GIV @ 30

A Long-Term Look At How
The Governor's Institutes Of Vermont,
A Little-Known Vermont Educational Program,
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Abstract:

The Governor's Institutes of Vermont [GIV] has provided summer educational enrichment programs for teenagers for thirty years. Under the GIV umbrella, residential Institutes each focus on a specific topic such as the arts, engineering, science, mathematics, Asian cultures, current issues, and information technology. GIV currently serves approximately 550 students annually via nine summer Institutes and two shorter winter weekends.

As its 30th anniversary approached, GIV sought to quantify whether program attendance had had long-term impacts on former participants. As part of that study, GIV investigated the perceived importance of specific program curricula, organizational methods and teaching practices to participants with the hope of providing insight and data about effective educational models.

A survey, exploring general, academic, personal/social, educational and career outcomes, was sent to alumni who attended between 6-29 years earlier. The 382 respondents affirmed that their enrollment in GIV led to highly positive outcomes in all areas examined, with especially large numbers of respondents (88% and above) identifying GIV as one of their most important high-school experiences and influential as they made decisions about their future. Eighty percent or more attributed increased academic/creative focus and motivation, self-confidence boosts, and increased self-esteem to their participation. Furthermore, around 70% of respondents reported that their choices of college major and career were influenced by GIV.

These results and others attest that GIV has been a strong and effective partner of communities and families looking to develop confident, competent young adults with strong educational and professional aspirations and defined career pathways. Study findings also affirm the importance of certain educational elements and their roles in promoting desirable outcomes, providing evidence to inform the current public policy dialogue about ways parents, students, educators and policymakers can achieve effective and inspiring educational programming.

1) This evaluation is dedicated to all past, current and future students, staff, faculty, board members, and supporters of GIV. Thank you for your participation, your leadership and your tireless enthusiasm.

2) It is dedicated to the passionate question-askers who inspired it and who contributed their wisdom, including Rick Zamore, Fred Bay, Stephanie Greene, Jean Olson, David Gibson, Sigrid Olson, Wendy Cohen, Marge Petit, Eddie Gale, Armando Vilaseca, Elise Shanbacker, Aly Richards, and others.

3) It is dedicated to the A.D. Henderson Foundation and Bay & Paul Foundations, whose vision and commitment made the evaluation possible.

4) Most of all it is dedicated to Kathleen Kocherlakota, without whose good-humor, unwavering dedication and statistical prowess, it might not exist at all.

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1. Introduction and Context

> *"We vastly underestimate the extent to which success happens because of things the individual has nothing to do with… We, as a society, have more control about who succeeds—and how many of us succeed—than we think. That's an amazingly hopeful and uplifting idea."* – Malcolm Gladwell (2012)

As the rapid advance of technology continues to fundamentally affect workforce needs, it is a growing trend for policymakers and the public to question whether the United States' predominant educational models adequately prepare young Americans for productive and fulfilling futures. TED speaker Ken Robinson's May 2013 video calling for an overhaul of US educational philosophy gained more than one million online views in its first month.[1] Here in Vermont, possible disparities between what is taught in the classroom and the types of skills and experience in demand in today's economy are a subject of interest for parents, educators, and policy-makers alike. In *The Transformation of Education in Vermont*, the Vermont State Board of Education (2008) calculated that because the world's accumulated information is doubling every 2 years, the senior class of 2022 will graduate into a world with 128 times more information than when they entered kindergarten. Their framework elaborates: *"America's education system – including the system in Vermont – is simply not adapting quickly enough to what has become a knowledge-based economy, nor is it keeping pace with continuing technological advances or the societal shifts of a growing, global economy."*

Yet while many people have the sense that education needs to change, few people can envision the full evolution needed. Robinson and others emphasize the importance of challenging some structures and practices we take for granted, and prompt listeners to "light the spark of curiosity" in students and match education to individual interests and abilities (Robinson, 2013). The Vermont State Board of Education (2008) goes further by listing desired outcomes and relevant teaching methods. *Pathways to Prosperity*, a 2011 project out of Harvard's Graduate School of Education, urges educators to blend academic learning and technical content in interactive assignments and real-world scenarios.

But what do these lofty goals look like in action? The New England Secondary School Consortium (NESSC) reports that a key practical barrier to educational transformation is the difficulty community members and parents have envisioning what new learning practices and educational structures will look like (2011, p. 5).[2] NESSC specifically calls for working examples, noting that otherwise reform efforts can face overwhelming opposition due to stakeholders' fear of the unknown.

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[1] The video is entitled: "How to Escape Education's Death Valley."

[2] *"The importance and advantages of more relevant, project-based, real-world learning appear to be readily embraced, but community members and the public may not have a concrete or fully fleshed-out understanding of what such learning actually looks like in practice… audiences will need a vivid and detailed picture of real-world learning practices being conducted in a context they can understand and relate to…"*

Meanwhile on the front lines, the Governor's Institutes of Vermont (GIV) has been quietly working with high school students for thirty years, developing and practicing an educational model that illustrates many of the ideas espoused by current school reform advocates. GIV's enrichment programs have been endorsed by decades of students immediately following their completion of the program, and later anecdotal evidence from students and parents seem to indicate that these brief, accelerated academic residencies can change lives. But less clear was the extent to which GIV graduates experienced a lasting impact from attending a Governor's Institute - and if there were lasting impacts, what they were. Furthermore, if there were lasting impacts, could specific programmatic design or pedagogical aspects be linked to those results?

To further its own institutional goals, as well as with thoughts of bringing hard data to Vermont's conversation on education reform, GIV applied for and received funding from the A.D. Henderson Foundation and the Bay and Paul Foundations to conduct a formal assessment of long-term participant outcomes and to explore the character and extent of educational practices in forming those outcomes.

With the help of an independent third party evaluator, we examined a variety of potential outcomes (academic, career, personal and social) that participants could attribute to their GIV participation. The results, we believe, can serve as an example for educators and policymakers striving to transform education both within and outside the school framework.

Education in Vermont and the Governor's Institutes:

> *"If you can light the spark of curiosity in a child, they will learn without any further assistance… [Curiosity is the] engine of achievement."* – Ken Robinson, 2013

A rural state with a population just over 626,000,[3] Vermont has characteristically small high schools (10 to 1,300 students)[4] that are often far from urban centers.[5] Smaller schools can mean more personalized attention, but they also mean fewer classes and classroom resources. Matt Dunne, now Google's head of Community Relations, recalls that growing up in Hartland, Vermont in the 1980s, his high school offered only one math class per grade (2013).

Dunne's case illustrates how one of the populations that can be most underserved in rural schools is high-potential students whose educational needs surpass the resources of his or her school and community. When talented students lack peer groups, classes, clubs and external enrichment opportunities, they can feel isolated, are often ill-equipped and/or unmotivated to

[3] 2012 Vermont Population estimate, see the U.S. Census Bureau State and County Quick Facts for more information

[4] East Burke School is the smallest high school in the state with 10 students. Essex High School and Champlain Valley Union High School are the largest, with just over 1,300 students each.

[5] Different definitions of "rural" exist. When GIV was founded, 67% of Vermont's population lived in rural areas - the highest of the 50 states, according to US DHHS guidelines. Since that time the population has shifted towards Burlington, Vermont's largest urban area. Under the USDA's 2013 proposed definition of "rural," all communities in Vermont would classify as rural except for Burlington. See Ricketts, Johnson-Webb and Taylor (1998) and Farm Futures (2013).

develop or strive for their full academic or career potential,[6] and are even at greater risk of dropping out.[7] GIV's survey respondents confirmed their resource limitations: 37% reported that at the time of their Governor's Institutes experience, they had no other access to courses or organized enrichment activities in their topic of interest. (This finding will be discussed in more detail in the findings section.)

Furthermore, from teachers and technologies to well-stocked libraries, rural schools simply have fewer teaching resources available to students who want to learn (Lewis, 2009). While the passage of Act 60 in 1997 by the state legislature abated some of the funding challenges of Vermont's smallest schools, it did not solve the problems of access to range and depth of topics, lack of peer groups and mentors, and limited awareness of a variety of career options beyond what is visible in a small Vermont town.

As one GIV alumnus Tyler Gray, a resident of Canaan, Vermont (population 972), described to David Goodman of the Burlington Free Press in 2012: *"I had been pretty bored since fourth grade. I got stuck doing the same math as everyone else in Canaan Elementary School. In seventh grade, I stopped paying attention and played games on my calculator."* 1988 GIV graduate Eva Sollberger (2013) described her small Vermont high school experience for an article in KidsVT magazine: "*I was desperate to find people with whom I could connect. But no one else seemed to like Monet's "Water Lilies" or share my predilection for Mozart and the film Amadeus."*

Vermont boasts impressive high school graduation rates.[8] Yet these accounts and others illuminate the continual demand for greater educational depth and opportunity among the state's high-potential students. Even today, with greater focus on education reform and the expansion of digital opportunities, many young Vermonters leave high school reporting they lack insight into their own potential, meaningful career or academic goals, or the tools, savvy and support systems to help them achieve their dreams. [9]

To help address such ingrained gaps in Vermont's educational environment, the Governor's Institute on the Arts was launched in 1982. Its success soon birthed other topical Institutes under the umbrella of the Governor's Institutes of Vermont.[10]

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[6] See Lewis (2009) and Guiffrida (2008) for more information on educational challenges facing rural students.

[7] The specific relevance of this problem in rural Vermont is movingly described in "Dropping Out Of High School: Interviewing the Experts" by Nancy King Mildrum (2003).

[8] The graduation rate in Vermont was 87.46% for 2010-2011. See the Vermont Agency of Education (2012) for full statistics.

[9] One recent study is "Enough Said - Young Women Talk about School, Work and Becoming Adults: Why We Should Listen and What We Can Do" conducted and released by Vermont Works for Women (2013).

[10] Two new Institutes in the 1980s on Science and Public Affairs were joined by the addition of Engineering and Asian Cultures in the '90s. Mathematics and Information Technology became separate Institutes in the 2000s, while a shorter off-season program, Winter Weekend, was added to make programs accessible to more students. A Special Topics Institute, launched in 2013 with the interdisciplinary topic "Farms, Food and your Future." Another Special Topics Institutes, "Entrepreneurship" debuted in 2014.

A Closer Look at the GIV Model in Action:

The Governor's Institutes of Vermont supplement Vermont's educational resources and patch known gaps by providing high school-aged students access to brief, intensive, residential summer learning programs. Spanning a variety of topics, the Governor's Institutes are intended to supply depth of learning to motivated, often underserved students. The programs last 1-2 weeks on college campuses across the state and are offered at heavily subsidized cost to encourage students from all economic backgrounds to attend. The Institutes aim to produce positive changes in students socially and academically, help them identify and pursue their areas of interest, and expose them to various career and educational pathways.

Multiple GIV Institutes take place each year. Though each focuses on a specific topic, they share programmatic goals and specific educational approaches and practices. The admission process is structured and selective, requiring an application with essays, teacher recommendations, and a school referral, all intended to give students a taste of the rigors of the college application process. The target population is students who are motivated and enthusiastic about the subject in question, not necessarily students with pristine academic records.

GIV Institutes offers these students an environment where curiosity and learning are valued by peers and faculty alike. Faculty, staff and presenters are most often professionals, university educators or graduate students in their fields who provide expertise and give students real-life role models and insights into career possibilities. The Institutes work deliberately to foster a sense of community; the social side of the Institutes is carefully structured and considered as important as the ideas and academics.

All the GIV programs are residential and take place on Vermont college campuses. Students live alongside peers and faculty, often creating a network that remains in contact long after the end of the program. Learning is mainly self-directed, with students engaged in problem-solving and collaborating through hands-on projects and team-based work. Each Institute encourages elements of performance and presentation for peers, faculty and sometimes the public in order to help students synthesize their learning and gain important job skills.

By now a well-integrated part of the Vermont educational system, the Governor's Institutes partners with Vermont high schools to funnel students they feel would benefit from the Governor's Institutes experience to the Institutes.[11] The Governor's Institutes of Vermont is the only Governor's School organization in New England, and today serves almost 2% of Vermont's high school population.

11 Twenty or more states nationwide have Governor's Schools. Each is independently run and managed, but they tend to share educational philosophies and many aspects of curricular design.

2. Methodology

In order to begin studying the long-term impacts of Governor's Institutes on participants, we began by reviewing past studies and materials and by interviewing Vermont's education leaders and interested parties about outcomes of greatest interest to them. The Vermont Department of Education,[12] Vermont Experimental Program to Stimulate Competitive Research (EPSCoR), and private consultants contributed to the study planning. We also contracted with Dr. Cynthia Char of Char Associates, an independent evaluation firm based in Montpelier, to advise on research and instrument design and consult on results analysis and reporting.

Sampling Considerations:

We knew that the biggest challenge in completing the study would be contacting alumni. The exact number of Governor's Institutes' alumni is unrecorded, but it is best represented by our database containing nearly 8,500 names and addresses. Within that population we narrowed our focus to the approximately 5,200 graduates between 1983 and 2006, which was used as a cut-off, since more recent classes would not yet have had time to fully develop the outcomes of interest.

Very little of the contact information for members of this group was usable when we began the study; most addresses and emails dated back to when the students had attended GIV between 8 and 30 years earlier. As a result, we knew that locating alumni to participate in the study would likely be our greatest challenge, and because of this structural constraint, a random sample was deemed impossible. Instead we focused our outreach efforts on obtaining adequate representation for the programs and demographic factors of most interest. These included:

> Specific Institutes: Each of the Institutes has different enrollment numbers and was established in different years, so the numbers of alumni vary greatly (see figure 1). We made the decision to focus our data collection efforts on the four Institutes that comprised the largest percentages of the total enrollment during the time period studied: Arts (50%), Current Issues (17%), Science & Technology (15%) and Engineering (8.3%). By collecting larger numbers of surveys for fewer Institutes, we were able to get enough responses per Institute to compare them and could draw conclusions with greater confidence. Our at-large outreach did also result in surveys completed by alumni in the remaining three Institutes (Asian Cultures, Info Tech, and Math); these were included in counts and results as we considered GIV as a whole, but were not analyzed separately by Institute.

[12] The Department of Education in Vermont is now known as the Vermont Agency of Education.

Figure 1

Institute:	Year Institute started*	Total alumni through 2006:**
Arts	1983	2,605
Current Issues	1985	892
Science & Technology	1985	778
Engineering	1996	432
Asian Cultures	1996	269
InfoTech	2002	183
Math	2005	62

*Indicates years that each program first became a GIV affiliate[13] or began serving students. Alumni of non-GIV programs that were later incorporated into GIV were not included in this study.
** Numbers from GIV's internal database.

Year of Participation/Current Age: Given the organization's goal of assessing GIV's long-term outcomes, the evaluation limited the study's sample to alumni who attended GIV programs between the years of 1983 and 2006.

