GLOBALORIA SHOW & Tell

Globaloria: An Evaluation Report
On two Out-of-School Implementations
in Silicon Valley

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Prepared for
The World Wide Workshop

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Rockman et al
Independent · Insightful · Informative

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An Evaluation Report
On two Out-of-School Implementations in Silicon Valley

Introduction

Rockman et al, an independent research and evaluation firm specializing in educational technology programs, conducted an evaluation of the first year implementation of the Globaloria program in San Jose—including after-school programming at two Boys and Girls Clubs in the Silicon Valley. The evaluation effort was designed to be participatory in nature and participants and other stakeholders at each of the two participating Clubs were invited to be our evaluation collaborators. To supplement data generated through the participatory evaluation process, the evaluation team also analyzed data from national Globaloria participant surveys, administered a brief supplemental survey, studied program artifacts generated by participants on the Globaloria website, spoke regularly with program facilitators and staff, and conducted two site visits.

Levin Clubhouse

The Levin Clubhouse, part of the Boys and Girls Clubs of Silicon Valley, had 50 registered Globaloria participants (mostly in middle school, but also including a few high school students). Participation levels among different youth varied greatly over the course of the year and a few participants ultimately dropped out. About 30 participants at this site remained active throughout the year.

Participants were broken up into three class groups. Each of the groups met for sixty minutes, three times a week, on average. Two staff members at the Levin Clubhouse facilitated the Globaloria program, however, both had other instructional and supervisory roles at the Club, and as such, it was challenging for them to devote full attention to the Globaloria program.

A Globaloria participant at the Levin Boys and Girls Club displays the screen mockups he's created for his team's game: "Bully Blaster."

Smythe Clubhouse

The Smythe Clubhouse, also part of the Boys and Girls Clubs of Silicon Valley, enrolled fifteen participants at the start of the year. Because Smythe does not have a middle school nearby, the majority of its members are youth who come from nearby elementary schools (i.e., fifth grade students and younger)—subsequently, many of the original Globaloria participants at Smythe were fourth and fifth graders who struggled with Flash and other aspects of the Globaloria program. Smythe ultimately decided to drop all fourth and fifth grade students from the program and focus on the remaining middle school and high school participants.

Globaloria participants from Smythe talk about their goals during the participatory design presentation session at the end of the year.

Both of the Boys and Girls Clubs struggled with program implementation due to the drop-in nature of participation. Neither site's participants successfully completed a game, however, there were several successful demos produced and many noteworthy game concepts were introduced.

Table 1: Overview of Site Implementation Data and Participant Demographics

	BGC-Levin			BGC-Smythe
	G-Squad 1	G-Squad 2	G-Squad 3	G Squad B
Number of participants	10	21	19	5
Number of teams	4	3	5	2
Ages	10 to 16			13 to 15
Meetings per week	3	3	3	3
Average class length	60 minutes	60 minutes	60 minutes	90 minutes

Participants

Gender

At Levin there was a fairly even balance of male and female participants but at Smythe, female participants outnumbered male participants three to one. Despite the mix of genders, most teams consisted of all male or all female members.
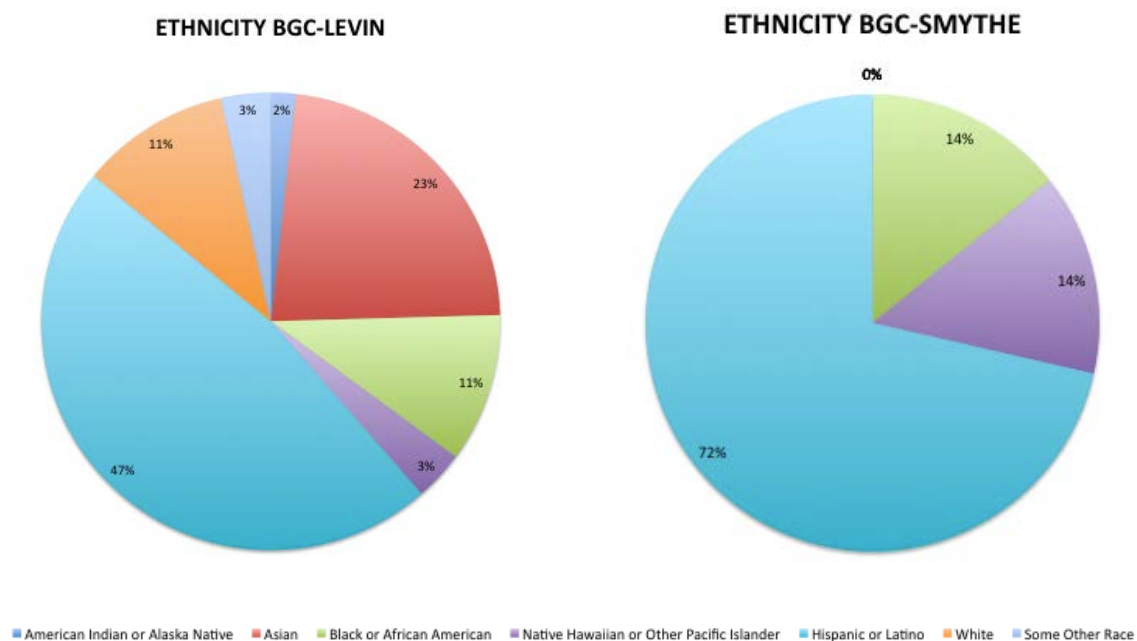
Ages

There was a wider range of ages at Levin, but the average participant age at both sites was around 13 (13.6 for Smythe and 12.7 for Levin). As mentioned above, there were originally several younger participants at Smythe who had to drop out of the program because it was too challenging.

Ethnicity

Participants at Levin were more diverse, ethnographically speaking, than participants at Smythe. This may have been due, however, to the larger numbers of participants at Levin in general, i.e. there was simply more room for diversity.

Figures 1 and 2: Distribution of Participant Ethnicity


ETHNICITY BGC-LEVIN

ETHNICITY BGC-SMYTHE

■ American Indian or Alaska Native   ■ Asian   ■ Black or African American   ■ Native Hawaiian or Other Pacific Islander   ■ Hispanic or Latino   ■ White   ■ Some Other Race

Participant Activity

The evaluation team monitored and assessed point tallies on the Globaloria website as an indicator of participants' activity and engagement with the program. In Globaloria, participants receive points for things they post and edit on their Globaloria wikis, for the files that they upload to the site, and for the activities they complete. Participants at Smythe tended to have higher point tallies than participants at Levin.

Figure 3: Average Participant Scores by Site
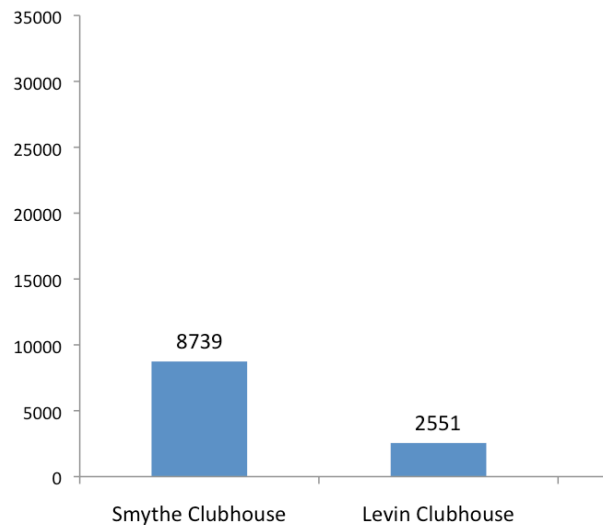
Compared to the number of points that participants could have received, the number of points earned by participants in Boys and Girls Club sites were relatively low. However, more so than an indicator of lower levels of engagement, there is reason to believe that the low point tallies were indicators of challenges faced by participants at the Boys and Girls Clubs. For example, participants in Boys and Girls Clubs did not seem to have enough time to accomplish all tasks and activities that are part of the traditional Globaloria curriculum and there was subsequently not adequate time to reflect on activities or document progress. Additionally, the voluntary nature of participation at the Boys and Girls Club sites meant that attendance could, at times, be sporadic and that there was less extrinsic motivation for participants—especially to complete reflection activities and document work. Changes to the Globaloria curriculum that address some of the unique scheduling and motivational challenges in out-of-school settings could possibly help to alleviate these challenges in future years.

Evaluation Methodology

Rockman Et Al worked with the World Wide Workshop to develop and implement a quasi-participatory evaluation of its Globaloria program in the Silicon Valley from the fall of 2011 through the spring of 2012. The decision to use a participatory approach stemmed from programmatic interests to broaden the general skill sets of participants and to foster community outreach, as well as a desire to streamline data collection with a potentially scalable strategy. Specifically, the evaluation effort included:

- A kick-off presentation and goal setting session in the fall of 2011,
- Periodic check-in calls with the Globaloria facilitator for the Boys and Girls Clubs,
- Review of online resources developed by participants as part of the Globaloria program,
- Analysis of pre-, mid-, and post-program participant surveys (including additional survey items implemented solely in San Jose), and
- A final presentation and Q&A session held jointly with both of the Boys and Girls Clubs.

Kickoff Meeting

During the kickoff meeting held in November of 2011, participants were introduced to the concept of evaluation. However, the evaluation team opted to use the term "Show and Tell," feeling that it was a more approachable concept for youth. Each part of the participatory evaluation process was explained and expectations were outlined. Participants also completed a goal setting activity.

