

Camp Reach 2007 Annual Report Evaluation Addendum*

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**Please note that all responses to open-ended questions contained in this document are direct transcriptions from respondents and purposefully have not been corrected for grammar and spelling mistakes.*

EFFECT OF PROGRAM ON CAMPERS

Comparison of Pre-Program vs. End-of-Program Camper Questionnaires			
	Mean		p^{\wedge}
	Pre	Post	
<i>Interest in and Knowledge of Engineering</i>			
I find engineering and technology to be interesting.*	3.38	3.62	.017
I have a good understanding of what engineering is.*	2.87	3.67	.000
<i>Motivation Toward Education</i>			
I am looking forward to math and science courses in middle school and high school.*	3.23	3.30	.601
I have given a lot of thought to my future career.*	3.30	3.57	.018
<i>Confidence, Efficacy, and Self-Esteem</i>			
I could be an engineer if I wanted to.*	3.00	3.42	.012
Skills rating [#]	71.9	77.2	.000
Self-esteem score [†]	33.6	37.1	.001
<p>[^] Two-tailed values, determined from paired-samples t-tests. The value p is the probability that the observed difference between the means is due to chance alone. In social science research, p values less than 0.05 (highlighted in yellow above) are generally viewed to be statistically significant.</p> <p>* Responses were given on a scale of Strongly disagree = 0; Disagree = 1; Neutral = 2; Agree = 3; Strongly agree = 4.</p> <p>[#] Participants rated their “comfort and confidence level” for 22 skills and abilities, on a 4-point scale from 1 = Poor; 2 = Fair; 3 = Good; 4 = Excellent. The skills rating is the sum of these 22 responses, for a maximum possible score of 88.</p> <p>[†] Participants were asked “How do you feel about yourself” for 11 paired descriptors such as “Smart—Not Smart”, “Weak—Powerful”, and “Indecisive—Decisive.” Their responses were on a 5-point scale between those extremes, from the less desirable to the more desirable extreme: 0 = Very (less desirable, e.g. Not Smart); 1 = Only a bit; 2 = In between; 3 = Only a bit (more desirable, e.g. Smart); 4 = Very. Maximum possible score is 44.</p>			

Campers’ Answers to “Describe Engineering in Your Own Words”		
	Opening Day of Camp Reach	Closing Day of Camp Reach
1	to find a solution to common problems	to solve problems
2	--	People that build things or help to build things
3	energy [sic] (energy?)	Engineers are people who help make things easier for other people
4	taking things apart (or putting them together!) Also it has a lot to do with math, science, and measurements. (my dad is an engineer at [Company]!)	coming up with a sufficient, well working, organized, and creative plan for solving a problem
5	making and inventing things	working to solve a problem or situation
6	--	being able to help solve problems to help future problems of technology + engineering
7	designing or planning a project	when you plan something then build it
8	making things work	building and operating things that make people's lives easier
9	--	the construction of something to solve a problem or need
10	creating efficient ways to do task[s]	creating solutions for problems
11	building things and seeing how they work	The way things/machines work, how things are built and why,

		designing structures/machines/new materials
12	--	designing something for a task to be complete
13	building things	helping people and building
14	when you have an idea of what can help people then you create what you thought of	when you make an idea of things that can help people in their daily lives, and helping make it a reality
15	the process of designing and building something	building and designing something based on the customer's needs
16	--	solving a problem for people
17	creating something	like having to create things that solve problems of the people around you
18	--	figuring out new and creative solutions to real life problems
19	design and creating	to find a way or the design something that helps people
20	someone who studies how things work and tries to improve them	helping people by solving problems, making thing work
21	a way of building not only a house but a life	a lifestyle, a way of building, let's say, bridges or I don't know on a building
22	designing different things	problem solving
23	building stuff and making plans	making thing[s]
24	trying to make things that help people with their everyday needs	something you do to help people that need it, for example the design projects, rehabilitation eng. workshop
25	designing, building machines and all types of technological objects	solving problems for people in different ways
26	building things to make life easier	solving a problem and taking anything and making it better
27	being very good with math, having an extremely good understanding with physics, and technical things	physics, math, science, knowing how things work, and being interested in the job you have
28	designing something to help people live their lives easier	solving a given problem to help improve others' lives
29		that one person can fit all the puzzle pieces together
30	understanding how models work and know how to put together or take apart machinery	the act of building something

Wilcoxon Signed Ranks Test* of Engineering Descriptions		
	Number	Signif.
Pre: Did not mention engineering as a helping profession Post: Mentioned engineering as a helping profession (<i>Positive Change</i>)	6	p=.014
Pre: Mentioned engineering as a helping profession Post: Did not mention engineering as a helping profession (<i>Negative Change</i>)	0	
<i>No change</i> in mention of helping from Pre to Post	24	
Pre: Did not mention engineers as problem solvers Post: Mentioned engineers as problem solvers (<i>Positive Change</i>)	13	p=.000
Pre: Mentioned engineers as problem solvers Post: Did not mention engineers as problem solvers (<i>Negative Change</i>)	0	
<i>No change</i> in mention of problem solving from Pre to Post	17	
Pre: Did not mention creating / building / designing Post: Mentioned creating / building / designing (<i>Positive Change</i>)	5	p=.564
Pre: Mentioned creating / building / designing Post: Did not mention creating / building / designing (<i>Negative Change</i>)	7	
<i>No change</i> in mention of creating / building / designing from Pre to Post	18	
* This test makes pairwise comparisons of two distributions to determine if they differ significantly from each other. These tests show that significantly more participants identified "helping" and "problem solving" as elements of engineering after the Camp Reach program compared to before the Camp Reach program.		

Has Camp Reach changed your opinions about science and engineering? If so, how?

- I have seen that science and engineering isn't only for men, and it isn't boring. Women can be just as good, and the engineers and teachers we met actually LIKED their job.
- Yes. At first I thought science was only about building things, but now I know a lot more.
- Yes, I've learned that there is a lot more to engineering than I thought and that it was even more fun than I thought it would be.
- Camp Reach has changed my opinions about engineering because I used to think that engineering had to do with oil, cars, planes, etc.
- Yes, now I have a better understanding.
- Yes, I don't see it as boring or a waste of time but a thing in every day life.
- No.
- Yes, Camp Reach has changed my opinions about science and engineering. I've learned that I actually can take on a big task, like the design projects. I also learned that I can be an engineer, and I could do the workshops.
- Yes, it makes it seem like fun!
- I like science and engineering more. I think I might enjoy science class more. ☺
- No, I guess Camp Reach just was a nice engineering experience for me!
- Yes it has because I always thought science was boring and now they made me believe that it doesn't have to be boring. It can be fun.
- Yes, before camp I really didn't know what engineering was apparently.
- I decided I still like science but I don't want to be an engineer.
- Camp Reach has changed my opinions because I learned a lot more about different types of engineering.
- Not really...
- Camp Reach has made me enjoy engineering more and made me seriously think about it as a career.
- Camp Reach has sort of changed my opinions about science and engineering because it made me think it was kind of fun and interesting to be an engineer.
- Yes, I used to not like it a lot and didn't exactly know what it was, and found it boring & hard. Now I think the opposite.

Has Camp Reach caused you to think differently about the type of career you might be interested in? If so, how?