Gender: Because studies have found that male and female students learn differently,[14] we wanted to be able to discern any differences in outcomes and pedagogical response by gender. To achieve this we took gender into account when composing our sample pool, oversampling certain populations (e.g., males in Arts) in order to obtain a sufficient quantity of responses to enable us to analyze findings by gender.[15]

Additional Demographic Factors: Although GIV programs track current participation by race, geography and family economic background, these factors were not considered in the sampling. Race was not factored because Vermont's history as a predominantly white state suggests insufficient diversity among our alumni to draw meaningful conclusions about racial differences. Geographic background would have yielded too-

[13] Some Institutes have changed their name or curricula since they were first established. Today's *Current Issues and Youth Activism* Institute has altered its name since it began in 1985, but the core focus of the Institute has always been social and political change, awareness and involvement, and in spite the name changes is considered one Institute. The *Engineering* Institute began as a University of Vermont (UVM) stand-alone program in 1990 and did not partner with GIV until 1996, when it became known as *Engineering, Mathematics and Computer Science*. Subsequently, the *Information Technology* and *Mathematics* Institutes grew out of it in the 2000s and it became known as just *Engineering*. For the purposes of this study, it will be referred to as the Engineering Institute, and will be examined from 1996 onward.
[14] A number of contemporary academics, educators and physicians have written about gender differences in learning (some more controversially than others). A few are Paul Blundin, Diane Halpern, Susan Kovalik, and Leonard Sax.
[15] Recognizing that binary conceptions of gender in American society may be evolving into a more inclusive vision, the survey instrument offered three choices: "female", "male", and "other." 99% of our survey respondents classified themselves as either "female" or "male."

small populations from many counties, and we do not save students' financial records so did not know the economic backgrounds of the alumni in the database.

These factors governed the selection of a subsample to receive more intensive outreach efforts. We chose 13 years to focus on, producing a subset of nearly 2,600 graduates. Because in its earliest years GIV had fewer programs and smaller program sizes and contact information was almost guaranteed to be outdated, we included every year from 1983 until 1990 to ensure sufficient responses from this period. As the organization added participants and programs in the 1990s, we felt it appropriate to change our sample selection to every third year.[16]

To reiterate, our sample is a subset of the 1983-2006 GIV population. We were fundamentally challenged by our lack of current contact information, but during data collection we tried to focus on obtaining completed surveys from across those years, from roughly equal percentages of males and females and from GIV's four oldest and largest Institutes as best we could. Our sample has not been selected at random and hence is not a probability sample. A nonprobability sample may or may not be representative of the GIV alumni population. The drawback of a nonprobability sample is that the rationale of probability theory cannot be used for drawing inferences.

Survey Instrument:

An online survey instrument was designed to collect information about alumni's program experience, recollections, and reflections, which asked them to retrospectively reflect on the way(s) they felt the program might have impacted their lives. The instrument included a variety of question types, including close-ended (yes/no) questions, Likert rating scales, and checklists. Several open-ended essay questions and comment sections were also included to gain fuller insight into question answers.

To promote clarity and flow for respondents, the survey instrument's 22 questions were loosely organized by outcome. However, during analysis we organized our findings into five themes: General impact of the program; Personal outcomes; Academic outcomes; Post-secondary Educational outcomes; and Career outcomes. A sixth section addressed what might have produced those outcomes, and grouped questions about participants' views on aspects of pedagogical design and practices. A copy of the survey instrument is included in *Appendix A*.

Survey Procedure:

We first mailed survey invitations to every 1983-2006 graduate at the address we had on record. These consisted of postcards directing recipients to our online survey page. As expected, most were returned for bad addresses.

[16] Years in the subsample were: '83, '84, '85, '86, '87, '88, '89, '90, '93, '96, '99, '03, '06.

Next, we individually researched contact information for the members of our 13-year subset and attempted multimodal contact via email, phone, social media, parents, social network, a postcard, or some combination, depending on which emerged through our research. We successfully found contact information and reached out to almost 2,100 graduates this way, though there was no way to know how many requests were received and read by their recipients.

We also accepted surveys from alumni who were not expressly contacted as part of the evaluation project. GIV publicized the survey on its Facebook page, and as a pop-up window on its website: all responses from alumni who attended between 1983 and 2006 were included in the final tally.[17]

All the contact methods directed alumni to an online survey (though alumni could go to the website or call our office to request a paper copy). Respondents had the option of requesting a paper copy of the survey via the website or telephone, but almost all returned surveys were completed electronically.

Furthermore, much of our contact information came to us from electronic sources. Thus, the study is to some degree biased in favor of those with access to the internet, a level of computer literacy, and an unusual name and/or professional field, status, or lifestyle that makes their information more readily available via internet search.

[17] Thirty-two of the 382 completed surveys were sent in by alumni whose participation wasn't actively solicited. Another 40 were returned anonymously, making it difficult to know whether they were unsolicited surveys or sent in by alumni who were part of the sample but wished to remain nameless.

3. Key Findings

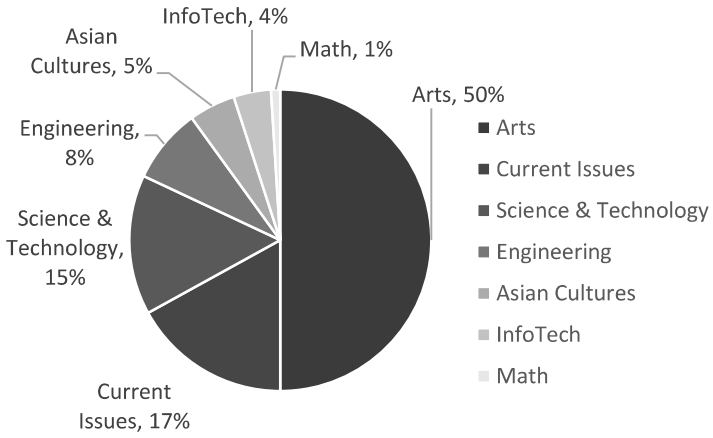
We received 382 completed surveys from participants during the study period, fully spanning the 24 years under consideration, with responses from 13 of 14 Vermont counties.[18] This represents 7% of the entire 5,200 alumni population.[19] The results section below discusses findings for the 382 respondents. We also separate findings by Institute for the four Institutes -- Arts, Current Issues, Science & Technology, and Engineering -- that returned sufficient numbers of completed surveys to produce reliable trend data.

Figure 2

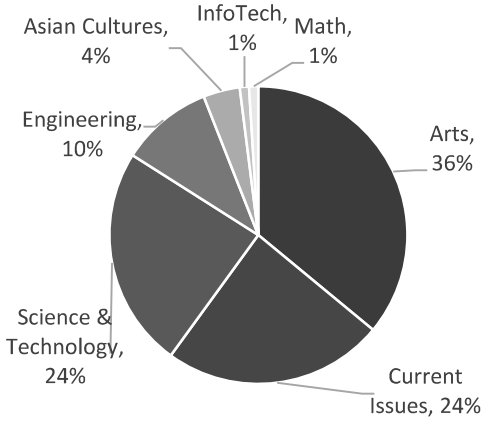
Institute:	Total alumni through 2006:	Total completed surveys collected:
Arts	2,605	137
Current Issues	892	93
Science & Technology	778	92
Engineering	432	37
Asian Cultures	269	15
InfoTech	183	4
Math	62	4
Totals	5,221	382

Graph 3.0

GIV alumni population by Institute:



Completed surveys by Institute:



[18] Of Vermont's 14 counties, only 13 have local high schools. Grand Isle County students attend the high school of their choice in a neighboring county. See *Appendix B* for a complete breakdown of respondents by county, based on where they attended high school.

[19] All percentages in the report are displayed as whole numbers. Percentages were rounded up if the originals included a decimal of .6 and above, and rounded down at .4 and below. Percentages containing a decimal of .5 were rounded up for odd numbers and down for even numbers. As a result of this method, the percentage totals for a few questions may equal 99% or 101%.

With a total of 37 completed surveys, the sample size for the Engineering Institute was the smallest of the four Institutes we examined; thus, we cannot draw conclusions with the same degree of certainty as we can for the other three Institutes. The Engineering sample also had the greatest gap between genders: 65% male and 35% female, which matches a similar gap in enrollment.

Reflecting the key desired outcomes of GIV and the design of the survey instrument, we have organized our survey findings into five thematic sections: General Impact; Personal/Social; Academic Performance; Post-Secondary Education; and Career Outcomes. If questions about academic and social outcomes applied specifically to respondents' post-secondary education or careers, they were grouped in those larger categories. The sixth and final section, Program Curricula, examines the specific features and characteristics that make GIV an effective program.

General Impact of Program

Four survey items examined the general impact GIV programs had on alumni. These items looked at the influence of GIV as it related to students' decisions about their future, and students' awareness of opportunities. Also addressed was the extent to which GIV programs represented students' only access to certain subjects, and if they considered it one of their most important experiences during high school. Graphic representations of the findings will appear below the text.

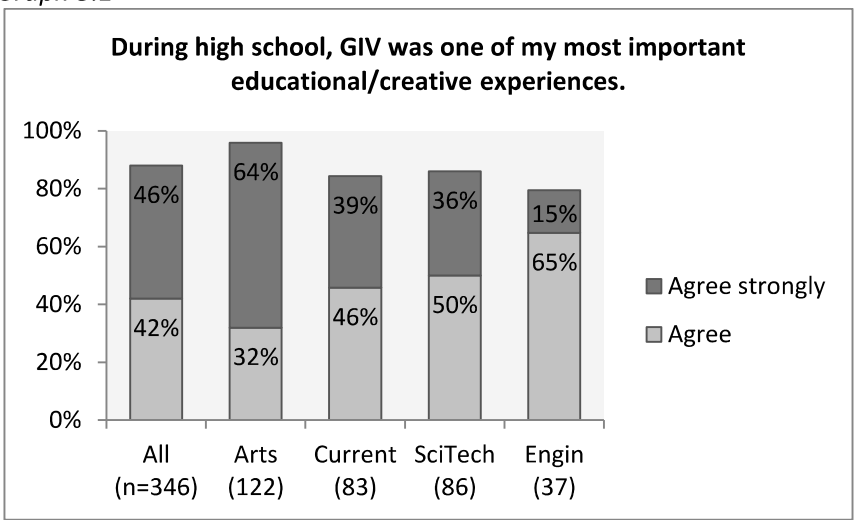
Q20[20] **During my high school years, GIV was one of my most important educational/creative experiences.**

88% of surveyed alumni declared GIV was one of their most important educational or creative experiences during high school (42% Agree; 46% Agree Strongly).

For 96% of Arts respondents (32% Agree; 64% Agree Strongly), and 86% of Science & Technology respondents (50% Agree; 36% Agree Strongly) GIV was an important high-school era experience. 85% of Current Issues (46% Agree; 39% Agree Strongly) and 80% of Engineering respondents (65% Agree; 15% Agree Strongly) also stated that GIV was an important experience during high school.

[20] The thematic clustering of questions we've used to analyze our results differs from the order of questions in the survey instrument. We've included the original question numbers from the survey instrument to assist interested readers in locating a question in the survey instrument. A complete copy of the instrument is available in *Appendix A*.

Graph 3.1

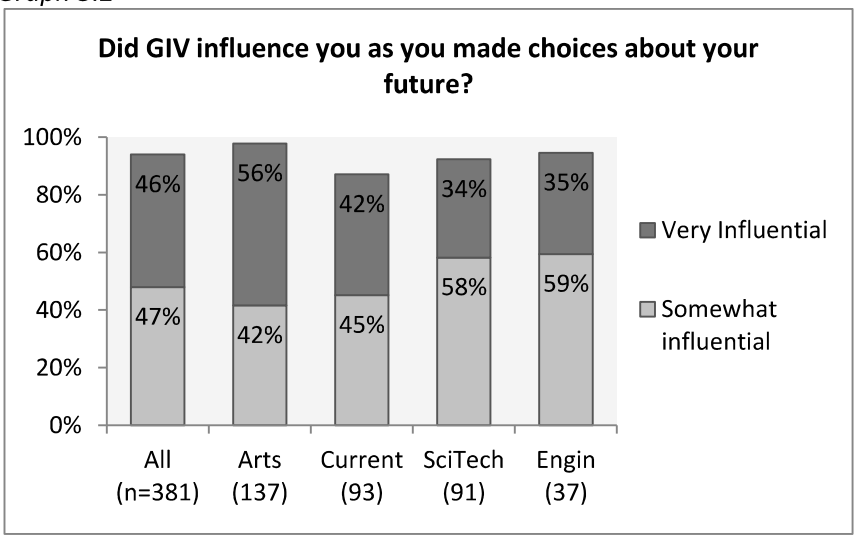


Q4 **Did GIV influence you as you made decisions about the course of your future?**

93% of surveyed alumni stated that GIV was influential as they made decisions about the course of their future (47% Somewhat; 46% Very).

For every Institute we examined, high percentages of surveyed alumni said GIV influenced them as they made choices about their future. Arts graduates gave the highest percentage: GIV was influential for 98% of Arts respondents (42% Somewhat; 56% Very). 94% of surveyed Engineering alumni (59% Somewhat; 35% Very), and 92% of Science & Technology (58% Somewhat; 34% Very) also rated their GIV experience as a factor that influenced their decisions about their future. 87% of Current Issues respondents (45% Somewhat; 42% Very) agreed it was influential.

Graph 3.2

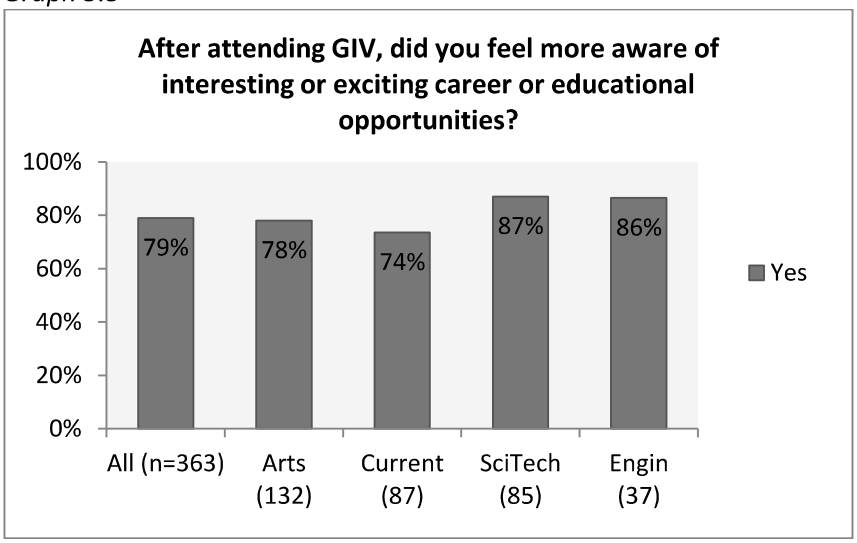


Q16 **After attending GIV, did you feel more aware of exciting or interesting career or educational opportunities?**

After attending GIV, 79% of the alumni who completed our survey reported greater awareness of career or educational opportunities.

The percentage of respondents who felt GIV had exposed them to new opportunities was slightly higher for the STEM Institutes:[21] 87% for Science & Technology and 86% for Engineering. 78% of Arts respondents and 74% of Current Issues also were more aware of opportunities after GIV.

