National Space Grant College and Fellowship Program

SWOT Analysis

HELPFUL
To achieving the objectives

HARMFUL
To achieving the objectives

STRENGTHS
DOING WELL

WEAKNESSES
NEED TO IMPROVE

INTERNAL FACTORS

EXTERNAL FACTORS

OPPORTUNITIES
POTENTIAL PURSUITS

POTENTIAL PITFALLS

National Space Grant College and Fellowship Program
STRENGTHS
What are we already doing well?
STRENGTHS

Collaboration
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* National network of over 1000 affiliates, including 650 universities and colleges
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* Connects its Higher Education efforts at all levels: Universities, Community Colleges, State agencies, Local school districts, K-12 Teachers & Students and General Public
STEM Employment Pipeline
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* Providing a direct pathway for employment into NASA & space industry
STRENGTHS

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* Preparing students via real world, hands-on, design-driven work experience
National Space Grant College and Fellowship Program

**STRENGTHS**

**STEM Employment Pipeline**

* Providing a direct pathway for employment into NASA & space industry

* Preparing students via real world, hands-on, design-driven work experience

* Inspiring STEM Student stars to pursue Space Workforce over other opportunities
National Space Grant College and Fellowship Program

STRENGTHS

Customizable & Adaptable
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* Each SG program builds on the strengths, requirements and needs of the state and local community
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* Ability to rapidly respond to NASA needs demonstrated by Summer of Innovation, Space Science Student Ambassadors, NASA Academies, etc.
STRENGTHS

Data Driven Success Indicators
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* Detailed systems in place to collect data internally and from affiliates.
National Space Grant College and Fellowship Program

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* Significant Contributor to NASA OMB PART Measures
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* Significant Contributor to NASA OMB PART Measures

* Longitudinal tracking of students shows high retention, completion rate, and entry into STEM jobs.
STRENGTHS

Return on Investment

Cost

Benefits

Beneficial Return

Financial

Non Financial
STRENGTHS

Return on Investment

* SG matches 90 cents on every dollar it receives.
STRENGTHS

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* SG is the only “NASA connection” in many states and helps to reach every congressional district

* SG produces annual program plans which continually aligns with changing NASA priorities

* SG has a wide breadth of creative and innovative programs
What could we be doing better?
WEAKNESSES

Inability to Meet Expectations for Info Updates

College students have a very high expectation when it comes to receiving and accessing updated data. They live in the world of “real time” and consume data via facebook, twitter, websites etc. Most are “connected” 24/7 because a smartphone, iPad, or computer is always within reach.

Hence, while the SGs may be updating their websites and social media, it may not be up to the expectations of students.
WEAKNESSES

Inability to Offer Large Funding Awards

SG funding levels do not match other federal programs (e.g. NSF) that can offer multiple-year awards or more lucrative awards.

Hence, awards offered by SGs are sometimes turned down due to other awards.
WEAKNESSES

Reduced State Budgets

State budgets have become very tight.

Hence, it is very difficult to attract matching funds. A stated requirement by NASA to reduce indirect costs as a matching strategy would partly alleviate this difficulty.
WEAKNESSES

Loss of Identity from Pass-Through

SG loses some of its identity when it only provides pass-through opportunities created by other entities.

Hence, this competes against other opportunities that are based on a State’s needs.
WEAKNESSES

Lack of Minority Serving Institutions

Some states do not have Minority Serving Institutions.

Hence, while programs can be created that include out-of-state MSI institutions, the activity must involve direct participation from the funding state. Out-of-state institutions are also unlikely to provide non-federal match.
Varying Levels of Awareness at Affiliates

Space grant opportunities rely on the student or faculty mentor knowing that the opportunities exist. Some affiliates are better at this than others.

