BPC-AE: The STARS Alliance: A Southeastern Partnership for Broadening Participation through Regional Partnerships
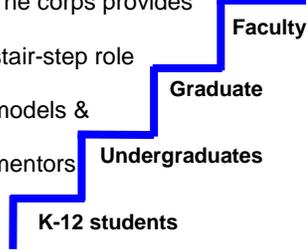
Final Report 2008-2012

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The STARS Alliance:
Advancing innovation through **regional partnerships** to broaden participation

| **STARS Leadership Corps** Tiered participation of students, professionals, & educators in research and civic engagement catalyzes regional partnerships | *Research, Women's, & Minority Universities* *Industry*   *K-12* CORPS *Community Colleges* *Community & Professional Organizations* | **Tiered Participation** The corps provides stair-step role models & mentors Faculty / Graduate / Undergraduates / K-12 students |

STARS Celebration: Building community for STARS and national BPC efforts
GOALS: Recruiting, Bridging, and Retaining underrepresented people in computing

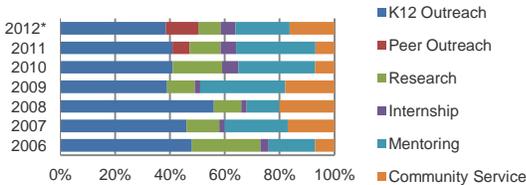Report prepared by the Evaluation Team:

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The STARS Alliance Extension Project, Final Report, January 2013

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Table 1: STARS Cumulative Success August 2006-August 2012

National Resource for BPC Community of Practice

*Supported **49 colleges & universities** integrating student-led regional engagement in computing*

STARS Online
A vital communication tool between individuals, between & across school groups
- 697 individual participants
- 41 School Groups
- 20 Affinity Groups

STARS on the BPC Digital Library
A collection of STARS practices disseminated nationally via BPC Portal
- Best practices "how to" resources, tools, outcomes research
- 52 Resources developed in year 1
- 40 currently online

Dissemination
Produced *20 journal articles, 54 conference papers, 18 posters*

www.starscomputingcorps.org

Organizational Capacity Building

Created new communities
- 10 NEW Alliance sponsored institutions in 2012; 17 in 2011
- 18 institutions have institutionalized STARS practices; *nearly half* of veteran schools
- 205 regional partnerships

Celebration Training & Development

7 annual Celebrations with 1,710 participating students, faculty, community and industry partners
- **318 workshops** in technical excellence, leadership, community & civic engagement
- **Industry Expo in 2012**

CITIZEN SCHOOLS   OAK RIDGE National Laboratory   Sit With Me

Individual Impact

STARS Leadership Corps (SLC)
1,134 SLC students since 2006
- 41% Black, 10% Hispanic; 50% women
- 26% participated in REUs
  - 42% acceptance rate
- Over **46,000 K-12** outreach attendees

Corps Primary Outreach Projects in Fall

	K12 Outreach
2012*	Peer Outreach
2011	Research
2010	Internship
2009	Mentoring
2008	Community Service
2007	
2006	

0% 20% 40% 60% 80% 100%

Pair Programming @ 18 schools, 100 classes with over 4,456 students

Mentoring

25 Schools Since 2006
257 Corps Mentors
514 Corps Mentees

STARS Celebrations
Participant chart and % from surveys
- 90% of SLC students felt the Celebration 2012 built community
- 94% of Faculty felt inspired by Celebration 2012 to become more involved in BPC

STARS Leadership Corps Students*
- 78% are considering **graduate school**
- 97% believe their projects were meaningful
- 93% developed leadership skills

Faculty BELIEVE in STARS*
88 STARS Faculty, all eligible have been promoted and/or tenured

- 100% report developing helpful professional collaborations through STARS
- Prepares faculty for integrating BPC research into their careers

*Spring surveys 2012

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1   Introduction

The **STARS Alliance** is a community of practice for student-led regional *engagement*[1] as a means to broaden participation in computing (BPC).   The Alliance has demonstrated the **STARS Leadership Corps** (SLC) as a model for catalyzing regional partnerships through the tiered participation of students, professionals and educators in civic engagement and experiential learning.   This report serves as the final report for the STARS Alliance Extension Project. The Extension Project is the second in a series of three overlapping grants to support the STARS Alliance: 1) The STARS Initiation Grant (NSF Award #0540523, 2006-2009), 2) The STARS Extension Grant (NSF Award #0739216, 2008-2012), and 3) the STARS Scaling Grant (NSF Award #1042468, 2009-2016).   The goals articulated for each grant built upon and expanded goals from the prior grant.   As such, this final report for the Extension Grant reports upon cumulative outcomes from all three grants and supplemental funding from 2006 to 2012.   These outcomes were supported by approximately $2.2 million from the STARS Initiation Grant, $3.1 million from the STARS Extension Grant, and $1.7 million thus far from the STARS Scaling Grant. The STARS Initiation Project supported the piloting of the SLC and other STARS practices at 10 Southeastern colleges and universities.   The STARS Extension Project extended STARS participation to more than 20 Southeastern colleges and universities and added activities for broadening participation within the computing faculty ranks.   The STARS Scaling Project is scaling the STARS Alliance to become a national resource for BPC.   Evaluation outcomes show that participation in STARS activities, particularly the SLC, enhances commitment and academic success in computing for diverse student groups.   The STARS Scaling Project focuses on the national adoption of SLC practices to bring about a computing workforce that is larger, more diverse and with broader skill sets.

Note that the STARS grants have been awarded on a calendar year cycle (beginning in January/February), but the STARS programs operate on an academic year cycle (beginning in August). As such, in each of the sections below, we report on two levels of activities and outcomes. At level one, we report the activities of the STARS Project during the calendar year, January 2012- December 2012, supported by NSF grants # 0739216 and #1042468.   At level two, we report the cumulative outcomes of the STARS Alliance from August 2006 - August 2012 with emphasis on the most recent academic year, August 2011 – August 2012, to summarize final project outcomes for STARS Extension (#0739216).

For quick reference, Table 1 (above) highlights STARS activities and outcomes, and section 2 summarizes outcomes on a national, organizational, and individual basis.   An overview of the STARS Alliance is given in section 3.   Section 4 provides a summary of the STARS Project activities during 2012. Detailed description of national, organization, and individual outcomes is given in sections 5, 6, and 7 respectively.   Section 8 describes our feedback from the Reverse Site Visit to the National Science Foundation in October 2012, and outlines our future evaluation plans resulting from this visit.

2   Summary of Outcomes

2.1   Alliance National Impact

The STARS Alliance is a national resource for the recruitment, retention and graduation of diverse students in computing through student-led regional engagement.   Since 2006, the Alliance has supported over 49 colleges and universities to integrate student-led regional engagement into computing departments through a co-curricular program called the STARS Leadership Corps (SLC).   Many of these schools have institutionalized the SLC and have also implemented and institutionalized STARS demonstration projects, including mentoring and pair programming.   The Alliance fosters continued national adoption of student-led regional engagement by providing: seed funding to computing departments that implement the SLC; a community of support through the STARS Online social network, website, and digital library; and the annual STARS Celebration leadership conference. Qualitative and quantitative measures of impact include, but are not limited to: faculty surveys and interviews, Celebration attendee surveys, social media and digital library resources and usage, follow up surveys of social media and digital library users. Current outcomes include the following.

STARS Scaling Project Year 2 – January to December 2012
- STARS Online has 697 individual participants [students, faculty, alumni, partners].

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[1] The National Survey of Student Engagement (NSSE) defines *engagement*: "Student engagement represents two critical features of collegiate quality. The first is the amount of time and effort students put into their studies and other educationally purposeful activities. The second is how the institution deploys its resources and organizes the curriculum and other learning opportunities to get students to participate in activities that decades of research studies show are linked to student learning."
http://nsse.iub.edu/html/about.cfm

  - o 41 School Groups
  - o 20 Affinity Groups, 4 Working Groups, 3 Teams
- STARS Digital Library collection in the BPC Portal has 52 resources [lesson plans, tools, papers, etc.].
- STARS Computing Corps, a **new nonprofit organization**, has been established to sustain Alliance activities.
- The nonprofit is being developed through the STARS Partners program, along with collaborations with IT-oLogy.

