

PROJECT VISION

2022 External Evaluation Report

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EXECUTIVE SUMMARY

Project Vision (PV) again exceeded its yearly objectives. 13 colleges are currently in Cohort 2 (target 10 colleges) bringing the to-date total to 25 colleges served (target 15). 10 Cohort 1 mentee colleges submitted ATE proposals with 5 receiving favorable reviews.

Many lessons have been realized. These are the top takeaways:

Most valuable result of Project Vision's initiatives:

- Depth of Impact. PV is building institutional capacity by intentionally engaging large numbers of faculty and administrators. Rather than involving one or two people per college and a single idea during proposal mentorship, PV averages more than 3 administrators (including presidents) and 3 faculty actively engaged per college and 2+ discipline focuses. This builds long-term grant culture and support and helps mitigate the negative effects of turnover in the event of losing single driver expertise.

Biggest lesson learned regarding the PV mentorship approach:

- "Trust ourselves as the experts". In most cases where proposal reviews were unsuccessful, the PV leadership team expressed similar concerns to the panel reviewers. For example, three colleges needed more industry involvement, and another's plan was too ambiguous. In the pilot cohort's aforementioned proposals, PV weighed how to express its concerns, giving more weight to suggesting rather than imposing its views as they helped mentees develop their proposal development skills. Certain items moving forward like those ATE necessities listed will be insisted upon and confirmed, as it is to everyone's benefit.

Best indicators of culture shift increasing ambitions to integrate grants into scopes of work:

- Plans for resubmission. The sincere disappointment was expressed by both faculty and administrators upon the news of unsuccessful proposals, indicating that "ownership" for the grant initiatives was present throughout the ranks and not just assigned. 4 of the 5 unsuccessful mentees are planning to resubmit to the ATE program.
- 8 mentee colleges credit PV as the catalyst for applying to other funding sources.

This report:

1. Provides a performance snapshot of key data points for PV's six objectives.
2. Introduces a root cause analysis: key factors to being grant active.
3. Shares a mid-mentorship survey mirroring how PV settled into its unique space.
4. Examines PV's strengths, weaknesses, opportunities, and opportunities (SWOT).

INTRODUCTION

Project Vision's Background

In May of 2020, Project Vision was established through the support of NSF award number 2018198 to help broaden institutional participation in the NSF ATE Program. <https://projectvis.org/>

Project Vision's Major Goals and Objectives

The two principal goals of Project Vision are:

1. Recruit and mentor new two-year colleges into the NSF DUE pipeline. Over the five-year project, 45 colleges will receive assistance formulating innovative ideas and developing comprehensive plans through the point of writing and submitting a competitive DUE proposal, with a primary focus on ATE proposals, and networking with the DUE community.
2. More broadly, Project Vision will assist mentee colleges to develop their capacity to identify new opportunities on an ongoing basis to infuse innovation into STEM education and workforce development endeavors and submit DUE proposals to request support for these efforts when appropriate.

Project Vision proposes to meet these goals by executing six objectives as detailed in the Findings-Year 2 Performance Snapshot section.

Intended Audiences

1. Project Vision's Principal Investigator/Co-Principal Investigators and Subject Matter Experts (SME) team
2. NSF Program Officer(s)
3. Other stakeholders, such as
 - a. Project Vision's mentee colleges (current, past, and prospective)
 - b. Project Vision's host institution, Indian River State College
 - c. ATE Centers, Projects, and NSF DUE mentor organizations
 - d. 2YC capacity-building organizations such as the American Association of Community Colleges (AACC), American Council on Education (ACE), Association of Community College Trustees (ACCT), Rural Community College Alliance (RCCA), and Aspen Institute.

METHODOLOGY

The macro-level evaluation design was presented in the Year 1 Evaluation Report, retrievable on the Project Vision website: projectvis.org/resources-and-materials

In addition to evaluative mainstays, foci in this second year included root cause and SWOT analysis.

Mainstays Measurements	Year 2 Foci
<ul style="list-style-type: none">● Performance versus Plans● Consequences on Mentee Institutions● Consequences on NSF ATE	<ul style="list-style-type: none">● Root Cause Analysis: Key Factors to Being Grant Active● SWOT Analysis

Year 2 Data sources include:

- Surveys: Pre-Mentorship, Mid-Mentorship, Post-Mentorship
- Open Office Hours (monthly) for 1) mentee colleges and 2) SMEs
- Topical Calls (3), based on common cohort foci areas
- Professional Development webinar series
- Project Documentation from PI/Co-PIs, SMEs, and Project Manager.
- Mentee colleges' verbal and forwarded Proposal Panel Reviews.
- Interviews of Project Vision's PIs and SMEs.

