



2012 SUMMATIVE

EVALUATION REPORT

Georgia Intern-Fellowships for Teachers Program

Georgia Universities and Corporations Collaborating to
Impact Science and Mathematics Education

GIFT is coordinated by UGA STARS
Students & Teachers Applying Real-Life
Science at the University of Georgia

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A Third-Party Evaluation Prepared by Georgia
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Established, January 1982

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This report presents findings from a Summative Evaluation of the GIFT Program (Georgia Intern-Fellowships for Teachers Program). A summative evaluation focuses on utilizing findings to assess the outcomes of a program. In addition, the summative evaluation helps to determine the extent to which the project was successful in achieving stated goals. If a program is continuing, a summative evaluation enables stakeholders to make any necessary changes, while determining the impact the program has had on the target population. Summative – or impact - evaluation strategies follow a retrospective procedure.

Background

Founded in 1991 as a program of the Georgia Institute of Technology's CEISMC, the GIFT program is a four-to-seven week summer internship for science, mathematics, and technology teachers. GIFT provides teachers real world applications of the subjects that they teach, and teachers are exposed to inquiry and problem solving, cutting-edge scientific research and data analysis. Through participation in business and industry internships and public science institute and research fellowships, teachers increase content knowledge and gain practical experience in science, technology, engineering and mathematics applications for enriched instruction and teaching practices based on evidence-based experiences.

In order to participate in the GIFT program the following requirements must be met:

- A teacher must be available for the entire duration of GIFT with no other commitments. GIFT is a job, and a teacher must work the same hours as his or her mentor five days a week.**
- Upon completion of the summer internship, an Action Plan is required, which will translate the teacher's summer experience back into the classroom.**
- The teacher must attend the End of Summer Workshop at Georgia Tech to share summer experiences with GIFT teachers from all over the state.**

Core Components

- A mentored and paid summer work experience in science, mathematics or technology research or applications**
- Summer and school year professional development meetings, workshops and discussion groups**
- Building a community of learners through face-to-face and electronic opportunities**

Requirements/Opportunities for Fellows

- **Complete the summer work experience in accordance with the requirements of GIFT and the sponsoring organization**
- **Attend GIFT summer and school year meetings**
- **Complete an Action Plan, which is a personal and/or school team strategy for improving science and mathematics teaching in one's own classroom, and assimilating the summer experience and goals set in national standards, as well as an Implementation Plan, a focused strategy for implementing and sharing some part of the summer work experience in the school year**
- **Take part in program evaluation, beginning upon acceptance and extending throughout the year after the GIFT experience**
- **Invite stakeholders to their classroom during the school year during the implementation of the Action Plan**
- **Receive 10 PLU credits upon successful completion of program requirements during the following spring**
- **Receive \$728 per week for their participation in the program upon completion of program requirements**
- **Participate in opportunities for networking, attendance and presentations at professional educator and association meetings, locally, regionally and nationally**
- **Provide feedback to principals and system coordinators via Action Plans**

Methods of Evaluation

- **Retrospective Pre-Post Tests**
- **Weekly Reflective Emails from Facilitators***
- **Site Visit Reports***
- **Small Group Meetings***
- **Review of Teachers' Action Plans**

*** These components were addressed in the July Formative Report**

Notes From Formative Evaluation

In our formative assessment we outlined the following key findings in our process evaluation :

- **Overall, all stakeholders – including teachers who participated in the program as well as representatives at host sites - were very enthusiastic about the GIFT experience and potential for preparing teachers in integrating new technology and information into their instruction in the classroom.**
- **All sites introduced participants to a variety of new technology ideas and uses for this technology.**
- **Participants discovered ways to incorporate inquiry-based learning into their instruction and Action Plans.**
- **Participants have identified instances of personal growth and development as a result of the time spent at their various sites.**

Since the launch of this program in 2002 when the University of Georgia entered into a partnership with the Georgia Institute of Technology GIFT program, school districts across South Georgia have reaped many benefits, as have urban school districts near the UGA primary campus in Athens. During our evaluation process we had the opportunity to receive feedback from numerous stakeholders associated with the GIFT program and were struck by their passionate commitment to this project.