As part of the goal-setting activity, participants were asked to jot goals on post-it notes and place them on posters. One poster was provided for participant-level goals, another poster was provided for club-level goals, and a third poster was provided for community-level goals. The notes from each poster were coded and transferred to a digital poster (color-coded by theme). Themes were then summarized and shared with participants.
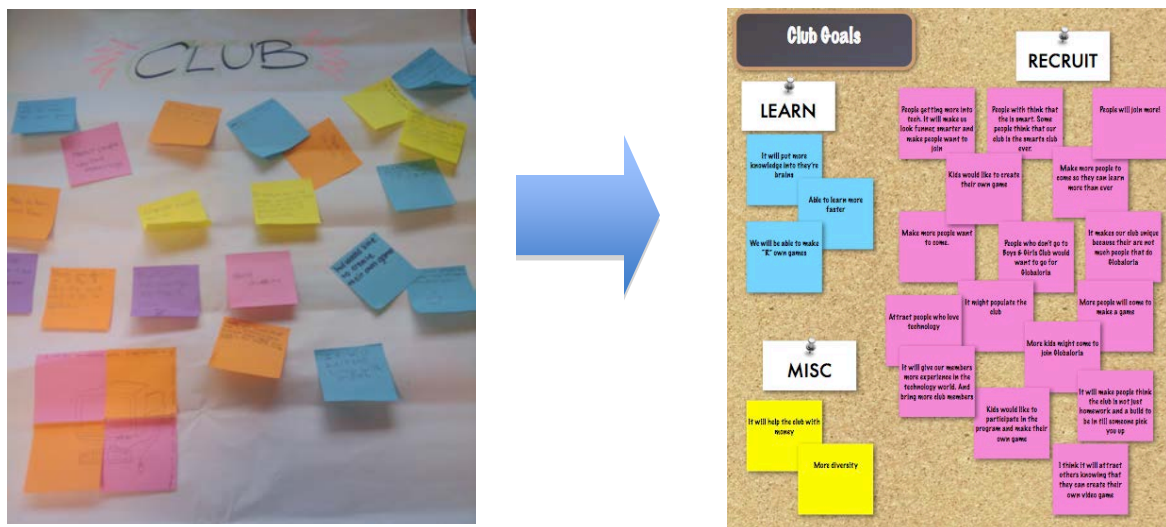
The goals generated by the participants at the Boys and Girls Clubs included the following:

Participant-Level Goals:

- Create/Complete a Game, (a game that people enjoy playing)
- Learn new things, e.g., specific game-creation skills
- Become better prepared for the future, e.g., college and careers
- Have Fun

Club-Level Goal:

- Attract new members

Community Goals:

- Educate/help community members
- Make connections within community

Final Presentation Session

A final presentation session was held with participants from both Clubs at the Levin Boys and Girls Clubhouse in May of 2012. During their presentations, participants had a chance to indicate the extent to which they felt they had accomplished the goals they identified at the beginning of the yea. The question and answer period after each presentation gave evaluators a chance to seek clarification and additional information about the extent of goal-completion in instances where information was lacking in participants' presentations or other data gathered over the course of the year.

Right: Participants from Smythe present about their games and Globaloria experience at the final presentation session.

Below: participants from Levin demonstrate the game they created.

Data Analysis

Since this was a participatory evaluation, the evaluation team used participants' goals (listed on the previous page) to guide the analysis of data. The participants' goals became the main themes around which subsequent data collection and analysis were organized.

Online survey data provided a demographic snapshot of each group of participants and allowed the evaluation team to search for evidence of participants' goal-completion from a quantitative perspective. Site visit data, including observations and presentations, and the materials produced and posted online by participants, were largely qualitative in nature, but whenever possible we sought to quantify basic information, e.g., number of blog posts or number of points.

Over the course of the year it became apparent that participants at the Boys and Girls Clubs were posting less on their blogs and wikis than is customary for Globaloria participants. Even though the youth were presented with the same prompts to post and reflect on their experience, their facilitator suggested that there was neither ample time nor intrinsic motivation to complete these reflections. There was subsequently a more limited amount of qualitative data than anticipated.

The following section of this report explores findings and outcomes from this participatory evaluation effort. In addition to the data shared in support of various findings in the next section of this report, there is also a basic analysis of participants' responses to the pre- and post-program surveys presented in Appendix A and a summary of the results from the supplemental survey administered in San Jose presented in Appendix B. Additional instruments used specifically in San Jose to gather data are presented in Appendices C and D.

Findings and Outcomes

In this section we explore club members' goals in greater detail and examine the extent to which they were met. In the first sub-section we explore the participant-level goals that Club members set for themselves, in the second sub-section, we examine the main goal that participants set at the Club-level, and finally in the third sub-section we consider broader impacts on the community.

Participant-Level Outcomes

Over the course of the year, Globaloria participants learned a great deal about game design and were able to acquire new skills in the process. There is a variety of evidence to support the fact that participants were acquiring new skills and evidence to suggest that participants were having fun, despite the fact—or perhaps, *because*—they were being challenged. This section explores the specific outcomes of the Globaloria program in the two Boys and Girls Clubs in greater detail.

Game Completion

Participants in the Boys and Girls Clubs produced impressive game demos, and early prototypes, but did not ultimately have time to complete fully functional games. During the final presentation session, some participants were disappointed that they had not been able to complete games; others were pleased with what they had been able to accomplish and quickly cited lack of time and resources and the need for additional support as obstacles that held them back where this goal was concerned. It is inspiring to note that a handful of participants had continued working on their games even after the Globaloria deadline for submitting completed work had passed. When the evaluator asked each team if they were planning to keep working on their game, each group indicated their intention to keep working until they finish their game.

Learning New Things

Despite the fact that participants in the Boys and Girls Clubs had not yet completed their games, there is ample evidence to suggest that they learned a great deal about the game development process and acquired specific technical skills. For example, participants learned about the various steps involved in creating a game and acquired vocabulary related to game creation. There were also some examples of the game design skills that participants were acquiring in participants' blogs. The following is an example from one participants' blog:

My team and I are using visual story telling by showing them all of the places one can go to and how it would effect their health. Like the type of food you eat or if you decide to go out for a run. And also how the player will guide Bertha throughout many days of her life. An example of this will be like levels, it would show that the player is making progress, even if it takes a lot of time. Other games have influenced me like a Story game when you play in the life of someone else. - Participant from Smythe

During participants' presentations, it was clear that there were an abundance of game ideas. Each of the groups that presented during the final session explained the process by which they came to realize that they needed to scale back in order to have a more manageable project. This editing and refinement process is, in and of itself, an important part of the game-design process. It also

seemed that participants in the Clubs had gained a deeper appreciation for how much work it takes to create a game, as indicated in the quotes below.

(We wanted to) build it as fast as we can. Soon we realized that it's much harder than just speeding through. You have to take your time and work at it. – Participant from Levin

I enjoyed using Flash and ActionScript in all. It was hard to use at first but it got easier as I kept going along. And that is the same with almost anything; practice makes perfect. – Participant from Smythe

Each group was able to show examples of scenes or images they had created in Flash and it is interesting to note that the participants from Levin also created their final presentations in Flash. To provide evidence for newly acquired skills in Flash, one of the groups from Smythe presented a set of slides that compared an early mock-up of their game with the in-game screen that they were able to produce (see images below).

The images above, presented by participants at the Smythe Boys and Girls Club demonstrate a progression from paper prototype to a completed screen in Flash.

Participants from both Clubs reflected on the challenges (e.g., the need for additional time and support) that kept them from progressing farther in the game design process. In addition to needing more time to finish what they had set out to accomplish, participants also suggested a need for more resources—technology resources as well as supplies to create their game designs—and perhaps more support or help from staff who are already well-versed in how to use Flash.

Becoming Better Prepared for the Future

In addition to acquiring the specific skills necessary to develop games (e.g., storyboarding, developing mock-ups, Flash coding, and creating graphics), there were additional skills that participants gained and strengthened through the Globaloria program that could be transferred to other parts of their lives and academic pursuits. Based on comments made during the final presentation sessions there is evidence to suggest that participants gained the ability to be more self-directed learners, to work as part of teams, and to develop leadership skills.

Participants learned about the challenges and benefits of teamwork through first-hand experiences. They also had opportunities to see how professional teams function during visits to Adobe and AMD. Through their own experiences and during the aforementioned fieldtrips, participants came to better understand how products can be created more rapidly when tasks can be divided effectively among different team members. Comments shared by participants about teamwork and collaboration include the following:

I learned about teamwork – (my teammates and I) didn't always get along but I had to put it behind me and just work with them. –Participant from Levin

Much more easier with people working in different shifts – it came together faster. – Participant from Levin

I am most proud of working effectively in a group and paper-prototyping was a huge accomplishment. – Participant from Smythe

Having Fun

Despite some of the challenges that participants encountered along the way, and despite the hard work involved in being a Globaloria participant, Club members repeatedly stated how fun the Globaloria program was for them. Perhaps the most tangible evidence of fun, however, is present in the fact that Club members continued to participate over the course of the entire year even when there were several other popular programs vying for their time and attention.

I think that more people should be doing it because it is a good experience. –Participant from Smythe

I have a blast every Monday, Wednesday, and Friday because I learn a lot about technology in the small amount of time. I wish it was daily that would be so cool. At first I was a little hesitant but I am definitely committing to Globaloria now. – Participant from Levin

Organizational-Level Outcomes

The sole organizational-level goal set by participants at the kickoff meeting in the fall of 2011 was to help attract new Club members. Based on the data available, it was difficult to tell whether or not this goal was accomplished. This goal was not specifically addressed by any of the groups during their final presentations and there was not adequate time available to prompt for additional information. Alternatively, teams from both Clubs highlighted the tangible technological benefits of Globaloria, i.e., the acquisition of new computers and Adobe software, and the future benefits of being able to share their games with Club members and families once they are completed.

On June 5th, the Levin Boys and Girls Club also had an opportunity to play host to participants and guests throughout the Silicon Valley and beyond for the Globeys, a special event to celebrate the

Participants from Smythe (at right) among other finalists at the Globeys, hosted by the Levin Boys and Girls Club. Photo from Globaloria's Flickr account.

success of Globaloria participants and the hard work of the facilitators and stakeholders who had helped to make the opportunity possible. Again, there is no tangible evidence available to suggest that hosting this event attracted new members, but it was certainly an opportunity for the Levin Clubhouse and members from both Boys and Girls Clubs to put their best foot forward and show off their Globaloria successes.

Community-Level Outcomes

During the kickoff meeting, participants cited a desire to have an impact on their community and to make new connections within their community. This section explores the extent to which these two community-related goals were accomplished.

Educate Community Members

Participants in the two Boys and Girls Club sites had a great deal of freedom in selecting topics of interest to them and many groups ended up picking game themes that had a pro-social message (e.g., combating childhood obesity, dealing with cyber-bullying, or avoiding drugs). Since participants were still working on their games, they had not yet had the desired impact they sought to have on their community through game-play, but they remained optimistic about the impact that their games would have in the future. Related comments made by participants during their presentations include the following:

Obesity is an epidemic in the United States. It's important for people to know what they can do to help solve it. – Participant from Smythe

Once games are complete, we plan on sharing them with families at our club as well as people in the community. We plan on making them aware of the different issues that they may face. – Participant from Smythe

I think (Weed is Wack) is going to help the community because now kids, or anybody - adults, teens and children…if someone asks them they will not say yes (to drugs). – Participant from Levin

Connecting and Sharing their Knowledge with the Community

As part of their Globaloria experience, Boys and Girls Club participants had opportunities to visit Adobe and AMD. Being able to visit local businesses within their community was inspiring and educational for participants. There is also anecdotal evidence to support the fact that members from these two businesses also benefited from the opportunity to hear from and connect with youth.

