AC 2012-4752: EMPLOYING STRATEGIC COMMUNICATIONS TO AC-COMPLISH OUTREACH GOALS FOR EXPERIENTIAL PROGRAMS

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Heather L. Ogletree is a Program Coordinator at Johnson Space Center (JSC) in Houston. As a coordinator, Ogletree is responsible for the recruitment, selection, and placement of interns at JSC and serves as a liaison to interns during and after their experience. Prior to this, Ogletree was the National Project Coordinator for the Undergraduate Student Research Program (USRP), NASA's largest agency-wide undergraduate STEM internship program. While with USRP, she generated a series of 87 online articles, which gave a qualitative look into the USRP internship experience while increasing program exposure and recruitment. Many of her articles were regularly featured on NASA's Higher Education website for educators and students and were published or used for background research for articles in university/local newspapers. Before NASA, Ogletree served in the Air Force as a personnel officer, where she gained experience in project management, event planning, and all aspects of military human resources.

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Anthony Zippay is the Manager of Education Strategies and Communications for the School of Earth and Space Exploration at Arizona State University. Zippay comes to ASU from the Universities Space Research Association, where he worked as the Principal Investigator and Project Manager of the NASA Undergraduate Student Research Program, one of NASA's largest national higher education projects. In his role with USRP, he led the program to tremendous growth through a comprehensive strategic communications plan, resulting in exponential increase to the applicant pool, as well as the participation of the program. USRP later received a NASA Group Achievement Award in 2010 for Management Excellence. Zippay graduated from Bowling Green State University with a B.A. in communications and marketing. His background involves working as a marketing research executive for Insight Advertising and a corporate account executive for the University of Texas, Pan-American, thus he brings a unique perspective to NASA education programs. He has successfully managed major advances in enhancing the nation's STEM workforce through experiential education. Zippay has implemented and designed new approaches to education program strategy among NASA projects through the use of new multimedia applications and web based tools for the purposes of student outreach and public engagement within NASA opportunities and professional development experiences. Zippay has a passion for research both in marketing and education and is dedicated to finding unique solutions that solve problems and have true and positive impact within the STEM education pipeline.

Employing Strategic Communications to Accomplish Outreach Goals for Experiential Programs

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Abstract

In 2010 NASA's Undergraduate Student Research Program (USRP) implemented a unique communication strategy to recruit STEM students, develop deeper University partnerships, and document/publicize program activities through the use of multimedia products, social media and web/print periodicals that resulted in national media attention including Forbes online and enhanced University and industry partnerships to further the impact of the program outreach into the STEM education community.

This paper presents a strategy - focused on the unique and compelling stories of the student and mentor participants - that was implemented to achieve a greater impact in program outreach and goals while reducing program management costs. This strategy incorporates a qualitative dimension to traditional program metrics which add context which better illuminated the impact of the program on the larger STEM community. The strategy was also effective in deepening strategic partnerships with stakeholders through the promotion of the student's host institution, unique campus organizations, the mentor's organizational mission, and NASA technical programs. Overall, the results demonstrate that a compelling communications campaign can increase awareness of a program among the targeted audience as well as transmit the excitement of participation from key stakeholders to a larger community.