- I still do want to work for animals, but I can see myself doing something with engineering or science. If I can dream it, I can become it.
- A little. I kind of want to be a *Artec* [sic] now.
- Yes, sort of. Originally I was planning to be a teacher for something that I love to do. Now I am also kind of considering being an engineer too after I found how much fun it was!
- Camp Reach hasn't caused me to think a lot differently about the type of career I might be interested in, but it has some.
- Yes. It opened my eyes to many other fields of engineering.
- Yes. Because when I get older I might change my mind and being an engineer will always be my option.
- Yes, maybe something more towards science.
- Yes, I think Camp Reach has caused me to think differently about the type of career I might be interested in. Engineering really interests me, and I hope one day to be involved in engineering somehow.
- Yes it makes me want to be an engineer!
- Not totally.

- No, but I enjoyed the program a lot! Thank you for making this program fun and educational. *I also know what it is like to live in a dorm room! *Camp Reach helped me make a lot of friends. Thank you.
- Yeah because now I like science more.
- Yes, maybe now I want to be a chemical engineer
- Yes, Camp Reach has caused me to decide that I don't want to be an engineer. ☺ No offense to anyone who likes it but I decided I don't like engineering.
- It showed me a little more about engineering and math and science. It showed me the different types and made me realize the good and bad things about the different types of engineering.
- Not really...
- Yes, because before Camp Reach I really didn't know what I wanted to become but now I'm pretty sure I want to be an engineer.
- Camp Reach has caused be to think differently about my career, because now I have seen that engineering is interesting and made me think that maybe I could be and engineer.
- Yes, now I would like to graduate from Watchusette High School, the go to WPI for college, then work at Bose as an engineer (not sure what type yet).

Effect of Program on Campers: Parent and Teacher Perspectives

Parents' Assessment of Daughters' Attitudes and Abilities* (N=14)			
	Mean**		p [^]
	Pre	Post	
Self-confidence	3.29	3.79	.05
Interest in engineering, science & technology	3.93	4.21	.17
Motivation toward education, learning, and achievement	4.43	4.43	1.00
Ability to work with others	4.43	4.71	.04
Interpersonal communication skills	4.00	4.04	.88

* Parents completed these assessments on opening day and in a questionnaire completed in October or November (approximately 3 months after the camp.) This year's response rate for the post-questionnaire (14 out of 30) was a historical low, for reasons that are unclear.

** Parents rated each characteristic on a scale of 1= Very low; 2= Somewhat low; 3= Average; 4= Moderately high; 5= Very high.

[^] Determined from paired-samples t-tests. The value *p* is the probability that the observed difference between the means is due to chance alone. In social science research, *p* values of 0.05 or less are generally viewed to be statistically significant.

Please comment on any effects of the program on your daughter, including both positive and negative:

- She does look at some things differently. She was able to help me fix a few broken things around the house.
- [Name] came home very excited about the camp, the people she met, and engineering.
- She's much more confident in her abilities—all sorts of abilities—not just science and math. She has greatly improved sense of independence.
- No negative effects. Positive: more self confident, more independent, better understanding of technology, more interest in science, more interest in problem solving.

- I really don't have any negative comments. I think that Camp Reach was a great confidence builder for [Name]. At school she is sometimes picked on for getting good grades. This year she seems somewhat less concerned about her peers' reactions to her academic success.
- She gained a better understanding of engineering careers. She was very proud of her achievements at Camp Reach.
- Allowed her to see what one can achieve with hard work and team members willing to work. Allowed her to recognize that she thinks like an engineer. Fostered independence—came home more mature.
- The program gave [Name] a better understanding of the processes that engineers must go through.
- Added to her self confidence, thought that was never a problem!
- This was the 1st overnight camp experience for [Name]. I was nervous to send her but was overwhelmingly pleased to hear and know that she enjoyed herself and felt independent and not homesick. She learned/ was exposed to engineering which was great and was able to travel to the Cape. [Name] has gained confidence and demonstrates increased curiosity.
- Overall good experience. This is her first time experience.
- We asked her what she thought of the program when she came home, on a scale of one to ten she commented it was a twelve. The program enhanced her desire to learn and her curiosity greatly.

Teachers' Observations of Campers' Attitudes and Abilities *				
	Initial Assessment**		Change during Program***	
	Mean	Std. Dev.	Mean	Std. Dev.
Interest in engineering, science & technology	3.42	0.91	3.90	0.84
Motivation toward education, learning, and achievement	3.65	0.92	3.85	0.98
Ability to work with others	3.12	1.03	4.00	0.98
Interpersonal communication skills	3.02	1.21	4.03	0.79
Self-confidence	3.48	1.19	3.97	0.93
<p>* Each camper was assessed by the Middle School Teacher who was facilitating the work of her design project team.</p> <p>** The initial assessment was completed during the first several days of the program, on a scale of 1= Well below average; 2= Below average; 3= Average; 4= Above average; 5= Well above average</p> <p>*** The assessment of change was made on the final day of the program, on a scale of 1= Decreased during program; 2= No improvement; 3= Small degree of improvement; 4= Moderate degree of improvement; 5= High degree of improvement</p>				

STAFF DEVELOPMENT GOALS

Effects of the Camp Reach Program on Staff Members		
	Mean	Std. Dev.
As a result of Camp Reach 2007 I have a better understanding of engineering. (High School Teaching Assistants and Middle School Teachers)	3.4	0.8
I will be able to adapt design project or workshop activities or approaches in my own teaching (Middle School Teachers Only)	4.0	0.0
I have ideas from Camp Reach that I will be able to share with colleagues who can apply them in their teaching. (Middle School Teachers Only)	4.0	0.0

* Staff rated their level of agreement with each of these statements on a scale from 0 = Strongly Disagree; 1 = Disagree; 2 = Neutral; 3 = Agree; 4 = Strongly Agree.

Comments from Middle School Teachers

What was the most valuable aspect of the program for you personally?

- Working with 10 motivated unique individuals and successfully completing their project.
- Learning to mentor instead of teach (talk), learned to be more of a team player. Listening as much as talking led me in directions I didn't expect.
- The program was a great reminder of why I became an engineer and why I should promote engineering to my students.

Describe how you will use any of the experiences you gained during Reach in your teaching next year.

- I will be using the major design project with my seniors this year to decide on a placement for the PicturePost at Voke. I will lead up to this using the Wacky Shoe and bridge activities.
- All these projects would be VERY appropriate in my classroom. I do joint projects with our Tech Ed teacher and Wacky Shoes will be our first suggestion. I would also like to start a "science club" and would like to utilize Bose and Ken Stafford (Robotics) to see if outreach would be possible.
- I plan on making my assignments more interactive, will use more group work, and will try (given obvious constraints) to use more technology with my class.

Please describe how your knowledge or attitude about engineering changed, if at all, as the result of the Camp Reach Program.

- My understanding of the design process is much more succinct now and I have a larger tool chest of activities to use to teach it.
- Engineering is not scary and abstract. It's a process of solving people's problems. Finding a need and trying different methods to solve that need.
- Camp Reach reminded me that engineering is all about helping people solve problems.

Comments from High School Teaching Assistants

What was the most valuable aspect of the program for you personally?

- I liked developing relationships with the girls where I was able to be friends with them but they can look up to me as a role model and respect me.
- Personally, I think this program is great for its age group and I liked working with the kids especially. I don't really know about the camps affect on me. I think that affect tends to come later in life.