STARS Alliance – August 2006 to August 2012
- Dissemination: **20 journal articles, 54 conference papers, 18 posters, 2 TV & 5 news stories**
- 7 STARS Celebrations: **1,710 student, faculty and partner participants**.

2.2   Alliance Organizational Capacity Building Impact

Computing departments receive two-year seed funding to participate in the STARS Alliance, requiring them to implement the SLC every semester and implement the STARS mentoring and pair programming demonstration projects at least one semester, with the intent to institutionalize these practices. Departments can continue to receive funding to institutionalize the SLC and to support STARS scaling by contributing to nationally available resources and supporting new STARS schools. Participation enhances the capacity of computing departments to: 1) interweave engagement throughout the undergraduate and graduate student experience; 2) promote student-led regional engagement (e.g., with K-12, industry, and the community); 3) recruit and advance diverse student groups in computing by engaging in a community of practice (e.g. SLC, mentoring, research experiences, STARS Celebration, online social network, Affinity Groups, digital library). Measures of impact include, but are not limited to: the number of student organizations or clubs established, the number of STARS courses established, and the degree to which STARS engagement activities, such as outreach and pair programming, are integrated into existing computing courses. Faculty surveys, individual interviews and focus groups, Celebration attendee surveys, social media and digital library usage, institutional enrollments and graduation rates trends compared to national trends (Taulbee Report). Outcomes highlights include the following.

STARS Scaling Project Year 2 – January to December 2012
- STARS Manual provides step by step instruction for starting and managing a STARS Leadership Corps.
- 42 colleges and universities are actively participating in the STARS Alliance; 11 new in the 2012-2013 academic year.
- An **online evaluation toolkit** continues to provide support for student-led participatory evaluation research with new monthly webinars designed to teach research and evaluation methods to Evaluation Assistants.

STARS Alliance – August 2006 to August 2012
- More than **49 schools have implemented the SLC**
  - o **49%** also implemented mentoring
  - o **42%** pair programming
- **18 schools institutionalized the SLC,** by integrating into course or program requirements, responsibilities of permanent staff, or the mission of student organizations.
- Faculty Surveys consistently show that STARS faculty are **expanding their professional networks** and **forming meaningful collaborations** with others for BPC efforts.

2.3   Alliance Individual Impact

The primary Alliance activity is the STARS Leadership Corps (SLC), a co-curricular service-learning program that fosters student-led community engagement. College students join an SLC for an average of two semesters and perform projects (e.g. K-14 outreach, mentoring, tutoring, pair-learning, research, internships, community service) for an average of 5 hours a week. Professional development and community building opportunities are provided to students and faculty through partnerships and the STARS Celebration. Measures of success include: number of participants, outreach attendees, community partners, behavioral change (e.g., REU, retention, GPA, etc.), skill development (e.g. leadership), and attitudinal changes (e.g. computing efficacy, commitment, etc.). Outcomes highlights include the following.

Scaling Project Year 1 – January to December 2012
- **348 SLC students** participated in Spring 2012 across 31 colleges and universities.

- 32 SLC students functioned as Evaluation Assistants, learning and conducting evaluation research practices, while collecting data for their school.
- STARS International Service Learning Project, in conjunction with Mothering Across Continents and Waveplace Foundation, organized and conducted technology leadership training during March 2012.
- 6 students at 4 institutions were supported by **STARS Research Experiences for Undergraduates (REU)** and 35% of SLC students participated in other REUs (spring 2012).

STARS Alliance - August 2006 to August 2012
STARS evaluation results between 2006 and 2012 demonstrate that participation in the SLC has a **significant positive impact** on:

- Computing efficacy (belief that effort will lead to success in a computing curriculum)
- Perceived social relevance of computing (belief that computing has social as well as technical relevance and can be used to benefit individuals and society)
- Computing commitment (intention to remain in the field of computing through college and into the workplace)
- Computing identity (a feeling of inclusion in a larger computing community)
- Self-reported grade point average.
- **Longitudinal Achievement**: **19 former SLC members are recipients of prestigious awards** and scholarships: 8 National Science Foundation Fellowships, 3 Honorable Mentions; 5 US Department of Education Graduate Areas of National Need awards; 1 National Aeronautics and Space Administration award; 1 Department of Homeland Security Fellow; 1 Microsoft Fellow
- 26% participate in Research Experiences for Undergraduates, at a 42% acceptance rate.

2.4   Alliance Institution Scorecards

The STARS Alliance Evaluation Team constructs a performance scorecard for all Alliance institutions each academic term. The scorecard presents a tally of each activity across our institutions (Table 2), and enables us to provide feedback to each STARS institution on how they are performing relative to the Alliance overall (Table 3). We present the scorecard summary (Table 2) and scorecard (Table 3) from Spring 2012, the most current term available, to show how Alliance participation compares across institutions, and as a demonstration of what is being continued through the Scaling Project. Table 3 presents Alliance Institutions by cohort and size of SLC. Green shading indicates exceptional performance in an area, while yellow shading indicates lower performance. Context is taken into account, such as the size and inaugural year of the SLC. For example, while Meredith and Spelman have lower totals across areas, they make a great deal of impact in outreach hours given their number of SLC students; research universities are expected to produce more dissemination than colleges.

Table 2. STARS Alliance Spring 2012 Scorecard Highlights

STARS Spring 2012 Scorecard Highlights	Sum	Min	Max	Avg
# of Corps Students	348	3	30	11
Corps Student Seminar Events	77	0	10	3
Corps Student Project Types	Sum	Min	Max	Avg
K-12 Outreach	186	1	30	7
Community Service	102	1	17	6
C-STARS	19	0	10	5
Mentoring	134	1	30	7
Research	37	0	6	2
Internship	35	0	16	3
Marketing	28	1	12	3

Table 2 Continued. STARS Alliance Spring 2012 Scorecard Highlights

Corps Outreach Participation	Sum	Min	Max	Avg
# of Outreach Events	286	0	29	10
# Attendees	12,304	0	5,102	410
Total Outreach Hrs	1,774	2	360	61
Total Contact Hrs	33,367	4	6,630	1,112
Avg Contact Hrs per Attendee	2.7	0	38	2.7
Dissemination-Publications/Products	**Sum**	**Min**	**Max**	**Avg**
Grants	13	1	2	1
Journal/Posters	14	1	4	2
Conference	22	1	11	3
Materials	11	1	3	2
Exhibitions	22	1	13	4
News articles	5	1	2	1

STARS conducted *1,774 outreach hours* to over **12,000** individuals

Table 3. STARS Alliance Scorecard Spring 2012

	STARS Institution	# SLC Students	# of Outreach Events	# Outreach Attendees	Total Outreach Hrs	Grants	Dissemination
First Cohort (2006)	FAMU	30	11	476	19	1	2
	UNC-C	30	29	687	291	3	2
	NCSU	20	5	76	109	1	19
	Auburn	17	9	250	9	1	24
	FSU	12	26	5,102	323	1	4
	Ga Tech	9	9	712	51	Unreported	Unreported
	USF-P	7	2	59	2	1	0
	Spelman	4	2	92	17	0	3
	Meredith	3	29	45	34	0	0
	JCSU	11	3	54	3.5	2	0
Second Cohort (2008)	Hampton	16	9	255	13	Unreported	Unreported
	NCA&T	10	5	170	12	Unreported	Unreported
	UNO	6	unreported	320	360	0	0
	CPCC	6	18	107	11	0	0

Table 3 Continued. STARS Alliance Scorecard Spring 2012

	STARS Institution	# SLC Students	# of Outreach Events	# Outreach Attendees	Total Outreach Hrs	Grants	Dissemination
Third Cohort (2011)	Depauw	14	5	22	44	1	0
	Winthrop	15	17	484	35	0	4
	Loyola	13	7	708	38	1	1
	Duke	12	8	45	160	1	2
	IUPUI	12	12	711	23	1	0
	Seminole State College	12	14	281	34	0	0
	Florida International U	10	3	33	11	0	1
	Indiana U-B	10	12	506	38	0	0
	NVaCC	10	21	Unreported	Un-reported	0	2
	SCSU	10	8	180	64.5	1	5
	UNC-G	10	4	139	16	0	1
	George Mason	8	4	132	8	0	3
	Wilberforce	8	4	13	8	1	1
	Arizona State	6	3	518	9	0	0
	Columbus State	5	4	123	7.50	0	2
Began Spring 2012	FSC-Jacksonville	6	3	4	23	0	0
	NW Florida State	6	0	0	Un-reported	0	0

3   Overview of the STARS Alliance

The Students & Technology in Academia, Research, and Service (STARS) Alliance is a nationally connected system of regional partnerships among higher education, K-12 schools, and leaders in the nonprofit, business, and community sectors. The Alliance comprises a **vibrant community of practice** for broadening the participation of women, under-represented minorities, and persons with disabilities in computing through student-led regional engagement. The STARS Scaling Project aims to support at least 50 STARS colleges and universities (20 existing and 30 new) to adopt and institutionalize the STARS Leadership Corps (SLC), resulting in higher computing student diversity, enrollments, and graduation rates. These schools will sustain the SLC through curricula. A vibrant STARS community of practice flourishes through online social networking and an SLC practices digital library collection. The STARS Scaling Project builds upon the prior STARS grants to involve more people and produce greater, sustained outcomes, with less funding, ultimately resulting in the STARS Computing Corps nonprofit to sustain the annual STARS Celebration and to continue to engage new universities in the STARS Community.