Introduction

The development of a comprehensive user-friendly database and reporting system that facilitates the collection of up-to-the-minute marketing research is fundamental to creating a successful recruiting campaign. Marketing research enhances the effectiveness of making critical decisions about the direction and implementation of a recruiting plan through providing a reliable data set that answers important timely questions, which in turn, is essential to determining the effectiveness of the communications plan at any given time. It also provides the priceless ability to gauge the effectiveness of a campaign and to determine the exact media source that is working successfully. For example, the USRP Connect database and application tool was released in January of 2008 and provides up-to-the-minute and reliable information on the USRP student core audience, which consists of undergraduate sophomores, juniors and seniors with Science, Technology, Engineering, or Math-based degrees. Figure 1 indicates the primary way in which students first learned about the USRP program.
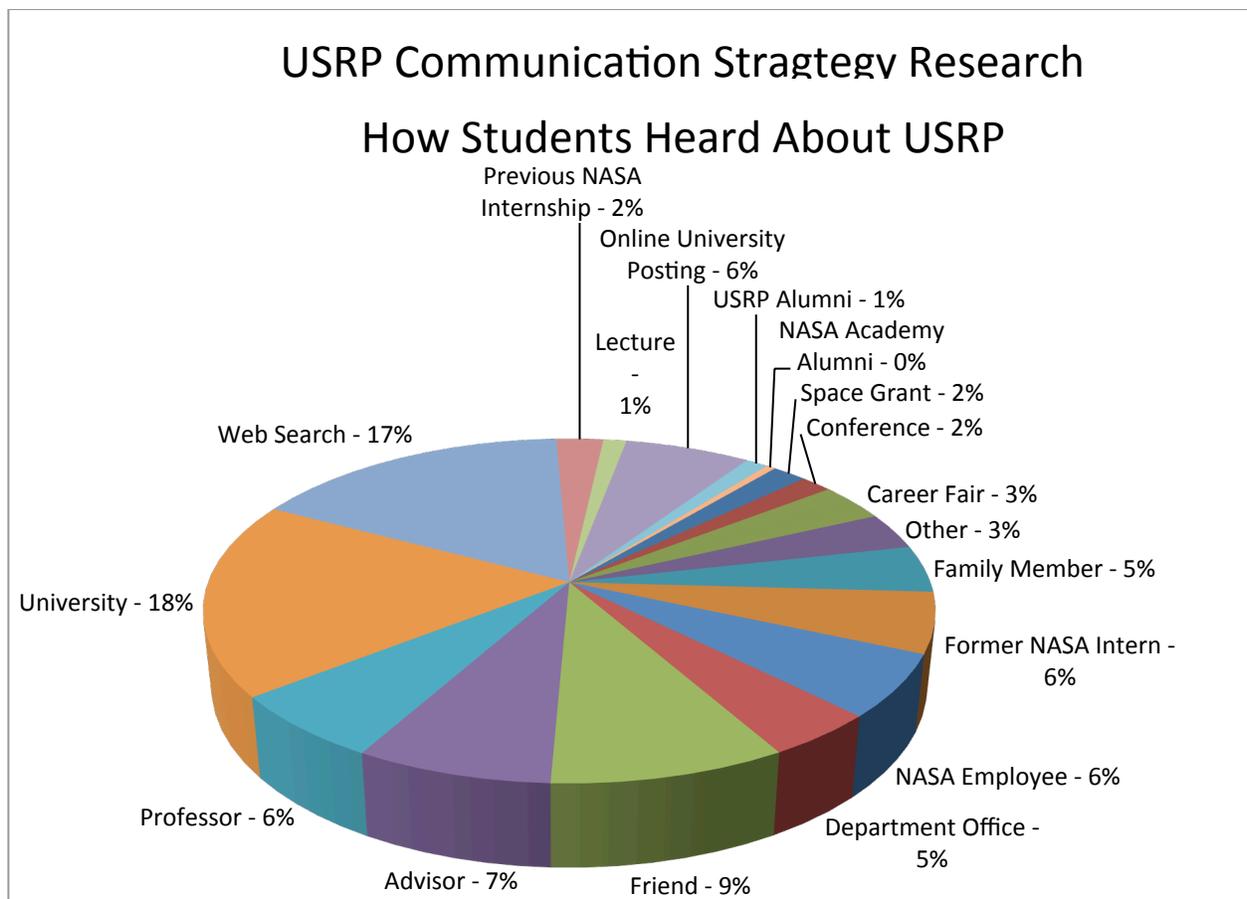

Figure 1

Figure 1 indicates that applicants primarily learned about the program from their University and from the Web. Knowing that, we understood that the university was a prime influencer in determining if the student would apply for the program or not. Based on this data, USRP was able to refocus their efforts away from career fairs and conferences (5%) and toward the professors and other university personnel who have the most influence on potential student applicants (48%). Obtaining information from trusted advisors at their host institution or within their community is vital according to recent studies of STEM undergraduate education (Kendricks and Arment 2011). USRP sought methods to increase awareness and create buzz over the program within academic institutions.