We utilized primarily qualitative research methodologies in our assessment and engaged a wide range of stakeholders including business owners, mentors, students, teachers, facilitators, and other affiliates. The results presented in our interim Formative report provided compelling evidence of the GIFT program's outstanding contribution to the business sector, the teachers, the students, and ultimately, the community and state as a whole.

When teachers were selected for the GIFT program, they were able to take advantage of a unique professional development opportunity, which, in turn, translated to benefits for students in the classroom as well. Each year stakeholders are expected to plan and undertake the GIFT program with high expectations and enthusiasm. An intensive review of this summer's program confirmed that this year was no different. Overwhelmingly positive comments were received from mentors, teachers, as well as facilitators who followed them through the process. Adaptations were made as needed and new ideas emerged. It is obvious that GIFT stakeholders greatly value the resources entrusted to them for this unique program.

As evaluators we are normally called upon in Formative Evaluation studies to help answer questions about whether a program or project is being implemented as planned, how the project might be improved or refined or how to address the problems encountered within the project. In this case, however, we hope that our evaluation demonstrated the many ways in which the GIFT program has benefitted its participants and maximized the investments provided for this program. We encountered no major problems that needed addressing during the process evaluation component.

Adaptations Made to GIFT Program 2012

- ❖ Since there were a good number of teachers returning for a second summer with GIFT and were already familiar with the Action Plan process, facilitators provided a short overview/review of this component in the small group meetings and then spent more individual time with new teachers (in person for teachers nearby and via internet for teachers at a distance) as they worked on their plans. This allowed for more productive use of small group meeting time and gave more support for teachers new to the process.
- ❖ This summer several returning teachers served as ‘Action Plan Mentors’ for other GIFT teachers who taught similar subjects.
- ❖ Another adaptation this summer was an onsite small group meeting for GIFT teachers who taught in the same geographic area. This brought together middle school and high school teachers in the same or neighboring counties to share one of the summer experiences that were likely to offer an opportunity for future collaboration between the teachers. The mentor agreed to let all the teachers participate hands-on in a culminating activity planned for his GIFT teachers. The teachers had an additional experience, more time to interact with other teachers in their area, and a chance to plan shared activities across disciplines and grades.
- ❖ A final adaptation was an increase in collaboration among the GIFT facilitators. This helped keep the program consistent throughout all locations.

Summative Evaluation of the Full Scope of the Project:

Our summative evaluation focused on the project's efficacy and was designed to assess the impact of the project on the target population. We utilized both quantitative and qualitative methods of data collection, while emphasizing outcome-based evaluation results. Our evaluation plan provided a means whereby determination was made regarding the meeting of objectives, assessment of both unexpected consequences and benefits of the project, as well as developing a better understanding of what methods have been successful and which methods may need to be adapted to improve future project designs and implementations. This report documents the impact that the GIFT program has had on the target population and outlines lessons learned that will assist with future planning efforts.

To date, over 7,400 students have been impacted by the GIFT program in a positive way. This unique program provides both teachers and mentors with a unique opportunity to collaborate with a professional from another discipline, after which the results are shared in classrooms across Georgia.

A variety of activities were highlighted this past summer, and mentors and fellows alike indicated their appreciation for the project which benefits students, inspires teachers, and provides a leadership experience for mentors.

Effective networking among teachers and with mentors was evident. Though the director and others associated with the GIFT program make the process look seamless, a great deal of planning and coordination goes into this process. Recruiting mentors, selecting teachers, orienting all involved as to how the program works, maintaining records, etc. requires a great deal of time and effort. Our evaluation team was struck by the enthusiasm we encountered from facilitators to mentors, from the director's office to the teachers. It is rare when it can truly be said that everyone was 'on the same page', but in the case of the GIFT project, this is very much the case.

