSGC’s highest priority since grant inception
• Undergraduate Research Internship Program
• Since 1990 AZSGC has supported 2263 undergraduate students in mentored internships
• Statewide, diversity varies widely on our campuses and recruiting is a major challenge!
• At UA, we’ve been reasonably successful.
  – Since 1990 engaged 1,148 undergraduates, 46% women, 24% underrepresented minorities.
  – Since 2006, the percentage of underrepresented students has risen to 28%.
  – To date, 90% of UA Interns go on to STEM advanced degrees and/or workforce.

• Our challenge: How can we do better?
• Learned of LeadLocal, a Tucson company specializing in creating solutions for local groups
  – Use a leadership development program pairing emerging community leaders with high-potential interns
  – “Lean Startup” (Eric Ries, 2011), a participatory, user-centric research approach to shorten time, minimize costs, and increase project success.
  – Co-wrote proposal for project utilizing their methods to improve our Internship program & grow diversity
• Needed funding!

• UA introduced strategic plan with “100% student engagement” goal and no direction
  – UA deans of Science & Agriculture/Life Sciences willing to support our project with potential to:
    • improve practices of the UA/NASA internship program (benefits many of their students who participate)
    • provide *market research-backed* model for other campus organizations wishing to recruit and successfully engage underrepresented students
• LeadLocal recruited “emerging leader” (a past Space Grant Grad Fellow) to mentor Interns
• Struggled with diversity! Ultimately 7 Interns: (6 female, 1 male; 4 underrepresented)
• Interns trained to conduct study to engage and learn from past, current, and potential future interns to evaluate current approaches and develop new ones.
PHASE 2: USER GROUPS DATA COLLECTION

• **Electronic Surveys**: STEM research interests, work with mentors, barriers, engagement experiences and how learn of opportunities.
  – Interns past (67), Interns present (15),
  – Potential recruits (397)

• **Semi-structured Interviews**: with (5) mentors and (5) Space Grant staff

• (2) **Focus groups**: Underrepresented students
(2) Lean Startup Rapid Experimentation Labs:
- Worked in mixed teams
- Used survey data to test best practices via rapid experimentation & collective problem-solving
PHASE 3: LEANSTART DESIGN LABS

- Labs focused on topics of: identifying, recruiting and successfully engaging underrepresented students in Space Grant research
Current & past Interns surveys showed:

- Majority learned of Space Grant opportunities via word of mouth: previous interns, other students, faculty and academic advisors.
- 96% of past program participants were likely to recommend!
FINDINGS: IDENTIFICATION

• From “potential interns” surveyed we learned:
  – 88% unaware of Space Grant
  – No understanding of NASA research diversity
  – Many believed would not qualify to participate
    • Wrong major (not astronomy or aerospace student)
    • not enough science, math, etc.
  – Underrepresented student (“cultural” barriers)
    • Family expectations (go into medicine!) and obligations
    • Need well-paying employment (more income than intern)
    • Lack of connections to campus clubs/organizations
FINDINGS: GROWING DIVERSITY

• Select recommendations:
  – Must better communicate diversity of NASA research (i.e., Earth, climate change) and variety of projects available through our program
  – Educate academic advisors about program breadth
  – Enlist alumni (peers) to promote opportunities
  – Develop smarter (not one-size-fits-all) group-focused advertising, i.e., feature past Native Interns to advertise program at Native Student Center, etc.
EARLY IMPLEMENTATION RESULTS

• Advertised through UA Advising Resource Center’s website & listserv (Director introduced to Space Grant through this project—potential steering committee member!)

• Did not purchase pricey, full-page ads in campus newspaper (saved about $3K)

• Did not design, print and mail posters across campus--saved time and money ($500-$1K!)
EARLY IMPLEMENTATION RESULTS

- Largest applicant pool ever! 210 applications! (Up 40% from 2013), 33% underrepresented
  - Unexpected outcomes:
    - clusters of hard-to-place majors (i.e. biological sciences focused—assume through Advising Center)
    - Clusters of weak applications from good students from groups we worked very hard to reach!
  - Action item: In FY 2014, SG Managers and Steering Committee specialists will host application preparation workshops.
RESULTS: EARLY IMPLEMENTATION

• 2014 Intern class—Most diverse to date!
  – 40 Interns, 5 Intern Advisors
  – 42% Underrepresented
  – 51% Women

• Advisors charged with providing peer support for Interns and spearheading promotion
- Appreciate opportunity to critically look at ourselves so we can continue to improve!