Methodologies specific to evaluation activities are included in their respective sections. It is worth noting that the Project Vision team and External Evaluator meet at least weekly, collaborate whenever appropriate on the development of evaluative tools and processes, and data findings are presented, discussed, and acted upon in near real time. This Project Vision / Impact Allies relational model is referred to as its systematic approach to evaluating and responding principles.

FINDINGS

Year 2 Performance Snapshot

Objective One: Identify and partner with 45 new two-year colleges, specifically smaller two-year colleges (with a focus on rural colleges) or colleges with newer presidents.

	Cohort 1	Cohort 2	Total to date
# 2YCs mentees	12 (target 5)	13 (target 10)	25 (target 15)
# New to ATE	10	9	19
# FTE < 4,000	8	12	20
# Rural	7	12	19
# Presidents < 2 years / # 1st Presidency	6 / 10	8 / 10	13 / 20

- 10+ 2YCs in Cohort 3 pipeline with focus on underdeveloped ATE states, rural, small, and tribal support.

Objective Two: Evaluate each college; provide a recommendation report identifying strengths, areas of concern, and applicable DUE program opportunities; collaborate on formulating an initial innovative idea.

- At the conclusion of the Discover and Ideation Phase, Project Vision provided each Cohort 2 mentee college with a summary report. Data sources that informed the report included the college's application, onboarding documents, and pre-mentorship survey; 3-5 video calls with mentee colleges presidents, administrators, faculty, and staff regarding college and division strategic plans through to ideation aligned to ATE; and regional economic and industry research. The report sections included key observed attributes, regional observations, suggested fields of focus with strengths and concerns, and evaluation feedback.

FINDINGS cont.

Objective Three: Support college personnel in the grant writing process through the submission of their first ATE proposal.

	Cohort 1	Cohort 2
# ATE submissions	10	Oct. 2022 submissions
# Favorable reviews	5	N/A
# Planning resubmits	4	N/A
Secondary metrics:		
# Supported in other grant submissions	4 NSF (2), DOL, EPA	N/A
# Growing grant network through PV	7*	5* (thus far)
*Connected to: S-STEM mentorship, PD with Working Partners, NCyTE, CREATE, CUCWD, LASER-Tec, RCNET, ATEEC, Future of Work, NEVTEX, CA2VES, BILT, and IRSC's ATE Quantum Project		

Objective Four: Mentor and network college presidents, administrators, faculty, and staff to grow their internal capabilities of regularly generating original ideas and converting them into fundable proposals.

	Cohort 1	Cohort 2	Project to date
# Presidents	7	8	15
# Administrators	33	24	57
# Faculty	32	29	61
<ul style="list-style-type: none"> #s reflect those <u>actively engaged</u> in the mentorship process, while approximately 30% more people have showed up for one-off meetings and email correspondences. 			

- Hosted 3 part series to explore opportunities and how to engage in targeted common fields of interest across mentee colleges. Topical calls include foci areas of Lasers and Photonics, Advanced Manufacturing, and Agriscience.
- Five-part live and recorded webinar series planned to help mentees better understand the NSF solicitation, making the case for support, Proposal & Award Policies & Procedures Guide (PAPPG), and other critical criteria. First part completed to date with 38 participants from 10 colleges.

FINDINGS cont.

Objective Five: Mentor the college's Board of Trustees on the nature and impact of NSF DUE programs, why to discuss DUE in presidential searches, and how to support college presidents during the first-year transition and beyond in incorporating NSF DUE opportunities into strategic plans.

- The groundwork for this objective has seen successful milestones. PV has engaged in dialogue with mentee college Presidents and senior administrators regarding long-term strategic planning, encouraged their institutions to focus beyond their first submission of an NSF proposal, and gained input on how other presidents promote a culture of strategic grant-seeking within their respective institutions by empowering and engaging their faculty and middle managers as well as key partners. Resource materials have also been developed that provide evidence for the need, how to change, and alignment with the Aspen Institute's Tools for Hiring Community College Presidents.
- Before jumping to mentor Boards of Trustees, the planned and current thinking is that fruits need to be recognized by PV's efforts first to have a track record and gain the support of ATE successful Presidents to support the initiative.

Objective Six: Evaluate the effects of these interventions and publish case studies and academic research on the value of idea formulation, president and personnel mentorship and networking, Board of Trustee support, developing future leaders, and the impacts of undergoing a transformation from no NSF activity to participation in DUE-funded endeavors.