Graph 3.3



Q21 **Other than GIV, were there classes or programs in your area that offered in-depth access to the same subject?**

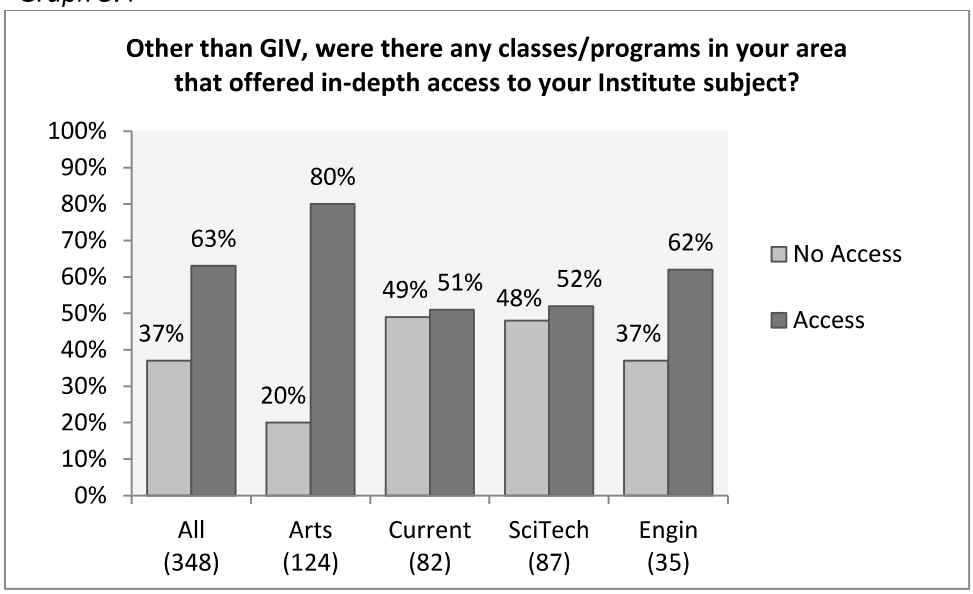
Of GIV alumni respondents, 37% (130 respondents) stated that other than GIV, there were no classes or programs in their area that offered in-depth access to their GIV subject (28% had access in school; 16% extracurricular access; 19% access in both).

This finding was particularly strong in the areas of Current Issues and Science and Technology. For Current Issues, 49% of respondents reported that they had no access to their subject aside from GIV (17% had access in school; 18% extracurricular access; 16% access in both). Similarly, Science & Technology Institute curriculum was not available elsewhere for 48% of respondents (30% access in school; 8% extracurricular access; 14% access in both). For 37% of GIV Engineering respondents, the Institute offered their only exposure to engineering and related

[21] The acronym STEM refers to fields of study in the categories of Science, Technology, Engineering and Math.

subjects (31% access in school; 17% extracurricular access; 14% access in both). One fifth (20%) of Arts Institute respondents stated that GIV was their only access to arts programming (33% access in school; 20% extracurricular access; 27% access in both).

Graph 3.4



Alumni's written comments in response to several open-ended survey questions expanded on GIV's general impact, mentioning ways their experience positively affected their social and academic confidence, their preparedness for careers and further education, exposure to new topics, perspectives and people, and their sense of belonging to a community.

> *"I think GIV came at a pivotal point in my education where I was searching for a path to follow and it really set me onto science, and specifically geology. Now I'm continuing on that path by starting my career as a geologist, working outside and using a lot of the technical skills and teamwork and personal skills I learned at GIV." (Science & Technology graduate, 2001)*

> *"GIV crystalized my focus on building-science related engineering, gave me some confidence and a boost of initiative moving into the college setting, and helped set my expectations for what to expect in the working world." (Engineering graduate, 1997)*

> *"Although politics and current issues had always been important to me, there was little academic focus on those areas in my high school and I didn't have much experience with the kind of courses I took at GIV. GIV showed me that I could study the topics I cared most about and cause real change." (Current Issues graduate, 2005)*

> *"My time at GIV was a watershed for me. It allowed me to view myself from a different perspective - not as an outlier, but as someone who would fit right into a community*

that cared about the same things I cared about. I did not have access to camps or similar opportunities, so for me this was a crucial discovery, and it came at a crucial time - mid adolescence." (Arts graduate, 1986)

Personal and Social Outcomes

Four survey items examined GIV's impact on participants' personal growth, including self-confidence and sense of self. These items specifically asked whether GIV had increased participants' self-confidence, self-esteem, comfort in social situations, and sense of belonging. The survey also addressed GIV's role in fostering social outcomes in a post-secondary educational environment. These questions are grouped with the Pursuit of Post-Secondary Education section below.

Q7 **Did your experience at GIV increase your self-confidence?**

Our results found that attending GIV often had profound impact on a young person's self-confidence. 86% of all alumni surveyed stated that GIV increased their self-confidence (44% Yes somewhat; 42% Yes to a large degree).

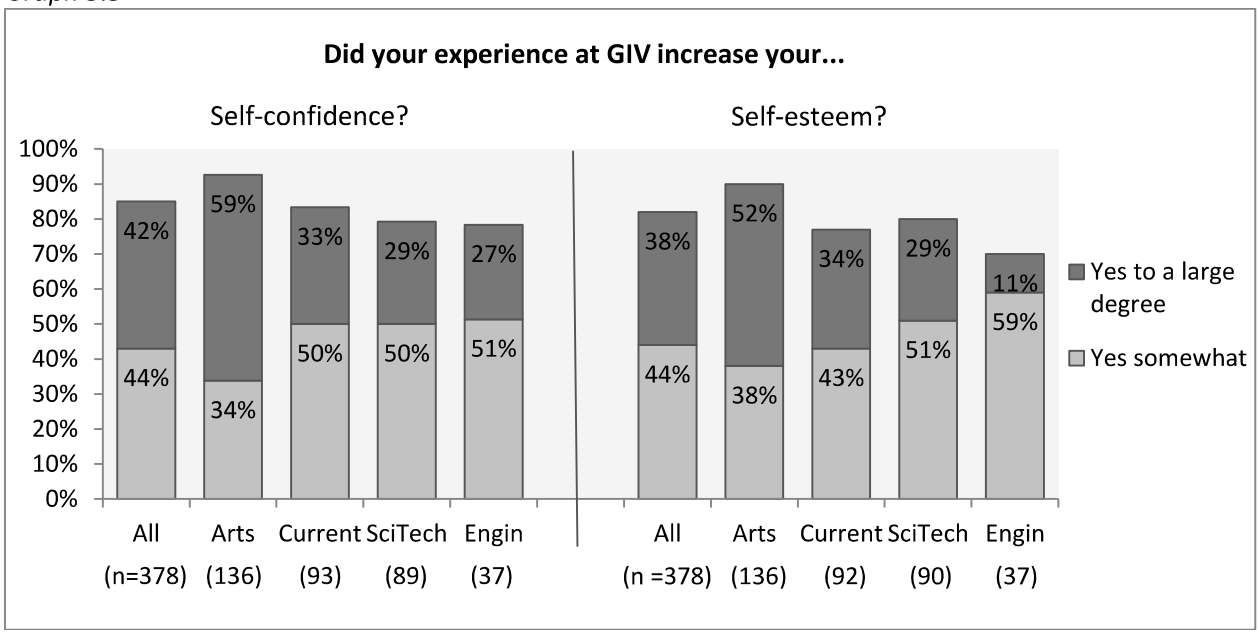
93% of Arts respondents credited their experience with increasing their self-confidence (34% Yes somewhat; 59% Yes to a large degree). The same was true for 83% of Current Issues respondents (50% Yes somewhat; 33% Yes to a large degree) and 79% Science & Technology (50% Yes somewhat; 29% Yes to a large degree). Of those Engineering alumni who took our survey, 78% stated their GIV experience increased their self-confidence (51% Yes somewhat; 27% Yes to a large degree).

Q8 **Did your experience at GIV increase your self-esteem? By self-esteem we mean self-respect or self-acceptance.**

More than four-fifths of respondents (82%) reported that attending GIV increased their self-esteem (44% Yes somewhat; 38% Yes to a large degree).

Examining the responses of the four individual Institutes, Arts demonstrated the largest positive percentage, with 90% reporting self-esteem increases (38% Yes somewhat; 52% Yes to a large degree). 80% of Science & Technology (51% Yes somewhat; 29% Yes to a large degree) and 77% of Current Issues respondents also said GIV increased their self-esteem (43% Yes somewhat; 34% Yes to a large degree). The self-esteem gains in Engineering were reported at 70% of surveyed alumni (59% Yes somewhat; 11% Yes to a large degree).

Graph 3.5



Respondents mentioned how the accepting social environment, the academic/creative challenges, and the encouragement of peers and faculty all contributed to self-confidence and self-esteem gains.

> *"The most significant long-term impact GIV had on me was the confidence building. I struggled with my self-esteem in high school and this program helped me learn more about who I was and feel comfortable with myself." (Asian Cultures graduate, 2003)*

> *"The personal freedom, acceptance, encouragement, and challenges I experienced at GIV were massively helpful for my self-confidence." (Science & Technology graduate, 1994)*

> *"I gained self-confidence being surrounded by other intelligent, driven students. I gained confidence in the power of my ideas and my intelligence, confidence in my ability to connect with others and confidence in social settings." (Current Issues graduate, 1990)*

> *"The courage to experiment & speak my mind are probably the most significant skills I learned. I knew nothing about electronics going into GIV. After tearing apart RC cars and rebuilding them into flag raising robots, I felt like I could conquer the world!" (Engineering graduate, 2003)*

> *"GIV contributed to my confidence in myself as a unique and talented individual, regardless of what situation I find myself in. The bonds made at GIV with both faculty and students were a very important part in my feeling accepted, good, and proud of who I am." (Arts graduate, 1988)*

Q9E **Did GIV help you feel more comfortable in social situations?**

81% of alumni surveyed stated that attending GIV made them feel more comfortable in social situations (14% No; 6% Not sure).

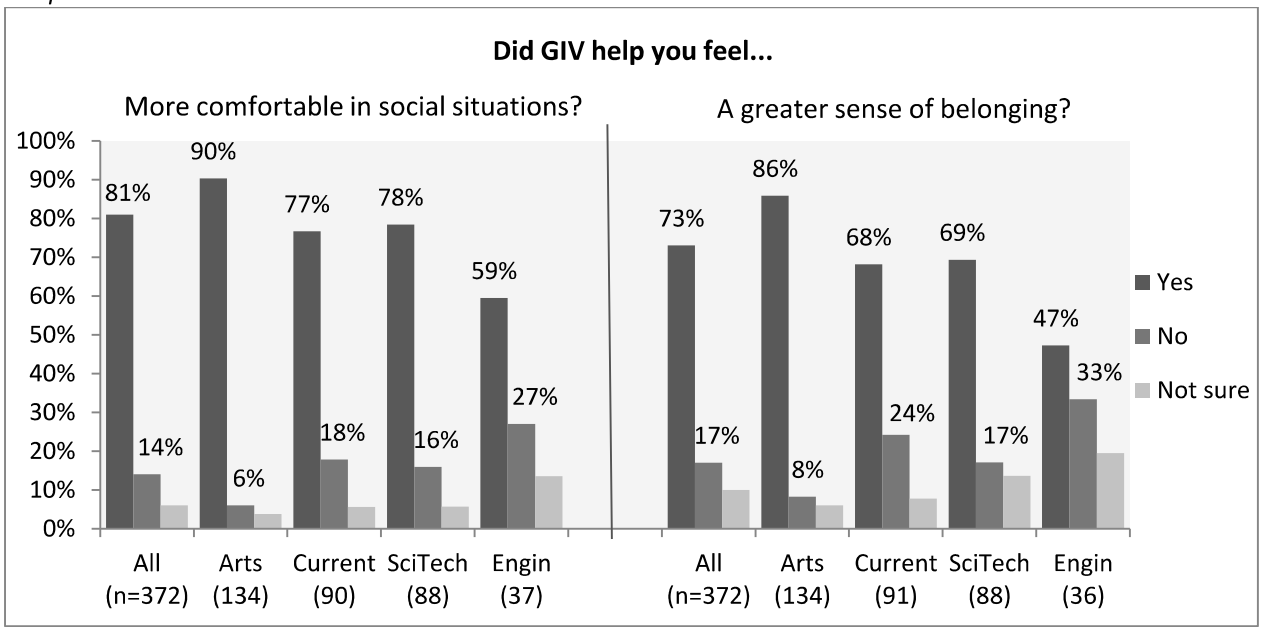
The Arts Institute had the highest percentage of positive responses with 90% stating they felt more comfortable in social situations after GIV (6% No; 4% Not sure). Science & Technology and Current Issues gave percentages of 78% (16% No; 6% Not sure) and 77% (18% No; 6% Not sure) respectively. 59% of Engineering surveyed alumni responded that GIV helped them feel more comfortable in social situations (27% No; 14% Not sure).

Q9F **Did GIV help you feel a greater sense of belonging?**

Nearly three quarters of GIV alumni respondents (73%) said after attending GIV they felt a greater sense of belonging (17% No; 10% Not sure).

Once again, Arts reported the highest percentage of positive responses with 86% of surveyed alumni feeling a greater sense of belonging after GIV (8% No; 6% Not sure). Over two thirds of Science & Technology (69% Yes; 17% No; 14% Not sure) and Current Issues (68% Yes; 24% No; 8% Not sure), and 47% of Engineering respondents said they felt a greater sense of belonging (33% No; 19% Not sure).

Graph 3.6



Some graduates elaborated on the positive social effects they experienced from GIV programs, notably exposure to different kinds of people and opinions, the joys of collaborative work, and comfort and inspiration derived from supportive peer groups.

> *"Getting to know new people, who had similar interests, beliefs, dreams, motivations as I did was something I had never experienced before in my high school. It gave me inspiration, provided friendships that lasted years after GIV, and opened up possibilities that I hadn't imagined…" (Arts graduate, 2003)*
>
> *"Meeting a group of smart, motivated, and fun peers meant a lot to me. I didn't have much in common with many of my high school classmates and GIV helped me realize that there were others out there who were like me." (Science & Technology graduate, 1993)*
>
> *"It was fantastic exposure to smart kids my age, made me more confident socially, and pushed me to look for math/science careers." (Engineering graduate, 1996)*
>
> *"I wish I could answer "especially YES" to the questions about feeling more comfortable in social situations and a greater sense of belonging. I grew up in a small rural town and felt like quite the misfit until my time at GIV, when I realized I wasn't really a misfit -- I just hadn't found my tribe. GIV was filled to the gills with other kids who were passionate about the same things. It was revelatory." (Arts graduate, 1986)*
>
> *"GIV was an eye opening experience for me. I had come from a class of 30 individuals situated in a very small town with limited variability. GIV helped me to see that there was a whole world of different ways of thinking and different opinions and interests. I am very glad that I attended GIV when I did so that I was aware that I could adapt and be comfortable with the world outside my very small town." (Current Issues graduate, 1995)*
>
> *"GIV greatly helped my confidence in working with others and socializing with new people from diverse backgrounds." (Science & Technology graduate, 1996)*

Academic Outcomes

The survey also examined GIV's impact on academic performance. Two of these items focused on whether GIV had increased participants' academic/creative focus and their motivation after the Institute; the rest examined academic outcomes within the context of post-secondary education. The questions related to post-secondary academic outcomes are included in the Pursuit of Further Education section, immediately following this one.

Q5 **Did attending GIV increase your academic or creative focus?**

80% of survey respondents reported that attending GIV had increased their academic or creative focus (50% Yes somewhat; 30% Yes to a large degree).