- I feel more responsible and I actually think it may have altered my educational path. It also made me even more excited about Mass Academy. It also made me realize how much I love math and science.
- I think that Camp Reach has helped me to become more of a leader. Also, I have deepened some of my friendships and I'm very glad for that.
- This year's experience as a Camp Reach TA was incredibly valuable. Interesting in education, I became more familiar with understanding how to teach effectively, and I learned a great deal by watching the teachers. I learned extensively about working with staff members effectively while avoiding letting conflicting personalities interfere with the daily workshops, etc.
- I learned more about people and how they have different styles of communicating. These styles may not always be kind but it is important for me to try and provide a comfortable work environment for those around me.
- I know how to relate to younger children which is very important in a leader position. Also I learned how leadership skills are very important when you need to get something done.
- I had only worked with much younger children before this but I found that the tween age group isn't all that terrible. It was amazing how the girls really wanted to be your friend and how much of a role model you are to them. I would get frustrated with the girls, but it felt so good that the girls would ask me questions and ask me to read over there work.
- Personally, I think the most valuable aspect of the program was learning how to manage time wisely, make good decisions, and learn how to associate with people easier, and how to guide the children as a mentor.

Please describe how your knowledge or attitude about engineering has changed, if at all, as a result of the Camp Reach program:

- I still enjoy engineering and still want to be a forensic scientist ☺
- I feel much the same as I do about engineering as I did before.
- My knowledge hasn't changed very much, but my attitude certainly has. The Bose tour really changed my view of engineering as a career.
- As this is my 3rd year with Camp Reach I would definitely say that my idea of engineering has broadened. Also, with some of the new workshops added the past 2 years, I have been able to learn a lot of new, interesting parts of engineering.
- I appreciate the engineering process more deeply than I did before. The field is so innovative, exciting, and challenging (in a good way)!
- I have begun to feel that no matter what career you are looking into the fundamentals of engineering (problem-solving) are essential. If I had my own school a course like Reach would be required to encourage the thought process and risk taking abilities taught best through real life engineering.
- My attitude has not really changed towards engineering. I still feel the same when I came to Camp Reach 07 because I was aware what engineering was and what the components were.
- I could not do engineering and I never assumed I could. Camp Reach was more of a leadership experience for me.
- My attitude of engineering has changed by making me believe that it is an interesting career with many different types of fields and departments.

Has this program caused you to think differently about the type of career you might be interested in? If so, how?

- Nope. Forensic scientist since the first time I went to Reach.
- I think it has really started me thinking about careers and colleges a lot and thought about careers I might be interested in.

- I still want to be a producer, but now I am considering engineering as a definite possibility. I would love to work at a place like Bose.
- This program has made me realize that engineering is not for me, although this realization came to me before this year. I'm glad for having spent 3 years with this camp because I think it's a very good learning experience for everyone involved, and I'm glad that I can help the girls learn.
- Though I do not plan to choose an engineering path, I think that my overall experience with Camp Reach both as a camper and a staff member has contributed to my sustained interest in math and science as well as my confidence as a woman interested in the maths and sciences.
- I have wanted to be a veterinarian since I was six but returning to Reach reminded me of the skills that I learned here which enable me to pursue my goals.
- It made me realize that I probably would not want to go into engineering. I am more of the humanities type but I do really enjoy math and science.
- Right now I am going to be an AT major. However, I've always wanted to be a youth pastor as well and this has strongly enforced my dreams.
- This program has made me consider a second major or a minor in a scientific field, which is a big deal considering before I was considering myself as strictly an English major.

EFFECTS OF CAMP REACH ON FAMILIES

Effect of Program on Parents' Understanding of Engineering (N=14)			
	Mean		p^{\wedge}
	Pre	Post	
I/we have a good understanding of engineering and engineering careers.**	4.21	4.36	0.34
<p>* 14 out of 30 parents to the "post" survey mailed twice in October-November 2007. This response rate was a significant decline from previous years, when more than 20 responses had always been received. We are unsure of the reason for the decline.</p> <p>** Parents were asked to indicate their level of agreement on a scale of 1= Strongly disagree; 2= Somewhat disagree; 3= Neutral; 4= Agree; 5= Strongly agree.</p>			

Describe any ways the program influenced you or other family members:

- We loved the program. My sister's daughter from Shrewsbury was in the camp several years ago. We often talk about the program and how happy we are she was able to participate.
- It makes me wish they'd had something like this when I was in school. It made me wish I'd looked into engineering when I was considering careers. I never knew the variety of engineering options.
- [Name] has some learning differences and it made us all realize they will never keep her back! Especially her!
- We missed her. Very good impression of WPI.
- While we realize from her grades and her teacher's comments that [Name] is a bright student, I'm not sure that my husband and I would have encouraged her to consider an engineering career before the Camp Reach experience. Now, we definitely would.
- Greater insight about the many aspects/areas of engineering.
- We will look into similar camps for [Name] in the future. ([Name] is the youngest of three children, and the first to go to camp.)

- Exploring the options for future career.
- We were happy to see our daughter enjoy the program so much. We would love for our younger children to be able to participate in this and similar programs.

FORMATIVE EVALUATION

DISCOVERY WORKSHOPS AND OTHER ACADEMIC ACTIVITIES

Ratings of Discovery Workshops by Campers and Staff Members*								
	CAMPERS (N=30)				MSTs and TAs** (N=12)			
	Degree of Enjoyment		Degree of Learning		Degree of Enjoyment		Degree of Learning	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
Forensics	3.8	0.4	3.8	0.5	3.9	0.3	3.8	0.5
Segways & Gyroscopes	3.8	0.5	3.6	0.7	3.5	0.5	2.6	0.8
Robotics	3.8	0.4	3.7	0.5	3.5	0.5	3.4	0.7
Sandcastle Building	3.7	0.5	3.5	0.7	3.6	0.5	3.0	0.7
Bose Field Trip	3.6	0.6	3.6	0.8	3.8	0.4	3.8	0.4
Salt Marsh Scavenger Hunt	3.6	0.7	3.3	0.8	3.7	0.5	3.4	0.5
Electrical Engineering: Dance Pad Mania	3.6	0.6	3.5	0.6	3.4	0.7	3.5	0.7
Environmental Engineering: Snack Attack!	3.5	0.6	3.0	0.8	3.0	0.7	3.1	0.7
UnBirthday Party Design	3.5	0.5	2.9	0.9	3.3	0.7	3.1	0.7
Wacky Shoes	3.4	0.8	3.1	0.9	3.8	0.4	3.1	1.0
Rehabilitation Engineering	3.2	0.8	3.6	0.6	2.4	0.9		
Environmental Engineering: Water Filters	3.1	0.7	3.1	0.7	2.9	0.7	3.2	0.6
Civil Engineering: Spaghetti Bridges	3.1	0.8	3.0	0.9	2.6	0.7	2.6	0.9
Computer Orientation	2.9	1.0	2.8	1.1	2.2	0.4	2.8	0.8
Teambuilding: Whale Band- Aid	2.8	1.1	3.1	0.8	2.3	0.7	2.3	0.9
Wind Power Activity	2.7	0.9	3.0	0.9	2.4	0.5	2.9	0.6

* Participants rated their level of agreement with the statements “I enjoyed this workshop or activity” and “I learned a lot from this workshop or activity,” on a scale from 0 = Strongly Disagree; 1 = Disagree; 2 = Neutral; 3 = Agree; 4 = Strongly Agree.

** Middle School Teachers (MSTs) and high school Teaching Assistants (TAs) were asked to rate their observations of *campers*’ enjoyment and learning.