- The evaluator conducted in-depth interviews with Project Vision's three PI/Co-PIs and eight of its SMEs to identify the key factors most determinate of whether a 2YC will become and sustain being "grant active." The findings developed into a post-mentorship report out a survey and regression analysis now integrated from multiple perspectives and will be the research base for case studies designed to aid 2YC institutional investments in concentrated areas to start, grow, and/or sustain grant activity in ATE. This is expanded upon in the next section.
- PV created a composite snapshot of Cohort 1 mentee colleges by observing change throughout their period of engagement with the PV team using qualitative data analysis. These lessons learned are being triangulated with other data sources and cohort data as the foundation for relevant research regarding elements that lead to change at 2YCs.

ROOT CAUSE ANALYSIS

Key Factors to Being Grant Active

Following the pilot year and the first months working with Cohort 2, the PV leadership team and external evaluator took a step back to assess the learnings to date.

We realized that:

- 1) we differ internally (PIs, SMEs, evaluator) and within our community of practice (other mentor organizations and 2YC stakeholders) on the ways we speak of and measure the factors which lead to grant success and sustainability (e.g., characteristics, strengths, limitations, impediments) and,
- 2) only a few factors are significant in determining whether a college will be a repeat submitter.

So, we sought to identify the key factors and create a common language set and quantifiable reporting system, which could be used as a regression analysis model to measure how the factors helped or hindered future results of a college's grant activity.

- The evaluator conducted in-depth interviews with the three PI/Co-PIs and eight SMEs (range: 8 to 47 minutes; mean: 32 minutes). Derived from the responses' common themes were three key factors and seven primary sub-variables most determinate of whether a 2YC will become and sustain being "grant active."
- These formed the post-mentorship report out survey now integrated from multiple perspectives: mentee faculty, mentee administrators, Project Vision PI/Co-PIs, and Project Vision SMEs.
- Following the second cohort use of this tool and data collection, other ATE mentorship organizations will be invited to add their data, providing a broader research base for case studies designed to aid 2YC institutional investments in concentrated areas to start, grow, and/or sustain grant activity in ATE.

ROOT CAUSE ANALYSIS cont.

The formal ten questions (three factors and seven sub-variables) asked and the aggregated findings from cohort one is available in Appendix A: Cohort 1 Post-Mentorship Survey Results. Below are the key factors and variables using plain language from the interviews.

1. Value Proposition Buy-in of Grants, NSF, ATE, and Industry-partnerships
 - 1.1.1. Administrators - understand the benefits and the costs and agree to make it happen.
 - 1.1.2. Faculty - understand the benefits and the costs and agree to at least “jump in the pool”; thereupon their overall experience will largely determine if they will “stay in the pool,” and integrate grants and research in their academic careers complementing teaching.

2. Faculty / Principal Investigator User Experience Design
 - 2.1.1. Compensation models - equitable course release time or additional contract for grant work.
 - 2.1.2. Support structures - specifically, human resources; “Academic Support Staff” or time from executives to operationally and fiscally manage and report on the grant.
 - 2.1.3. Encouraging environment - Administrator/Leadership attitude and actions that communicate to faculty that grants are seen as positive and valuable.

3. Depth of Team in Capacity and Expertise
 - 3.1.1. Sufficient number of faculty members and disciplines.
 - 3.1.2. Driven grants department or equivalent and administrators providing grant expertise.

MID-MENTORSHIP SURVEY

Discovery and Ideation Phase Completion

Part of Project Vision settling into its unique space within the NSF ATE Mentoring Network has been defining itself by its customers served, initiatives, processes, values, and results.

This mid-mentorship survey is the latest iteration of data gathering for the formative purposes of helping Project Vision understand how its mentee college “customers” see and value its services, along with providing actionable information to improve. While the data has not been fully collected and analyzed at the time of this report, the survey introduction and questions themselves may be useful for the intended audiences to better understand how Project Vision is aiding 2YCs in this phase of its services. Below is the concise survey in its entirety.

Congratulations, you have completed the Discovery and Ideation Phase!

The focus of this phase is for the Project Vision team and the mentee college team to assess various current or new processes at the institution for visioning, developing innovative ideas, and bringing these ideas to fruition (i.e., new program development, modifying a current program or training) based on short-, medium-, and long term timeframes; moreover supported and aligned with the institution's strategic plan and local/regional employer or other stakeholders (e.g. feeder high schools and other institutions of higher education) needs.

As you transition from the Discovery and Ideation Phase to the Grant Proposal Writing Phase, we would like to learn from you what you found most helpful and how we can improve the process.