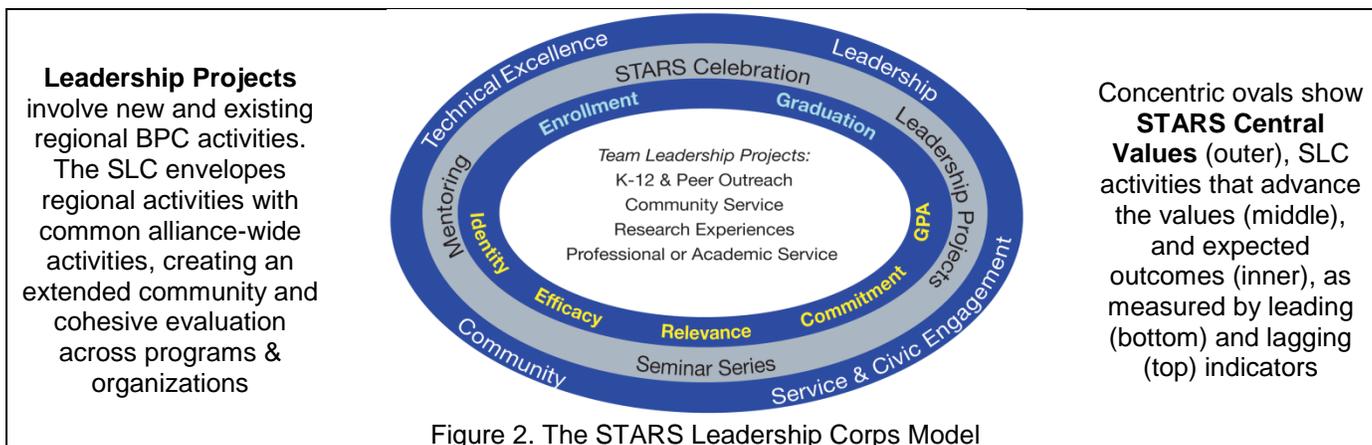Alliance activities advance the **STARS Central Values** of
- ❖ **Excellence** – Technical skill, confidence and interest in computing; Workforce preparation; Innovation & advancement.
- ❖ **Leadership** – Soft skills, including management, teamwork, writing, communication, and work / life balance.
- ❖ **Community** – A sense of belonging and a common computing identity not tied to gender, race, ethnicity or physical abilities.
- ❖ **Service &Civic Engagement** – Sense of responsibility to use computing to serve society; Social relevance of computing.

Figure 1. STARS Central Values

Each regional community is led by a STARS member college or university with local partners including K-12 schools, industry, and professional and community organizations such as the Girl Scouts, Citizen Schools, the Black Data Processors Association, and ACM-W. STARS Alliance activities are designed to advance the **STARS Central Values** of developing Technical *Excellence*, *Leadership*, a sense of responsibility to use computing in service to society through *Civic Engagement*, and a sense of belonging to a Computing *Community*. These values are effective for recruiting, bridging and retaining under-represented groups in computing. Collaboration within STARS regional communities is catalyzed by the **SLC**, an innovative program that envelops new and existing regional programs for BPC (e.g., K-12 outreach, community service, research experiences) with common alliance-wide activities. The SLC is implemented at all STARS schools as a repeatable one-year program that begins and ends with an alliance-wide annual leadership conference called the **STARS Celebration**. The Celebration inducts students, faculty, and partners into the Corps with activities built around the STARS Central Values.

During the Celebration, the SLC is called to action to *recruit, develop and become the next generation of computing professionals*. The SLC responds by undertaking leadership projects, such as: Outreach to pre-college students to inform and excite kids about computing; College outreach to support and advance college students; Community service to use computing skills to serve society; and Research Experiences and Internships to advance innovation and to serve by improving one's own expertise in computing. All projects include written reflection, presentation to peers, and outreach components. Student SLC teams carry out leadership projects during the academic year at their home schools, spending an average of 5 hours per week, including participation in a seminar series centered around the STARS Central Values and tiered peer mentoring (*have a mentor, be a mentor*). SLC students and faculty showcase successes at the next Celebration. Our theme of ***Advance Yourself, Advance Others*** encourages student participation over multiple years, accepting support when needed and giving back when able.

Leadership Projects involve new and existing regional BPC activities. The SLC envelopes regional activities with common alliance-wide activities, creating an extended community and cohesive evaluation across programs & organizations

Concentric ovals show **STARS Central Values** (outer), SLC activities that advance the values (middle), and expected outcomes (inner), as measured by leading (bottom) and lagging (top) indicators

Figure 2. The STARS Leadership Corps Model

The SLC pools resources and enables **cohesive evaluation** across disparate BPC programs spanning multiple years and diverse institutions and populations. The SLC employs **Tiered Participation** among youth, academics, and professionals, creating stair-step role models and mentors. For example, industry professionals work with SLC students to offer computing programs for high school students; and faculty guide graduate students to mentor under-graduate research. Leadership activities catalyze regional partnerships and sustain them through a common purpose.

The STARS Alliance **fosters adoption and scaling of BPC practices** by hosting workshops at the STARS Celebration. The Alliance further supports the STARS Mentoring and Pair Programming by offering participant stipends to adopters. The **STARS Tiered Peer mentoring** was developed by Dr. Nate Thomas at USFP to support underrepresented students in computing. Using principles from his Ethnic-based Mentoring Model, upper-class students mentor first year students. A holistic approach is used to support mentor and mentee college adjustment, GPA, retention, graduation and career preparation. Dr. Laurie Williams at NCSU leads the **STARS Pair Programming (PP)** to train and assist faculty to use Pair Programming to deepen student learning.

Figure 3. STARS Scaling Project Goals and Outcomes

❖ **Retaining** & **Recruiting** under-represented populations into computing
❖ Bridging **for under-represented populations to increase readiness to enter computing graduate programs and careers**
❖ Advancement **of computing faculty role models to increase faculty research and grants scholarship, tenure, and promotion.**
❖ Sustainability **of the STARS Community to institutionalize SLC practices at STARS member colleges and universities**
❖ Dissemination **of STARS activities, outcomes, and assessment to promote broadening participation through regional communities and SLC practices**
❖ Scaling **of the STARS Community for national adoption and institutionalization of the STARS Leaderships Corps, participation in the Celebration, and regional Celebrations**

4   Summary of STARS Project Activities

The STARS Alliance has scaled to 42 institutions during the 2011-2012 academic year with a new cohort of institutions (both veteran and new to the Alliance), and is embarking upon several new directions as a result of our prior experience, expansion across the country, and renewed focus as we transition into a non-profit organization in 2016. We successfully created and deployed STARS Online and Digital Library, hosted the 7th STARS Celebration, and streamlined our evaluation plan's focus on assessing STARS as a national resource for BPC initiatives. In addition, we are refining the marketing and development plans for the STARS non-profit organization. The sections below briefly highlight the Scaling Activities during the second year of the grant.

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4.1   STARS Online Social Network and Digital Library

Our focal point in 2012 has been the STARS Online Social Network and Digital Library, both launched in 2011. Our mission is creating STARS Online as the hub for online connectivity and exchanges, fostering greater communication and engagement within and across STARS institutions. We have added more extensive STARS-specific functionality to link activities across STARS and encourage interaction and sharing, primarily via Affinity Groups. Additional features are planned to add greater interaction and reporting features to the online community.