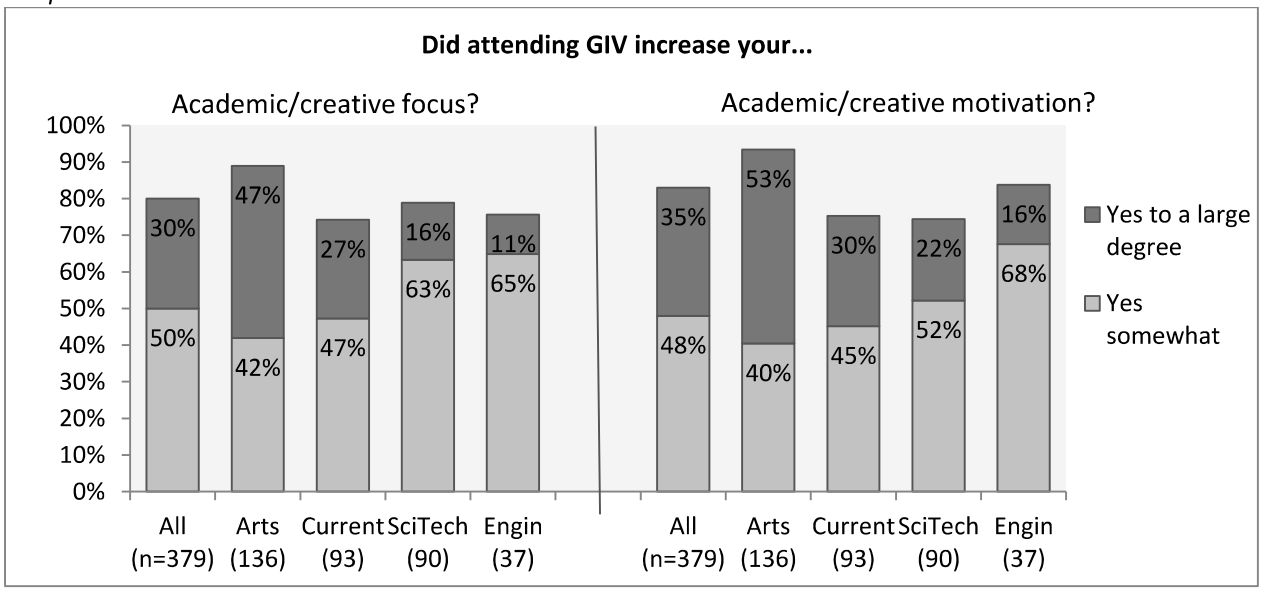
Responses were highest from the Arts Institute, with 89% reporting an increase in academic or creative focus (42% Yes somewhat; 47% Yes to a large degree). Around three-quarters of surveyed alumni from the other Institutes also credited an increase in focus to their GIV attendance: 79% Science &Technology (63% Yes somewhat; 16% Yes to a large degree), 76% Engineering (65% Yes somewhat; 11% Yes to a large degree), and 74% Current Issues (47% Yes somewhat; 27% Yes to a large degree).

Q6 **Did attending GIV increase your academic or creative motivation?**

83% of respondents experienced increased academic or creative motivation as a result of attending GIV (48% Yes somewhat; 35% Yes to a large degree).

As with academic/creative focus, responses were highest from Arts respondents: 93% reported an increase in academic or creative motivation (40% Yes somewhat; 53% Yes to a large degree). Responses were also quite positive from the other three Institutes: 84% Engineering (68% Yes somewhat; 16% Yes to a large degree), 75% Current Issues (45% Yes somewhat; 30% Yes to a large degree) and 74% Science & Technology (52% Yes somewhat; 22% Yes to a large degree).

Graph 3.7



In their written responses, alumni spoke about the ways GIV affected their academic performance, including increasing their enjoyment of a subject, the excitement of pursuing their interests collaboratively, in-depth exposure and how much their program challenged them.

> *"Being exposed to other smart, motivated Vermont high school students helped keep me interested in pursuing science and realize that learning about science was exciting and fun." (Science & Technology graduate, 2001)*
>
> *"After the summer institute, I was motivated to enroll in an independent study program through my high school where I was able to pursue subjects that were not traditionally offered in high school but that had piqued my interest at GIV." (Current Issues graduate, 1999)*
>
> *"The experience gave me a sense of how my scientific interests could be applied to solve real world problems and lead to innovative and creative solutions." (Engineering graduate, 1996)*
>
> *"I think GIV was hugely valuable in forming me as an interested, engaged student." (Science & Technology graduate, 1992)*
>
> *"GIV was intellectually stimulating and challenging in a way that spurred my curiosity and love of learning." (Current Issues graduate, 1998)*
>
> *"GIV helped create a great network peers who were very academically-focused. That was something I didn't necessarily have around me at my local school, and was great exposure before heading to college." (Asian Cultures graduate, 1998)*
>
> *"It was empowering to be surrounded by students who were excited about applying math and science to real challenges and creating unique solutions. I left wanting to seek out that same environment in other contexts." (Engineering graduate, 2006)*

Post-Secondary Educational Outcomes

Eight survey items examined GIV's impact on participants' pursuit of further education. These items collected information on the most advanced level of education alumni had completed since GIV and whether attending GIV increased alumni's likelihood of attending college/post-secondary school. Other questions investigated academic or social factors related to the pursuit of further education. These included potential impact on academic confidence and direction and choice of major. Socially, the survey looked for a possible connection between attending a GIV Institute and feelings of social comfort and confidence in a college setting and preparedness for college life.

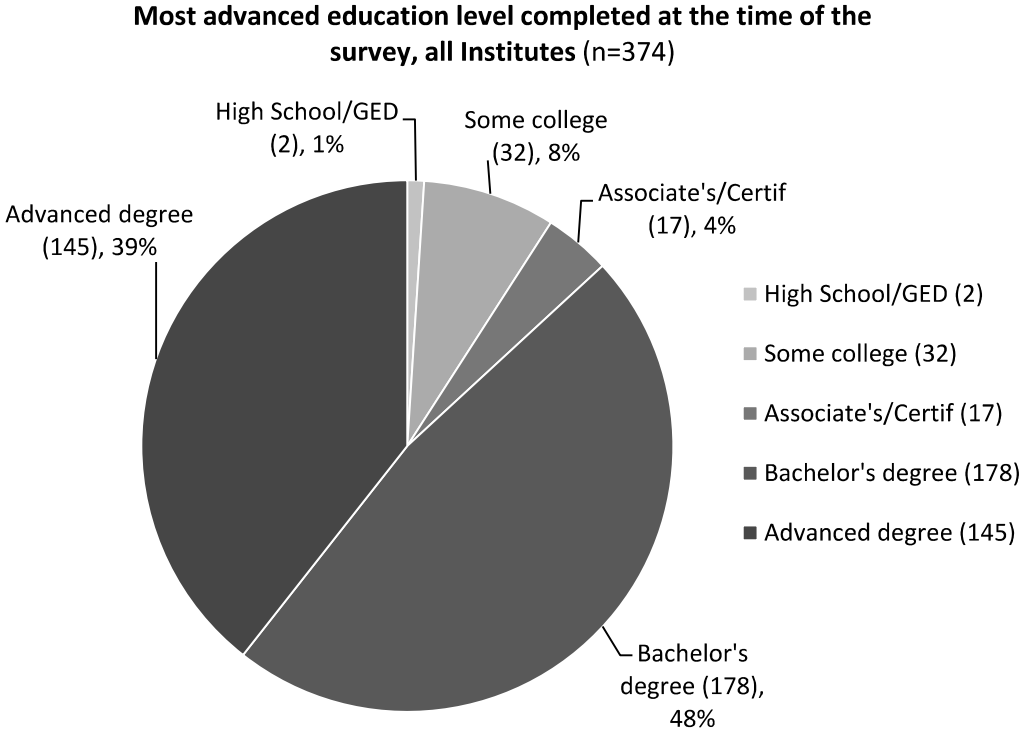
Q10 **Select the most advanced level of education you have completed since GIV.**

99% of all surveyed alumni attend at least some college or post-secondary school.

At the time the survey was administered, 87% had completed a Bachelor's degree or higher. 8% completed some college, 4% obtained certificates/Industry recognized credentials or Associate's degrees, while 48% achieved Bachelor's degrees, 26% Master's degrees, 7% Doctoral degrees, and 6% Professional Degrees.

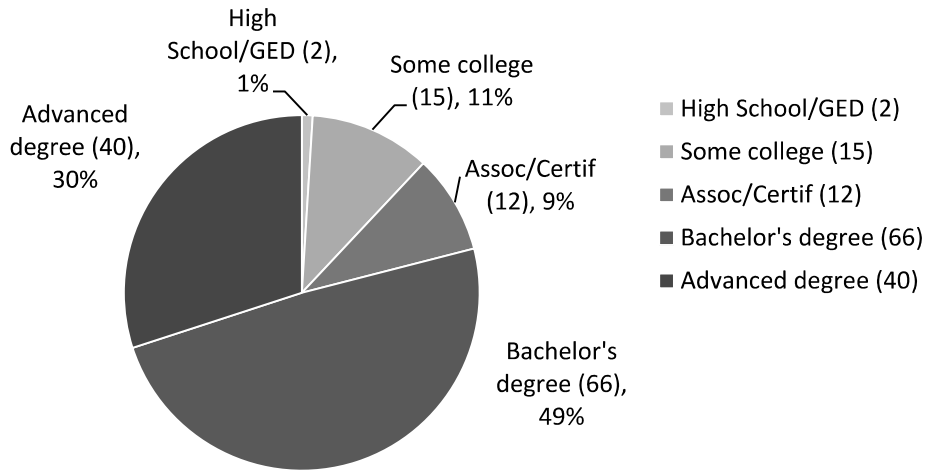
Looking more closely at the four major Institutes, Engineering had the highest number of respondents with Bachelor's degrees as their most advanced level of study at 68%, followed by Arts at 49%, Current Issues at 43% and Science & Technology at 38%. The Science & Technology graduates we surveyed obtained the largest percentage of advanced degrees (Master's, Doctoral, and Professional) with 55%. 46% of Current Issues respondents held those advanced degrees, as did 30% of Arts and 19% of Engineering.

Graph 3.8A

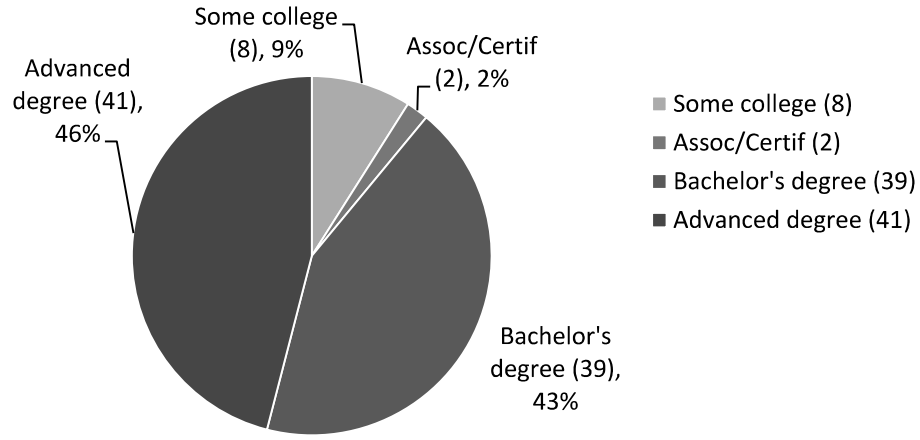


Graph 3.8B

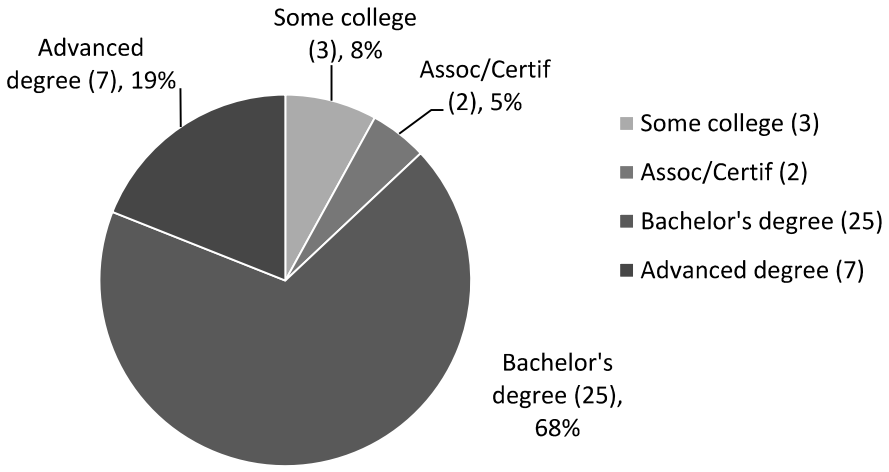
Education level, Arts (n=135)



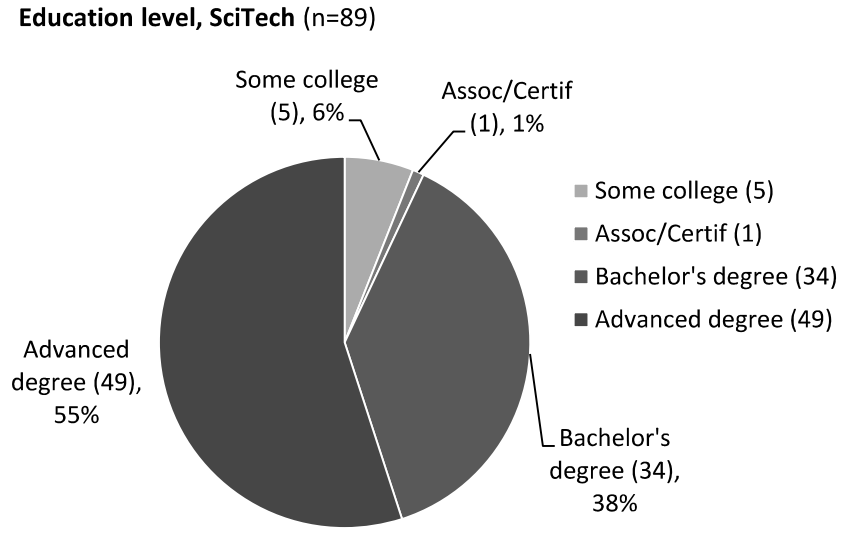
Education level, Current Issues (n=90)



Education level, Engineering (n=37)



Graph 3.8B continued

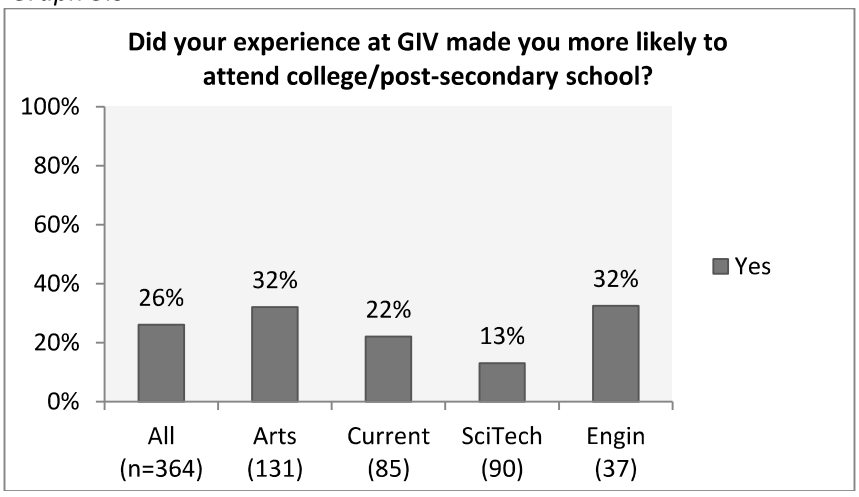


Q11A **GIV made me more likely to attend college/post-secondary school.**

Just over a quarter (26%) of respondents reported that GIV made them more likely to attend college or post-secondary school.