Historical Progression in Workshop Ratings (Campers Only)*				
	2004	2005	2006	2007
Mean Enjoyment Rating (All Workshops)	3.34	3.48	3.35	3.38
Maximum Enjoyment Rating for a Workshop	3.87	3.96	3.93	3.79
Minimum Enjoyment Rating for a Workshop	2.76	2.82	2.37	2.74
Mean Learning Rating (All Workshops)	3.28	3.44	3.29	3.29
Maximum Learning Rating for a Workshop	3.80	3.86	3.73	3.76
Minimum Learning Rating for a Workshop	2.67	2.75	2.50	2.83

*Five workshops were new in 2007, and one workshop was significantly revamped since 2006.

Comments and Suggestions from Middle School Teachers and/or TAs:

Computer Orientation

- Computer orientation is a very difficult thing to make interesting but the instructor was very nice and the girls seemed to like her and they learned what they need to know.
- The computer orientation seemed to be a learning workshop rather than a fun one, so nothing really needs to be done.
- I don't think there's a whole lot to enjoy or not enjoy.
- I honestly think that computer orientations tend to be long and drawn-out. Most girls know about how to use computers.
- Hard to improve because many students are already so exposed to computers.
- Most campers already knew how to use email, but it was good to get them started on the computer.

Team Building (Whale Band-Aid)

- In general I think the girls enjoy the workshops because the activities are so new. However, I think the girls get bored with the team building. I think that is because they do those games when they first arrive then later that night, when they form groups, etc. I think they liked the whale band aid though.
- Some of the girls were frustrated because we could do it. Also it didn't seem to have a lesson that they really connected with.
- For the whale band aid, I think they learned about teamwork but it didn't seem like they enjoyed the workshop that much.
- Not the most fun because it can be frustrating but is still good because they learn a lot.
- A lot of girls seemed exhausted with team building.
- MST: flat sheet or flat table cloth. Fitted too difficult and not all groups had same type of sheet which led to frustration.

Wacky Shoes

- MST: TAs might help more & build their own shoes less. From past experience they tended to use the best materials for themselves.
- MST: Excellent activity, all campers were engaged. Well prepared and enjoyed this activity. TAs used all rolls of colorful tape?? Campers did not have access to "best" materials.
- MST: Too much to do in such a short span of time. The girls were quite frustrated not to be able to finish.

Forensics Engineering/ Who Dunit

- MST: Excellent intro. Very well organized and timed. All stations were engaging and contributed to final selection of crime. Fingerprint station was frustrating though. Fingerprints lifted were unclear. Suggestion: after lifted prints, give campers a chance to see their own fingerprints and identify the patterns. Suggestion: Given the clear message by Kasia of lab safety and protection, TAs should not chew gum and lab aprons should not be worn back to the dorms (even if they are “clean”—message is confusing).

Segways & Gyroscopes

- The segways and gyroscopes were fun for the girls to play with, however the explanation was a little difficult for the girls to understand because the material was complicated and the woman was hard to hear because of her accent and the wind even though I know those are factors that can't be controlled.
- Gyroscopes were difficult for girls to hear and understand.
- MST: The gyroscope lecture was a bit high-level. The girls might be hard-pressed to relate the two.
- MST: Excellent segway demo and lesson—timing was perfect. Gyroscope intro way above student's level of understanding. Angular momentum? Torque? Suggestion: Where would students see gyroscopes in their everyday lives.

Robotics

- MST: Superb! Instructor was excellent and campers were engaged the ENTIRE time.

Electrical Engineering: Dance Pad Mania

- Myself, I didn't enjoy the electrical engineering one because I don't enjoy that and don't really understand it so I wasn't engaged. However, I think that the girls enjoyed it.
- I think the Dance Pad Mania was rather hectic. The learning portion confused some girls, and there were times when I didn't even know what to do. The idea and the concepts behind the project were good, but the activity was rushed and a little bit frustrating. I suggest having a longer chunk of time for the Dance Pad mania.
- MST: NEVER pass out materials while giving instructions, only AFTER.

Rehabilitation Engineering

- Seemed to bore the girls during the presentation, therefore losing their interest
- They were rather bored at the beginning, just listening to the pros speak, but when they got outside they seemed to enjoy it more.
- The rehab engineering had way too much lecture for the girls. Although the activities were fun, the lecture portion seemed to bore the majority of the girls. I would suggest shortening the length of that particular workshop.
- There is too much lecturing and the workshop seems longer than necessary.
- (What did you like least about the camp experience): The girls were too hard to control in the wheelchairs after they sat around listening to lectures.
- Way too long. It doesn't capture attention of campers, and it should be cut out for next year.
- MST: Some demonstration (or even camper use!) of sophisticated product would be great!
- MST: A LOT of talking, too much lecture resulted in rushed activities— good awareness of how life is different for people with disabilities. One student stated “I'm grateful for my legs 😊”
- MST: Too much talking at the beginning with unnecessary info for the activity. Then the girls were rushed through the activity. STAFF TRAINING: I was unaware that I would be running the activities and did not have clear instructions for equipment.

Salt Marsh Scavenger Hunt

- The girls in my group didn't actually pick up any of the living critters, so I know they didn't get a lot out of it.

Wind Power Activity

- Performed in an area with too many distractions.

Spaghetti Bridges

- Many of the girls didn't like the activity because they didn't have enough time and at least two of the campers told me it was boring.
- I noticed that most girls did not use the truss designs for the spaghetti bridges. Next year, I would suggest more time, and I would suggest that it be required to use trusses in the design of the bridges.
- They did not have enough time.
- MST: More time. Add constraints (amount of tape, style of bridge, etc.)
- MST: Students enjoyed the challenge but time was very limited to try the "truss" approach – most students bundled spaghetti with tape. Need more specific brainstorming/ building separation.

Based on these results, consider the following changes in WORKSHOPS for the 2008 Program:

- Work with rehabilitation engineering workshop leaders to redesign the workshop to address challenges identified by staff members.
- Make adjustments in the time and/or the activity scope for Spaghetti Bridges and Dance Pad Mania. Check agenda for Wacky Shoes as well. TAs could serve as campers' assistant shoe assemblers rather than making their own shoes.

DESIGN PROJECTS

Campers' Response to Design Projects*		
	Mean	Std. Dev.
Mid-Program		
I am enjoying work on the design project	2.9	0.8
I am learning a lot from the design project	3.4	0.7
I am contributing a lot to our team's project	3.6	0.5
End-of-Program		
I enjoyed working on the design project	2.7	1.0
I learned a lot from the design project	3.4	0.6
I contributed a lot to our team's project	3.5	0.6
We produced high quality results for our customer.	3.5	0.7
The customer seemed happy with our work.	3.6	0.5

* Participants rated their level of agreement with each of these statements on a scale from 0 = Strongly Disagree; 1 = Disagree; 2 = Neutral; 3 = Agree; 4 = Strongly Agree.

Historical Progression in Design Project Ratings*				
	Mean (Std. Dev.)			
	2004	2005	2006	2007**
I enjoyed working on the design project	3.5 (0.6)	3.5 (0.7)	3.6 (0.7)	2.7 (1.0)
I learned a lot from the design project	3.5 (0.7)	3.6 (0.6)	3.7 (0.6)	3.4 (0.6)

* These data were taken from the end-of-program questionnaires. Participants rated their level of agreement with these statements on a scale from 0 = Strongly Disagree; 1 = Disagree; 2 = Neutral; 3 = Agree; 4 = Strongly Agree.