- The STARS Online Social Network currently has 697 members, 20 Affinity Groups and 42 schools.
- The Digital Library now has 52 resources including outreach instructional materials, and other resources.
- The Evaluation Assistant Affinity Group on STARS Online is a primary vehicle for evaluation data collection and research exchanges; it is a model for 2013 plans to enhance Affinity Group management with graduate student leaders.

4.2   STARS Celebration 2012

The STARS Celebration continued in 2012 with an increase in workshops and keynote speakers. A panel of Women in IT facilitated a discussion about careers in computing during the Plenary Session. Industry and community supporters included Microsoft Research, Oak Ridge National Labs, CRAW, and Citizen Schools, to name a few. Partner Alliances, ARTSI, A4RC and EL Alliance, participated. A representative from the new BPC initiative, ESTEP, attended and plans to send students next year.

- The STARS Celebration 2012 hosted 353 students, faculty and partners.
- An Industry & Community Expo was hosted, including the NCWIT Sit with Me campaign.
- STARS Awards were issued to individuals and institutions who made significant contributions to the core mission and values.
- The STARS Leadership Corps Manual was rolled out during STARS 1.0 to orient and train new Alliance faculty.

4.3   STARS International Service Learning in Haiti

The STARS Alliance, in conjunction with Mothering Across Continents and Waveplace Foundation, organized a second, week-long spring break experience in Haiti in March 2012. We partnered with three schools in northern rural Haiti for this program. Participating students visited these schools and provided training in computing concepts using XO laptops from the One Laptop Per Child (OLPC) initiative and also helped with technology infrastructure needs of the schools and the surrounding areas. Prior to the trip, interested students participated in XO laptop training, meetings to learn about Haitian culture and language, practice teaching skills, and participate in team building exercises. In Haiti, the students stayed in Cap Haitien and traveled each day to the schools located approximately 1.5 hours away.

- Students provided computer training, English language practice, and assistance to local teachers and students in creating their own curricular software for the OLPCs.
- Students had opportunities to meet with local Haitians and visit historic sites.

4.4   New Cohort of Institutions

Thirty schools continued their participation in STARS Scaling for the 2012-2013 academic year. Twenty-one new schools were invited to apply based on their geographic and demographic profiles including schools in which STARS Alumni had become new faculty. STARS Informational Webinars were held for all interested schools. A STARS institutional mentor was assigned to each invited school as well as unsolicited schools who had expressed interest. Eleven schools applied and were accepted based on the strength of their proposals and departmental support, and their potential for broadening participation in computing.

- A new orientation process for newly funded Alliance institutions began, employing webinars and an SLC Manual.

4.5   501C3 Organization

We established the STARS Computing Corps, a nonprofit organization in 2011, to leverage the annual STARS Celebration, to expand the STARS Alliance and increase its participation and visibility beyond the timeframe of the STARS Scaling Project. Our strategy is to grow the Alliance and its organization, in a controlled fashion, partnering with IT-ology. Our vision is to target areas of strategic geographic development.

- A STARS Partners program is in development to collaborate with like-minded community and industry leaders, including IT-ology.
- A new website has been developed to reflect the STARS Computing Corps brand (www.starscomputingcorps.org).

4.6   Evaluation

In response to a Reverse Site Visit to the National Science Foundation in the Fall of 2012, the Evaluation Team has renewed its focus on key program evaluation areas. Recognizing the inherent challenges faced in conducting a multisite evaluation, the Evaluation Team continues to manage an in-depth training program for Evaluation Assistants, who serve as project liaisons for the assessment of local level Alliance activities. An online evaluation toolkit containing sample documents, content slides, and helpful resources is established and continues to be enhanced to support their efforts (https://sites.google.com/site/starsevaluationassistantsite/). In 2012, new monthly topical webinars were instituted via Anymeeting.com to enhance content knowledge. A survey of 2011-2012 EAs indicated significant gains in research knowledge, a clear signal that the training program is effective at teaching research content to computing students.

- Evaluation will have 2 key foci:
  - measurement of the usage and value of STARS Online (the online community, digital library, website, and manual);
  - dissemination of organizational exemplars for a prescriptive tool of implementing SLC practices.
- Evaluation Assistants work through a seminar schedule, supported by an online toolkit for evaluation research methods, and the EA Affinity Group on STARS Online.
- Evaluation Assistant Monthly webinars provide in depth training on research topics.

5   National Impact of the STARS Alliance

5.1   Celebration 2012

The annual STARS Celebration, which is held each August, is our hallmark event, and serves to both kick-off and conclude our academic activity cycles by showcasing successes from the prior year and by preparing for the upcoming new year. The conference is a significant part of the Alliance in that it communicates our key values by showcasing excellence, leadership, civic engagement and community through posters, presentations, keynote speakers and workshops. Participants include students in the STARS Leadership Corps, faculty leaders within the STARS Alliance, and Alliance partners, including BPC Alliances (A4RC, EI Alliance, CRA-W), as well as regional K-12 and community colleges. The Celebration has been central to building a computing community among students from underrepresented groups and faculty. New SLC students are introduced to mentoring, leadership skills, research experiences, graduate school preparation, professional development, and civic engagement. Returning SLC students assist with training new students by sharing their experiences and engaging in leadership roles. New faculty and partners are oriented to the Alliance model and provided opportunities for networking and professional collaborations. Working in teams, the students choose their academic year assignment during the conference, while faculty Academic Liaisons determine their SLC objectives and plan for the upcoming year. In 2012, there were 353 participants. All attendees are invited to take a survey following the Celebrations; interviews are also routinely conducted at Celebrations. In 2012, faculty focus groups were also conducted. Interview and focus group themes from 2012 are discussed in Section 7.

The STARS Celebration 2012 included a number of workshops with collaborative partners. The Women in IT Panel was led by: Denisse Aranda (Contamination Control Engineer and Planetary Protection Specialist, NASA), Alika Muhammad (Senior Director of Program Management and Operations, Lucent Technologies), Shalanda Armstrong (Senior Associate PricewaterhouseCoopers), Janet Brunelle, (Assistant Chair and Chief Dept. Advisor, Old Dominion University), Dr. Michelle Claville (Assistant Dean, School of Science Hampton University). This plenary session discussed the career paths of the panelists as well as provided individual and historical perspectives regarding career development and personal growth. Jonathan Banks, Managing Director of Bank of

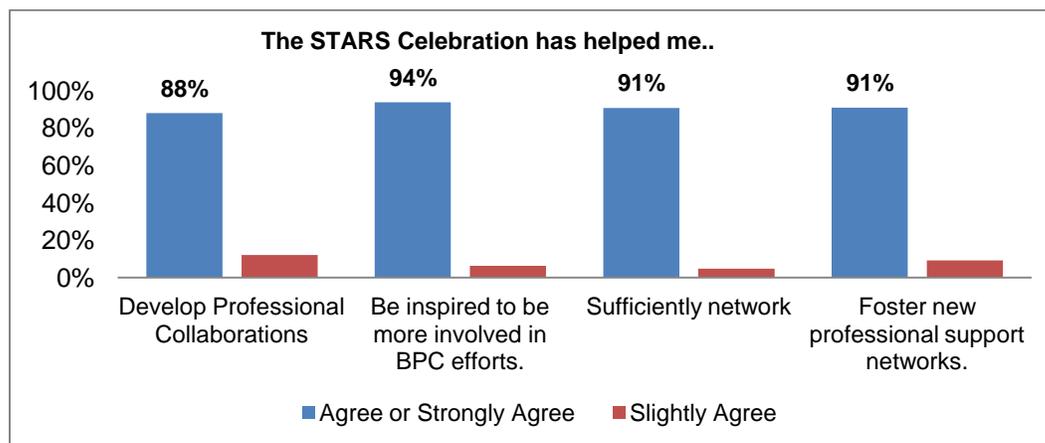## The STARS Alliance Extension Project, Final Report, January 2013

New York Mellon shared his career path journey with insightful tips. Dr. Roderic Brame, Program Director of STEM Education at USF Polytechnic conducted a Power Tower Activity to integrate STEM inquiry and problem based learning.