The degree to which surveyed alumni felt their GIV experience increased their likelihood of attending college/post-secondary school varied by Institute. The highest percentages were from Engineering (32%), and Arts (32%). Current Issues respondents followed with 22%. 13% of Science & Technology alumni said GIV made them more likely to attend college.

Graph 3.9



For some respondents, the exposure they got at GIV to college-bound peers, to post-secondary style education, to challenging academics, possible careers, and to the physical campus and dorms of a college influenced them to pursue post-secondary education.

> *"The college I attended offered a 10k scholarship for having attended a Governor's Institute, and this was a primary reason for me going. What I learned at GIV and absorbed from the setting was both helpful to me moving forward into college and also helpful financially to my family to attend college." (Arts graduate, 1999)*
>
> *"Everything I did and experienced at GIV affected my life in a good way. I didn't know it at the time but it shaped my attitude towards college and even aimed me towards a career at a local company. Unbelievable!" (Engineering graduate, 2003)*
>
> *"I chose to go to UVM and the School of Natural Resources because of my GIV experience." (Science & Technology graduate, 1986)*
>
> *"GIV helped me figure out what career I wanted to pursue, and motivated me to go to college and now graduate school (I'm getting my PhD now!)." (Asian Cultures graduate, 2004)*
>
> *"I choose UVM for undergrad in large part due to the experience of living there during GIV." (Engineering graduate, 2005)*
>
> *"Attending was wonderful. I was at a crossroads with many factors working against me. This institute and the support of a great teacher gave me the confidence and inspiration to move mountains, go to college on my own and make a successful career." (Current Issues, 1986)*

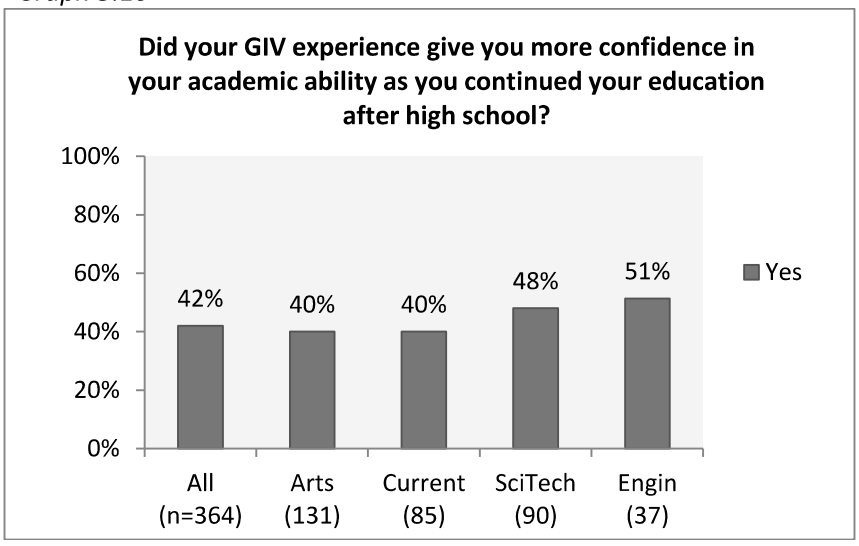
Post-secondary Education - Academic Dimensions

Q11C **I felt more confident in my academic ability**

Of the survey respondents who continued their education after high school, 42% gave GIV credit for helping them feel more confident in their academic ability in a college setting.

The responses for the Institutes varied slightly. About half of Engineering (51%) and Science & Technology (48%) indicated GIV helped them feel more confident, while 40% of respondents from the Arts and Current Issues programs reported such an impact.

Graph 3.10

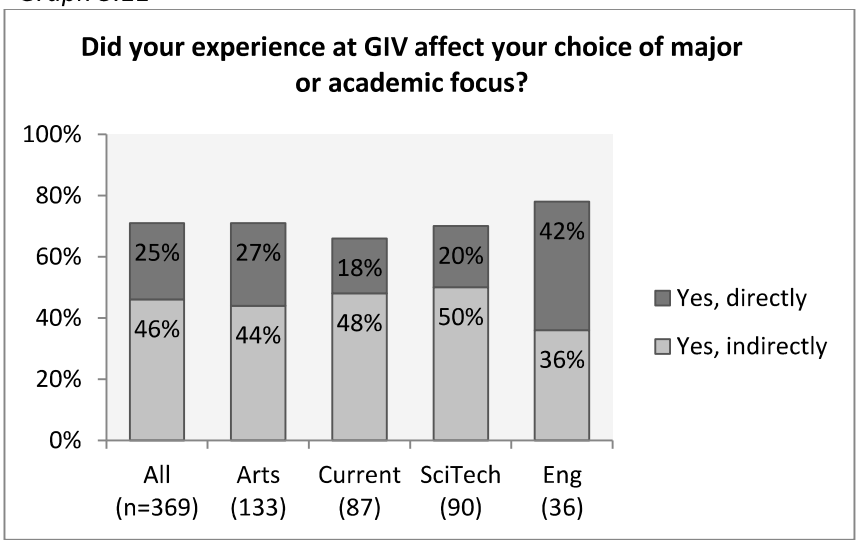


Q12 **Did your experience at GIV affect your choice of major or academic focus?**

According to the results obtained in our alumni survey, 71% of respondents said GIV affected their choice of major or academic focus (46% Indirectly; 25% Directly).

Looking at our four Institutes individually, Engineering had the highest percentage of respondents whose choice of major or academic focus was affected by GIV at 78% (36% Indirectly; 42% Directly). The Arts and Science & Technology Institutes had similarly high percentages of respondents who declared GIV affected their course of study with 71% (44% Indirectly; 27% Directly) and 70% (50% Indirectly; 20% Directly) respectively. GIV affected major selection for 66% of Current Issues alumni (48% Indirectly; 18% Directly).

Graph 3.11



As they pursued post-secondary education, survey respondents noted the ways in which GIV affected the way they approached their education, increased their academic confidence, helped them discover and pursue their interests, and kept them excited about learning.

> *"GIV encouraged me to ask more questions and try to figure out the answers myself which has translated into me participating in research all four years that I was in college." (Engineering graduate, 2006)*

> *"GIV was a crash course in University. It helped me choose my academic direction and I was able to walk into my degree with an edge on my classmates." (Asian Cultures graduate, 2004)*

> *"Interaction with a large campus and directed learning about topics not available in a high school setting was invaluable in helping me to understand what I wanted in an undergraduate education." (Engineering graduate, 2003)*

> *"GIV encouraged me to stay excited and stay passionate about technology. I chose Information Systems as a major in college after attending the Information Technology GIV." (Information Technology graduate, 2006)*

> *"GIV prepared me for college course work and dorm life; [it] exposed me to educational possibilities beyond what was available in my small high school." (Engineering graduate, 1999)*

> *"GIV helped cement the path that I chose to pursue. I stayed interested in all sciences, especially biology and continued that through college." (Science & Technology graduate, 1997)*

> *"Hands on exposure to various engineering and technology tasks gave me more confidence in the field and fueled my interests in that direction." (Engineering graduate, 2003)*

Post-secondary Education - Social Dimensions

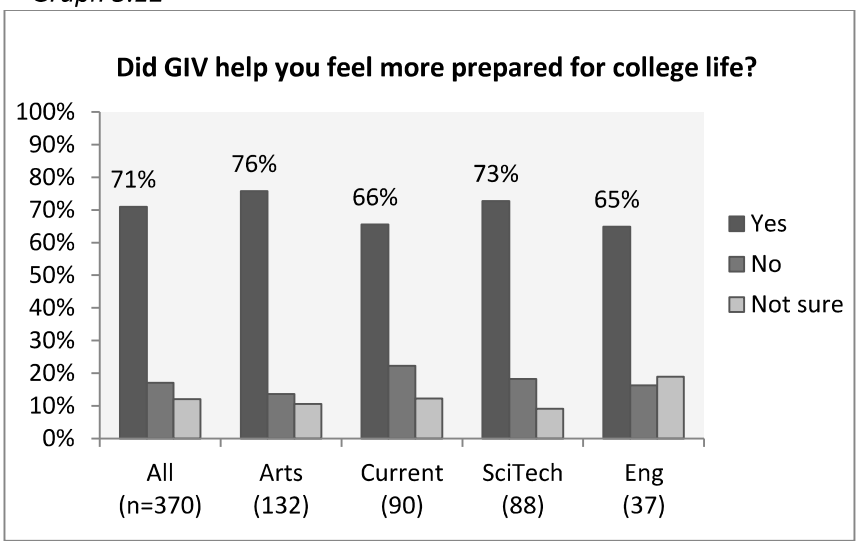
Q9A **Did GIV help you feel more prepared for college life?**

71% of surveyed alumni stated that GIV helped them feel more prepared for college life (17% No; 12% Not sure).

Over three quarters of Arts respondents (76% Yes; 14% No; 11% Not sure) felt more prepared for college life after GIV, trailed closely by Science & Technology, 73% of whom felt more

prepared (18% No; 9% Not sure). 66% (22% No; 12% Not sure) of Current Issues respondents and 65% (16% No; 19% Not sure) of Engineering reported feeling more prepared.

Graph 3.12



Q11B **I felt more comfortable in a college/post-secondary environment.**

Well over half of surveyed alumni, 62%, affirmed that GIV made them feel more comfortable in a college/post-secondary environment.

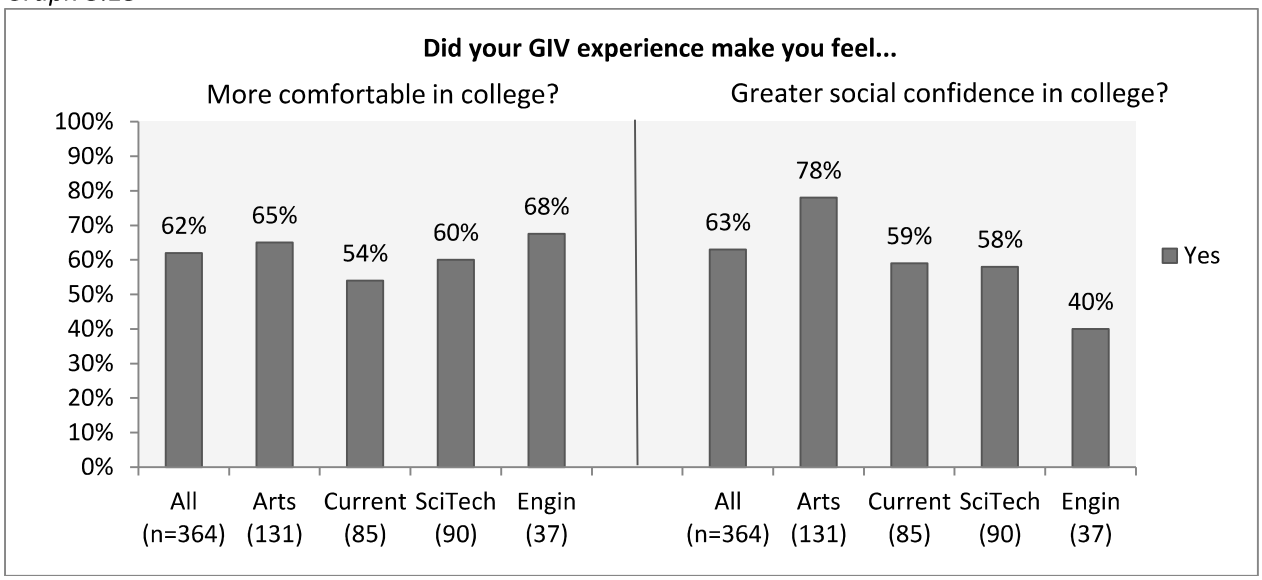
Percentages varied by Institute with 68% of Engineering respondents declaring they felt more comfortable in a college setting because of GIV. 65% of Arts respondents said the same thing, as did 60% of Science & Technology. 54% of the Current Issues alumni who were surveyed said GIV positively affected their comfort levels at college.

Q11D **I felt more confident socially as I continued my education after high school.**

Of the surveyed alumni who continued their education after high school, nearly two thirds (63%) stated their experience at GIV helped them feel more confident socially in college.

Looking at results for individual Institutes, Arts gave the highest percentage of positive responses: 78% of respondents said their GIV experience positively affected their social confidence as they continued their education after high school. 58% of Science & Technology and 59% of Current Issues respondents also gave GIV credit for increasing their social confidence as they continued their education. Engineering had 40% report that they felt more confident socially in a post-secondary setting because of the program.

Graph 3.13



Respondents noted how GIV affected their transition to a communal living or college environment after high school. In particular respondents valued the diversity and introduction to a wider community they got at GIV, as well as GIV's holistic living/learning environment, one that prepared many of them for communal living and further education.

"I made the decision to live on campus when I went to college because of my experience with GIV. I think that had a tremendous effect on the person I became as I matured." (Science & Technology graduate, 1986)

"The intellectual and living environments at GIV were good preparation for college and helped to develop critical thinking, awareness, social skills, respect, and tolerance." (Current Issues graduate, 1998)

"GIV helped me feel prepared socially for college." (Engineering graduate, 2006)

"I really LOVED Governor's Institute. It was a really challenging, but fun. It was a great introduction to college and living/socializing with other like-minded people. The instructors were fantastic and overall, I had a fabulous experience." (Science & Technology graduate, 2000)

"GIV provided a social college-like experience. I believe I was better prepared for communal living." (Arts graduate, 1988)

"GIV gave me a sense of awareness about other people my age and their diversity. It helped me feel more comfortable in a new environment and handling challenges of going to college." (Current Issues graduate, 1995)

Career Outcomes

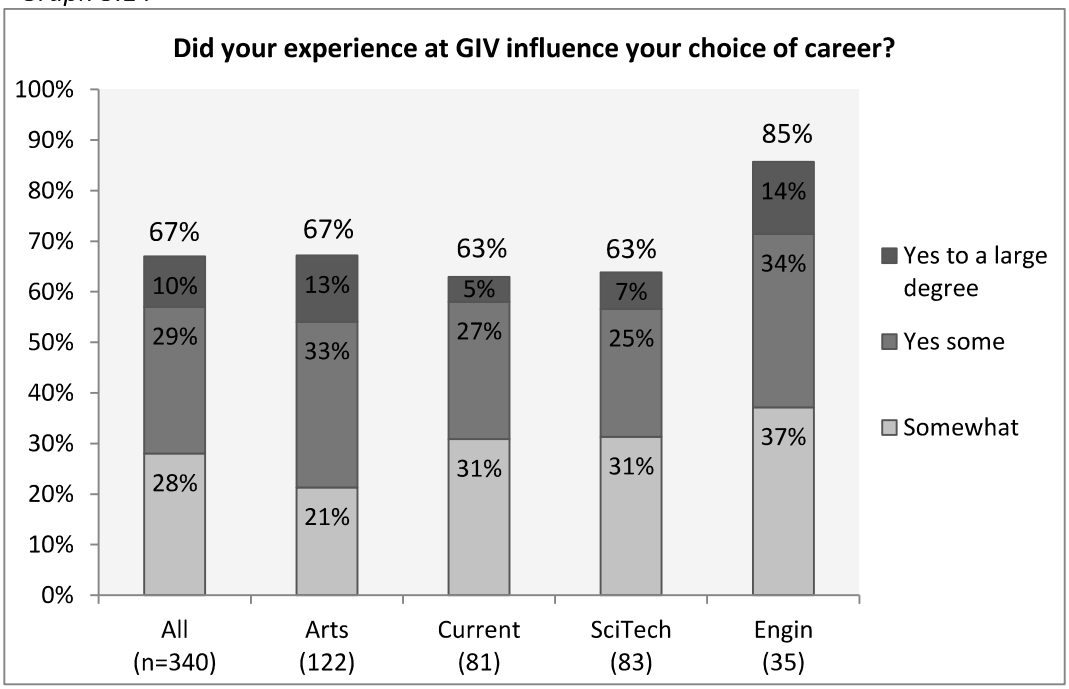
Five survey items examined GIV's impact on participants' professional lives. Specifically, alumni were asked about GIV's role in their selection of a career, their exposure to different career choices at GIV, or use of technical, personal skills or social connections acquired at GIV.