Right: Participants from Smythe at Adobe.
From Gloabloria Flickr account.

Discussion and Recommendations

Impacts on Participants, Clubs and Communities

Participants in San Jose were able to meet many of the personal, Club, and community-level goals that they had set for themselves – and even though they were not able to meet all of their goals, there is evidence to suggest that a great amount of learning and skill development took place none-the-less. There is also reason to believe that participants in the Clubs will continue using the resources provided by Globaloria to complete their games and further their knowledge of Flash. Perhaps most exciting, however, is participants' willingness to help support future Globaloria participants by sharing all that they have learned this year, (as indicated in response to a question asked during the final presentation session). Certainly the investment made in both of these Clubs during Globaloria's first year in Silicon Valley will continue to pay out significant dividends over time.

Methodological Strengths and Weaknesses

Participatory evaluation offered an opportunity for a variety of stakeholders in San Jose to become involved in the process of collaboratively evaluating the Globaloria program. Unfortunately, due to time constraints and the rigorous nature of the program, a truly participatory evaluation proved to be challenging. Participants' lack of time, and the understandable need to focus available time on game-design efforts, made it challenging for participants to find ample time to devote to collecting and reflecting on data for evaluation purposes. Despite these challenges, however, program staff and members of the evaluation team felt that there was value in working with participants to articulate their goals and offering opportunities to reflect on these goals at the end of the program.

To enhance the participant-led data collection efforts, the evaluation team sought to mine additional data from the Globaloria site throughout the year (e.g., by looking at participants' blogs and wikis). However, because participants in the Clubs had a short supply of time—especially time for reflection—there was ultimately little useful data that could be found online. There is still some promise for using this type of methodology if changes to the program in future years will help to ensure that there is greater time, and better incentives, for participants to reflect on their work throughout the program.

Participant's Recommendations for the Program

During the final presentation session, participants offered the following recommendations to improve Globaloria, especially in out-of-school settings.

1. More Rewards to Motivate Participants: Participants expressed a desire for there to be more interim prizes, awards, and recognition of their efforts to help keep them motivated throughout the year. When things got more challenging, many of the Club participants (e.g., more than a third of the participants at Levin) dropped out of the program. To help participants stick with Globaloria

even—or especially—when it gets tough, the participants at the Clubs suggested that there be interim contests or rewards that could help motivate them to stay in the program.

3. Refined Curriculum: Because of the unique scheduling constraints of afterschool programming, participants at the Boys and Girls Clubs suggested revisions to the Globaloria curriculum, including scaled-back reflection and reporting activities and the addition of more game design templates to streamline the game development process.

3. More Support: Participants expressed a desire for more one-on-one support from knowledgeable staff and volunteers. The staff at the Boys and Girls Clubs have many competing responsibilities and did not have a great deal of time available to go though the Globaloria training program or to learn Flash, and it was subsequently challenging for them to provide support in some instances. Fortunately, in future years Smythe and Levin will benefit from having several members who now know the basics of Flash. Participants also suggested that community members could be brought in as additional helpers, especially those who have advanced skills in Flash.

Conclusions

In its inaugural year in San Jose, the Globaloria program made an impact on participants and paved the way for further impacts in subsequent years. Even though there were challenges encountered when the traditional Globaloria program was implemented in an out-of-school setting, there was ultimately a wealth of knowledge gained that will allow the program to be modified to better enable success in informal learning environments. The fact that youth stuck with the elective program even though they found it to be challenging is a strong reminder of their interest and appreciation for programming of this nature.

It is the evaluation team's belief that Globaloria will benefit from curricular modifications in future years, and also stands to benefit from the knowledge that participants have gained this year. If veteran participants from this year continue to be involved as mentors or as participants in upcoming years, there will naturally be more helpers available and more collective knowledge of Flash and game-design that can be used to support future participants.

In addition to the skills that Globaloria helped youth participants to develop, the program also gave participants and Clubs an opportunity to connect with and contribute to their community in unique ways. Specifically, Globaloria allows the Clubs to connect in new ways with the San Jose community and start a dialogue about common interests and goals (e.g., game design and programming), and offers participants a new platform for communicating messages that they feel are important for their community to hear.

Appendices

A. Summary of San Jose Pre-/Post- Program Survey Data
B. Summary Mid-Year Survey Data
C. Supplemental Mid-Year Survey Instrument
D. Check-in Call Interview Protocol

Appendix A: Pre-Post Survey Comparison

Online surveys were administered to Globaloria participants nation-wide at the beginning, middle and end of the Globaloria program. Survey data for San Jose was analyzed to provide additional insight on outcomes – the data below represents a basic comparison of pre- and post-program survey responses from Boys and Girls Club participants in San Jose.
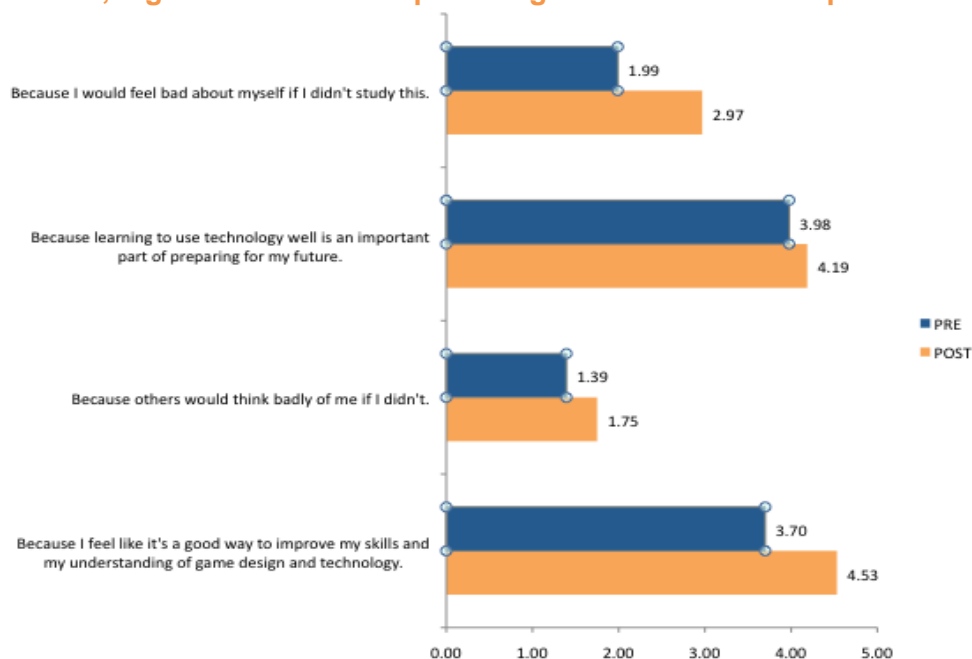
Reasons for Participating

I'm participating in the Game Design Class…

The following figures represent pre- and post-program survey data for Club-based participants in San Jose in response to a question that asked participants to indicate their level of agreement with a series of statements about their reasons for participating in Globaloria. The average scores in the figures below are based on a five-point scale where 1="Not at all true," 2=Not usually true," 3="Sometimes true," 4="Usually true," and 5="Very true."

It is understandable, and in fact, desirable in some instances for there to be less agreement at the end of the program than at the beginning—especially in instances where the statements represent extrinsic, rather than intrinsic reasons for participation. For example, it is desirable for there to be less agreement with the following extrinsic reason for participation: "Because others would think badly of me if I didn't (participate)." Likewise, it is desirable for there to be more agreement with intrinsic reasons for participation, e.g. "Because I feel like it's a good way to improve my skills and my understanding of game design and technology."

Appendix A, Figure 1: Club Participants' Agreement with Participation Reasons

Appendix A, Figures 2 and 3, Individual Club Participation Reason Data

Because I would feel bad about myself if I didn't study this. — 2.18 / 2.44

Because learning to use technology well is an important part of preparing for my future. — 3.96 / 4.13

Because others would think badly of me if I didn't. — 1.59 / 1.75

Because I feel like it's a good way to improve my skills and my understanding of game design and technology. — 4.00 / 4.06

BGC_LEVIN_PRE
BGC_LEVIN_POST

Because I would feel bad about myself if I didn't study this. — 1.80 / 3.50

Because learning to use technology well is an important part of preparing for my future. — 4.00 / 4.25

Because others would think badly of me if I didn't. — 1.20 / 1.75

Because I feel like it's a good way to improve my skills and my understanding of game design and technology. — 3.40 / 5.00

BGC_SMYTHE_PRE
BGC_SMYTHE_POST

I follow along with lessons …

The next set of questions on the pre- and post-program survey asked participants to indicate their level of agreement with a set of statements about continuing to participate in the program. The average scores in the figures below are based on a five-point scale where 1="Not at all true," 2=Not usually true," 3="Sometimes true," 4="Usually true," and 5="Very true."