Figure 4. STARS Celebration 2012 Highlights

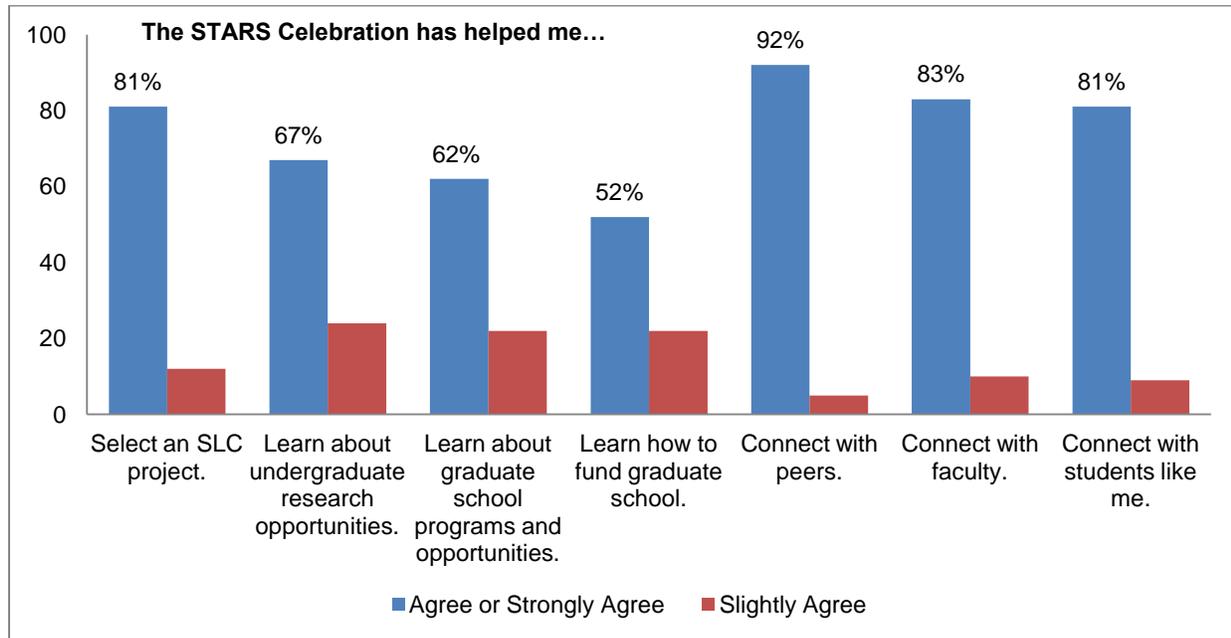|	Theme & Features	Location	Keynote(s)	Program Chair; Poster Chairs
2012	**Transform Minds. Change the World. Be the Change.** Snag'em \ Industry & Community Expo	Hampton, VA	Jonathan Banks, Battino Batts, Roderic Brame	Nathan Thomas, Marguerite Doman, Kristin Watkins & Nikunja Swain
Awards Nominees	**Outstanding Corps Students**: Simone Stephens, UNC-G; Veronica Catete, UNCC; Jason Bellew, CPCC; Maynard Yates, FAMU; Ronald Benson, FAMU; Sihle Wilson, FAMU; Jessica Herd, FAMU. **Outstanding Evaluation Assistant**: Jennifer LeMieux, Seminole State; Richelle Oakley, UNC-G; Noah Hunter, USF; Olivia Wilson, FAMU. **Outstanding Corps Faculty Liaison**: Ebe Randeree, FSU.			
Orienting Faculty	**The STARS Leadership Corps Manual Revised STARS 1.0**			

Out of the 353 Celebration participants in 2012, 235 were students and 78 were faculty and partners. Survey response rates for students was 41% (n=96) and 90% (n=70) for faculty and partners. Items were rated on a 5 point Likert scale; percentages below indicate strongly agree and agree responses combined.

Table 3A. STARS Celebration 2012 Survey: Faculty & Partners

Table 3B. STARS Celebration 2012 Survey: Students

The STARS Celebration has helped me…

Category	Agree or Strongly Agree	Slightly Agree
Select an SLC project.	81%	
Learn about undergraduate research opportunities.	67%	
Learn about graduate school programs and opportunities.	62%	
Learn how to fund graduate school.	52%	
Connect with peers.	92%	
Connect with faculty.	83%	
Connect with students like me.	81%	

5.2 Cumulative STARS Celebrations

Detailed reports of each of the seven Celebrations are provided in previous annual reports, available at www.starsalliance.org. The table below shows the number of individuals participating at each event.

Figure 5. STARS Celebration Attendees

Year	Partners & Guests	Faculty/Staff	Students
2006		23	105
2007	50	43	113
2008	26	52	183
2009	24	41	212
2010	24	53	168
2011	28	64	148
2012	40	78	235
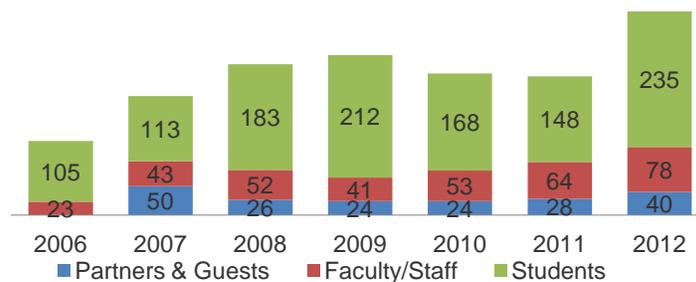
5.3 STARS Online Social Network Community

The STARS Online Community is a platform for informal sharing and dissemination of activities and artifacts within STARS, while the digital library is for broader, more formal, dissemination. Work began in Spring 2011 on creating the STARS Online Community by first researching and choosing a customizable social networking platform, JomSocial, which is built upon the open source content management system Joomla. This platform provides a variety of social features, such as creating profiles, creating

STARS Online as of November 2012:
- 20 Affinity Groups
- 41 School Groups
- 697 Individual Members
- 52 Digital Library Resources

events, and discussion forums. We customized the functionality to add file sharing, an event calendar, and added a number of Affinity Groups and School Groups. Our first version of the site was opened to STARS members in August 2011, in time for the STARS Celebration, at http://community.starsalliance.org/. An updated version with minor changes and bug fixes was released November 2011.

Each School Group is used by one STARS member school to organize their SLC activities. Each Affinity Group is open to anyone for sharing information and fostering collaboration on the topic of that Affinity Group – such as high school outreach, use of robotics in outreach, use of games in outreach, and support for new STARS member schools.   At the 2012 Celebration, individuals could join the community, view all of the sessions, RSVP to different sessions, and add comments or blog about each event session. Each school added a document of their yearly plans to the site. After the Celebration, all STARS faculty and students were asked to join the community in order to participate in their school teams and affinity groups, have discussions, and share activities. STARS members can now easily view and find other members across the country, and connect with their own local members as well as others across STARS with similar interests through affinity groups. The most active Affinity Groups have been the Evaluation Assistants Affinity Group, where Evaluation Assistants from each school post reports, share resources and collaborate on research projects.

5.4   STARS Collection within the BPC Digital Library

The STARS digital library was made available as a sub-collection of the BPC Digital Library in October 2011. The library was created by Dr. Alice Agogino's group of the Engineering Pathways project. In order to customize the meta-data for each resource, we have added a set of STARS-specific special topics that relate to the projects and goals of STARS, such as K-12 Outreach, Mentoring, and STARS Celebration. We have also chosen which of the standard meta-data fields are most relevant to our resources. We began collecting and cataloging resources for the digital library in November 2011. **In 2012, 52 resources were added to the digital library**. Resources include annual reports and published results from STARS, educational games and workshops created by and used by STARS students in outreach activities, posters from the STARS Celebration, evaluation materials, and more.
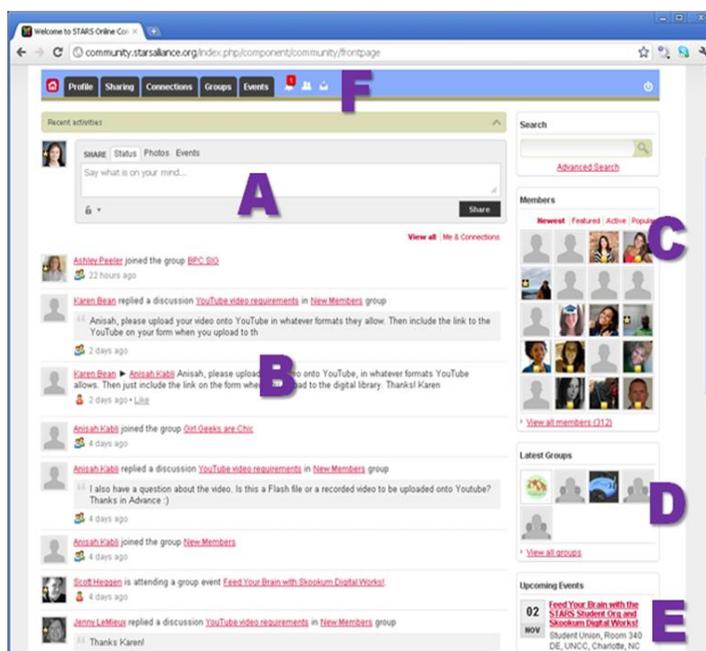