Other key factors that helped the USRP team develop an effective strategy was based on a series of reports indicating the numbers of applications started and the number of applications completed by the deadline of a given application acceptance period. Within these reports a correlation was observed in the numbers of the applications started and finished. After a review of this data it was found that 60-80% of students who start an application do not actually complete the application. Figure 2 indicates the pattern that was observed over the past 3 years of accepting applications for USRP internships. Spring and fall semesters received significantly less applications; furthermore the percentage of completion was lower. Even still a consistent percentage indicated a known value to the numbers of students that needed to be reached in order to achieve outreach measures.
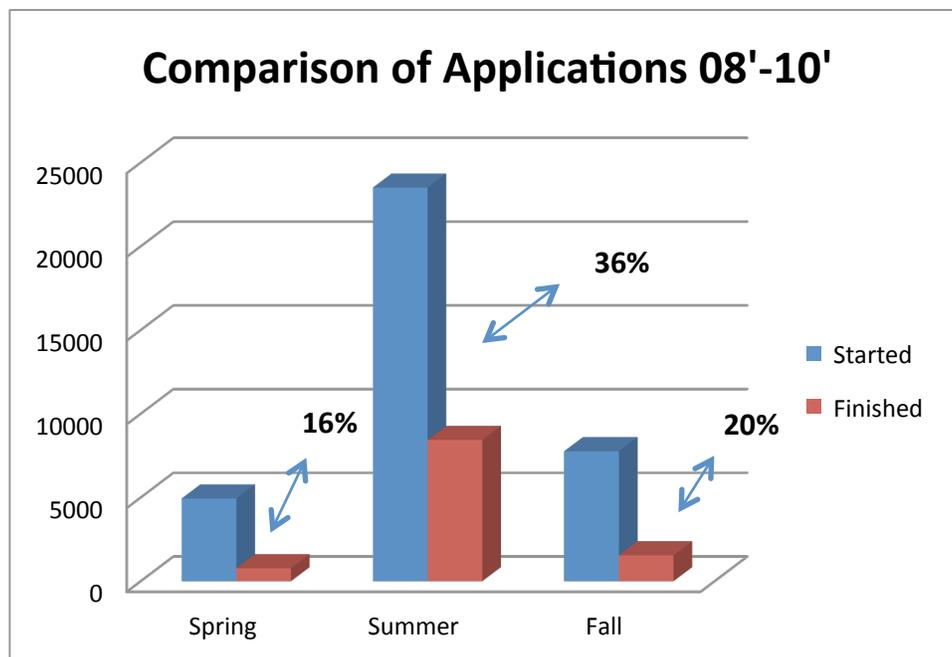

Figure 2

Communication and recruiting strategy

At the core of the USRP communication and recruiting strategy was our mission to:

- Develop an internship program that provided degree-related hands-on internships for talented undergraduate students pursuing STEM degrees that align with NASA's critical workforce competency needs;
- Provide a high-quality, nation-wide undergraduate hands-on experiential program in a technical environment;
- Attract and stimulate a diverse group of highly qualified undergraduate students from a wide array of academic institutions; and
- Coordinate undergraduate research internships at NASA field centers under the guidance of NASA scientists and engineers.

In order to accomplish this mission, a strategic communications and marketing effort was essential in creating an educational program that will sustain and thrive for years to come. Figure 3 shows the ways in which USRP distributed its communication messages across the nation. USRP Recruiting efforts focused heavily on University and online resources, which proved to be more cost effective with a broader impact than visiting individual universities, career days and conferences. By focusing on online resources, the communication messages filtered down through the necessary stakeholders within the universities, thus creating the word of mouth necessary to get the message to the intended student target audience.
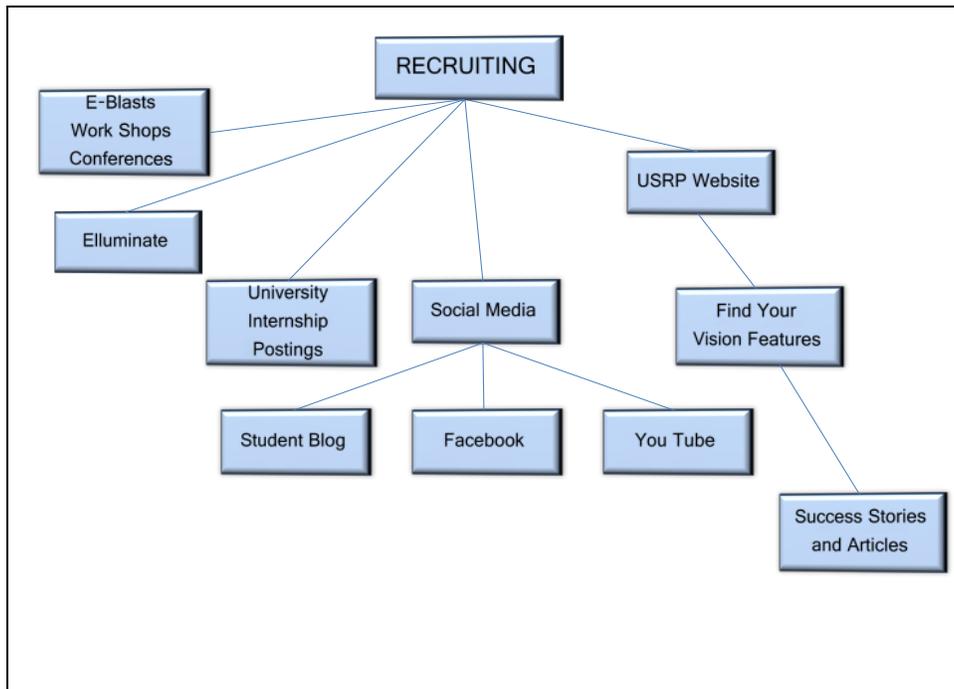