Appendix A, Figure 4: Club Participants' Agreement with Reasons to Follow Along

Chart 1 (BGC_LEVIN_PRE / BGC_LEVIN_POST):

Reason	BGC_LEVIN_PRE	BGC_LEVIN_POST
Because I would probably feel guilty if I didn't comply with the class lessons.	2.49	2.88
Because it's important to me to do well at this.	3.49	3.75
Because it's easier to do what I'm told than to think about it.	2.86	2.88
Because I want others to think that I am good with technology.	3.22	2.56
Because I believe the class will help me use technology effectively.	4.09	4.06
Because I expect to get a good grade if I follow the class lessons.	3.49	2.94

Chart 2 (BGC_SMYTHE_PRE / BGC_SMYTHE_POST):

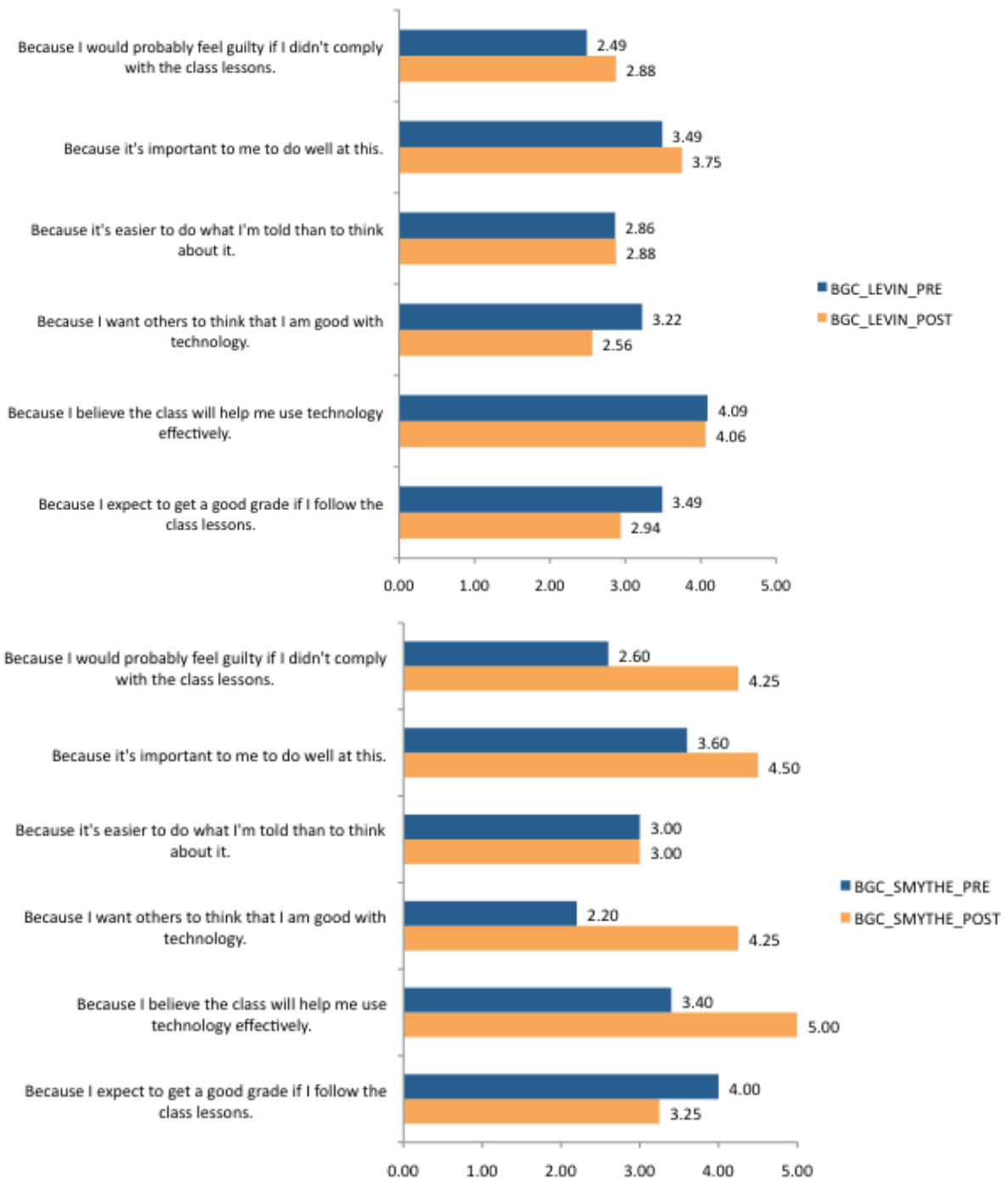| Reason	BGC_SMYTHE_PRE	BGC_SMYTHE_POST
Because I would probably feel guilty if I didn't comply with the class lessons.	2.60	4.25
Because it's important to me to do well at this.	3.60	4.50
Because it's easier to do what I'm told than to think about it.	3.00	3.00
Because I want others to think that I am good with technology.	2.20	4.25
Because I believe the class will help me use technology effectively.	3.40	5.00
Because I expect to get a good grade if I follow the class lessons.	4.00	3.25

The next set of questions on the pre- and post-program survey asked participants to indicate their level of agreement with a set of statements about plans for continuing to strength technology and game design skills. The average scores in the figures below are based on a five-point scale where 1="Not at all true," 2=Not usually true," 3="Sometimes true," 4="Usually true," and 5="Very true."

Appendix A, Figure 7: Club Participants' Agreement with Plans to Continue Strengthening Technology and Game Design Skills
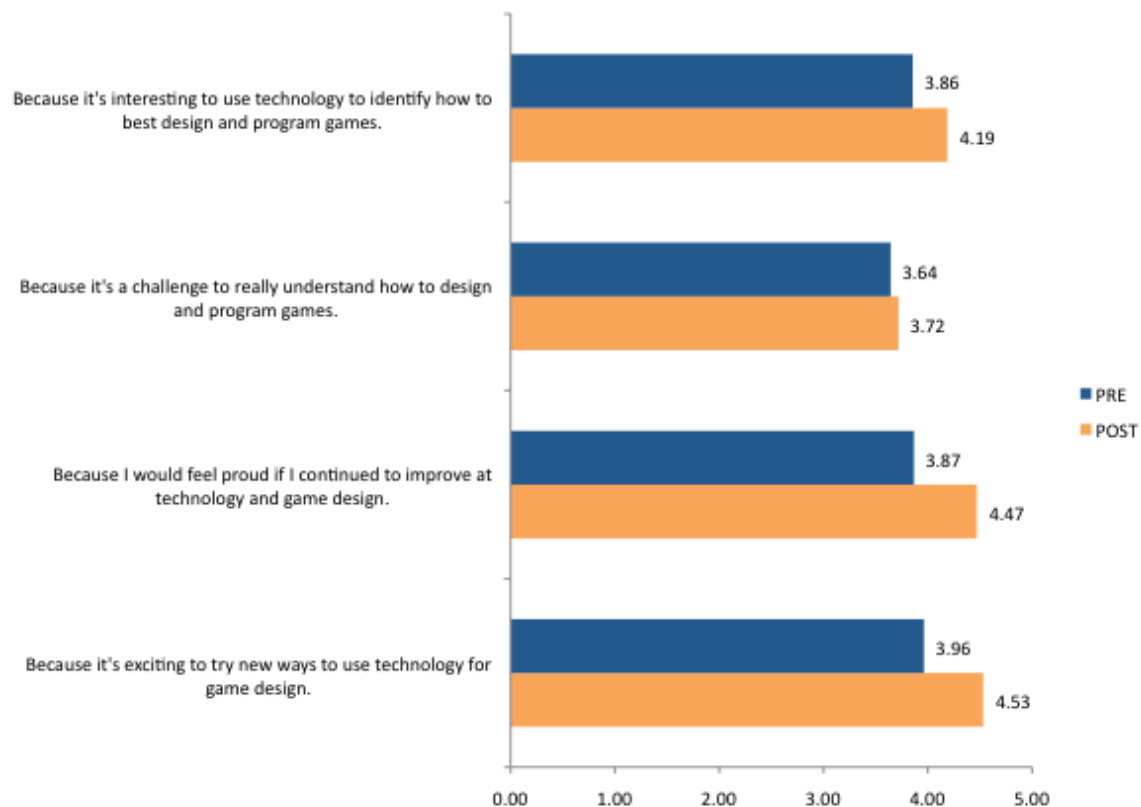
Appendix A, Figures 8 and 9, Individual Club Participants' Agreement with Plans to Continue Strengthening Technology and Game Design Skills

Because it's interesting to use technology to identify how to best design and program games.
BGC_LEVIN_PRE: 4.11
BGC_LEVIN_POST: 3.88

Because it's a challenge to really understand how to design and program games.
BGC_LEVIN_PRE: 3.69
BGC_LEVIN_POST: 3.19

Because I would feel proud if I continued to improve at technology and game design.
BGC_LEVIN_PRE: 3.93
BGC_LEVIN_POST: 4.19

Because it's exciting to try new ways to use technology for game design.
BGC_LEVIN_PRE: 4.33
BGC_LEVIN_POST: 4.06

■ BGC_LEVIN_PRE
■ BGC_LEVIN_POST

Because it's interesting to use technology to identify how to best design and program games.
BGC_SMYTHE_PRE: 3.60
BGC_SMYTHE_POST: 4.50

Because it's a challenge to really understand how to design and program games.
BGC_SMYTHE_PRE: 3.60
BGC_SMYTHE_POST: 4.25

Because I would feel proud if I continued to improve at technology and game design.
BGC_SMYTHE_PRE: 3.80
BGC_SMYTHE_POST: 4.75

Because it's exciting to try new ways to use technology for game design.
BGC_SMYTHE_PRE: 3.60
BGC_SMYTHE_POST: 5.00