Figure 6. Home page of the STARS Online Community. Users can share status updates on the site (A), which are displayed in a site-wide news feed (B). Participants can also view other members (C), groups (D), and events (E), and navigate to other parts of the community to share files or create events using the navigation bar (F).

6   Organizational Capacity Building Impact

The Alliance goals are to enhance institutional capacity to interweave engagement throughout the undergraduate and graduate student experience and to enhance institutional capacity for student-led regional engagement (e.g., K-12, industry, community). Of the 42 institutions participating in the Alliance in 2012, half are doctoral research institutions, and half are undergraduate or masters level institutions. Figure 7 below shows the types of institution operating within the Alliance in 2012. As of 2012, 7 institutions have established an SLC organization, 11 have established an SLC course, 18 have institutionalized formal mentoring programs, and 13 have institutionalized pair programming in their computing programs. The table below (6.1) shows Alliance institutional members who began implementing STARS practices in Fall 2011 as part of the Scaling Project. Table 6.2 presents a cumulative table of Alliance Scaling institutions who began implementing STARS practices prior to 2011 (with STARS initiation and

The STARS Alliance Extension Project, Final Report, January 2013

STARS Extension grants). Both tables point out the unique features of each SLC program. All data indicates Fall term unless otherwise noted.

Figure 7. Institutional Types and Degree Levels of STARS Alliance Institutions 2012
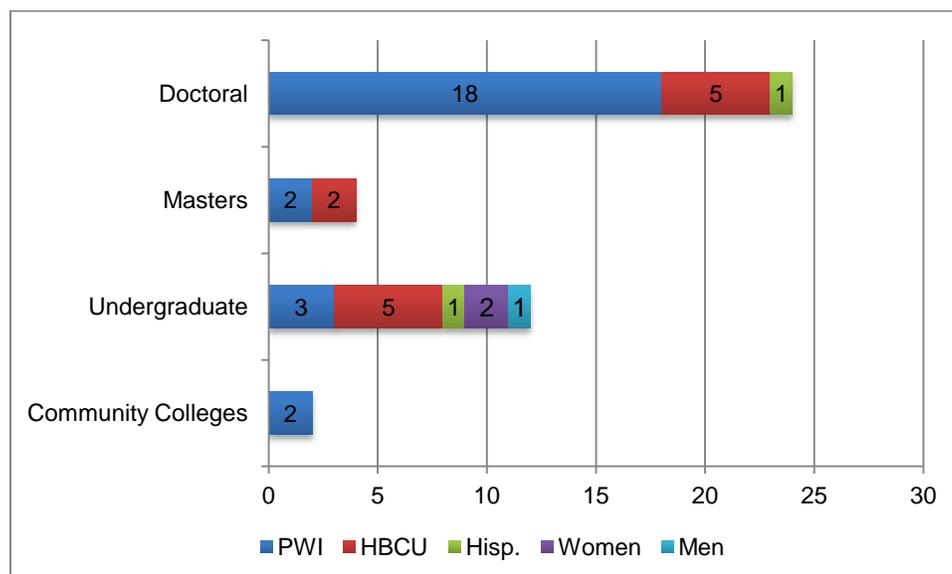
*PWI= primarily white institution; HBCU= historically black colleges & universities; Hisp.= Hispanic serving institution

6.1   STARS Scaling Project Institutions (2011 Cohort) Table

(**M**=Mentoring, **PP**=Pair Programming, **C**=SLC Course, **O**=SLC Student Organization)

Institution	Type	# SLC students Spring 2012	Projects	SLC Highlights
Arizona	Doctoral	6	C	REU integration into Corps, robotics outreach
Columbus State	HBCU-UG	5	PP,M	Mentoring Girl Scouts, CS Unplugged
Depauw	Doctoral	14	M,O	Grace Hopper partnership, Recruiting women into CS 1-2
Duke	Doctoral	12	C, M	Service learning course
Florida International	Doctoral-Hisp.	10	0	Tutoring in CS, K-6 robotics outreach
Florida St. Jacksonville	UG	6	PP	Corps across 5 regional campuses
George Mason	Doctoral	8	M	Creating 2+2 with N. Va CC
Indiana U. Bloomington	Doctoral	10	C	HS outreach, Girl Scout summer camp
Indiana/Purdue	Doctoral	12	M	Mentoring, tutoring, & fund raising, Girls Inc., Women in Technology
Loyola	Doctoral	13	C	Urban K-12 outreach
N. VA CC	Comm.Coll	10	M	Creating 2+2 with George Mason
NW Florida State	UG	6	C,M	STARS Internships
SC State	HBCU-Doc	10	C, PP	Tutoring in CS, robotics outreach
Seminole State	Masters	12	PP,M	Hot New Technology Expo, Corps students lead tech orgs on campus
UNC Greensboro	Doctoral	30	PP	Outreach, Scratch, CS Unplugged
Wilberforce	HBCU-UG	8	O	Girl Scouts collaboration, Interdisciplinary approach to computing and the SLC
Winthrop	UG-Masters	15	PP, O, M	Tutoring in CS, Campus outreach, Undergraduate research conference

6.2 Continuing STARS Institutions Table of Participation Overview

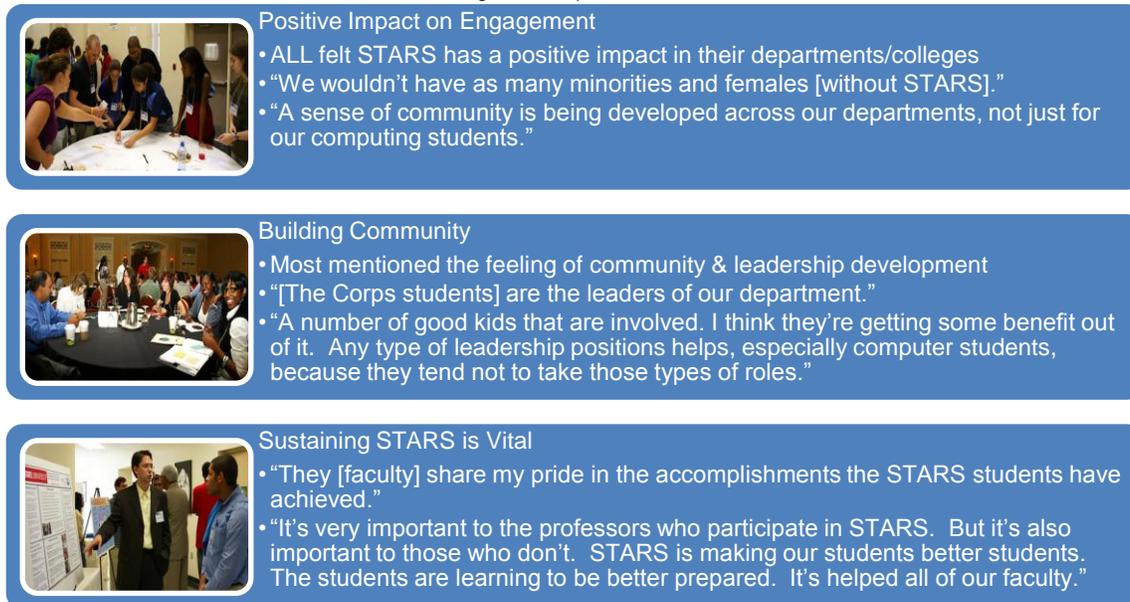(**M**=Mentoring, **PP**=Pair Programming, **C**=SLC Course, **O**=SLC Student Organization)