Figure 3

In our recruiting efforts we sought ways in which we could show the connection between USRP and the latest exciting NASA research that our interns have the opportunity to work on every day. The result aligned USRP among its core target audiences of prospective student interns and NASA mentors as NASA's premier internship program. Based upon our research to date, students are searching for a way to be a part of the NASA mission. They are unaware of

educational programs and they are confused by the NASA workforce structure and research opportunities. Students who participate in USRP learn very quickly the nature and scope of their mentor organizations mission and focus and how that fits in with NASA's big picture. We wanted to give undergraduate students across the nation a new level of awareness about the opportunities that are here for them at NASA. As well as excite students about the possibilities that are waiting for them to discover.

The value of spending resources to recruit interns

This is the essential "So What" factor. Not only is it important to recruit the top candidates for the internship opportunities within the organization but in order to achieve the full value of the internship program you must reach a target number of eligible candidates to be able to effectively find the best possible match. The key word in that statement is "find". Recruiting is a search. It's a very large search and through various methods we are searching for the best and brightest that have the necessary "stuff" to meet our organizations goals. Essentially we are not just searching for good students. We are truly searching for the organizations future. And in the case of USRP, we were searching for the future of world leaders in Space Exploration. Having comprehensive application and selection methods created scenarios that allowed NASA to fully analyze prospective interns capabilities. "The two cognitive scales, knowledge and analytical skills, are found to be the best predictors for intern selection" (Liu, Minsky, Kyllonen 2008). Selecting interns can be complicated. Especially when most organizations do have the level of funding devoted to their training programs as they do for full time hire recruitment. In order to fully understand and be able to effectively select interns you must be able to analyze their cognitive and skills and knowledge about the subject matter. Not to mention that this must be done in a timely and efficient manner as a new crop of eligible candidates will be graduating seeking new opportunities every year. USRP placed heavy value on its ability to draw in the most qualified undergraduate students but an emphasis was also placed on the specific data collected from applicants in order to effectively review all applications. USRP had to ensure that we were collecting as much information from candidates as possible without developing an application system that discouraged students from applying due to time constraints. Nonetheless, having a large number of applicants increases your chances of finding the best match for your project and could make the difference in finding the next generation of engineers and scientists.

University postings and the USRP website

A number of sources are available to increase a program's applicant pool. Many universities have an option to post opportunities on their career center or student employment websites. USRP posted its internship opportunities each semester at 77 universities around the nation, and students from these universities made up 24% of the applicant pool. Each posting was standard, containing a description of the program, qualifications, the program website and a point of contact for questions.

The interactive USRP website serves as a recruitment tool as well. The site was developed with enhancements that allow prospective interns to make informed choices when selecting a NASA Center. By searching the student stories and intern technical reports, students can get a feel for the work being done at each center. In addition, the Research and Locations portion of the

USRP website provides a database that connects students' interests and majors with corresponding centers. Furthermore, through the use of services like Google Word, USRP consistently showed up on the top three responses when searching for "NASA internships."

Student Stories Initiative

USRP started developing news stories in May of 2009, taking on the task of telling the story of the programs successes by capturing intern experiences and alumni successes through the Student Stories Initiative (SSI). This effort began with 23 stories in 2009 and grew to 65 unique stories published in 2011.   To date, 120 stories have been published.

SSI interns are chosen based on the quality of their work and the newsworthiness of their project. In the journalistic community, a story is newsworthy if it contains the following news values:

1. Impact – how many people does the event/project affect?

2. Timeliness – how recently did the event occur?

3. Prominence – how well-known are the people involved in the event?

4. Unique – how distinctive and rare is the event or project?

5. Currency – is the event related to some topic people are talking about or interested in?

6. Balance – do stories encompass a diverse representation of students, NASA centers and projects?

SSI is a completely voluntary effort, and the process begins when students are asked if they would like to participate. Each student is asked a series of 10 routine questions in order to provide an overview of their entire experience from garnering the internship award to the completion of their projects. They are given a week to respond, and once USRP receives their answers, the research phase begins. Research for articles includes examining each student's application, project description, and conducting online research to gain a better grasp of each project.