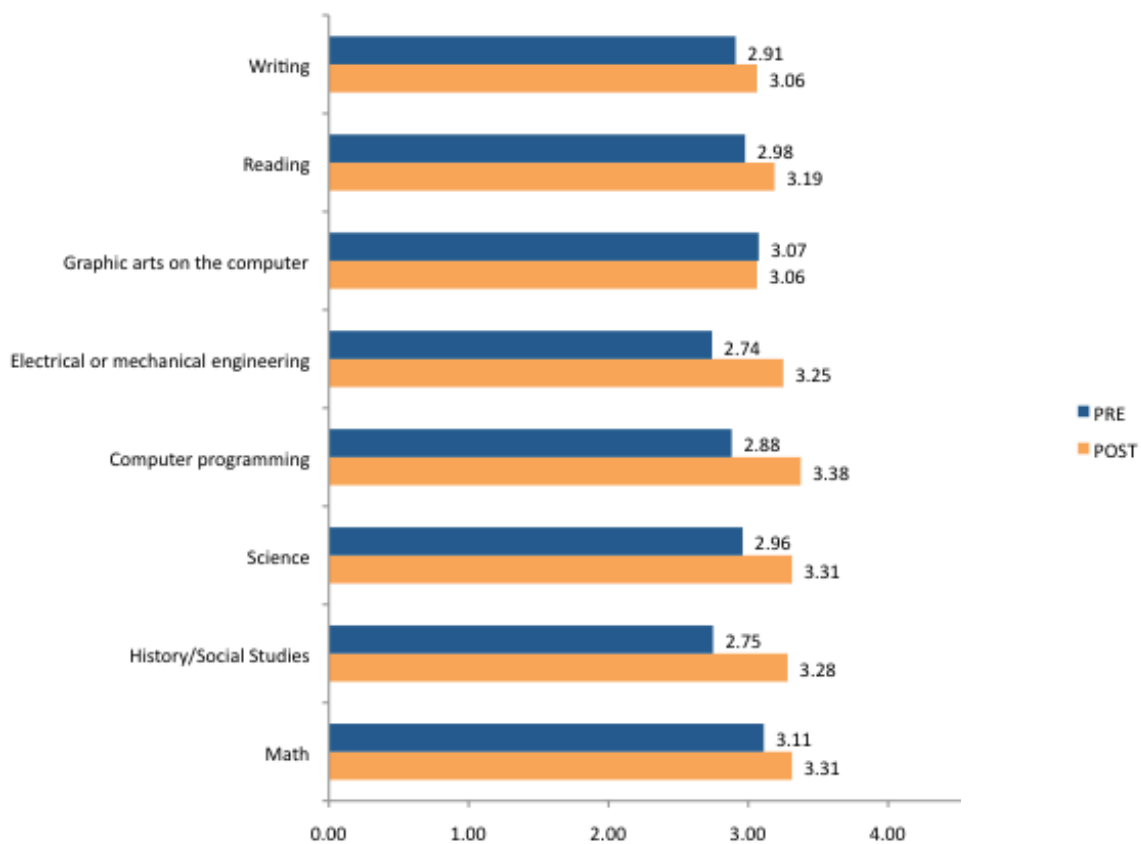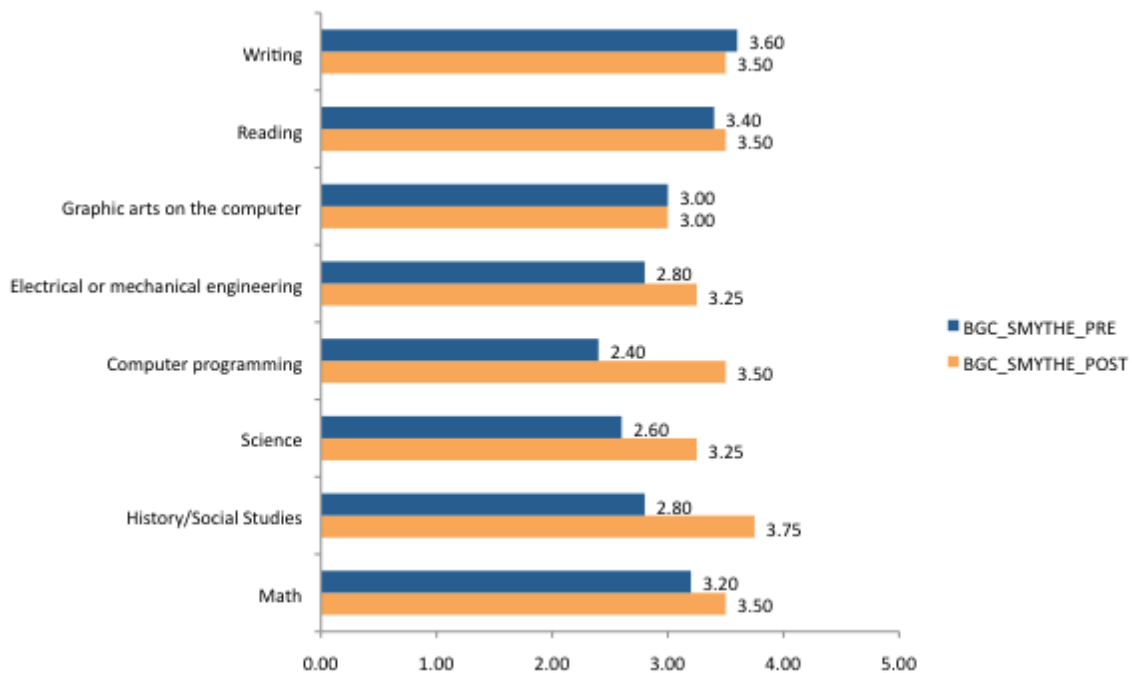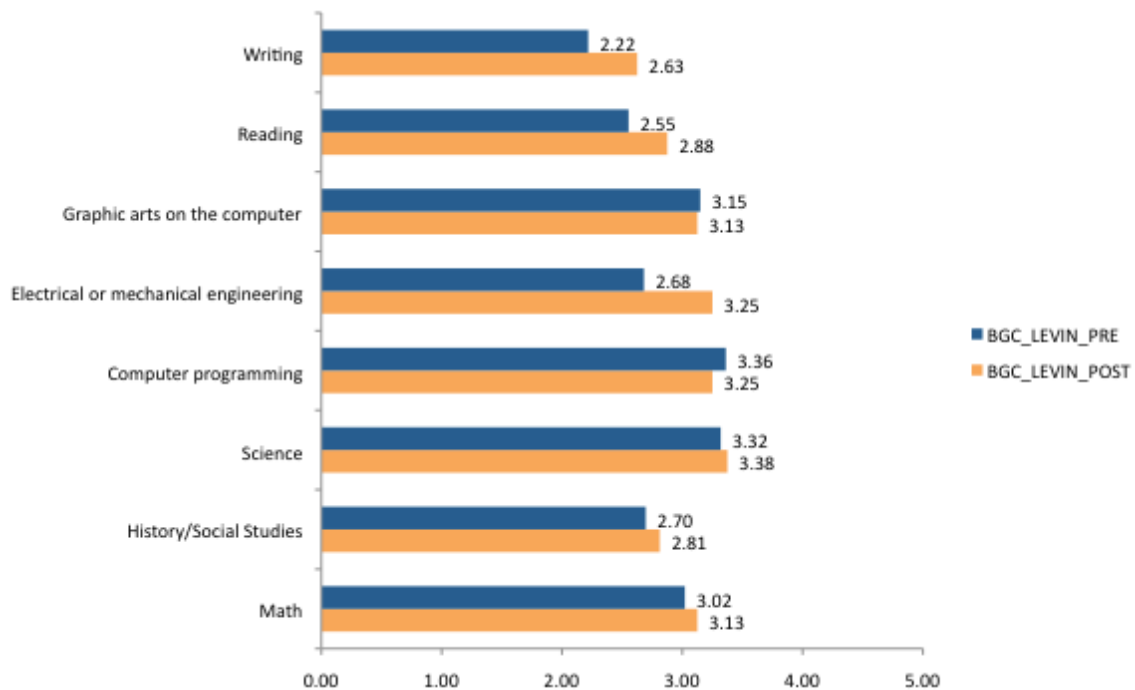■ BGC_SMYTHE_PRE
■ BGC_SMYTHE_POST

Interests

How interested are you in your learning, in the following areas? (academic)

The next set of questions on the pre- and post-program survey asked participants to indicate their level of interest with various academic subjects. The average scores in the figures below are based on a four-point scale where 1="Not at all interested," 2=Only a little interested," 3="Interested," and, 4="Very interested."