The bottom line is that thousands of students have benefitted, and those students will no doubt carry that knowledge throughout the remainder of their education and into their own careers.

Outcome for each Objective:

Program Objectives

- *Deepen science, technology, engineering, and mathematics (STEM) content knowledge.*

This objective was fully met. We utilized several methods to make this determination including a retrospective pre-post evaluation, review of action plans, and group meeting notes. The retrospective pre-post evaluation summary demonstrated the following: (complete table below)

Level of content knowledge increase – 21%

Knowledge of current technologies used in scientific settings increase - 36%

Awareness of scientific principles utilized by research scientists increase – 33%

- *Develop the necessary background for incorporating technology into the courses they teach.*

This objective was fully met. We utilized various methods to make this determination including the retrospective pre-post evaluation, review of Action Plans, as well as notes from small group meetings. The retrospective pre-post evaluation summary provided the following information:

Ability to conduct inquiry-based teaching strategies in science increase – 23%

Likelihood of conducting inquiry-based teaching strategies increase – 31%

Comfort level using technologies used in a scientific setting increase – 44%

Willingness to share ideas with fellow teachers increase – 19%

Notes taken from the Action Plans of teachers exemplify the many ways technology will be incorporated into the courses they teach. Some examples are listed below:

- ✚ **Vision for my classroom:** I view my classroom as a no risk environment of exploration. I aim to make my classroom as close to a workplace as possible. I plan on preparing my students for an entry level position in some type of engineering technical environment. I strive for my students to be prepared for the workforce or higher education in engineering upon completion of the engineering and Technology pathway that I teach.
- ✚ **Vision for my classroom:** I am more excited about teaching. I want my students to be hands-on learners and to understand how science really impacts their everyday lives. I want my classroom to be the one students cannot wait to enter and then don't want to leave. I think it should be 'organized chaos', with a variety of meaningful activities going on simultaneously. I want it to be a place where students learn to be responsible for their own learning instead of just waiting on me to spit out all the answers to them.
- ✚ **Vision for my classroom:** Ideally my classroom would have 20 students. Outside I would have a greenhouse with a variety of species of plants. In the laboratory I would have a thermal cycler, 10 gel electrophoresis chambers, a Nano 2000, small, medium, and large gel trays with combs of varying sizes, 5 dual power supplies, an eppendorf centrifuge and well plate centrifuge, access to liquid nitrogen, a fume hood and large water bath. I would also have enough PCR plates, micropipettes and tips, as well as chemicals to conduct all the activities and labs in this action plan. Creativity, in the real world, will be required. The GIFT program has provided additional motivation and resources to put that creativity into motion. I can start with a container garden and can borrow expensive technology from Athens Tech or UGA along with some of the chemicals I need to do the various labs.
- ✚ **Communication Plan:** Some realistic ways my summer experiences at Optima Chemical can be shared with my students will be through the use of real world examples, as well as field trips with my students to the site. The lab personnel at Optima offered to assist in any way possible. They offered to come to the classroom and perform demonstrations of various labs or methods. In addition, they have invited the science students to the lab for demonstrations and a tour of the facility. My personal vision for my classroom is to be able to incorporate more inquiry-based labs and activities into the curriculum. 'Hands-on' experiences are very valuable to the students' learning experiences. I will share my GIFT experiences with my colleagues as well, emphasizing how these experiences will greatly benefit my students.
- ✚ **Communication Plan:** I will continue to interact with my mentor via email or phone calls as needed. After the school year begins and the Physical Science curriculum map is finalized, a field trip to visit the site will be planned. The goal is to incorporate the Science Club, Physical Science students, and CTAE students in the visit as well.