Q1. On a scale from 1 (lowest) to 10 (highest), how would you rate the value of the Discovery and Ideation phase with the Project Vision team? Please also give a brief written response in your own words as to why you gave the rating.

Q2. What did you find lacking and/or how can the Project Vision team further assist your or another mentee college with discovery and ideation?

Q3. Please rank these aspects that Project Vision aided in and describe how each area of aid helped.

- 1) Communication/alignment between faculty and administrators.
- 2) Institutional support structures and/or encouragement for faculty and administrators to pursue and integrate grants into their scope of work.
- 3) Desire and/or ability to pursue NSF ATE grants specifically or grants broadly.
- 4) Discovery of opportunities and ideas for area of focus.
- 5) Other aid not mentioned above.

SWOT ANALYSIS

Strengths, Weaknesses, Opportunities, Threats

STRENGTHS

- Salesmanship – Outreach and Engagement (19 of 25 mentee colleges New to ATE)
- Positive Grant Experience (93% PV -vs- 53% national)
- Communication/alignment between faculty and administrators
- Innovation (discovery of strategic opportunities and ideas for ATE focus areas)
- Building from and connecting to ATE communities and resources
- Teaching to fish (how to formulate ideas matched to funding through proposals)
- Capacity building (holistic assessment/advice; growing grants depth and culture)

WEAKNESSES

- **Note: PV has rectified these identified process items between Cohort 1 and 2. **
- Industry partnerships insisted/confirmed rather than suggested/believed
- Tighten team in proposal writing stage (remove admin, keep 2-3 faculty PIs)
- Condense SME involvement (match after Discovery/Ideation stage)

OPPORTUNITIES

- Position and showcase examples of NSF ATE as a grant program “mainstay”
- Advance team to further results in faculty interest groups ahead of engagement
- Increased collaboration with ATE projects and centers and DUE mentor orgs to increase grant experience per PI and number of PIs at 2YCs
- 2YCs with “rural and small” profiles (e.g., Miles CC in Montana < 600 students, 13 faculty) may be better served and brought into ATE engagement if a mechanism were created for them as subawards rather than leads on ATE proposals.
- Recruiting and PD additional avenues: 1) RCCA, ACE, ACCT, AACC Commission on Small and Rural Colleges, and Aspen Institute; 2) cold calling 2YCs not in ATE community (especially in underrepresented states), 3) Open cohort specifically for serving the 11 historically black 2YCs

THREATS

- Turnover (e.g., 3 Cohort 1 presidential departures/announcements; another mentee lost entire 3 person PI/Co-PI team after favorable proposal review)
- Bandwidth (too stretched to give time to initiatives beyond day-to-day needs)
- Moratoriums (2YCs pausing grant activities because overwhelmed with grants)
- Bench depth (1-2 person grant strength risks stability)
- Competition (ATE funding small relative to external funding landscape)
- Ambiguity (ATE mentor network needs clarity and alignment in roles/scopes)

APPENDIX

Cohort 1: Post-Mentorship Survey Results

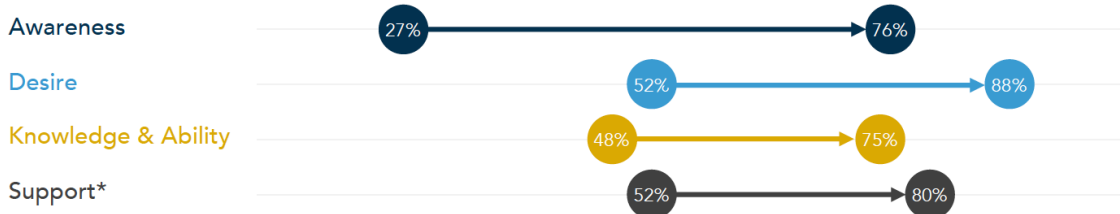


PROJECT VISION: COHORT 1 Post-Mentorship Survey Results

Purpose of Study

To gain feedback directly from the faculty and administrators most engaged in the Project Vision mentoring regarding their professional gains and experiences, the usefulness of Project Vision's offerings, and their broad observations and opinions on where their college stands in terms of capacity and how to engage and sustain grant activity. 25 participants received the survey, 15 responded (60% response rate) including eight faculty and seven administrators, from eight two-year colleges.

How Project Vision increased awareness, desire, knowledge, ability, and support



*Support provided by the colleges before and after Projects Vision's involvement.