Appendix A, Figure 10: Club Participants' Level of Interest in Learning Different Subjects
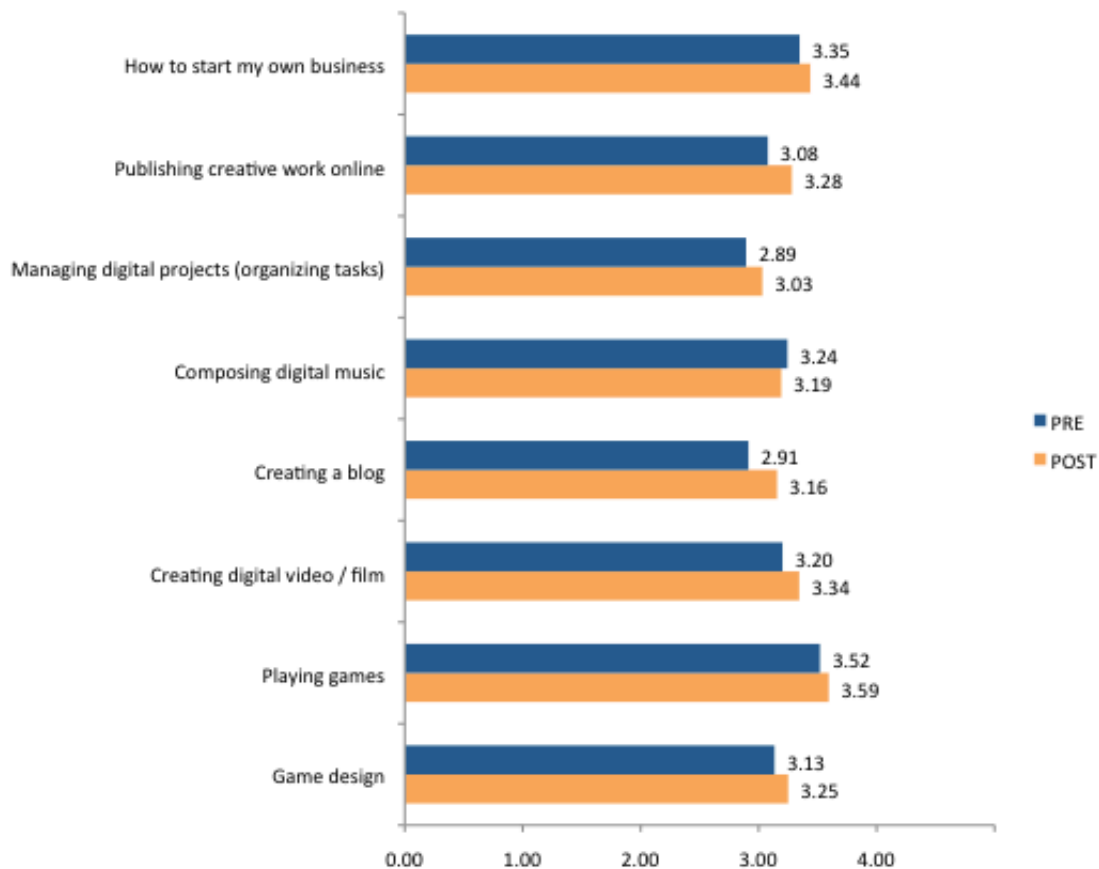
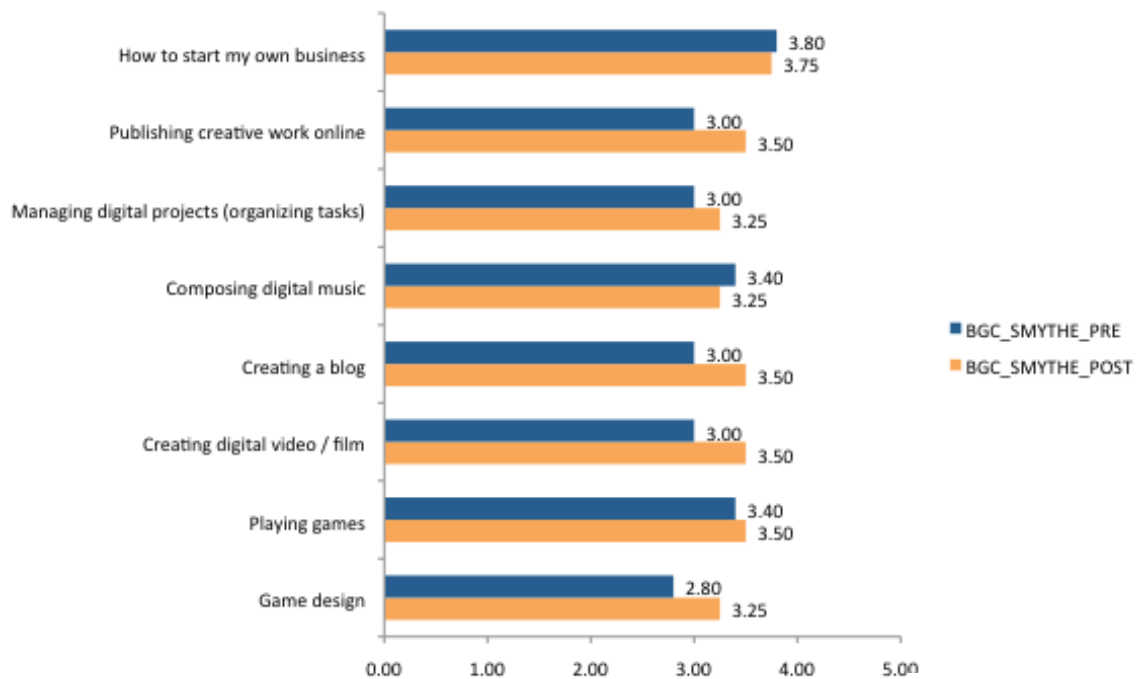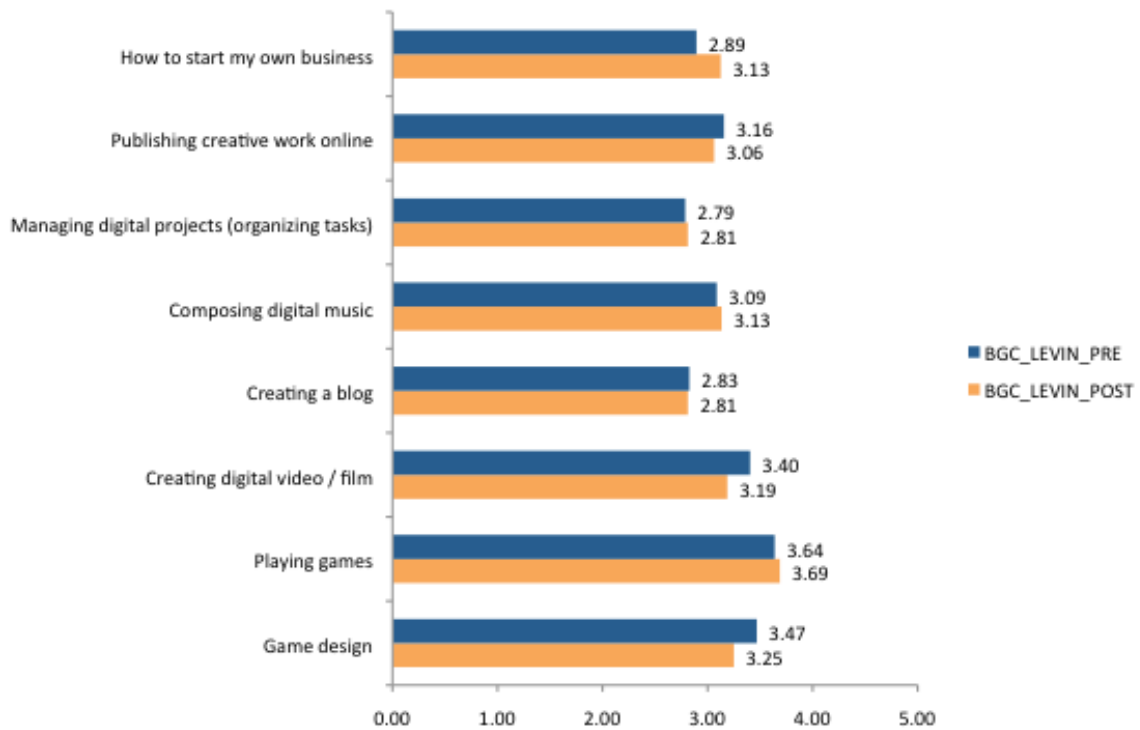## Appendix A, Figures 11 and 12, Individual Club Participants' Level of Interest in Learning Different Subjects

Figure 11 — BGC_LEVIN_PRE / BGC_LEVIN_POST

Subject	BGC_LEVIN_PRE	BGC_LEVIN_POST
Writing	2.22	2.63
Reading	2.55	2.88
Graphic arts on the computer	3.15	3.13
Electrical or mechanical engineering	2.68	3.25
Computer programming	3.36	3.25
Science	3.32	3.38
History/Social Studies	2.70	2.81
Math	3.02	3.13

Figure 12 — BGC_SMYTHE_PRE / BGC_SMYTHE_POST

Subject	BGC_SMYTHE_PRE	BGC_SMYTHE_POST
Writing	3.60	3.50
Reading	3.40	3.50
Graphic arts on the computer	3.00	3.00
Electrical or mechanical engineering	2.80	3.25
Computer programming	2.40	3.50
Science	2.60	3.25
History/Social Studies	2.80	3.75
Math	3.20	3.50

The next set of questions on the pre- and post-program survey asked participants to indicate their level of interest with various game-design subject areas. The average scores in the figures below are based on a four-point scale where 1="Not at all interested," 2=Only a little interested," 3="Interested," and, 4="Very interested."

Appendix A, Figure 13: Club Participants' Level of Interest in Learning Different Game Design Subjects

Appendix A, Figures 14 and 15, Individual Club Participants' Level of Interest in Learning Different Game Design Subjects


Chart 1 (BGC_LEVIN_PRE / BGC_LEVIN_POST):

Subject	BGC_LEVIN_PRE	BGC_LEVIN_POST
How to start my own business	2.89	3.13
Publishing creative work online	3.16	3.06
Managing digital projects (organizing tasks)	2.79	2.81
Composing digital music	3.09	3.13
Creating a blog	2.83	2.81
Creating digital video / film	3.40	3.19
Playing games	3.64	3.69
Game design	3.47	3.25

Chart 2 (BGC_SMYTHE_PRE / BGC_SMYTHE_POST):

Subject	BGC_SMYTHE_PRE	BGC_SMYTHE_POST
How to start my own business	3.80	3.75
Publishing creative work online	3.00	3.50
Managing digital projects (organizing tasks)	3.00	3.25
Composing digital music	3.40	3.25
Creating a blog	3.00	3.50
Creating digital video / film	3.00	3.50
Playing games	3.40	3.50
Game design	2.80	3.25

Feelings of Confidence in Learning
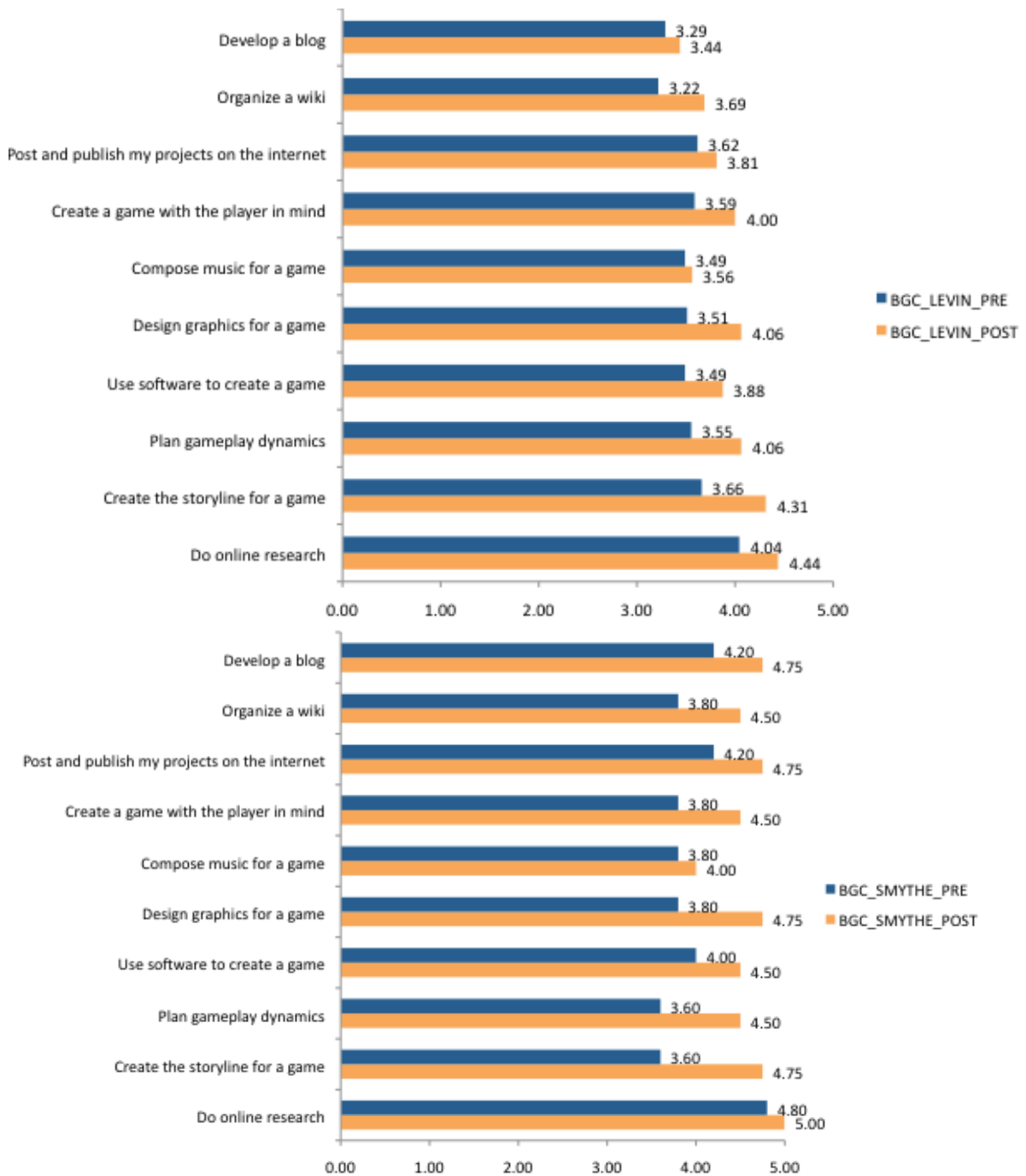
How confident are you in your own ability to…

The next set of questions on the pre- and post-program survey asked participants to indicate their level of confidence in a variety of skills. The average scores in the figures below are based on a five-point scale where 1="Cannot do at all," 2=Probably cannot do," 3="Maybe," 4="Probably can do," and 5="Definitely can do."