** The drop in level of enjoyment in 2007 is significant; possible reasons will be discussed.

Comments from campers about what they learned from design projects:

- I learned a lot about RCDC itself and more.
- have to think outside the shed
- I did learn lots about trees, safety and an engineer’s job experience.
- I learned that we should always brain storm before we take on our working skills.
- I learned how to work together better. Skills I never really practiced like: organizing, talking on phone with people I don’t know. Also how to be my best.
- I learned about working with a customer and working with THEIR needs. Our team figured out that you can’t design something the exact way you like it and that you have to use specifications given by a customer. I also learned about working in a team.
- example’s of invasive species –(purple loosestrife, garlic mustard, etc.)
who created the first picture post
being a twig can be helpful (TWIG=teamwork is great)
- about beavers and the importance of documenting plant change
- I learned how hard an engineer’s job can be at times. It is also very satisfying when you find a solution to the problem
- About Planning and Teamwork
- I learned more about the environment, the picture post (what they are, etc), about the sanctuary, and the habits inside.
- I learned what a picture post was and more about the environment. I also learned that without teamwork you can’t get a big project done and that a lot of the time it is great to work with a team.
- How to prepare for big projects on time
How to work well in a group
The engineering design cycle
- I learned about all the vandalism that happens on the Audubon’s trails and what it’s like to help with something big.
- I learned how to organize a big project and use the Engineering Design Process. I learned about all the different parts of doing a project for a customer. I also learned a lot about the different steps of engineering.
- I don’t really want to be an engineer.
- I learned what a picture post was.
- I learned how to map and do math differently.
- I learned about watersheds, invasive species and environmental significance.

- I learned that some problems seem easy but actually require a lot of work.
- I learned about the different steps of the engineering process.
- I learned a lot about team work codes getting done on time and working with people you don't like.
- I learned a lot more about engineering + teamwork.
- I learned that beavers have to shorten their teeth, or their teeth will grow too long.
- I learned a lot about teamwork and how important it is to communicate and work together!
- I learned that working with a team gets things finished faster. I also learned that if you help others you feel good about yourself.
- I learned how retaining walls have to have a gate around it if it is more than 4 ft.
- I learned that you can't always have things your way. The customer is the one who comes first, so you have to do things their way.

Staff Feedback about Design Projects*				
	TAs (N=9)		MSTs (N=3)	
	Mean	Std. Dev.	Mean	Std. Dev.
The project scope and topic seemed realistic and appropriate for this age group.	2.7	0.7	3.0	1.0
The project provided an appropriate level of challenge for our team.	3.2	0.4	3.5	0.9
I was comfortable with the level of guidance and support given by Chrys.	3.4	0.5	4.0	0.0
I think our project team would have benefited from more guidance.	1.6	1.1	1.7	0.6
It was easy to keep our campers focused and motivated on design project tasks.	1.7	1.0	2.7	1.5
Each team member made a real contribution to the project.	3.2	0.4	2.3	2.1
Roles for team members should have been more defined or structured.	1.5	1.1	1.0	1.0
The team produced high quality results for the customer.	3.0	0.7	3.5	0.9
The customer seemed happy with the results the team produced.	3.0	0.0	3.0	0.0
The customer seemed knowledgeable about the project process.	2.7	0.8	3.3	0.6
The design project was successful in teaching girls about problem solving using the engineering design cycle.	3.6	0.5	4.0	0.0
Overall, the design project went well for our team.	3.3	0.5	4.0	0.0

* Staff rated their level of agreement with each of these statements on a scale from 0 = Strongly Disagree; 1 = Disagree; 2 = Neutral; 3 = Agree; 4 = Strongly Agree.

Comments and Suggestions from Teachers:

- I think the girls were able to successfully complete their project with the guidance given.

- [Camper Name], who is so easily distracted, tends to also lead the other girls to become unfocused or frustrated. Otherwise, the group was a well oiled engineering machine!
- Again [Camper Name] was unable to cooperatively work with the group to accomplish her part.
- I think the some work should be done on their final report prior to the last 2 days. The report was rushed and the students were largely burnt out by the time we started working on the PowerPoint presentation and the written report. Some milestone reports might be useful as the project progresses. I want the presentations and reports to reflect all the hard work the girls have done @ Camp Reach!
- Very challenging, multifaceted project. Our students really worked diligently on locating and applying information but it was so encompassing. The resulting project plan was “a mile wide but an inch deep”. Still it was fulfilling and the growth as a team was amazing.

Comments and Suggestions from TAs:

Mid-Program

- Project is way too difficult and specific for age group. They become easily distracted and discouraged.
- A little less dominance by the middle school teacher
- Less complicated design projects but still have it challenging for the girls.

End of Program

- The design project for our group went very well. It was harder at the end of this week to keep the girls motivated. The girls have put a lot of work into their project and I think they are pleased with the outcome.
- My group (Broad Meadow Brook) had trouble keeping some of the campers focused but overall most of the girls were pretty good.
- RCDC play area seemed a bit too difficult, it took a lot of work from the TAs. It also took a lot of work to keep the girls focused. The people @ RCDC didn't seem to know what was going on with us some of the time.
- When we met with the customer on Monday, we discovered that we had to redesign our entire project, meaning that we could not go into detail about some of the aspects. I definitely think that if the customer already had a vertical retaining wall in mind, we should have been informed at the beginning so that we could have produced a more effective and detailed final report.
- Looking at the project again, I think the Broad Meadow Brook project provided just the right amount of fun and challenge for the campers. We were able to go through the design process successfully and thoroughly. I now think that a simpler project provides a richer experience for campers in terms of gaining experience in going through the engineering process.
- I felt that as we went on there were more challenges and more problems that needed to be solved. It did challenge the girls because they learned that there is not always just one part of a project there are numerous parts.
- I found myself, the MST and the other TAs doing a lot of work for the girls.
- Many campers would become frustrated about the level of work and strictness the teacher would present to them, then would pout and not do anything at all.

Based on these results, consider the following changes in DESIGN PROJECTS for 2008 program:

- Choose project topics more carefully. Two of this year's projects can serve as an example of projects that are probably too complex and difficult. The projects at the Rainbow Child Development Center were dependent on each other, and thus at some times required the coordination of 20 campers and 8

staff rather than the usual 10 and 4, respectively. Girls reported *learning* the same amount as in prior years, but did not *enjoy* the work as much.

- Refine the “daily deliverables” for the project so that it’s clear they are writing the report as they go rather than doing it all in the final days.
- In 2007 some of the Middle School Teachers (MSTs) and high school Teaching Assistants seemed to have different expectations for their work together coaching the design projects, and there was at least one incident where a TA acted in an unprofessional, inappropriate manner. Her attitude may have influenced campers’ attitudes about the design project. Next year we will make some refinements in how we choose TAs and will talk directly about these issues in staff training.