In the fall of 2010 USRP began publishing special interest stories to cover a broader spectrum of topics such as prior-service interns, interviews with African American Interns for Black History Month, Coordinator Interviews for Women's History Month, intern conference attendance and "STEM Pipeline" successes.

USRP posts stories on its website (http://usrp.usra.edu/news/archive/) and Facebook page in order to consistently provide potential students and our stakeholders with new in-depth qualitative data about USRP internship experiences. USRP also endeavors to publish its stories in venues internal and external to NASA through the use of press releases. Press releases are sent to the NASA Higher Education Portal web manager, the student's home town newspaper,

and the student's university, often resulting in a domino effect of press coverage. All articles published on the nasa.gov higher education sites are linked back to the USRP website and create more visibility for the program, ultimately increasing the number of applications received. In 2011, 90% of stories have been published on the nasa.gov website. Approximately 30% of student stories written since August 2009 have been published in non-NASA entitities, such as psychorg.com, student universities, and student hometown local newspapers, which strengthens partnerships while generating awareness to NASA research, USRP opportunities and student achievements. USRP reached national media in 2011 when it was featured in Forbes Magazine online and when USRP Intern Lukas Domm was featured in the August 2011 edition of *Popular Science* magazine for his work at NASA's Jet Propulsion Lab. This coverage resulted in the USRP news page receiving over 50,000 hits in 2011.

Student stories are unique because they not only address the projects and accomplishments of interns, they also address the diversity of USRP by highlighting interns from a variety of backgrounds – non-traditional students, community college students, tribal college students, students from rural areas – who have been successful at NASA. Each story also addresses a challenge the student faced during their project, letting prospective students know that with mentor support they will be able to overcome any obstacle.

Student Videos and YouTube

USRP took student stories to the next level by creating documentary style videos of intern experiences, transporting the audience into the lab to show them exactly what USRP students work on and what they are learning. It documents first-hand how interns interact and flourish in the NASA environment through their USRP experience.

These videos are uploaded to USRP's website, YouTube Channel, and Facebook. Videos are now also featured on NASA's Higher Education portal. The 9 USRP YouTube channel (http://www.youtube.com/user/USRPTV/videos) videos have over 4,000 views.

Social Networking

USRP utilized social media to connect with the core target audience and reach out to the public through Facebook. The USRP Facebook account (https://www.facebook.com/profile.php?id=1836298295) was developed in August of 2009, and in less than one year, the NASAUSRP account grew from 300 friends to over 2000 friends, more than a 500% increase. This was accomplished by inviting members of the applicant pool to be friends, and the USRP Facebook friend list continues to grow each day; to date, USRP has 2,587 friends, including mentors, alumni, current interns, and fans. Social networking provides a great outlet for USRP to reach and inspire students worldwide. Each semester, USRP interns tag pictures of their experiences at NASA to include intern interactions, tours, shuttle launches, and conferences attended. With over 900 pictures from 12 different NASA sites, Facebook provides prospective STEM applicants with a comprehensive inside look at what interns are able to see

and do when onsite. USRP also utilizes Facebook as another venue to publish our student stories, which generates more interest in our program by tagging the student covered by each story and by friends reposting stories.

In the spring of 2011, USRP created a group solely for USRP interns, which is used to send out opportunities for paper competitions, scholarships, and conferences. Currently, over half of our alumni and current interns belong to the USRP Intern Group. In regard to intern and alumni contact, USRP uses Facebook to send out opportunities for paper competitions, scholarships, and conferences. Recently, USRP began using Facebook as a supplement to our PAR Metrics survey to keep track of where alumni go to school and work.

Conclusion

USRP has achieved something unique in creating a high level of interest from undergraduate students and the lessons learned in this achievement can be applied to other student programs.

In 2010, USRP received 4,700 submitted applications from qualified undergraduate STEM students from across the nation, increasing the amount of interest and awareness for the NASA internship program by five-fold within three years. This figure indicates an immense increase in applications received for the program and solidified the success of the USRP communications and recruitment campaign. The USRP program management team has achieved something unique in creating a high level of interest from undergraduate students. From summer of 2008 to spring 2011 USRP received a total of 11,433 applications.

Through developing a high level of awareness USRP was able to derive a 98% level of satisfaction from NASA mentors and undergraduate student participants due mostly to high quality of matching that took place in the selection process. The communications and recruitment campaign that USRP implemented initiated a best practice among Higher Education programs for NASA and helped to establish current models of recruitment for all agency education programs.

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