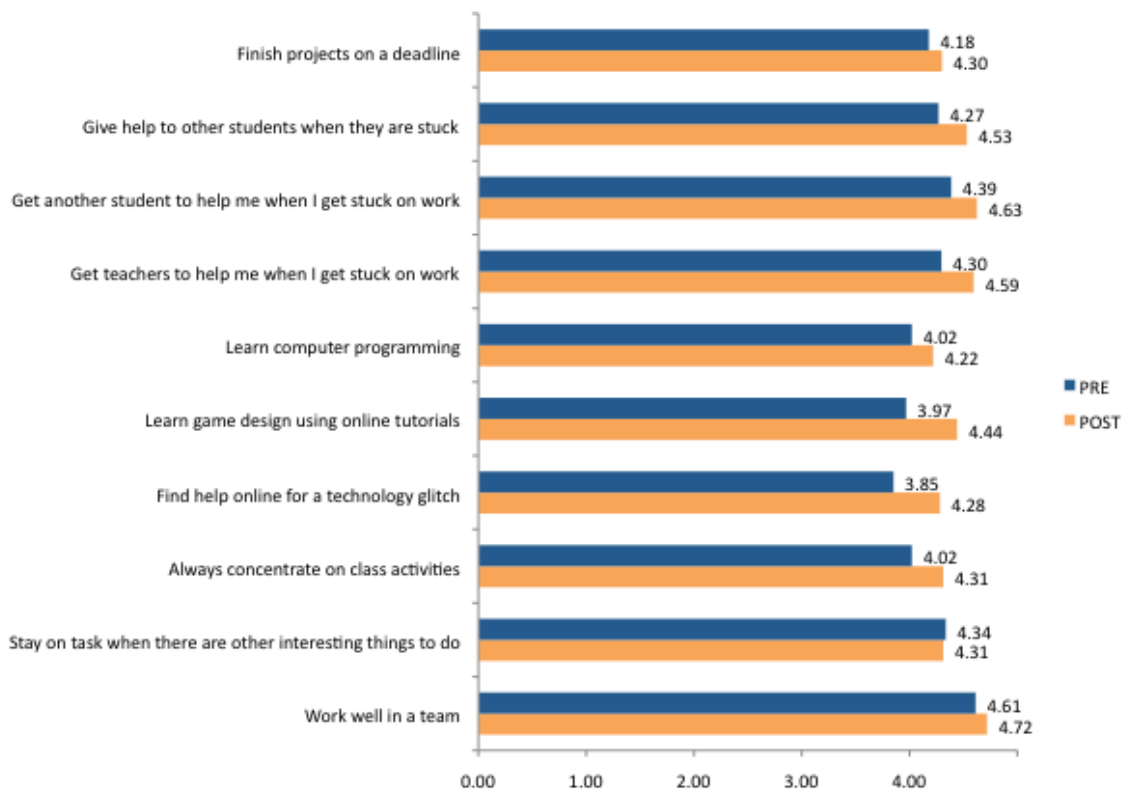**Appendix A, Figure 16: Club Participants' Level of Confidence in their Abilities**
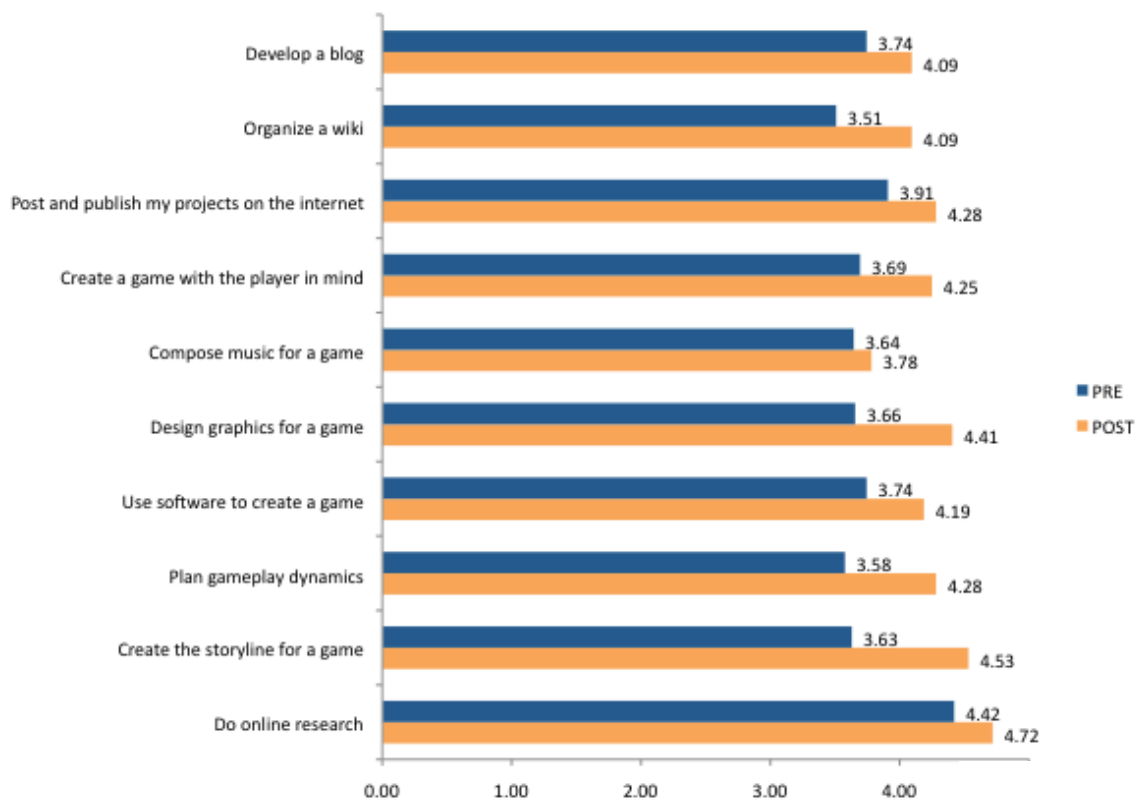
Appendix A, Figures 17 and 18, Individual Club Participants' Level of Confidence in their Abilities


Figure 17 (BGC_LEVIN_PRE / BGC_LEVIN_POST):

Ability	PRE	POST
Develop a blog	3.29	3.44
Organize a wiki	3.22	3.69
Post and publish my projects on the internet	3.62	3.81
Create a game with the player in mind	3.59	4.00
Compose music for a game	3.49	3.56
Design graphics for a game	3.51	4.06
Use software to create a game	3.49	3.88
Plan gameplay dynamics	3.55	4.06
Create the storyline for a game	3.66	4.31
Do online research	4.04	4.44

Figure 18 (BGC_SMYTHE_PRE / BGC_SMYTHE_POST):

Ability	PRE	POST
Develop a blog	4.20	4.75
Organize a wiki	3.80	4.50
Post and publish my projects on the internet	4.20	4.75
Create a game with the player in mind	3.80	4.50
Compose music for a game	3.80	4.00
Design graphics for a game	3.80	4.75
Use software to create a game	4.00	4.50
Plan gameplay dynamics	3.60	4.50
Create the storyline for a game	3.60	4.75
Do online research	4.80	5.00

How confident are you in your own ability to… (additional)

The next set of questions on the pre- and post-program survey asked participants to indicate their level of confidence in a set of additional skills. The average scores in the figures below are based on a five-point scale where 1="Cannot do at all," 2=Probably cannot do," 3="Maybe," 4="Probably can do," and 5="Definitely can do."

Appendix A, Figure 19: Club Participants' Level of Confidence in Additional Abilities