EVENING / RECREATIONAL ACTIVITIES

Ratings of Enjoyment of Recreational Activities*: Mean (Std. Dev.)		
	Campers	TAs
Ice Breakers, Sunday- Week 1	2.8 (0.8)	2.6 (0.5)
Ice Cream Sundae Building, Sunday- Week 1	3.7 (0.5)	3.8 (0.4)
Floor Meeting/Getting to Know You, Sunday- Week 1	2.6 (0.9)	2.2 (0.4)
Teambuilding & Games, Monday- Week 1	3.0 (0.7)	2.6 (0.6)
Arts & Crafts, Tuesday- Week 1	3.7 (0.5)	3.2 (0.8)
Movie Night, Wednesday- Week 1	3.7 (0.7)	N/A
Swimming, Thursday- Week 1	3.8 (0.6)	3.3 (0.8)
Games, Thursday- Week 1	3.0 (1.0)	3.0 (0.7)
Caricatures, Friday- Week 1	3.8 (0.5)	3.8 (0.4)
Henna Body Art, Friday- Week 1	3.7 (0.6)	3.9 (0.3)
Talent Show, Saturday- Cape Weekend	4.0 (0.0)	3.9 (0.3)
Girls Night, Sunday- return from Cape Weekend	3.4 (0.9)	2.7 (0.5)
Un-Birthday Party, Monday- Week 2	3.3 (0.8)	3.6 (0.5)
Swimming, Tuesday- Week 2	3.7 (0.5)	3.0 (0.0)
Crafts, Tuesday- Week 2	3.5 (0.6)	2.7 (0.6)
Bowling, Wednesday- Week 2	3.5 (0.7)	N/A
Games /T-shirt Signing/Tie-Dye, Thursday- Week 2	N/A	N/A

* Participants rated their agreement with the statement “I enjoyed _____” for each of these activities on a scale from 0 = Strongly Disagree; 1 = Disagree; 2 = Neutral; 3 = Agree; 4 = Strongly Agree.

Shading indicates most popular activities from the perspective of each group. (TAs were asked to rate camper enjoyment, not their own.)

Campers’ Suggestions

- Maybe during free time at night there can be more exciting activities.
- Be more organized (referring to Girls’ Night In)

- Bring drinks (to Bowling Night)
- Have a little bit of a wider variety of things to do during the evening
- Extend swimming time
- I liked the fact that there would be different activities every night so we won't get bored.
- Give more swimming hours
- I thought all the activities were great!
- Longer time to swim or bowl or free time (if possible)
- More variety of evening activities, for example, if you didn't like arts and crafts you could do something else like stay in your room and read or something.
- Swim more

Responses of TAs to “What are your suggestions for improving the evening segment of the program?”

Mid-Program

- The girls really enjoyed arts and crafts. I definitely think the activities where the girls are walking around/moving and when they can be hands on and talking with each other are most effective and fun.
- I think that the After-Hours Coordinator should have been better prepared for the activities at night. Especially on the first afternoon, she didn't have any specific activities in mind, so the RAs were left to fend for themselves. Also, for the Thursday activities, she was not present at all.
- I think the evening segments need more organization. I found that the arts and crafts session lacked scissors and lacked any directions. It needed MUCH better organization. I was disappointed that only one lifeguard was on duty on swimming night because the number of girls in the pool was then limited.
- None. Everything is awesome so far!!
- I loved arts and crafts plus I really think the girls enjoy being outside.
- I feel that the girl's bed time should be stricter and it should be enforced better because they are like wild animals at the residence halls. Also something should be done concerning their eating habits!!

End of Program

- More organized???
- Evening program was great, but I wish the RAs would have put more effort to get to know the girls.
- No I felt everything planned was fun for the girls.
- I think more organization would improve the evening segment of the program substantially. I think that the activities sometimes were not designed to accommodate the number of participants.
- I think the After Hours Coordinator should be present at all activities because there have been several where she either left early or did not attend at all. Other than that, I felt the activities have gone smoothly.
- The crafts on Tuesday (second week) were boring for a lot of the girls.
- The girls had a lot of fun at the activities this week as well. This week was better than last week because I felt the RAs were more prepared than they were for the activities last week.
- The talent show was a lot of fun for campers as well as the TAs. I think if you were going to do caricatures and henna again the girls should probably have to pick one.

Based on these results, consider the following changes in EVENING ACTIVITIES for the 2008 program:

- The lack of organization that campers and TAs noticed may be a one-time problem related to a limited pool of applicants for staff positions.
- Can we afford more swimming hours?

MEASURES OF OVERALL SATISFACTION

CAMPERS

Program Satisfaction Indicators*		
	Mean	Std. Dev.
Mid-Program:		
The program staff are helpful and friendly.	3.6	0.7
The program is well organized.	3.7	0.5
The food is good.	3.5	0.7
Things are going well in the residence hall.	3.6	0.6
End-of-Program		
The program staff were helpful and friendly.	3.7	0.5
The program was well organized.	3.8	0.4
The food was good.	3.5	0.6
The living arrangements in the residence hall were good.	3.7	0.5

* Participants rated their level of agreement with each of these statements on a scale from 0 = Strongly Disagree; 1 = Disagree; 2 = Neutral; 3 = Agree; 4 = Strongly Agree.

Campers' Ratings of the Overall Program Experience						
Program Year*	% of Campers Providing Each Rating					Mean Rating**
	Very Poor	Poor	Fair	Good	Outstanding	
1999	0%	0%	13%	46%	42%	3.32
2000	0%	0%	3%	17%	80%	3.77
2001	0%	0%	3%	34%	62%	3.56
2002	0%	0%	0%	7%	93%	3.93
2003	0%	0%	3%	27%	70%	3.67
2004	0%	0%	0%	13%	87%	3.87
2005	0%	0%	0%	7%	93%	3.93
2006 [#]	0%	0%	0%	20%	77%	3.78
2007	0%	0%	0%	10%	90%	3.90

* Data not available for 1997 and 1998 programs.

**Calculated using Very Poor = 0; Poor = 1; Fair = 2; Good = 3; Outstanding = 4.

[#] Does not sum to 100% because 1 respondent circled both Good and Outstanding. For the purposes of determining an average, that response was entered as 3.5

General Program Feedback from Campers

(Some comments about evening activities have been moved to that section.)

What did you like most about the camp experience?

- Cape Cod
- I enjoyed the part where we got to have free time in the dorms and hang out and socialize with friends.
- I liked the forensics work shop, the trip to Cape Cod, and Bose, and also swimming
- How engineering is used in the real world.
- I loved being able to feel what it's like living almost "on your own. I've always had my parents there, but it was great to be able to make decisions and do things on my own.
- going to a college and staying there for two whole weeks for camp. (P.S. This is my 1st camping trip ever!)
- field trips
- Cape Cod.
- The over all experience it so fun and you learn a whole lot.....
- everything Camp reach was amazing, fun, and I learned a lot
- My favorite part of camp was making new friends.
- trying out the different types of engineering.
- I liked learning about everything
- I liked meeting new friends, doing fun activities, and learning a lot.
- The afternoon activities, the workshops, and the dorms
- Making new friends
- I liked going to Cape Cod and doing all the fun activities
- I liked making friends and Cape Cod.
- Meeting new friends and everything else.
- living in a community
- I liked the evening activities and workshops.
- segways and making friends while learning new and fun things
- being able to learn things and have fun at the same time.
- The whole thing!
- I liked the evening activities the most.
- My favorite part was probably getting to have so much fun learning so much about engineering and meeting new friends at the same time.
- I liked working with other people and learning new things each day.
- I liked all of the workshops. They were all new and fun.
- I loved the Cape Cod trip and the dorms

What did you like least about the camp experience?