Institution	Type	# SLC students							Projects	SLC Highlights
		2006	2007	2008	2009	2010	2011	Spring 2012		
Auburn	Doctoral	25	14	18	29	12	14	17	PP,M,C	K-6 Computer Clubs, REUs
Florida A&M	HBCU-Doc	12	11	29	24	25	32	30	PP,M,C	STARS Regional Celebration
Florida State	Doctoral	15	15	15	14	12	17	12	M,C	Course counts toward university leadership requirement
Georgia Tech	Doctoral	10	14	22	26	-	9	9	M	SLC mentors freshmen
Meredith	Women-UG	4	5	7	4	5	3	3	PP	Computing outreach to HS girls, CS tutoring
NC State	Doctoral	13	16	12	20	28	24	20	PP,M,O	Graduates mentor UG research
Spelman	WHBCU-UG	2	4	4	3	-	2	4	M,O	Geek Week engages campus & partners in computing
UNC Charlotte	Doctoral	22	16	19	33	32	26	30	PP,M,C	Integrates course and REU site
USF Polytechnic	UG	4	13	8	9	9	18	7	M	Leads mentoring program & training
CPCC	Comm. Coll				5	3	2	6	PP,C,O	Preparing students for 2-year or 4-year degrees in computing
Hampton	HBCU-UG			14	17	15	13	16	PP,M,O	Peer tutoring & mentorship program
J.C. Smith	HBCU-UG		10	10	10	10	9	11	M,O	SLC fulfills required volunteer hours
NC A&T	HBCU-UG			12	11	10	9	10	PP,M	Focus on community building, Mentor CS learning community
U. New Orleans	Doctoral			9	8	7	4	6	PP,O	SLC earns 1-hour class credit, Peer tutoring

6.3 STARS Department Chair Interviews

To measure STARS Alliance capacity building at our institutional participants, the evaluation team periodically conducts interviews with Department Chairs. These interviews were conducted in Spring 2009 (reported in the 2011 Annual Report), and again during Spring 2012. Cumulative results from the Department Chair interviews indicated that STARS is having a positive impact on the student body in computing departments, and is also positively impacting faculty. A summary of the interviews is presented below.

In Spring 2012, individual telephone interviews were conducted with the department chairs of ten participating institutions in the STARS Alliance. The purpose of the interviews was to obtain data for a qualitative analysis of each department chair's perspective of the STARS program and the SLC students whom they oversee. Interviewees were given consent to the interview sessions. Interviews averaged 45 minutes and were conducted by Evaluation Team members.

Figure 8. Department Chair Interview Themes

Positive Impact on Engagement
• ALL felt STARS has a positive impact in their departments/colleges
• "We wouldn't have as many minorities and females [without STARS]."
• "A sense of community is being developed across our departments, not just for our computing students."

Building Community
• Most mentioned the feeling of community & leadership development
• "[The Corps students] are the leaders of our department."
• "A number of good kids that are involved. I think they're getting some benefit out of it. Any type of leadership positions helps, especially computer students, because they tend not to take those types of roles."

Sustaining STARS is Vital
• "They [faculty] share my pride in the accomplishments the STARS students have achieved."
• "It's very important to the professors who participate in STARS. But it's also important to those who don't. STARS is making our students better students. The students are learning to be better prepared. It's helped all of our faculty."

7   Alliance Individual Impact

College Students: The STARS Alliance impacts attitudes, behaviors and cognitive abilities of college students, primarily through their participation in the STARS Leadership Corps. As previously stated, the SLC is a co-curricular service-learning program that fosters student-led community engagement as a means to enhance student retention and success. The SLC model is grounded in Astin's Involvement Theory (Astin et al, 2000), which posits that student engagement is a key mediator of retention and academic success. Student engagement occurs through their engagement with the subject-matter or curriculum of a discipline; their engagement with faculty and staff in an academic unit; their engagement in student life and co-curricular activities, and their engagement with other students, especially students who share common characteristics or interests. The SLC model combines pedagogies of engagement by creating learning communities focused on research, service and outreach. While these pedagogies of engagement have been shown effective for all types of students across all disciplines, there is evidence that they are particularly effective for at-risk students and students from underrepresented populations in STEM disciplines.

Faculty: The STARS Alliance impacts professional networks and mentoring for faculty who participate not only as SLC managers and Academic Liaisons, but also as partners in BPC efforts. The STARS Scaling Project engages faculty to increase the number of faculty who participate in BPC and benefit from the STARS Community. Faculty can undertake their own SLC leadership projects, such as implementing Mentoring, Pair Programming, or TREU; including SLC practices in the digital library; hosting a Celebration workshop; or mentoring a new STARS school starting an SLC. We leverage STARS Online and the STARS Celebrations to support faculty advancement, e.g. workshops at the STARS Celebration 2012 train faculty in managing undergraduate research, mentoring programs, and how to attract synergistic BPC grants. We anticipate seeing an increase in grant proposals, acceptance, and in professional dissemination from our faculty; collection of this information is ongoing.

7.1   SLC Participants 2011-2012: Program Evaluations and Student Surveys

New SLC students participate in a pre-survey in August and post-survey in May. All SLC students participate in an end of semester survey each November and April to report their semester activities. SLC students continue to report intentions to attend graduate school, and that their participation in STARS has improved leadership skills and academic performance. They also continue to report that STARS demonstrates the relevance of computing to them. Below we present highlights from the most recent Fall 2012 survey.

Figure 9. SLC Project & Survey Highlights Fall 2012
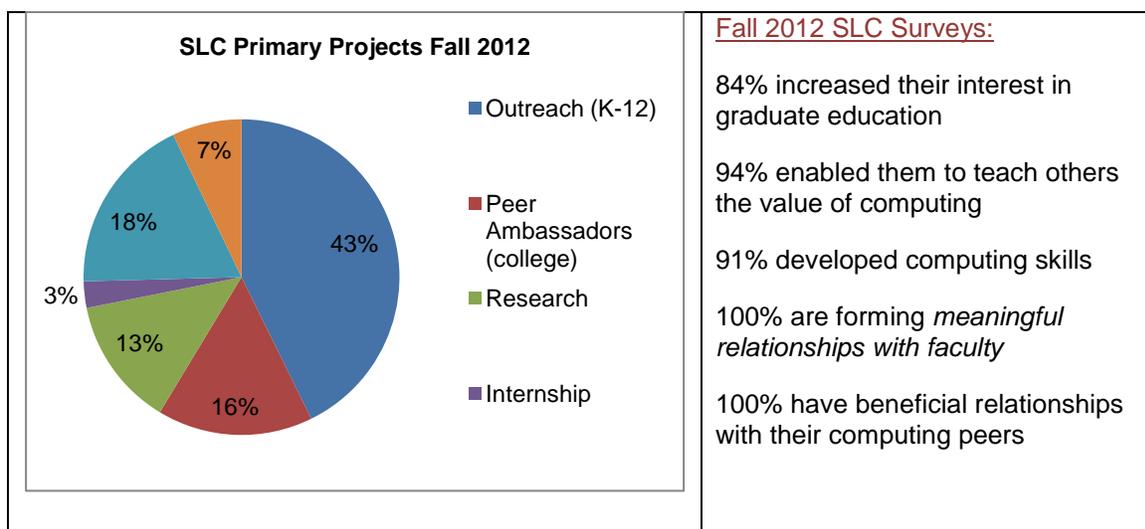
Over the course of the STARS Celebration 2012, Evaluation Team Members conducted individual interviews with students, as well as conducted faculty focus groups. These interviews and focus groups sought the participants' stories regarding STARS generally and specific components of the STARS program. For faculty, questions seeking information on career outcomes, institutionalization, problems/issues, campus recognition and engagement were posed. For students, interviews were focused on students' perceptions of STARS, particularly

on how STARS has helped them in both their academic careers, as well as in planning for the future. Key themes that emerged in these sessions are highlighted below.

7.2 Student Interview Themes

Students were interviewed during the STARS Celebration in 2012 to investigate what is most meaningful to them about their participation in the SLC. Interviews were voluntary, consent was given, and each interview was approximately 20 minutes. A total of 5 interviews were conducted by evaluation team members. Themes indicated that the SLC has a **positive influence** on future plans towards graduate school, provides a supportive team, and facilitates interest in research. Students conveyed a strong sense of values around "**giving back**" to others.