- ✚ **Communication Plan:** My experience with the GIFT program will be fairly easy to implement into my classroom and with my students. The students will be shown the videos that I filmed over the summer showing the actual fruit flies that the researchers use in the lab. We will also coordinate some of the undergraduate and/or graduate students coming to the classroom to help the students with some of the activities we developed this summer. I work with a very enthusiastic group of science teachers who are always willing to try new ideas. In addition, I will be mentoring a new Honors Biology teacher this year, so this will be a good time to share my ideas for the classroom from lessons learned via the GIFT program.
- ✚ **Communication Plan:** There are numerous inquiry based lessons involving scientific experiments that we should be able to conduct in the classroom with my students as a result of this experience. My students will be given opportunities to conduct research on current topics in science pertaining to environmental issues. In addition, I plan on entering my students in the “Disney Planet Challenge”, and what I have learned this summer will help me be a better facilitator for them throughout the competition.

Action Plans:

Each participant in the program was required to produce a detailed Action Plan which outlined the following components:

- ✓ Summary of Experience
- ✓ Communication Plan
- ✓ Vision for the Classroom
- ✓ Colleagues
- ✓ GIFT Work Experience Summary

These plans identified detailed information relative to these aspects of the experience:

- ✓ Mentor’s occupation and research
- ✓ The site to which the teacher was assigned and worked
- ✓ Strategic components that were the focus of the experience
- ✓ Practical applications of components experienced and/or observed during the summer
- ✓ Summary of content and background information
- ✓ Classroom transfer plan
- ✓ Ways the experience can be shared with students
- ✓ Personal vision for their classrooms
- ✓ Continuation of interaction with GIFT mentor
- ✓ Sharing of information with colleagues

Details of How Each Objective Was Measured

Each objective was measured by the following methods:

**Retrospective Pre-Post Evaluation Summary
Small Group Meeting Notes
Notes From Teachers' Action Plans**

Retrospective Pre-Post Tests

We utilized a retrospective pre-post test evaluation which differs from a traditional pre-post assessment in that the retrospective instrument is administered once, rather than twice. To assess change, the retrospective pre-post instrument was administered at the conclusion of the project and required respondents to refer back to the beginning of their GIFT experience.

A retrospective pre-post test has several advantages. It is less costly to the program, and in many settings has been shown to provide a more accurate assessment of program outcomes relative to traditional pre-post test evaluations. Retrospective pre-post assessments are also useful for documenting self-assessed changes that occur as a result of the particular intervention, in part, because retrospective pre-post evaluations are more sensitive to respondent change than traditional pre-post test evaluations.

In the case of the GIFT program, the retrospective design also helps to reduce bias since participants were present at various points in the project, some participating at the very beginning, some joining later, and others available at the end of the program. In addition, a retrospective assessment allows participants to utilize their time well by participating in the hands-on activities and not utilizing scarce project time for evaluation.

Retrospective Pre-Post Evaluation Summary

Category	Pre-GIFT Mean	Post-Gift Mean	Change	Percentage
Level of content knowledge	3.86	4.68	0.82	21%
Awareness of scientific principles utilized by research scientists	3.32	4.43	1.11	33%
Ability to conduct inquiry-based teaching strategies in science	3.50	4.29	0.79	23%
Likelihood of conducting inquiry-based teaching strategies	3.57	4.68	1.11	31%
Knowledge of current technologies used in scientific settings	3.39	4.61	1.22	36%
Comfort level using technologies used in a scientific setting	3.07	4.43	1.36	44%

Willingness to share ideas with fellow teachers	4.04	4.79	.75	19%
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Sample notes taken in small group meetings provided the following information:

Excellent interaction between teachers was noted, and resources (including a laptop for the summer) were exchanged. Mentors indicated that they were highly satisfied with the progress made by teachers during the summer experience. Effective networking among teachers and with mentors was evident. Teachers were able to participate in such activities as seeing the submersible ROVs (remotely operated underwater vehicles) that the classes had assembled actually tested in the ponds.