How Grant Experience provided by Project Vision compared to National results

	Positive	Mixed	
Project Vision (n=15)	93%	7%	
	Positive	Mixed	Negative
National (n=226)	53%	43%	4%

Insightful Correlations

- Until a person receives funding for more than one proposal, these items remain "somewhat to very significant" factors limiting their interest or participation in applying for external funding through grants: the grant proposal process; identifying grant funding opportunities; formulating an innovative idea to match grant funding opportunities; identifying and bringing together partners as collaborators in a grant proposal.
- Consistent with the national survey results, the most important changes respondents' colleges could make to encourage development of grant proposals are: 1) compensation, 2) time, and 3) support to handle the workload of grant development and management.
 - *Per results of two quantitative and two qualitative questions.



This material is based upon work supported by the National Science Foundation (NSF) under Grant Number DUE 2018198.

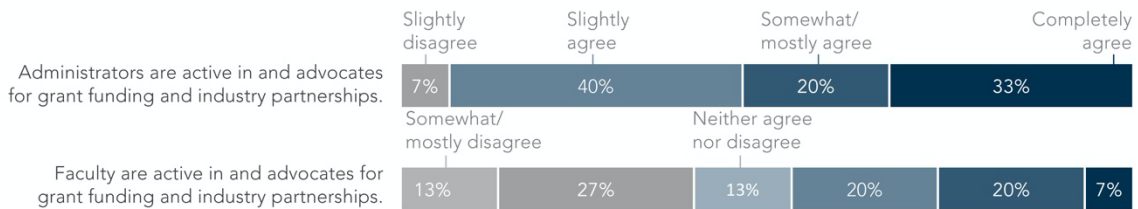
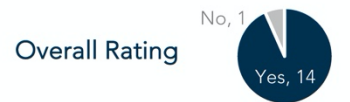
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Cohort 1: Post-Mentorship Survey Results

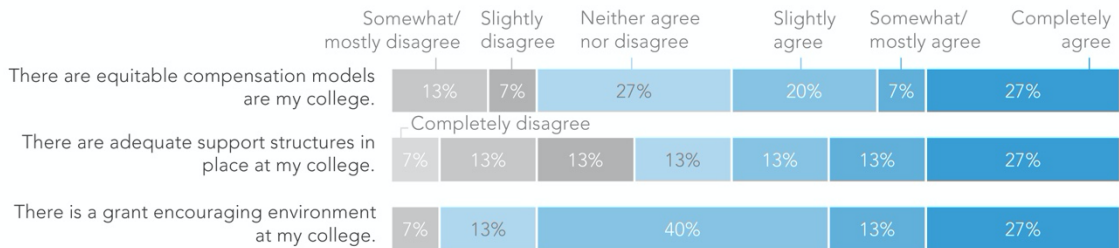
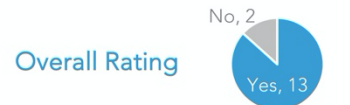
3 key factors, and 7 primary sub-variables, determining whether a 2YC will become and sustain being "grant active"

The responses are used as a forecasting and regression model for each individual mentee college but are reported here in aggregate for confidentiality purposes. The range of responses correlates to both the differences between colleges and disconnects between faculty and administration.

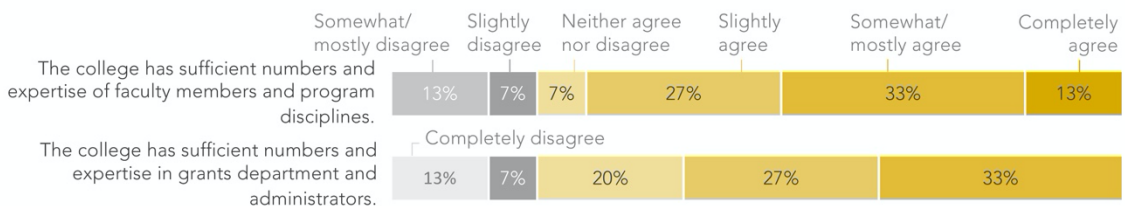
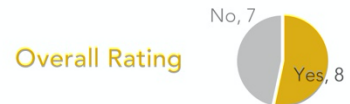
Do your college and colleagues buy-in to the value proposition of "grants", NSF, ATE, and Industry-partnerships?



In your lived experience and/or observations, is the Faculty-with-grant-development-and-PI-roles a positive experience?



Does the college have "depth of team" in capacity and expertise?



Qualitative findings are available in a supplementary report.

Data collection and analysis was conducted by Impact Allies Inc.
Data visualizations by Emily Anne Designs, LLC

Impact Allies Inc
Research & Evaluation