Appendix A, Figures 20 and 21, Individual Club Participants' Level of Confidence in Additional Abilities
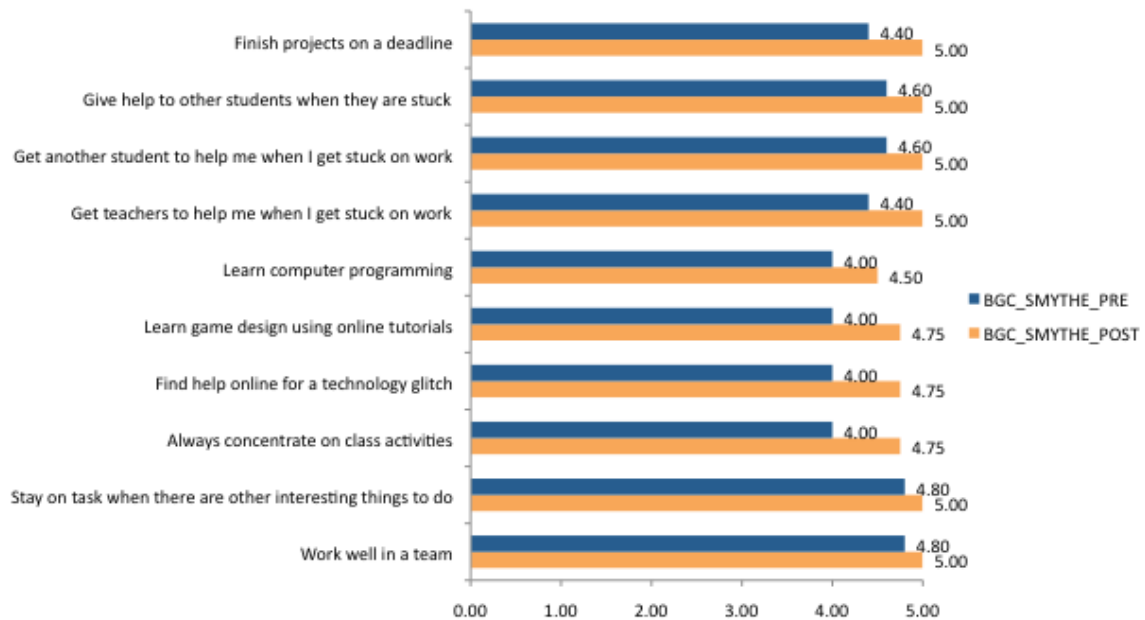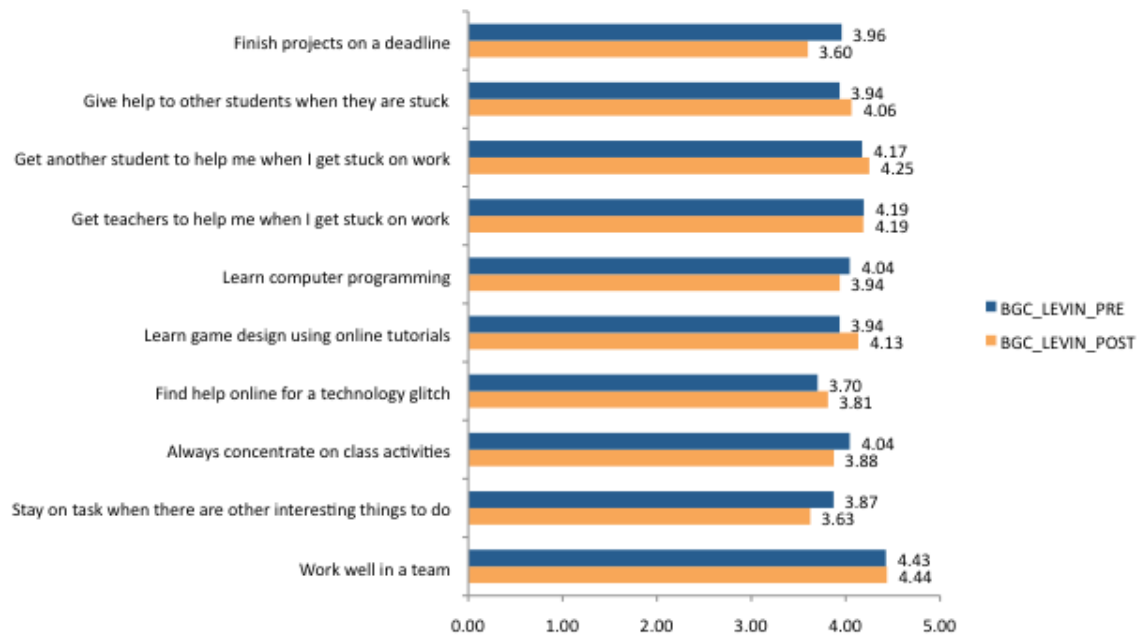
Appendix B: Summary of Mid-Year Survey Data

A set of additional questions were administered to participants in San Jose via an online survey. The participants in San Jose also completed the program-wide mid-year survey, but only the supplemental questions answered by students in San Jose are analyzed below.

Meeting Participants' Expectations

Participants were asked to indicate if the Globaloria program was:

- As educational as I expected it to be.
- As challenging as I expected it to be.
- As fun as I expected it to be.

There was a five-point response scale where 1="Much Less," 2="A little less," 3="About the same," 4="A little more," and 5="Much more." The table below shows average responses for each question in each of the Clubs. As a point of comparison, the overall average includes responses from all participants, including those from the two School sites in San Jose as well.

Appendix B, Table 1: Average Response by Site

Site Name	Fun	Challenging	Educational
BGCA - Levin	4.07	4.20	4.07
BGCA – Smythe	3.80	3.00	3.60
Overall	**3.86**	**3.47**	**4.03**

Mid-Year Response to Globaloria

Participants were also asked to indicate their level of agreement with the following questions:

- Globaloria makes me care more about school.
- Globaloria makes me work harder in school.
- Globaloria makes me care more about my community.
- Globaloria makes me think more about my future and possible careers.
- Globaloria makes me feel proud of my skills and abilities.
- Globaloria is a fun way to learn about designing games.
- After Globaloria, I plan to create more games.

There was a five-point response scale where: 1="Strongly disagree," 2="Disagree a little," 3="Neither agree nor disagree," 4="Agree a little," and 5="Strongly agree." Responses are summarized in the following tables.

Appendix B, Tables 2 and 3:Average Response by Site

Site Name	care about school	work harder in school	care about community	think about my future/careers
BGCA - Levin	3.73	3.93	3.67	4.07
BGCA – Smythe	3.80	3.80	3.60	4.40
Overall	3.65	3.68	3.48	4.13

Site Name	feel proud of skills/abilities	fun way to learn about games	I plan to create more games
BGCA - Levin	4.33	4.27	3.53
BGCA – Smythe	4.60	4.20	3.80
Overall	4.22	4.35	3.68

Self-Rated Game Design Abilities

We were also interested in learning more about participants' emerging game design abilities – and the emergence or strength of different skills in relation to each other. They rated their ability on each of the following skills using a five-point scale where 1="Not at all," 2="Not very well," 3="Somewhat able," 4="Pretty well," and 5="Very well."

- Coming up with ideas for a game
- Picking a single idea or direction for a game
- Doing research/finding good information
- Documenting my progress on wikis and blogs
- Planning and outlining all the different parts of a game
- Building a prototype of a game
- Creating scenes in Flash
- Creating/adding sound files
- Creating/adding animations
- Adding interactive features to a game
- Creating/using programming codes and scripts
- Testing and troubleshooting a game
- Fixing problems or programming bugs
- Presenting information about a game to others.

Appendix B, Tables 4-7: Average Self-Rated Ability by Site

Site Name	Generating Ideas	Picking idea	Doing research	Wikis and Blogs
BGCA - Levin	4.27	3.80	4.13	3.67
BGCA – Smythe	4.20	4.20	4.00	4.00
Overall	4.04	3.70	3.92	3.89

Site Name	Planning parts	Prototype	Scenes Flash	Sound
BGCA - Levin	3.87	3.80	3.60	3.20
BGCA – Smythe	3.60	3.80	4.20	3.60
Overall	3.73	3.66	3.86	3.34

Site Name	Animations	Interactive features	Codes and Scripts
BGCA - Levin	3.33	3.67	3.53
BGCA – Smythe	3.60	3.60	3.20
Overall	3.82	3.65	3.49

Site Name	Troubleshooting	Fixing problems	Presenting information
BGCA - Levin	3.33	3.20	4.00
BGCA – Smythe	3.20	3.20	4.40
Overall	3.38	3.01	3.56

Appendix C: Supplemental Mid-Year Survey Instrument

GLOBALORIA Mid-Year Survey

First Name: Last Name:

At which site do you participate in Globaloria?

1. So far, Globaloria has been:	Much Less	A little less	About the same	A little more	Much More
a. As fun as I expected it to be.	O	O	O	O	O
b. As challenging as I expected it to be.	O	O	O	O	O
c. As educational as I expected it to be.	O	O	O	O	O

2. So far, how would you rate your ability to do the following game design tasks:	Not at all	Not very well	Somewhat able	Pretty Well	Very Well
a. Coming up with ideas for a game.	O	O	O	O	O
b. Picking a single idea or direction for a game.	O	O	O	O	O
c. Doing research/finding good information	O	O	O	O	O
d. Documenting my progress on wikis and blogs	O	O	O	O	O
e. Planning and outlining all the different parts of a game	O	O	O	O	O

	Not at all	Not very well	Somewhat able	Pretty Well	Very Well
f. Building a prototype of a game	O	O	O	O	O
g. Creating scenes in Flash	O	O	O	O	O
h. Creating/adding sound files	O	O	O	O	O
i. Creating/adding animations	O	O	O	O	O
j. Adding interactive features to a game	O	O	O	O	O

	Not at all	Not very well	Somewhat able	Pretty Well	Very Well
k. Creating/using programming codes and scripts	O	O	O	O	O
l. Testing and troubleshooting a game	O	O	O	O	O
m. Fixing problems or programming bugs	O	O	O	O	O
n. Presenting information about a game to others.	O	O	O	O	O

3. How much do you agree with each of the following statements:	Strongly Disagree	Disagree a little	Neither agree nor disagree	Agree a little	Strongly Agree
a. Globaloria makes me care more about school.	O	O	O	O	O
b. Globaloria makes me work harder in school.	O	O	O	O	O
c. Globaloria makes me care more about my community.	O	O	O	O	O
d. Globaloria makes me think more about my future and possible careers.	O	O	O	O	O
e. Globaloria makes me feel proud of my skills and abilitiles.	O	O	O	O	O
f. Globaloria is a fun way to learn about designing games.	O	O	O	O	O
g. After Globaloria, I plan to create more games.	O	O	O	O	O

4. What have you done so far in Globaloria that you are most proud of this year?

5. Do you have any other comments or suggestions for improving Globaloria?

Appendix D: Check-in Call Interview Protocol

January Check-In Call:

1. Thanks for taking time to meet with me. I wanted to start by getting a brief update on how things have been going with Globaloria since the visit in November.

2. What have been your class's (group's) greatest successes so far this year?

3. Have you faced any challenges? (if so, what steps were taken to overcome them/have they been resolved?)

4. Can you think of any recent examples or anecdotes that would help someone understand your experiences with Globaloria this year?

April Check-In Call:

1. Thanks for taking time to meet with me. I wanted to start by getting a brief update on how things have been going with Globaloria since we spoke earlier this year.

2. Have all of the teams completed their games?

3. Have there been any great accomplishments/break-throughs since the start of the year?

4. Tell me a little about the trip to Adobe – what was your opinion of that experience, how did the student's respond or react to that opportunity?

5. Have there been any challenges faced as the kids have worked toward completing their games?

6. Are there any specific anecdotes or stories that stand out in your mind that would help to illustrate your experiences with Globaloria this year?