Evaluation note: The value of hands-on projects such as these is what stays with adult learners. One significant component of the GIFT program is their ability to not only provide classroom information, but to demonstrate it in a practical way. Because adult learners have special needs and those needs have been addressed through the GIFT concept, the program is successful. Specifically, adults learn best when training moves beyond ideas and information to incorporate actions as well. Training that provides opportunities to practice new skills increase the likelihood that learners will apply the new knowledge and ideas in their own environments. The objective above was met because participants were invited to describe, analyze, apply, and implement what they had learned.

Notes taken from the Action Plans of teachers exemplify the many ways technology will be incorporated into the courses they teach. Some examples were shared on Pages 7 and 9.

Action Plans:

Each participant in the program was required to produce a detailed Action Plan which outlined the following components:

- ✓ Summary of Experience**
- ✓ Communication Plan**
- ✓ Vision for the Classroom**
- ✓ Colleagues**
- ✓ GIFT Work Experience Summary**
- ✓ Classroom Transfer Plan**

These plans identified in detail information relative to these aspects of the experience:

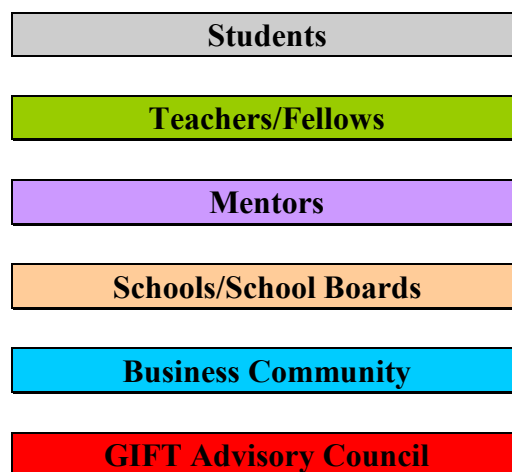
- ✓ Mentor's occupation and research
- ✓ The site to which the teacher was assigned and worked
- ✓ Strategic components that were the focus of the experience
- ✓ Practical applications of components experienced and/or observed during the summer
- ✓ Summary of content and background information
- ✓ Classroom transfer plan
- ✓ Ways the experience can be shared with students
- ✓ Personal vision for their classrooms
- ✓ Continuation of interaction with GIFT mentor
- ✓ Sharing of information with colleagues

Details About Context

This evaluation was conducted within the context of the educational community and its collaboration with the business community through the GIFT model. Teachers, primarily middle and high-school educators, participated in a summer experience designed to ultimately benefit and inspire students.

The program was carried out within the framework of the GIFT program and focused on preparing students for the future work force. In response to declining student achievement in mathematics and science, these were the target subjects, along with a focus on technology.

The following diagram indicates the organizational context of the program:



Number of Participants/Dosage

Thirty seven participants began the project, and all teachers successfully completed the project.

Project Director's Initial Report – 2012-2013 Granting Period

Participant Information	
1. Number of School Districts	23
2. Number of High-Need Districts	5
3. High-Need Participating Districts:	Atkinson County
	Brooks County
	Calhoun County
	Dougherty County
	Fulton County
4. Number of Participating Schools	29
5. Total Number of Participants	37
6. Participant Categories	
a. Teachers	37
b. Male	13
c. Female	24
d. Black, non-Hispanic	6
e. White, non-Hispanic	30
f. Hispanic	1
g. Middle, junior high level	11
h. Secondary school level	26
i. Teach in public schools	37
j. Teach in a high-need LEA	6
7. Approximate Number of K-12 Students impacted	7,400
8. Number of college-level credits earned	0
9. Number of PLU's per participant earned	5 – 10
10. How many contact hours per participant in initial workshop	160
Project Information	
1. Content Area Focus	Mathematics/Science
2. Which category best describes project format?	Workshop/Seminar; full-term college course; internships
3. To what extent was technology used	Extensively
4. How was technology used?	Lasers, spectrophotometers; Remote Operated Vehicles (ROVs); nanotechnology; biotechnology, etc.
Funding Information	
Total dollar amount of grant awarded	\$46,965

Fidelity

Overall, the program proceeded as planned and was a resounding success. We have listed below some of the comments and ratings provided by Mentors regarding the program.