- Design project
- I least enjoyed the design project was very hard. We still aren't done yet because we had trouble finding a solution.
- Having to work 3 hours steadily on the design project.
- The showers
- Only being able to talk on the phone with our parents once.
- nothing. I ♥ everything!
- boring speeches
- No ac in dorms.
- Being put into team always by staff. Yes we need it but give us a chance.
- That there was only a little free time, and you couldn't have sleepover w/ your friend

- I don't really have a least favorite part, the only thing that sometimes would get annoying were the design projects, but mostly everything was fun.
- my roommate was really messy and had stuff everywhere even on my side.
- my nosebleed on the way back from the project site
- My least favorite part was having to work on the same thing for long periods of time. I also didn't like not being able to be with your friends as much as I would like.
- The design Projects!
- It was to short.
- I wanted to watch TV. and stay up late.
- Walking to a lot of places! (because of my knee injury, but that's OK)
- I liked everything.
- That we had to go to bed at 9:30.
- my teacher for design projects
- That we didn't have too much time to work on the projects.
- Having to share bathrooms!
- I didn't like how some of the food tasted.
- My least favorite part about the camp was probably the rehabilitation engineering.
- Well I got tired of the design project after a while.
- How the days went fast and we are leaving so soon.
- I didn't always like the bedtime.

What suggestions do you have to improve the camp for next year?

- I think that next year, be careful with the design projects, but otherwise all future campers will learn a lot and HAVE A BLAST!!!
- make the design project more interesting – like if we had to design a car or so.
- definitely go to Bose again! oh yeah!
- more field trips
- give easier design projects.
- Give the camper a chance to put them into groups then see how they do.
- Have the mirror and window accessable (able to be seen), and not covered by desks.
- Everything is great, it would just be nice to have a little more free time to use the computer or hang out with friends.
- Go to the bookstore more often!
- Maybe having more time to be with your friends.
- Don't spend so much time on the design Project and make camp reach feel more fun like camp and less like school.
- Make it longer; maybe let people choose their roommates because some people can get uncomfortable with their roommates.
- Maybe the campers could sleep a little later.
- make the favorite sections longer and lest favorite shorter
- The design projects can be geared to fun and educational more.
- I loved Camp Reach
- Just try and make it as fun as you can.
- have it longer. sleep late nights.
- I think that the trip to Cape Cod would have been better if we hadn't gone to such a rocky beach. I cut my foot various times in the water.

PARENTS

The results presented here are based on responses from 14 out of 30 parents to a mail survey distributed in October-November 2007. This response rate was a significant decline from previous years, when more than 20 responses had always been received. We are unsure of the reason for the decline since our communication procedures were the same.

Respondents' Assessment of Program Value Compared to Tuition*				
The value and quality of the program...	2004	2005	2006	2007
1: ...was much less than expected, given the tuition.	0%	0%	0%	0%
2: ... was a little less than expected, given the tuition.	0%	0%	0%	0%
3: ... was about right given the tuition.	4%	5%	0%	13.3%
4: ... exceeded what we paid in tuition.	24%	20%	29%	33.3%**
5: ... far exceeded what we paid in tuition.	72%	75%	71%	53.3%
Average Rating	4.68	4.70	4.71	4.40
Standard Deviation	0.56	0.57	0.46	0.74

* Tuition was \$400 in 2004 and \$500 in 2005 -2007.

**One parent wrote in: "Thank you for making it affordable by providing financial assistance."

Parents' Overall Score for the Camp Program: Last Five Years						
Program Year*	% of Parents Providing Each Rating					Mean Rating*
	Poor	Somewhat disappointing	Good	Very good	Excellent	
2003	0%	0%	0%	20%	80%	4.80
2004	0%	0%	0%	16%	84%	4.84
2005	0%	0%	0%	0	100%	5.00
2006	0%	0%	0%	14%	86%	4.86
2007	0%	0%	0%	13%	87%	4.90

*Calculated using Poor=1; Disappointing=2; Good=3; Very good = 4; Excellent= 5

What suggestions do you have for improving the camp from your perspective as parent or guardian?

- I would have liked to talk to her more than one time. We learned afterwards that at least two campers brought and used cell phones.
- My own feelings would be to have a short meeting with the students about a week or two before so they could see the dorms and meet their roommates. The girls could talk or email a few times before the camp started.
- I can't think of anything to improve the camp. I'd love to see the girls used to promote the camp at area middle/junior high schools. [P.S. She loved getting the birthday card from you.]
- I have absolutely no complaints about the camp. It was a wonderful experience for [Name] that she completely enjoyed.
- None
- I think the camp was well run.
- We really cannot think of any way to improve the camp. It was so organized, well run, and inspiring. It was such a positive experience. Thank you so much for the opportunity!

- We were very happy with the camp. I think allowing the girls access to email was a huge help for [Name]. Otherwise, I think it would have been hard for her to be away for so long, having never been away.
- The program was wonderful. Directors and staff were great according to [Name]. The schedule was awesome both days and nights. Perhaps, if there was a way the girls can know the status of projects. [Name] wondered if Broadmeadow Brook had really used their idea yet.
- To provide more programs.
- Better training for the R.A.'s—they are really the surrogate mothers to these girls and someone MUST be available 24/7 to every child—and not just for what would be considered “emergencies.”
- Open it up to 7th graders
- We think the program was great as it was run. It was a bit tough only to communicate via e-mail. It would have been nice to be able to speak with her a couple of times. Overall, it’s a fantastic program.

STAFF

Overall Impressions and Satisfaction of Staff Members: Mean (Std. Dev)		
	TAs (N=9)	MSTs (N=3)
The program ran smoothly and was well organized.	2.9 (0.6)	4.0 (0.0)
During the camp program, there was good communication between staff members.	2.1 (0.9)	4.0 (0.0)
The food arrangements were good.	2.9 (0.3)	4.0 (0.0)
Things ran well in the residence hall	2.9 (0.6)	N/A
I learned a lot from being a Camp Reach staff member.	3.6 (0.7)	4.0 (0.0)

* Staff members rated their level of agreement with each of these statements on a scale from 0 = Strongly Disagree; 1 = Disagree; 2 = Neutral; 3 = Agree; 4 = Strongly Agree.

Feedback and Suggestions from Teachers

What did you like most about the camp experience?

- Level of organization and support
- The diverse tasks and group work were fantastic.
- The feeling of community with the other teachers and the ability to work with the campers and TAs, not direct them at all times.

What did you like least about the camp experience?

- Project scope led to frustration, i.e. time constraints. “2” customers (RCDC, Cutler Associates) was confusing at times.
- The only negative was trying to coordinate time with [Name] (project client)
- The time constraints on the workshops were very tight

What are the one or two things you think we should focus most on in making improvements or refinements for next year?

- 1) Revamp disability workshop: less lecture, more direct involvement; 2) TA involvement in workshops (need more direction); 3) Keep the rest the same—you managed to weave the design process into such a wide variety of workshops and discussions.

- Timing might be the only issue I would address immediately. More time for some projects would be great. Less time in the cafeteria @ lunch might be a good idea.
- Time allotments for workshops. Background knowledge of area for design project (i.e. not so much time hiking trails)

Feedback and Suggestions from TAs

What did you like most about the camp experience?

- I liked helping out with the workshops the best as well as participating in some of the night ones.
- I was glad to be here again because it felt I was at camp again but with more freedom. I definitely learned a lot and probably got a better understanding of engineering than I did in 03. And it was nice to have freedoms and not having to be on every night.
- I felt that I learned more as a TA. I enjoyed the experience and found it greatly enriching. I am seriously considering engineering as a career right now (after Bose).
- I most liked that I was a TA alum from last year so I had recent experience from some of the workshops. I also liked that most of the TAs were able to bond in this second week, although I'm sad it wasn't sooner.
- I really enjoyed working with such talented teachers and enthusiastic girls. It truly was a joy to work with an amazing group of people, and I value the experience!
- I liked getting to know new girls my age and younger and was surprised at the work they can do.
- I loved learning and interacting with all of the girls because they were not the only ones who had learned something during the 2 weeks. I did too!
- I loved learning how to work with and teach the girls. Also, learning how to get a child thru homesickness and setting an example for them everyday was amazing.
- Helping out the children and assisting them with workshops.