> SLC Students say about STARS……
> - "What I really appreciate about STARS is the diversity, the broad spectrum of technology, and that I can share in the passion."
> - "It not only exposes us to others in the field, but you are bettering yourself…helping out the younger ones..passing the torch."
> - "STARS has put me in a position to be a better leader."
> - "The way that the whole system [STARS] interlocked, there was frequent communication; I had support…that was the main thing about [STARS] in my freshman year."

SLC Student Interview Themes
- SLC students are optimistic about their future: career possibilities are endless in academia and industry
- STARS shows that advanced degrees are attainable: role models inspire them; funding resources exist
- Self- confidence and efficacy is realized *through mentoring others*
- The Celebration provides opportunity to connect with students and faculty with similar interests *across institutions*
- A value emerges for SLC students of the importance of mentorship and role modeling, both for self and others

7.3 Faculty Participants

Since 2008, we have offered writing and research circles and faculty mentoring workshops at the Celebration. We formed *Writing Circles* to increase faculty publications in both BPC and traditional computing research publications. We formed *Research Circles* to foster collaboration aligned with common interests, particularly related to gaming, computing education, and assistive technology research. We provide *Faculty Career Mentoring* by offering a *Faculty Advancement Track* and a *CRA-W sponsored Faculty Mentoring Workshop* at the STARS Celebration, and we encourage participation at the CRA-W, CDC and ABI career mentoring workshops. All faculty in the Alliance who have become eligible for promotion and tenure have been successful. We have at least *5 former SLC students become faculty* since 2006.

Faculty who serve as academic liaisons and SLC leaders are surveyed annually, as well as asked to participate in focus groups during the STARS Celebration each year. They are asked what they believe is effective, meaningful to their students, and to their departments, college and individual careers regarding their participation in STARS. We also seek out formative feedback, for constructive input to improve the Alliance and the SLC.

7.4 Faculty Survey Spring 2012

> "The STARS Model is comprehensive and easy to use regardless of your institution type and culture."

Forty-three faculty responded to the spring 2012 survey, a 61% response rate. The results followed prior trends of overwhelming positive impact from both participating in and implementing Alliance practices. All faculty respondents agreed with the statements that the SLC developed student leadership skills, met their expectations, and that the SLC students demonstrate passion and commitment to their projects. Most respondents agreed that they have *developed professional networking collaborations* through STARS. As one faculty noted, "I

have met faculty from colleges all over the country. I learned more about Pair Programming and have gained valuable ideas from others that I can implement in our IT department." Most respondents reported that STARS has had a *positive impact on their careers*. One faculty stated, "I am helping students, helping my department, helping my Dean, helping my campus and college, all of which have a positive impact on my career. I am participating in STARS because I love my job; that it will help with tenure/continuing contract is a bonus!"

From Left: Cheryl Seals, *Auburn*; Jason Black, *FAMU*; Anthony Chow, *UNCG*; Ebe Randeree, *FSU*

- "I have been able to leverage the STARS Alliance work to obtain other NSF funding, including an S-STEM scholarship for Women in IT, and an ITEST grant to establish a program to recruit high school girls to IT careers. Both of these has [sic] a <u>direct impact on my being awarded tenure</u>." Jason Black, *Florida A & M University*

- "STARS is a great avenue for broadening participation. The program offers *support and an overall framework for activity*, but is *flexible* enough to allow each institution to follow its best path, finding the local partnerships and outreach opportunities that are *meaningful at the community level*." Polly Baker, *Indiana University*

- "Without STARS I believe our school would have engaged in BPC strategies, but <u>not as soon</u> and it would have been without the <u>help of other schools invested in the same work</u>." Vicky Daugherty, *Indiana U/Purdue U Indianapolis*

As noted above, respondents reported that *SLC helped students develop leadership skills*. One faculty reported, "1. Self Confidence - Students were able to deliver outreach lessons to 3rd, 4th, and 5th graders with confidence, with limited guidance by mentor. 2. Appreciation to differing view points - In group meetings students were appreciative of differing viewpoints. They took the comments by other student' to their ideas constructively, without feeling offended. 3. Team Work and Responsibility - Students worked well in team environment and took responsibility for their work. 4. Broadening of Knowledge - Students knowledge of computing was enhanced through participation in various STARS activities.

7.5   Faculty Focus Groups Themes

Three focus groups were conducted during the Celebration 2012. The focus groups consisted of two groups of new faculty to STARS, and one group of veteran STARS faculty. New faculty themes that emerged were: a sense of being part of a community with an important mission and a need for practical and financial support for programs and initiatives. Veteran faculty themes indicated that STARS is a beneficial professional network, enabling them to connect with synergistic individuals, organizations, and funding opportunities, and that it facilitates professional mentoring.

Faculty Focus Group Themes

STARS…
- Provides a network of support for faculty committed to BPC
- Offers credibility in department surrounding mentoring, service learning and BPC activities
- Facilitates career development of students and faculty
- Celebration is essential to the success of STARS

In addition to the above themes, faculty provided constructive feedback about the challenges and lessons learned in STARS. Challenges include the workload of managing an SLC and fulfilling the reporting requirements, along with recruiting new students into the SLC. These ongoing challenges are addressed by the STARS Leadership Corps Manual, STARS 1.0 orientation session conducted at each Celebration, and providing additional faculty workshops, such as the "Exchange of Ideas and Successes" panel with veteran STARS faculty at Celebration 2012. Faculty focus groups provide a unique opportunity to learn not only how STARS is impacting students and faculty, but also gives us formative feedback and a forum for faculty to support one another. The focus group of veteran faculty produced a discussion of how to avoid professional burnout. One focus group of new STARS

faculty produced ideas for implementation and idea exchanges. For veteran faculty, these groups enabled them to continue their relationships, and for new faculty, the groups allowed them to form new relationships with their peers.

8   Evaluation

The STARS Evaluation Team values external input from experts in the field, and has a history of seeking external reviews (see STARS Alliance Annual Report 2011, www.starsalliance.org). In response to expert reviews in 2011, we scaled back on the number and frequency of some of our participant surveys and interviews and redirected our focus toward the assessment of organizational capacity building by developing an "intensity of intervention" rubric to showcase institutionalization levels of STARS practices across participating schools. In the Fall of 2012, the STARS Alliance leadership team (Principal Investigators, STARS Project Manager, Evaluation Director) participated in a Reverse Site Visit to the National Science Foundation. We received insightful feedback and helpful recommendations for future directions. As we manage a large scale, multi-site evaluation, we will continue to leverage the Evaluation Assistants, a well-developed training program with extensive support tools online. In addition to our semester surveys of faculty and students, we plan to refine our faculty career trajectory tracking, and have periodic longitudinal follow up studies of SLC students planned. As a measure of organizational capacity development, we are preparing exemplars of institutional efficacy, which are an extension of the institutionalization rubric already in use with the annual scorecard. A deeper study of organizational efficacy is planned in addition to the exemplars, to inform the national community of how to replicate Alliance practices at their respective institutions. Another key focus for the STARS Evaluation team is further defining the assessment plan for the STARS Online community (website, STARS Online, digital library and SLC manual), which will entail usage metrics, trends in usage, qualitative study of content and use, and user surveys. Below, we outline our key evaluation foci and targeted plans going forward.

Figure 10. Evaluation Team Key Focus Areas

Focus	Multisite Large Scale Data Collection	Participant Outcomes	Organizational Capacity	National Resource
Solutions	Evaluation Assistants	Participants = Faculty and SLC students	Exemplars of institutional efficacy	Evaluation plan for STARS Online
	Evaluation Toolkit: Resources, Tools, Training Webinars	Refined monitoring of Faculty careers	In depth study of organizational efficacy	Assess STARS Online usage metrics, trends
	Standardize Online Reporting	Periodic longitudinal studies of SLC students	Affinity Group leadership	Periodic user surveys & qualitative analyses of STARS Online

9   Reference

Astin, A. W., Vogelgesang, L. J., Ikeda, E. K. AND Yee, J. A. (2000). *How Service Learning Affects Students*. Higher Education Research Institute, University of California.