Mentor	Type of Internship
Number 1	Curriculum Development
Number 2	Research
Number 3	Corporate
Number 4	Research
Number 5	Research
Number 6	Research
Number 7	Research

Logistical Aspect	Response (Strongly Agree; Agree; Neutral; Disagree; Strongly Disagree)
The sponsorship steps (letter of intent, application distribution, interview process) were appropriate and user friendly	6 agree 1 strongly agree
The online Mentor Handbook was useful and provided appropriate resources	1 strongly agree 1 agree 5 neutral
Logistical Aspect	
GIFT personnel were available to provide assistance	2 strongly agree 4 agree 1 neutral
A GIFT facilitator visited the worksite and was available as a resource	2 strongly agree 5 agree

To what extent do you think each of the following statements accurately describes the GIFT teacher's experiences and accomplishments this summer?

Logistical Aspect	Response
Demonstrated an ability to learn and apply new skills to his/her own endeavors	6 strongly agree 1 agree
Demonstrated increased enthusiasm toward the applications of science, mathematics, or technology to real-world activities	6 strongly agree 1 agree
Accepted constructive criticism in a professional manner	5 strongly agree 2 agree
Adjusted to the challenges of the work environment	6 strongly agree 1 agree
Demonstrated initiative in seeking job responsibilities	6 strongly agree 1 neutral
Contributed positively as a team member at staff meetings or discussions	5 strongly agree 2 agree
Demonstrated increased proficiency at using materials, equipment, and technology in performing job tasks	6 strongly agree 1 agree
Contributed to my work environment /research project	4 strongly agree 3 agree
Persuaded you that this type of program was worthwhile for teachers	6 strongly agree 1 agree

To what extent do you agree or disagree with each of the following statements about your own experience as a mentor?

Logistical Aspect	Response
It persuaded me that this program was worthwhile for me as a mentor	4 strongly agree 3 agree
It was a positive experience in which I would participate again in the future	4 strongly agree 3 agree

Working with the teacher was a learning experience for me	3 strongly agree 3 agree 1 neutral
It caused me to re-evaluate my views about the demands and needs of K-12 teachers	2 strongly agree 2 agree 2 neutral 1 disagree

Comments from Mentors:

- ❖ I think the GIFT program’s strength is in exposing K-12 teachers to cutting edge research approaches and the culture of laboratory science. Additionally, having some of the experiences translate into teaching labs for K-12 students is an additional benefit.
- ❖ I was very pleased and look forward to another opportunity.
- ❖ Information regarding the interns’ expectations and requirements would have been beneficial. I look forward to participating in the program in the future.
- ❖ Great opportunity to partner with education.
- ❖ Good structure, direction and resources.
- ❖ The celebration at Georgia Aquarium was initially announced for one date, but evidently changed, resulting in my inability to participate.

Barriers/Challenges

The following barriers and challenges were shared by teachers involved in the program and notated in their Action Plans:

- ✚ Some of the research professionals with whom I had the privilege to work were very specialized in their work. Therefore several of them seemed to lack a theoretical foundation for what they were doing or a “Big Picture” perspective on the projects. This, at times, was frustrating for me since I wanted to know why I was doing what I was doing. Luckily, as time went along, others were able to help in this area.
- ✚ Still hoping for the ideal, I must face the reality of large class sizes, limited resources and state mandated tests for which I must prepare my students. However, I will incorporate as much information in my classroom as possible, and I am aware that creativity will be required. I am thankful that the GIFT program has provided additional motivation and resources to help put that creativity into motion.