What did you like least about the camp experience?

- I think between the homesickness of the campers and staff members sometimes those feelings would rub off and make many people miserable.
- The first week I think all of us TAs felt like we didn't get enough respect from the MSTs or RAs. This week was better for me with the MSTs, however the RAs still treated us like they were better than us and had complete authority.
- The teacher I had in my design project was not very nice and did not have a great relationship with the girls at all.
- I least liked that some of the TAs (one in particular) did not fully participate in the workshops, even when reminded and asked. I feel that she should've been spoken to by an adult because at the beginning she was not making the experience of Reach enjoyable.
- This year, there was some tensions between staff members, and it was not enjoyable to have to face that every day. I understand that it is real life, though, and I gained more ability in working under such circumstances.
- It was hard living and working with people because conflicts in the workplace carried on into the night.
- There was some miscommunication between the TAs which caused friction between some of us. But other than that there was no real big problem.
- The rehabilitation workshop, the girls were too hard to control in the wheelchairs after they sat around listening to lectures.
- Some TAs would get mad at each other because they didn't think work was distributed evenly.

What are the one or two things you think we should focus most on in making improvements for next year?

- Most of the workshops were great but I think some of the girls have trouble concentrating, especially with the rehabilitation workshop and the wheel chairs. I think the overall effect of the workshop is great but maybe there is a better way to do it than sending the girls around in wheelchairs.
- Definitely the rehabilitation engineering workshop needs to be updated. It can get to be very boring. I think the other workshops were great and all the hard work Kasia and Chrys and everyone else put in definitely paid off.
- Rehab needs to be updated and shortened.
- I definitely recommend finding an alum of Reach [for the After Hours Coordinator position] so that she knows how camp is supposed to run. I also think that if the only reason the TAs are coming is for community service hours and they think they cannot participate, they shouldn't be allowed to attend.
- Make sure the girls can handle the depth of the camp; certain girls were difficult to keep focused!!!
- Choose more experienced, more committed, and more desirable staff members—several this year did not appear to really want to work at this camp at all.
- Evening activities seemed a little disorganized.
- To make the TAs feel like their only jobs here are to baby-sit and escort the girls place to place.
- Clarify to RAs that TAs shouldn't be treated like babysitters.
- Not having TAs serve as “babysitters,” and making them have more useful roles.

Based on these results, consider following changes related to STAFF for the 2008 Program:

- Proactively recruit a strong After Hours Coordinator. After the 2007 program we inquired about the possibility of having a non-WPI student in this position, which could broaden our applicant pool. We received the green light to do so.
- Even more discussion during staff training regarding TA and RA roles, including issues of authority and the notion of “babysitting” that was a problem this year.
- Refine the TA application process to identify young women who are sincerely interested in giving to the program and its participants, beyond benefits to themselves.

STAFF TRAINING

Staff Preparedness Resulting from Training and Orientation*		
	Mean*	Std. Dev.
I was sufficiently prepared to address issues related to adolescent behavior.	3.6	0.5
I felt knowledgeable about camp policies and procedures.	3.6	0.5
After staff orientation, I felt comfortable with other staff members and felt we could be an effective team.	3.4	0.9
I was sufficiently prepared to address issues related to homesickness.	3.3	0.5
I was sufficiently prepared to facilitate our teams' work on the design project.	3.5	0.7
I was sufficiently prepared for the following workshops:		
Computer Orientation	3.5	0.5
Un-Birthday Party Design	3.6	0.5
Wacky Shoes	3.5	0.5

Forensics / Who Dunit	3.7	0.5
Segways & Gyroscopes	3.0	0.8
Robotics	3.4	0.8
EE: Dance Pad Mania	2.8	1.0
Salt Marsh Scavenger Hunt	3.4	0.5
Wind Power Activity	2.6	1.4
Sandcastle Building Workshop	3.4	0.5
Spaghetti Bridges	3.1	0.7
Field Trip to Bose	3.8	0.5
Rehabilitation Engineering Workshop	3.0	1.2
Snack Attack	3.3	0.8
Water Filters	3.3	0.8

* Staff members rated their level of agreement with each of these statements on a scale from 0 = Strongly Disagree; 1 = Disagree; 2 = Neutral; 3 = Agree; 4 = Strongly Agree.

Suggestions for improvements in staff training and orientation:

- The staff had no idea what the wind power activity was, and did not know how to assist the campers.
- Well, we did not really go into a lot of the projects in full detail. But with directions from the sheet and speakers it made it much easier and clear.
- For the spaghetti bridges I didn't really know enough about the activity to help the girls, but otherwise, my preparation level was great.
- These workshops [second week] did not involve too much TA involvement. The ones that did, I was able to help out, so I feel that I was sufficiently prepared.
- Everything this [second] week went well. I never felt like I wasn't doing my job as well as I could because of lack of information.
- We were not needed at all for the wind power activity.
- Rehabilitation—I was unaware that I would be running the activities and did not have clear instructions for equipment.
- I felt very prepared for all session where I played a leading role. When I was merely a facilitator, I learned as much as the girls!

Feedback on TA Nights Out:

- They were GREAT!
- That was so AMAZING!
- I really enjoyed all of them.
- So much fun!!!

Based on these results, make the following changes in TRAINING for 2008 program:

- More information on Dance Pad Mania, Wind Power, and Rehabilitation Engineering (use of any equipment) would be helpful.
- Also see earlier notes regarding discussion among RAs and TAs about roles and responsibilities (i.e., “babysitting”) and also among MSTs and TAs.

PARENTS' FEEDBACK ON PRE-CAMP COMMUNICATIONS, OPENING DAY, AND CLOSING DAY

	N	Mean	Std. Dev.
Overall, what was your sense of comfort and preparedness in bringing your daughter to WPI's Camp Reach today, based on our pre-camp communications?*	25	4.8	0.4
How useful were the opening day activities?***	14	4.3	1.0
How useful was the closing day parents' session?***	14	4.4	1.1
* 1= Definitely uncomfortable; 2= Somewhat uncomfortable; 3= In between; 4= Somewhat comfortable; 5= Definitely comfortable			
** 1= Not at all useful; 2= Marginally useful; 3= Somewhat useful; 4= Useful; 5= Very useful			

Suggestions for how pre-camp communications could be improved:

- Frequent use of email for updates, roommate introductions, schedule of activities, etc.
- Phone call
- A chance to tour the living space and campus a few weeks prior to the start.
- Maybe a bit more details on what is needed in the rooms. Big fans. Rooms are hot.

Areas for improvement in opening day activities and closing day parents' session:

- I wish I'd thought to bring my camera. Maybe a note to parents—that picture taking would be possible at the closing ceremonies.
- My own feeling would be to have a short meeting with the students about a week or 2 before so they could see the dorms and meet their roommates. The girls could talk or email a few times before the camp started.
- I thought that the opening day activities and the closing day programs were a great way for us to experience what the girls did at camp.
- No suggestions. Team and information excellent! Very caring staff, passionate about what they do. Detailed information put us at ease.
- Meet in a room equipped w/ air conditioning.
- Elevator to be operational during move in and move out.
- Both the programs were appropriate.
- I would have liked to have seen more detail on opening day about what would be happening during the two weeks. While this info was in the package you handed out, I think it would be more helpful to review it in more detail.