Q13 **Did your experience at GIV influence your choice of career?**

67% of surveyed alumni said GIV influenced their career choice (28% Somewhat; 29% Yes to some degree; 10% Yes to a large degree).

For the Engineering alumni we surveyed, GIV was an important factor in their career choice: 85% said GIV was influential as they chose a career (37% Somewhat; 34% Yes some; 14% Yes to a large degree). Just over two thirds of Arts respondents (67%) also highlighted GIV's role in their choice of career (21% Somewhat; 33% Yes some; 13% Yes to a large degree). A majority of Current Issues and Science & Technology respondents also felt the influence of GIV as they chose their career: Current Issues 63% (31% Somewhat; 27% Yes some; 5% Yes to a large degree), Science & Technology 63% (31% Somewhat; 25% Yes some; 7% Yes to a large degree).

Graph 3.14



Q14D **Did personal skills[22] you gained during your GIV experience prove useful to you in your work environment?**

Over half (56%) of surveyed alumni reported that personal skills they gained during GIV have helped them in their work place.

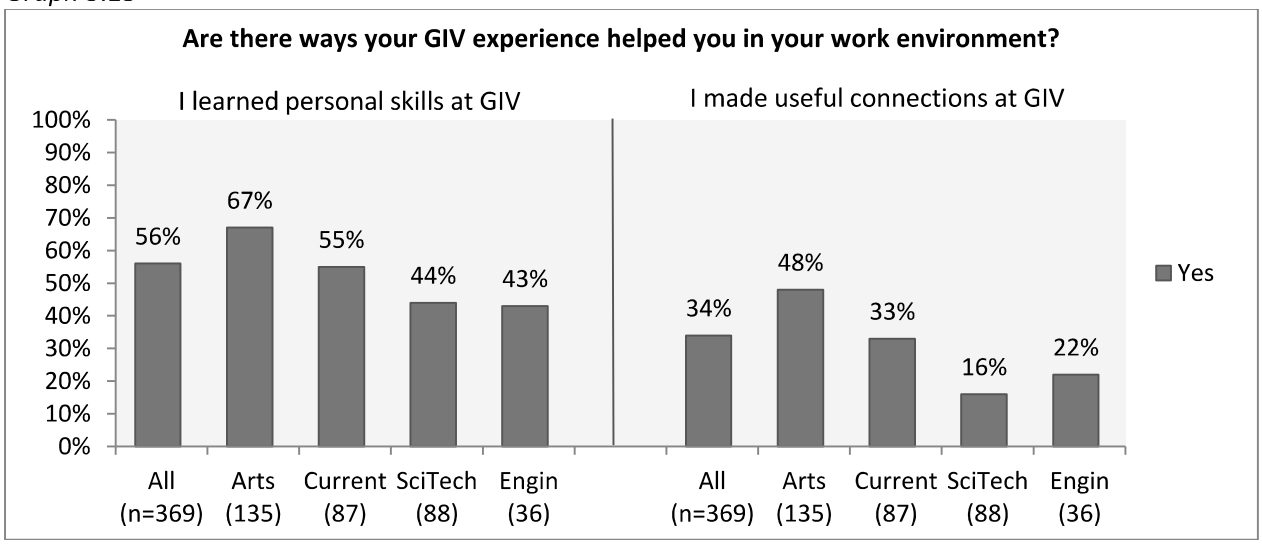
As was consistent with other social outcomes, Arts respondents reported the highest percentage of positive responses: 67% said the personal skills they acquired at GIV helped them in their work environment. 55% of Current Issues and 44% Science & Technology and 43% of Engineering agreed.

Q14A **Did connections you made or people you met during your GIV experience prove useful to you in your work environment?**

After GIV graduates joined the working world, one third of those surveyed (34%) cited people and connections related to GIV as being helpful to them in their workplace.

For almost half of Arts respondents (48%), the networking and personal connections they made at the Institute had a positive effect on them as they started their own careers. One third of Current Issues (33%) also benefitted career-wise from the inter-personal relationships they began during their time at the Institute. 22% of Engineering and 16% of Science & Technology also said GIV-related connections helped them in their work environment.

Graph 3.15



[22] Anecdotal evidence GIV has received over the years indicates the programs play a role in promoting various kinds of social development. In their letters and accounts, alumni have cited examples of this development, including improved interaction with others, the ability to work collaboratively, comfort presenting in front of a group etc. This question grouped these and other social outcomes as "personal skills," and sought to discover if alumni experienced these outcomes and whether they considered them useful in their work environments.

Q14B **Did your GIV experience prove useful to you in your work environment by giving you exposure to different career choices?**

One third of surveyed GIV alumni (35%) benefitted long-term from their exposure to a variety of career choices during their time at GIV.

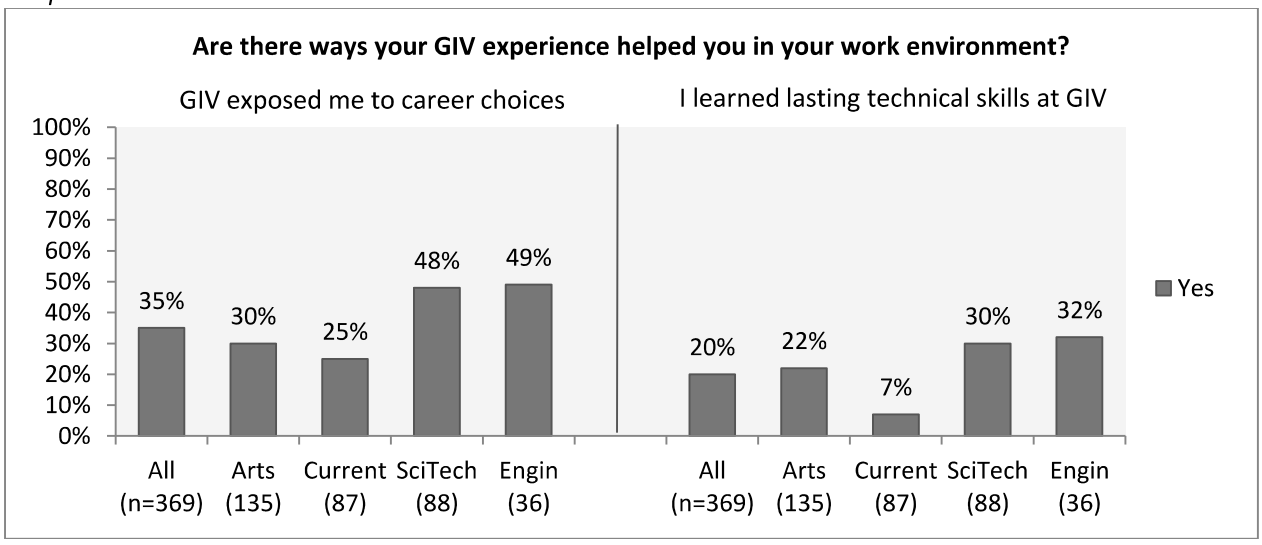
The math and science-based Institutes generally had higher percentages of positive responses, with close to half of Engineering (49%) and Science & Technology (48%) respondents citing longer term benefits from career exposure at GIV. 30% of surveyed Arts graduates answered that their GIV-era exposure to career choices helped them in the workplace, and 25% of Current Issues agreed.

Q14C **Did technical skills you gained during your GIV experience prove useful to you in your work environment?**

For 20% of surveyed GIV alumni, techniques they learned at the Institutes have proven useful to them in their workplace.

Close to one third of Engineering (32%) and Science & Technology (30%) respondents expressed that technical skills they learned at GIV remain useful to them in their work environment. 22% of Arts felt similarly. For Current Issues respondents, an Institute that revolves more around discussion and debate than technical skills, the percentage was 7%.

Graph 3.16



Six to 29 years later, respondents were able to articulate examples of how their time at an Institute impacted their professional life. Many valued the networking and exposure they got to different academic and professional options; for others, the hard and soft skills they acquired, such as working collaboratively, organizing their time, and using logic to solve problems stood out as real benefits from their time at GIV.

> *"I really appreciate the candid and comprehensive exposure I got at GIV, because it really helped me choose my career." (Engineering graduate, 1996)*
>
> *"I learned a lot about interpersonal relations and how a group of individuals can achieve more when they put their minds together because each contributes a different perspective towards the big picture." (Science & Technology graduate, 1992)*
>
> *"I stayed in touch with peers, RAs, and faculty members, who all helped advise me informally as I pursued my career." (Arts graduate, 1994)*
>
> *"My interest in conflict resolution studies, in which I intend to pursue a Master's degree, and my understanding of the theories involved directly stemmed from the workshops and class I took at GIV. These areas of study are essential to the issues I care about and the career(s) I hope to pursue, and are areas that I had no avenue through which to access before I went to GIV." (Current Issues graduate, 2005)*
>
> *"At GIV I acquired teamwork, project management and problem solving skills." (Science & Technology graduate, 1996)*
>
> *"I was interested in science in high school but I had no idea how it would translate into a professional career. GIV exposed me to various careers in science and academia that I did not know existed." (Science & Technology, 1998)*
>
> *"GIV helped instill me with a greater degree of confidence and sense of belonging that have helped me build my career confidence." (Arts graduate, 1993)*

Role of Specific Curricular Design Elements in Producing Outcomes

Q22 **Which program factors were important to your GIV experience?**

The design of GIV Institutes includes a variety of program elements typically not found in high school settings. These curricular design elements and teaching practices encompass approaches to learning, qualities of participating students and faculty, and the program's residential nature. In the current evaluation, we sought to examine the degree to which graduates felt that individual program elements were effective and meaningful in their own experiences.

All ten program elements listed in the survey were designated as important by at least 80% of surveyed alumni, and four were rated as **very** important by at least 80% of respondents.[23]

The three program elements that received the highest percentage of "yes" votes speak to GIV's creation of a community of learning and its role as a social connector. Having "*fellow students with similar interests"* was selected as very important by 88% of the alumni we surveyed. Close behind was "*a culture that valued learning*" which garnered 86% "yes" responses, and "*faculty who were professionals in the field*", which was ranked as very important by 80% of respondents.

The next two elements reflect GIV's style of active, collaborative learning. "*Hands-on projects and problem solving*" was deemed as very important by 81% of respondents, while "*team-based work*" was regarded as very important by 72%.

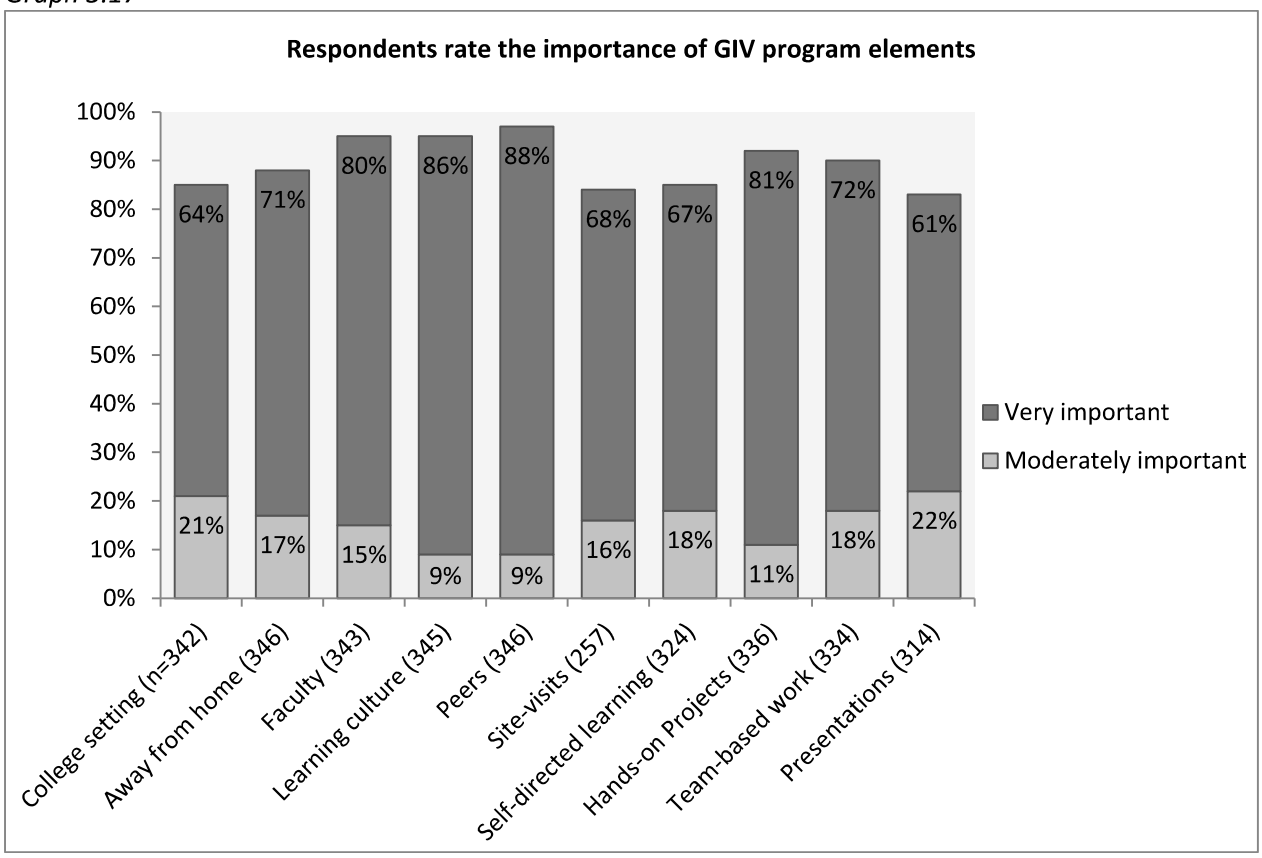
Alumni who took the survey also uniformly pointed to the importance of GIV being residential and based on a college campus. "*Being away from home*," was selected as very important by 71% of respondents, while "*being in a college setting*" was cited by 64%.

Certain programmatic elements were featured in many, but not all of the Institutes. These elements included self-directed learning (N/A for 7% of respondents), presentations to faculty and peers (N/A for 10% of respondents), and site visits and field trips (N/A for 25% of respondents).

When considering only respondents for whom these specific program elements did apply, 68% rated "*site visits and field trips*" and 67% "*self-directed learning*" as very important. Similarly, of the surveyed GIV graduates who did have "*presentations to faculty and peers,*" 61% said they were very important.

[23] Alumni were given the chance to make a distinction between "very important" and "moderately important." "Important" percentages in this section represent the combined percentages of both "very important" and "moderately important". When percentages are identified as "very important" they refer only to the percentage of alumni who selected "very important" as their response. See Graph 3.17 on the next page for visual clarification.