Hence, students from some institutions have an advantage over others for statewide competitions.
What are potential pitfalls we should be aware of?
Shrinking NASA Budget

If NASA education budget shrinks, the SG shrinks as well. In addition, budget reductions make it increasingly difficult to take advantage of new opportunities because SGs must focus the bulk of their efforts on ways to maintain existing activities. This limits the capacity of the SG.
Unpredictable Timing for Funding

When funding is: (a) projected only one year at a time, (b) released in multiple installments as opposed to one-time annually, (c) and has significant timing delays in its release, it can jeopardize the proper planning and actual implementation of SG programs, activities and events.
Loss of Affiliates

Funding reductions, timing delays, and increased reporting burdens can put an SG’s relationship with their affiliates at risk. SG could lose affiliates who might view SG as not being worth the effort anymore.
Widespread Competition for NASA Funds

There are numerous universities, K12 schools, informal education entities, and non-profit organizations, which are interested in securing NASA funding for various education projects.

If these entities are not involved with an SG, they can end up performing duplicative work and/or conflict with existing efforts.
Widespread Competition for Diversity

SG “competes” for diversity with other national programs. Some programs offer lucrative scholarships that SG cannot compete with (e.g. guaranteed 2 year undergrad awards with first 2 years of grad school).

The funding uncertainties that SG experiences each year, limit what the SGs can provide to attract under-represented groups
NSGCFP Can Be Perceived as a Competitor

In a way, NASA Education is like a company. If the company succeeds as a whole, then everyone in the company stands to prosper. However, companies also have different departments which have different priorities, resources, and goals. This can lead to internal pressures.

The SG must position itself as a department that can help the whole agency prosper, and not an internal competitor.
Perception as an Earmark

As long as there remains a two-tier Space Grant funding level, our program will be perceived as a Congressional earmark.
What are the opportunities that we should consider pursuing?
Harness Student Power for Marketing

It is practically impossible for small SG staffs to spend the time required to meet student expectations for updated info. Therefore, we should harness the power of the students and involve them in our social media. This will amplify our reach many times over. To accomplish this, we must be willing to relinquish some “control” of our brand, just as major corporations have done.
Opportunities

Harness Advocacy of Others Outside of SG

Any self-promotion efforts by SG have inherent limitations. In order for SG to be as well known as the land grant and sea grant programs, SG needs others to act as advocates. It needs people who are willing and motivated to “bang on the doors of Congress.” These people could include:
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Opportunities

Establish NSGCFP as an Ally, as Opposed to a Competitor

* Educate Congress about the importance of increasing the overall NASA Education Budget
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* Educate Congress about the importance of increasing the overall NASA Education Budget

* Collaborate with the NASA managers to accomplish the goals of the program (as outlined in the Act) within the framework of NASA Education priorities.
Opportunities

Diversify Funding

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* Build collaborations with other NASA departments outside of NASA education
* Secure state funding by educating state officials and tracking achievements in State House and State Senate districts. Use Affiliate Networks to assist with this.
* Pursue funding from private sources foundations, corporations, non-profits, etc.
Opportunities

Leverage the Work NSGCFP Has Done in Higher Education to Impact K-12

* Engage high school students and teachers in Student flight programs including: cubesats, rocket, balloon and airborne payloads.
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* Cultivate next generation of leaders. Advance students from K-12 → SG college activities → to NASA Workforce
Opportunities

Build Pipeline to Encompass Succession of Space Grants

While SG is a national program, students are usually unaware of this fact. There is an untapped potential here to have the pipeline from HS to Undergraduate to Graduate encompass a succession of Space Grants.
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SWOT Analysis

HELPFUL
To achieving the objectives

STRENGTHS
- COLLABORATION
- STEM PIPELINE
- CUSTOMIZABLE & ADAPTABLE
- DATA DRIVEN INDICATORS
- RETURN ON INVESTMENT
- PLUS, MANY OTHERS!

INTERNAL FACTORS

EXTERNAL FACTORS

OPPORTUNITIES

HARMFUL
To achieving the objectives

WEAKNESSES
- EXPECTATIONS FOR INFO UPDATES
- INABILITY ON LARGE FUNDING
- COMPETITION PERCEPTION
- REDUCED STATE BUDGETS
- LOSS OF ID FROM PASS-THROUGH
- LACK OF MSIs IN SOME STATES

THREATS
- SHRINKING NASA BUDGET
- UNPREDICTABLE FLOW FUNDS
- LOSS OF AFFILIATES
- COMPETITION FOR NASA $
- COMPETITION FOR DIVERSITY
- NSGF COMPETITOR IMAGE
- EARMARK PERCEPTION