- ✦ For my Action Plan to be used in another teacher's classroom, basic knowledge of how to make paper would be needed, but is easily researched on the internet. Access to a variety of pulp/paper types might be an obstacle, but students could bring in paper filters.
- ✦ I like experiential learning....a lot...but many students do not. With all the standardized testing students are required to submit to, they are always looking for the 'right answer'. Often, they overlook the process of thinking and learning because of this.
- ✦ In order for another teacher to utilize my Classroom Transfer Plan, he/she would need to have a good background in Organic chemistry; safety knowledge in handling and disposing of organic chemicals; knowledge of appropriate self-protective gear such as safety glasses, face masks, face shields, gloves, clothing, and lab coats/aprons.
- ✦ Some of the realities in my classroom that may hinder my vision for my classroom include the lack of district funding for materials and equipment for many of the inquiry-based environmental labs. I have priced the equipment needed, and it is quite expensive. School budgets do not allow for such expenditures currently. Classes are very large and lab groups would have to alternate activities in order to be able to complete the labs in a timely manner. Adequate supervision for large groups of immature students is necessary in a lab situation and can be considered a safety issue.
- ✦ Time constraints: My class periods are realistically 45 to 50 minutes, and we frequently lose instructional time for school-wide activities. In addition, our school system has a more intensive and extensive curriculum than the state requires. My class size will increase from 30 students to 35 students in each class, which makes moving around for students and monitoring by me more difficult.

Unexpected Outcomes:

Participants noted several unexpected outcomes that emerged during the GIFT experience:

- ✦ A huge impact for me is the importance of science teachers having the opportunity to interact with other professionals who are not educators in various science fields. It was invigorating being with like-minded people who are curious about the world and want to better understand it. This desire to understand and explore was a real battery charger for me as a science educator.
- ✦ I have witnessed and participated in two key strategic components that I would like to focus on heavily in my class this upcoming school year. The first is the Standards for Mathematical Practices, and the second is using cooperative groups effectively. The learning process in corporate America is very self-motivating, and your biggest asset is the ability to work with a team or group.
- ✦ I was impressed by the camaraderie among the members of my Mentor's staff. Like a family, they work side by side, encourage and respect one another, disagree with one another, and celebrate together. Roles were clearly defined, and everyone was very approachable and eager to answer my questions. I have

- been invited to stay in touch with my mentor and his staff, which is very uplifting.
- ✚ Since we are becoming an IB School, the use of hands-on lab work and opportunities for students to grow academically are a must in our curriculum. Our curriculum is being planned as a result of a collaborative effort between science teachers of the two high schools, and I have been working on this task this summer. My plan is to incorporate these activities as sample work that could be used by biology teachers across the district, which gives us a head start.
 - ✚ The GIFT fellows converged in Atlanta at the Georgia Aquarium for a wonderful luncheon and a time to share with others our experiences from the job sites this summer. I found the share time to be very beneficial and interesting. I met old friends and made new acquaintances for future collaborations.
 - ✚ I was surprised to learn that the owners of the company I worked for started off each Monday morning with prayer to thank the Lord for helping them through the prior week and asking His blessings on the week to come. I was introduced to the family and welcomed in through prayer, which was very uplifting.
 - ✚ The practical applications for the work I did this summer are endless. Nanotechnology is one of the cutting edge sciences of the future, and computers have the power they do today because of the nanotechnology found on a computer processor. Chemical and biological sensors are being used to build devices that will support medical diagnostics, food safety, environmental monitoring, and national security.
 - ✚ I was amazed at how the time flew. I met so many wonderful professionals and learned so much more than I expected to. I can't wait to translate it into the classroom.
 - ✚ I may have found some jobs for some of my students who need to work some before heading off to college.

Recommendations and Areas of Strength

The GIFT program is a unique and successful program that should continue. If funding is available in the future, this program should be replicated in other areas across the state as well. It is obvious that the GIFT program has contributed significantly to the success of thousands of students in the catchment area(s). This project continues to create a sort of “ripple effect” when teachers are able to share new knowledge not only with their own students, but with fellow teachers and administrators. GIFT is most definitely leaving a lasting impression on the areas it serves.