Graph 3.17



KEY:
Abbreviations on Graph 3.17: *actual wording from the survey instrument*

College setting: *"being in a college setting"*
Away from home: *"being away from home"*
Faculty: *"faculty who were professionals in the field"*
Learning culture: *"a culture that valued learning"*
Peers: *"fellow students with similar interests"*
Site-visits: *"site visits and field trips"*
Self-directed learning: *"self-directed learning"*
Hands-on Projects: *"hands-on projects and problem solving"*
Team-based work: *"team-based work"*
Presentations: *"presentations to faculty and peers"*

4. Interpretation and Discussion

The Governor's Institutes of Vermont were created to fill a need for curricular depth that local high schools in a small, rural state often don't have the resources, time or expertise to supply. These programs, only one or two weeks in duration, give motivated and interested high school students in-depth access to subjects they are drawn to, but with which they may not be familiar. The Institutes also congregate like-minded students and faculty members together on college campuses, creating an energetic learning community, and the social side of the Institutes is often just as important as the ideas and academics.

One GIV graduate recounts:

> *"GIV was the first real instance I was exposed to where adults proposed the discussion but the children really drove the conversation and did research based on their own motivation for learning and understanding. I learned how to better relate to my peers and to understand that I was not alone, there were others like me with the same drive and passion and desire for knowledge." (Current Issues graduate, 2000)*

The main focus of this study was to look at the overall impact of the program on young people, not just in the weeks or months after the Institute, but years and even decades later. Questions of interest sought to establish degree of impact, if any, generally and in the following realms: academic, personal/social, (post-secondary) educational, and professional.[24]

We also sought to verify GIV's place in students' educational landscape by examining student perceptions of the availability of accessible equivalent programming at the time of their attendance.

Finally, we sought to identify pedagogical design elements and practices that participants saw as particularly important to their GIV experience. This we felt was important not only to enrich the quality of current and future GIV Institutes, but as a potential case study for educators and policymakers seeking to apply those teaching ideas and techniques in their own work.

Outcomes:

General Impact of Program

In all realms of interest: academics, personal/social, post-secondary education, and professional, the outcomes reported by respondents far exceeded the expectations of the research team. Attending GIV raised the bar on many respondents' future horizons: 79% of

[24] Each Governor's Institute focuses on a particular academic field, but tracing specific knowledge gained in each field (e.g. quantitative abilities gained in the Math Institute) was beyond the scope of this study. For an excellent, groundbreaking study that delves into that level of detail, see the 2011 Alumni Study undertaken by the Pennsylvania Governor's School for the Sciences and presented at an Engineering Education conference in August 2012.

surveyed students who attended GIV reported being more aware of exciting opportunities for themselves after the program (see Graph 3.3). It also influenced 93% of them after the Institute as they made decisions about the course of their future (Graph 3.2). 88% of all respondents agreed GIV was one of their most important high-school era experiences (Graph 3.1).

Not surprisingly, GIV's strongest positive impact was seen in academics and the personal sphere, which, along with topical knowledge, are the specific areas that the Institutes had been developed to address. In fact, each of these outcome categories consistently drew affirmative responses from more than 70% of respondents.

Based on years of anecdotal feedback from parents and students, we also looked for potential GIV impacts on social aptitude or skills or development and career readiness. While the original design of GIV programs did not explicitly include these outcomes, both have substantial value to individual young people's development as well as to their broader social and economic communities. We found definitive positive feedback in those areas, confirming the broad scope of GIV's positive impact. Of particular interest is the strong positive relationship between program attendance and career exploration and workforce readiness, signaling that these are already a particular strength of the organization. GIV's existing measureable outcomes, as well as increased community interest in and demand for career preparation, point to the value of intentional program development in those directions.

Individual outcome categories are further discussed below.

Personal and Social Outcomes

While education and learning are at the core of every GIV program, the Institutes are also specifically designed to ignite important, even transformational personal and social outcomes in young participants. This design is rooted in a conception of nurturing young people's talents in a holistic manner that encompasses emotional and social development as well as intellectual or creative potential.

Adolescence can be an isolating and frightening time, particularly for students whose interests or styles of interaction are outside the mainstream in their community. The small, rural nature of many Vermont towns or schools can exacerbate those feelings for talented students, especially when a student feels herself to be the only one in her school or community with a deep interest in a specific topic. A locally-renowned journalist reflecting 23 years after her experience at the Governor's Institutes of Vermont wrote:

> *"I was 14 when I heard about the Vermont Governor's Institutes on the Arts — a sleep-away camp where students spend two weeks studying drama, visual art, music and writing in the company of visiting artists...*
>
> *No one at [GIV] discussed their horses, cows, tractors or guns. Instead, we talked about poetry late into the night, drew tattoos on each other with Magic Marker and had*

contests to see who could play dead most convincingly. In short, I had found my people — my tribe.

Living in the dorms gave us a sense of independence. Faculty and staff treated us like grown-ups, a huge change from the prisonlike atmosphere of high school. I started to feel less like a super freak and more like a confident, self-sufficient adult." (Sollberger, 2013)

Simultaneously, adolescents are in the process of shaping their lifelong identities, in part based on the expectations, examples, and feedback communicated by the people around them. GIV seeks to empower the positive identity formation that comes from intellectual or creative achievement and fortify it with the encouragement of likeminded peers and mentors.

In response to each question on the survey that related to gaining social comfort, self-confidence or self-esteem at GIV, 80% or more of all respondents answered positively. Figures are especially dramatic for the Arts Institute, with 90% or more crediting GIV for increased self-confidence, self-esteem, and social comfort and 86% for a greater sense of belonging (Graphs 3.5 and 3.6).

Responses also affirmed that a strong majority of students gained a feeling of belonging and greater comfort in social situations from their Institute participation, but the degree of positive response to personal outcome questions ranged widely based on which Institute a student attended. The lowest rates of personal outcomes were reported by Engineering respondents, 59% of whom felt more comfortable in social situations and 47% of whom gained a greater sense of belonging (Graph 3.6).

Academic Outcomes

One of the hallmarks of GIV is its aim to ignite a lifelong passion for learning in young people. Within each topical Institute, participants are shown many aspects of a subject and are encouraged to take charge of their own educational experience by pursuing the specific ideas that interest them through in-depth projects and challenges. This approach is intended to promote an energized connection between students and their learning, a connection that is reinforced by mentor and peer support.

According to our results, the GIV experience overwhelmingly translated to students' subsequent academic studies. At least 80% of surveyed GIV alumni reported leaving the program with increased focus and motivation for school (Graph 3.7). Respondents told us "I believe the experience did put me on a more focused path and is part of who I am today"[25] and "my experience at [GIV] motivated me further to pursue my interests on my own and think

[25] GIV survey response, 1993 Current Issues graduate

outside the box."[26] This coalesces with feedback GIV has received from educators throughout the years.

Post-Secondary Educational Outcomes

In 2008 the Vermont Department of Education reported that for every 100 Vermonters entering 9th grade, 86 finished high school, and 41 enrolled in college (as cited in Walsh, 2012). More than 99% of the GIV alumni in our study matriculated at a college or a post-secondary program (Graph 3.8A). Considering GIV's rigorous application process and focus on academic subjects and learning, it is hardly surprising that GIV participants had a high post-secondary enrollment rate; many of these students would likely have pursued higher education regardless of their participation in GIV. But studies have shown that rural students tend to aim for less prestigious institutions of higher education and are prone to dropping out of college at a higher rate than their urban peers (Byun, Meece and Irvin, 2011).

Given those factors, we questioned whether GIV might bring value to students by strengthening their educational aspirations and improving their college readiness. Responses from participants supported this hypothesis. Of the surveyed alumni who went on to further education, almost three quarters of them (71%) said their experience at GIV affected their choice of major or academic focus (Graph 3.11). Engineering respondents were particularly emphatic about GIV's role in focusing their educational interests: 78% said it affected their choice of major. Among the GIV alumni studied, 91% reported finishing their degrees (Graph 3.8A).[27]

To determine whether GIV helped participants succeed in college in other ways, we asked alumni whether they felt more confident in social interactions and prepared for college life, and if so, to what degree. The large majority of respondents reported that as they pursued education after high school, GIV had boosted their social confidence in an educational setting (63% - Graph 3.13), and helped them feel more prepared for college life (71% - Graph 3.12). This response was especially noteworthy among Arts respondents, with 76% feeling more prepared for college life after GIV and 78% feeling more confident socially as they continued their education, and Engineering, 68% of whom felt more comfortable in college because of GIV. Half of Current Issues respondents (54%) reported feeling more comfortable in college because of GIV. Differences in Institute responses are discussed further below.

Career Outcomes

The workforce development field widely acknowledges numerous barriers to getting young people aware of and productively engaged in meaningful careers. These include lack of awareness about career options, students' inability to visualize themselves in a career, and confusion regarding the education and job skills requirements for various careers. GIV places

[26] GIV Survey response, 1986 Arts graduate

[27] GIV's survey did not ask duration of study prior to completion.

students alongside professionals in their chosen field to do hands-on projects and real-world problem solving in order to help students match their interests with defined career paths and real-life role models. With these students at the critical high school juncture and a few short years away from investing in their further education, we consider it a successful outcome whether students discover the career of their dreams, or discover that the career under consideration is not for them.

To assess GIV's impact on career planning and awareness, we first asked about the general impact of GIV on respondents' careers. Two-thirds of all respondents stated their experience at GIV influenced their choice of career (67% - Graph 3.14). For a subject with a less established presence in high school curriculum, like Engineering, the effect was even greater: 85% of surveyed Engineering alumni said GIV influenced their subsequent career choice.

We postulated that other specific career benefits for participants might have included exposure to new career choices, connection with professionals in that field, and technical and/or personal skills alumni brought to the workplace. We further suspected, and indeed it proved to be the case, that specific career benefits would differ between Institutes due to the variations in topics, curricula, and student characteristics within individual Institutes.

In regards to career exposure, one third of all GIV respondents (35%) benefitted from learning about new career choices during their time at GIV (Graph 3.16), but this number included nearly half of the STEM respondents (48% of Science & Technology and 49% of Engineering). Similarly, while 20% of all respondents reported that they currently use technical skills learned at GIV (Graph 3.16), 30% of STEM alumni surveyed reported using GIV-acquired technical skills in their careers today (Engineering: 32%, Science & Technology: 30%).

Meanwhile, over half of respondents (56%) reported that personal skills gained at GIV later aided them in their workplaces (Graph 3.15). In this measure, Arts scored the highest, with 67% of respondents relying on skills they learned at GIV. Nearly half of Arts respondents told us that networking and personal connections they made at the Institute had a positive effect on them as they started their own careers (Graph 3.15). Overall, one third of surveyed alumni (34%) cited people and connections stemming from GIV as being helpful to them in their workplace.

<u>Differences among Institutes:</u>

Most of the above results were generalizable among Institutes, but we found several trends worth noting. For example, Arts respondents were most vocal about GIV's positive personal and social impacts; they were more likely than graduates of other Institutes to report improvement in their self-confidence, self-esteem, social comfort or sense of belonging. They were also more likely when given the choice to qualify those results as "yes, to a large degree" (strong) versus "yes, somewhat" (moderate). This data carries through consistently into Arts respondents' careers, where 67% credit GIV for personal skills used in their work environment

and 48% describe personal connections dating from GIV as useful to them in their current workplace (Graph 3.15). These percentages are notably higher than peers in other Institutes.

In contrast, Engineering and Science & Technology respondents were most vocal about GIV's impact on the technical, educational and professional dimensions of their subject area. These respondents were more likely to report that GIV helped them choose a major, an academic direction and/or later a career. At least 86% of surveyed alumni from Engineering and Science & Technology reported being more aware of educational and career opportunities after GIV, whereas the totals for Arts and Current Issues were 78% and 74% (Graph 3.3).

Engineering respondents in particular gave the highest positive percentages of any Institute as they answered questions about the role of GIV in helping them choose a major (78% - Graph 3.11) and a career (85% - Graph 3.14). STEM respondents described gains in their academic confidence in college at a greater rate than their Arts and Current Issues peers by an 8-11% margin (Graph 3.10).

As small as these variances and the respondent pools are, it is worth bringing up the question what they might signify. To what extent are the differences due to the variations in the programs themselves, versus different incoming needs, values or temperaments characteristic of each Institute's participants? Although we lack data to explore this question further, one clue may be that results reported by Current Issues and Youth Activism Institutes respondents almost always fell neatly in the middle of the Arts and STEM responses. Although CIYA is a humanities-based Institute like Arts, it requires more of a systems-thinking approach and could hypothetically attract a student whose values and temperament fall in between artistic and technical poles.

Educational Landscape:

The Governor's Institutes of Vermont was interested in seeing how alumni responses from this study might align with the perceived lack of in-depth academic opportunities for Vermont high school students. We asked respondents whether they had had access to other opportunities to pursue their topic of interest either in or outside of school. Since memories are fallible and teenagers may not be aware of all the opportunities that exist for them, we did not intend this question to produce a definitive list of gaps, but instead thought that the first-person perception from former students could shed additional light on perceived voids in the educational system and GIV's role in fulfilling them.

As perhaps could have been predicted, when we looked at educational gaps by subject area, approximately half of Science and Technology and Current Issues alumni we surveyed reported no access to in-depth topical classes and programs in their interest areas (Graph 3.4). Nearly 40% of those seeking engineering education also reported no access. But surprisingly, one in five Arts respondents reported no alternative access to arts programming. This may seem counterintuitive at first, but it is less surprising when one takes into account both the extreme

rural nature of Vermont, where between 2005 and 2010 only 9% of cities and towns had more than 5000 residents (City Data, n.d.), and the percentage of Vermonters living in poverty, which has fluctuated between 15.6% in 1982 and 7.8% in 2006 (US Census Bureau, n.d.). We did not delve into whether students lacked access due to remote geography, finances, other circumstances, or a combination of multiple factors.

An additional 16% of respondents reported having access to their subjects of interest, but only through extra-curricular programs. Because ability to afford those programs wasn't discussed, the percentage of those respondents who lacked access to certain subjects is likely higher than the reported 37% (Graph 3.4).

We also realized access might have a chronological dimension. To investigate, we divided our respondents into 3 groups based on when they attended GIV (the groups being 8-year periods that spanned our timeframe: 1983-1990, 1991-1998, and 1999-2006). There was some variation between time periods. In the earliest group, 1983-1990, 37% of respondents reported a lack of access to equivalent programs. Between 1991 and 1998, the middle cohort, respondents reported the greatest lack of access (49%), and this percentage dropped to 30% between 1999 and 2006.[28]

While analyzing this question and the rest of our data generationally was tempting, ultimately we concluded that the additional data collection required to analyze individual and historical circumstances and changing programmatic factors fell beyond the scope of this study.

The results on access did highlight the importance of two underlying design elements of the Governor's Institutes that allow it to successfully fill gaps in local educational landscapes. GIV's residential nature overcomes most geographic barriers to access (GIV-provided transportation minimizes them even more). Second, guaranteed financial accessibility allows students from all economic backgrounds to attend, removing both actual and perceived barriers to participation.[29]

Program Elements:

In asking alumni to indicate whether certain program elements were important to their GIV experiences, we sought to isolate the factors that make GIV effective, with the ultimate aim of associating reported outcomes with specific learning practices. The goal was to begin framing a template for GIV to fashion new Institutes as well as to provide a model for those hoping to achieve similar outcomes through other educational programs.

Respondents were given a set of program design elements and teaching practices and asked to consider their importance in relation to their own GIV experience. Factors included only those

[28] See Graph in *Appendix C*.

[29] In 2013 GIV supplemented its financial aid and scholarships with a new sliding scale tuition model. Students and their families pay a tuition amount that is determined by their income and ability to pay.

elements that GIV, based on historical documents and faculty and staff interviews, had identified as universal and consistently applied among the seven Governor's Institutes throughout the 29-year period.[30] There were no pivotal design elements or practices we identified as being introduced or discontinued during the time period being studied. Elements specific to only one or a few Institutes were excluded.

Alumni were asked to rate each element's importance to their individual GIV experience. Each element was rated independently, not relationally in terms of greater or lesser importance. The placement of this question at the end of the study was not accidental; we wanted to encourage respondents to consider their experience in terms of long-term outcomes as they answered, without requiring them to speculate about causation for any specific outcome. All of the following percentages can be found in Graph 3.17.

While each element drew positive responses from a majority (at least 80%) of respondents, three results stood out. The following elements were almost universally affirmed: "*fellow students with similar interests"*; "*faculty who were professionals in the field"*; and *"a culture that valued learning*" were each credited as important by at least 95% of surveyed alumni.[31] Two of these, learning culture and likeminded peers, were hailed especially strongly, with 86-88% labeling those elements "very important" and only 9% labeling each "moderately important". 80% of all respondents felt that the faculty was "very important, while 15% found them "moderately important".

These aspects are all social factors having to do with the specific people involved and their mode of interaction, rather than strictly academic or logistical details such as curricular structure, topical content, or setting. It suggests that respondents credit the people who surrounded them and the style of communication and collaboration as the strongest influence on their personal outcomes.

Far from being accidental, these social factors are inherently woven into the Governor's Institutes' design in numerous ways, such as scheduling that focuses on the holistic development of the student, curricular content which favors teamwork, and conscious creation of "learning communities" where people are encouraged to connect through their intellectual or artistic passions. Respondents' designation of professional faculty as important indicates that having the right people in teaching roles outweighs almost every other factor in these respondents' estimation.

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[30] Thank you to GIV founder Ellen Lovell; former Executive Directors Jean Olson, David Gibson and Christine Graham; current and former GIV Program Directors Christine Massey, Paul Bierman, Ann DeMarle, Dawn Densmore, Simon Norton, John Ungerleider, Elizabeth Frascoia, Jeff Dinitz, Sheila Weaver, Jue Fei Wang and Brian Nelligan; GIV Board members Marge Petit, Wendy Cohen and Sigrid Olson, colleagues at EPSCoR and the National Conference of Governor's Schools; volunteer Elise Shanbacker; and many others who contributed to this research.

[31] This percentage includes respondents who said this element was "very important" as well as respondents who said this element was "moderately important". The subsequent percentages for program elements are also tallied in this manner unless otherwise noted. All percentages and breakdowns are available in Graph 3.17 on page 39 of this report.

Almost as important were program design elements emphasizing active, collaborative learning such as *"hands-on projects and problem solving"* (92%) and *"team-based work"* (90%). These results speak to fundamental philosophies behind the Governor's Institutes curricula, which include experiential applied learning, as well as fostering collaboration between students. The effectiveness of these philosophies in engaging students and delivering learning outcomes is bulwarked by GIV's findings.

While *"Being away from home"* (88%) and *"being in a college setting"* (85%) were also rated as important, somewhat fewer respondents marked them so, suggesting that location or setting may be a less essential aspect of the programs' success. As mentioned earlier, the residential aspect is fundamental for another reason, geographic access; however only 71% of respondents rated it as "very important" in the context of their experience. This lends encouragement to the possibility that nonresidential programs incorporating the crucial social and curricular elements discussed above could still have a very strong impact for many students.

It would be logical to suppose "*being in a college setting*" would lead to increased comfort in a college setting, but the 85% of respondents who marked "*being in a college setting*" as important is higher than the number who reported increased comfort as an outcome (62%. – Graph 3.13) Further research would be needed to determine the reason for the setting's greater importance.

Content delivery items such as "*site visits and field trips*", "*self-directed learning*" and "*presentations to faculty and peers*" ranked as lowest in relative importance, at 84%, 85% and 83% respectively. Still, all were important to more than 80% of graduates. *"Self-directed learning"* was assigned a particularly high degree of impact by 67% of respondents who ranked it as "very important". It too arises from a fundamental design philosophy where students are allowed to pursue their own interests and set their own pace leading to a higher degree of self-motivation and the confidence to direct one's own learning.

5. Conclusion

Each year GIV receives hundreds of post-Institute surveys and copious anecdotal feedback that attest to its role in transforming young lives, benefitting participants socially and academically over the short term. This study sought to investigate the strength and durability of GIV's impact over a longer period of time by re-visiting outcomes, examining strands of influence, and asking adult alumni to describe what roles the Institutes played in helping them shape their lives. Our research was designed to uncover a range of possible outcomes and test the strength of each positive outcome that was reported.

> **Results indicate that for the last 30 years GIV has been a strong and effective partner of communities and families looking to develop confident, competent young adults with bright educational and professional prospects.**

Specific GIV outcomes reported by a majority of respondents anywhere from 6-29 years after program completion included:

- increased self-confidence and self-esteem
- greater social comfort and belonging
- better academic focus and motivation
- assistance with educational direction
- increased preparedness for college and career selection

Each of these benefits was affirmed by a large majority of respondents. Although results sometimes varied by Institute, across the board, each Institute demonstrated significant gains for the majority of participants in four key areas of our study: personal/social, academic, educational and professional.

Given the demanding and ever-changing environment into which students are graduating and the critical needs reported by students themselves,[32] these findings bespeak the value of the Governor's Institutes as an entity and as an important part of Vermont's educational landscape.

As an organization reliant on donor generosity and public support to be accessible to all Vermont families, GIV takes seriously its responsibility not only to produce maximum benefits for our clientele and the state, but to provide evidence of those benefits. The results of this study indicate that a fairly small investment of resources in GIV – which could be read to include not only funding but clients' time – has reliably produced an outsized positive return in numerous areas of need.

Yet the greater import of this study may be its applicability to the educational transformation currently underway in our state and beyond. As Vermont communities and those around the

[32] "Enough Said - Young Women Talk about School, Work and Becoming Adults: Why We Should Listen and What We Can Do" conducted and released by Vermont Works for Women (2013).

globe struggle to give young people the assurance, encouragement, skills, training and independence they need to succeed in today's rapidly evolving world, non-traditional educational models and techniques are increasingly being explored by parents, schools and policymakers. Such exploration raises questions about which pedagogical models and practices work best, what sort of time and monetary investment is necessary, and whether non-traditional learning environments can really have the desired impacts that students need.

This study may offer some valuable insight. When it was founded thirty years ago, GIV was an experiment in self-directed, experiential, applied learning and the power of education beyond traditional school walls. Now, GIV's success can be viewed as an indicator of the potential power not only of extracurricular enrichment programs themselves, but of the educational practices utilized throughout that so many graduates reported were key to their learning and development.

Many of today's proposed educational changes involve applied learning opportunities, individualized learning plans that expand beyond classroom walls, and giving students greater voice in and ability to direct their own educations. Regardless of whether or not techniques like these could supplant an entire high school curriculum, GIV's study attests to their efficacy both immediately and over a long period of time. It also suggests that even limited exposure to these techniques has enormous power to improve a student's educational motivation level, personal, social and academic development and career aspirations.

The study also may sound a cautionary note for educational transformers who are understandably excited over individualized learning opportunities, particularly those afforded by the internet. The three pedagogical factors that our study respondents overwhelmingly described as having led to positive outcomes were the three social factors we asked about: fellow students with similar interests, connecting with faculty who were professionals in the field, and a culture that valued learning. These findings suggest that the scale of positive outcomes may well have been different had those social aspects been less concentrated or less intentionally integrated than they were. In fact, based on our observations of students at the Institutes, their post-Institute feedback, and the strength of this study's findings, we believe that the Institutes' social factors have a unique magnifier effect on students' learning. Unfortunately, testing that causal relationship was beyond the scope of our analysis.

The importance of peer groups is well documented in educational literature.[33] Yet this study takes an unusual approach of asking adults to remember and make judgments about what most influenced them. Because the concept of the "self-made" individual has loomed large in the American cultural imagination, this finding seems especially potent, and hints that GIV may have also helped respondents develop prosocial behaviors such as appreciation of peer contributions. These results raise questions for the educational community such as: if respondents identified peer groups as the most important factor in their learning, should we as

[33] See the reference list in the National Center for Education Statistics' "Students' Peer Groups in High School" for more information.

educators rethink current classroom approaches to better match students with peers of similar interests and abilities? Are we adequately prepared to recognize and address the social aspects of learning acquisition and individual development in an increasingly digitized world?

Finally, we think this study attests to the value of an evolving view of educational systems that extend well beyond school walls and take advantage of resources within and outside the schools to provide the best possible education for each student. GIV and programs like it play a vital role enriching and broadening the horizons and educational worlds of Vermont's young people. When programs can consistently and reliably deliver beneficial results to so many students, young people deserve to have those programs be as accessible as possible. Reframing the way educators and policymakers view such programs from "extracurricular" to "integral" is already starting to happen as high schools and colleges increasingly grant credit for rigorous non-school academic programs like GIV. Continuing that shift will ensure that more young people are encouraged by teachers and administrators to participate in these programs, resulting in greater educational acquisition and raising aspirations for Vermont students, and students around the country.

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7. Appendices

Appendix A

2012 GIV Alumni Survey Instrument

Q1) Please select your Institute. (If you attended multiple Institutes, pick one to base the rest of your responses on.)

( ) Arts

( ) Asian Cultures

( ) Current Issues and Youth Activism*

( ) Engineering*

( ) Science and Technology

( ) Information Technology

( ) Math

( ) Don't see your Institute? Does our explanation below clarify matters? If it doesn't, go ahead and type your Institute in. _____

*Some of our Institutes have changed their names over time. Today's Current Issues and Youth Activism Institute was known by a few names such as International Affairs or Public Issues. Please select "Current Issues" if you attended one of these. The Engineering Institute was once called Engineering, Mathematics and Computer Science. If you attended this program select "Engineering."

Q2) When did you attend the [Q1] Institute? _____

Q3) What is your gender?

( ) Female

( ) Male

( ) Other

Q4) How would you rate your experience at GIV? Did it influence you as you made choices about the course of your future?

( ) It was very influential

( ) It was somewhat influential

( ) It had no influence

( ) It influenced me negatively

Q5) Did attending GIV increase your academic or creative focus?

( ) Yes, to a large degree

( ) Yes, somewhat

( ) My level of focus did not change

( ) No, I was less focused after GIV

Q6) Did attending GIV increase your academic or creative motivation?

( ) Yes, to a large degree

( ) Yes, somewhat

( ) My level of motivation did not change

( ) No, I was less motivated after GIV

Q7) Did your experience at GIV increase your self-confidence? By self-confidence we mean having faith in your own judgment and ability.

( ) Yes, to a large degree

( ) Yes, somewhat

( ) My level of self-confidence did not change

( ) No, I was less self-confident after GIV

Q8) Did your experience at GIV increase your self-esteem? By self-esteem we mean self-respect or acceptance of yourself.

( ) Yes, to a large degree

( ) Yes, somewhat

( ) My level of self-esteem did not change

( ) No, I had lower self-esteem after GIV

Q9)Do you feel GIV helped you with…

	Yes	No	Not sure	N/A
A) Feeling more prepared for college life	( )	( )	( )	( )
B) Choosing a direction in your education	( )	( )	( )	( )
C) Figuring out which career to pursue	( )	( )	( )	( )
D) Academic motivation	( )	( )	( )	( )
E) Feeling more comfortable in social situations	( )	( )	( )	( )
F) Feeling a greater sense of belonging	( )	( )	( )	( )
G) Other (please specify)	( )	( )	( )	( )

Comments: _____

_____

Q10) Please select the most advanced level of education you have completed since attending GIV.

( ) Some high school

( ) High school/GED

( ) Some college/post-secondary

( ) Certificate/Industry recognized credential

( ) Associate's degree

( ) Bachelor's degree

( ) Master's degree

( ) Doctoral degree

( ) Professional degree (JD, MD)

( ) Other, please specify _____

Q11) Did your experience at GIV affect you as you continued your education after high school? Check all that apply.

[ ] A) GIV made me more likely to attend college/post-secondary school

[ ] B) I felt more comfortable in a college/post-secondary setting

[ ] C) I felt more confident in my academic ability

[ ] D) I felt more confident socially

[ ] E) I was more certain about what I wanted to study

[ ] F) I chose my school because of faculty or peers I met at GIV

[ ] G) None of the above

[ ] H) Comments _____

Q12) Did your experience at GIV affect your choice of major or academic focus?

( ) Yes, directly

( ) Yes, indirectly

( ) No

Care to explain? _____

Q13) In your opinion, did your experience at GIV influence your choice of career?

( ) Yes, to a large degree

( ) Yes, to some degree

( ) Somewhat

( ) No, very little

( ) No, not at all

( ) I have not begun my career

Q14) Are there ways your GIV experience has helped you in your work environment? Check all that apply.

[ ] A) Connections/people

[ ] B) Exposure to career choices

[ ] C) Technical skills learned

[ ] D) Personal skills learned

[ ] E) Other

F) Please explain. _____

Q15) Please give 2-3 examples of specific hands-on skill or knowledge related to [Q1] that you gained at the Institute.

_____
_____

Q16) After attending GIV, did you feel more aware of exciting or interesting career or educational opportunities?

( ) Yes, GIV made me more aware of possibilities for my future

( ) No, GIV did not make me more aware of possibilities for my future

Q17) In your own words, please tell us what long-term impact you think your experience at GIV has had on you as a person, or on the direction your life has taken.

_____
_____

Q18) We'd also love to hear a significant memory you have of GIV.

_____
_____

Q19) What high school did you attend when you participated in GIV? _____

Q20)During my high school years the [Q1] Institute was one of my most important educational/creative experiences.

( ) Agree strongly

( ) Agree

( ) Disagree

( ) Disagree strongly

Q21) Other then GIV, were there any classes or programs in your area that offered in-depth access to [Q1]?

( ) Yes, in my high school

( ) Yes, in an extracurricular setting

( ) Yes, in both

( )No

Q22) Which of the following program factors were important to your GIV experience? Choose N/A if the program factor wasn't part of your experience.

	Yes, extremely important	Yes, very important	Yes, moderately important	Slightly important	Not important	N/A
Being in a college setting	( )	( )	( )	( )	( )	( )
Being away from home	( )	( )	( )	( )	( )	( )
Faculty who were professionals in the field	( )	( )	( )	( )	( )	( )
An culture that valued learning	( )	( )	( )	( )	( )	( )
Fellow students with similar interests	( )	( )	( )	( )	( )	( )
Site-visits and field trips	( )	( )	( )	( )	( )	( )
Self-directed learning	( )	( )	( )	( )	( )	( )
Hands-on projects and problems solving	( )	( )	( )	( )	( )	( )
Team-based work	( )	( )	( )	( )	( )	( )
Presentations to faculty and peers	( )	( )	( )	( )	( )	( )

Appendix B

GIV survey respondents, breakdown by county at the time of program attendance

County:	Number of respondents:
Addison	31
Bennington	13
Caledonia	21
Chittenden	62
Essex	4
Franklin	23
Lamoille	26
Orange	19
Orleans	16
Rutland	30
Washington	47
Windham	24
Windsor	24
Homeschool	3
VT Residents in out-of-State Schools	5
(blank)	34
Grand Total	382

Appendix C

A look at Question 21, whether or not respondents felt they had in-depth access to similar programs, with responses grouped by time period.