Recommendations:

- ✓ Create a mechanism whereby mentors might be more aware of the expectations and requirements of the participants before they begin work.
- ✓ Recruit, if possible, more Hispanic teachers to participate in the program.
- ✓ Hold a meeting for participating Fellows toward the end of the first semester so that they can collaborate and share their experiences in the classroom.
- ✓ Adapt the Mentor handbook which received fair to low marks from Mentors.

Areas of Strength:

- ✓ The GIFT program has been able to deepen collaboration and build capacity within the communities it serves to enrich the lives of thousands of students;
- ✓ This process has created a mechanism that enables teachers to have extraordinary experiences that benefit them, the companies in which they intern, as well as the schools and school systems in which they serve;
- ✓ This program has demonstrated the value of involving the community in educational endeavors.
- ✓ The GIFT internships have energized teachers and enabled them to make the classroom a more exciting environment in which students are exposed to a broader range of ideas and possibilities.

Our evaluation team asked GIFT stakeholders to share with us ideas that had emerged as this summer's program came to an end and they provided the following insights:

Lessons Learned

- ❖ Rewards continue to be reaped from GIFT as teachers become aware of how science, technology, engineering and mathematics (STEM) subjects are applied in research and industrial settings. Teachers are wonderful conduits to link economic development and education. It is truly rewarding to read their Action Plans and see all the new knowledge they have learned. Many participants attest that the GIFT internship has taught them more than any college course ever did.
- ❖ Past GIFT teachers, rather than graduate students, make the best facilitators. Teachers identify with one another, are accustomed to classroom practices, and are not afraid to share with fellow teachers the usefulness of this experience.
- ❖ As a rule, teachers are not accepted into the GIFT Program until they have had at least two years of teaching experience. We have had young teachers do very well in GIFT and really take a great deal of information back into the classroom, but they

do seem to need more guidance than veteran teachers insofar as making connections between the theoretical of the classroom and the applied of the experience.

- ❖ Discussions were held regarding adding a sharing program at the end of the GIFT Program on the UGA Tifton Campus that would allow the teachers to do a presentation of their summer experiences to each other, the mentors, industries/scientists (within the target area) who might be considering participating the following summer, as well as other interested individuals.
- ❖ Teachers suggested adding a drop box for sharing helpful websites and grant opportunities.
- ❖ Some teachers suggested that a section on their applications provide information to the prospective mentors concerning the subjects/experiences that they would find most helpful as a GIFT Fellow.
- ❖ Communication can be streamlined through facilitator co-planning.

Executive Summary

The GIFT program continues to encourage innovative approaches to addressing the need for enriched instruction in the areas of mathematics, science and technology. Our evaluation confirmed that resources are utilized wisely, the objectives of the program remain relevant and are fully addressed, and participants expressed a high degree of satisfaction with the program.

Teachers were exposed to cutting edge research approaches, and a cascade modality of learning emerged which impacts mentors, teachers, students, and the communities involved. Educators were energized, and students were exposed to a wide variety of new and relevant information. The GIFT program also impacts the way the participating teachers teach, offering educators effective ways to reach different types of learners and assessing student understanding through multiple means.

Technology is only going to grow, and no one is more aware of that than students. They know that technology allows learning anywhere, anytime. GIFT underscores this concept by use of interactive projects and illustrations that provide a much greater depth of understanding of a particular concept than does didactic learning. Another vital skill in our digital world is the ability to work collaboratively on projects with others who may not be in our community, but who share common interests. The GIFT program recognized this long ago and created a program that encouraged and enabled a mentoring program that provided 'hands on' and 'real world' opportunities.

The methodologies remain sound, and objectives relevant. The GIFT program is aptly named since it has provided for several years opportunities that impact many. We may

never know just how many individuals are positively impacted by the program, but it is fair to say that the GIFT program and its stakeholders have left a lasting mark on education in the state of Georgia.



Submitted this fifth day of September, 2012

A handwritten signature in black ink that reads "Marsha C. Tyson".

Marsha Tyson
Executive Director
Georgia CHEP, Inc.