

# FLATE National Visiting Committee Report

**Date:** January 29-30, 2009

**Members Present:**

Ken Ryan (Chairman), Allen Carlson, Eric Owens, Stefan Kraemer, John Stilp, Andra Cornelius, Loretta Costin, Don Gugliuzza

**FLATE Staff Present:**

Marilyn Barger, Eric Roe, Richard Gilbert, Brad Jenkins, Dave Gula, Jodi Sutton, Kim Wilson, Jolanda Thompson, Phil Centonze

**Others Present:** Sabrina Peacock, HCC-Brandon Dean of Business & Technologies; Mark Snyder, Vice President Manufacturing Linvatec and Chairperson of FLATE Industry Advisory Committee

**Members Excused:**

Duncan McBride (input via conference call), Anthony Fedd, Bob Williams, Carlos Soto

**Location:** Tropicana, Bradenton, Florida

**Introduction:**

FLATE has approached the task of remediating Florida's career and technical education system in support of Florida manufacturing by defining the three essential objectives of student outreach; curriculum alignment and reform; and professional development. The attached *Goal Status Summary* provides necessary and sufficient evidence to any investigator that these objectives are being met and that the reformation process continues to mature.

During the course of its recent two-day evaluation of FLATE, the NVC was provided all testimony necessary for the complete and accurate assessment of the current status of this Center of Excellence. This report and the accompanying *Goals Status Report* outlines the essential content of that testimony as well as the critical review of its relevance to the stated goals and objectives of the FLATE mission. The report contains a brief analysis of the past year's activities followed by the NVC's perception of success on key performance indicators and opportunities for further progress by the FLATE team. This document constitutes a consensus report and is supplied to the National Science Foundation by way of unanimous agreement by the NVC membership.

In reviewing this document the reader is reminded that FLATE's mission is to help Florida's Community Colleges add industry-relevant depth and breath to Florida's manufacturing workforce by operating under a set of four goals with a number of target objectives intended to elevate FLATE to statewide recognition and value. FLATE conducts all activities from a three pronged perspective (Outreach, Curriculum and Professional Development) reflected in these objectives.

### **Strategy Synopsis:**

FLATE's strategy is based on three initial observations from its planning phase.

1. The general public and most K-12 educators had insufficient awareness of careers in manufacturing and/or related technology in Florida.
2. The State's Community College system did not have an organized approach to manufacturing and related technical education as a result of which the technical community college programs were not known to the local industry as a resource for workforce development.
3. There was a lack of affordable, manufacturing related professional development opportunities for the State's Community College faculty.

FLATE's objectives were designed to make significant impacts in those factors. FLATE's planning team decided to approach these three problems by a parallel effort to change the perception and awareness of manufacturing in the State and develop a more unified degree program that could meet the needs of manufactures seeking better trained workers and Community Colleges managing technical degree related specializations. Once, the Outreach and Curriculum phase of their effort was beyond the formative stage, attention was to shift to faculty professional development that might be required, particularly to support the new degree program.

The NVC has always agreed with FLATE's analysis of public awareness and the community college environment in Florida. It also recognizes and supports the rationale of FLATE's stated remediation strategy.

### **NVC Progress Analysis:**

For a detailed progress report please see the attached: *FLATE 2008 Goals Status Summary*

### **Outreach**

**Success:** As reported previously, FLATE continues its exemplary outreach to secondary and middle school students and introduction to manufacturing through its "Made in Florida" campaign. This campaign is multifaceted and includes video, plant tours and a student-friendly website. FLATE has begun MySpace, Facebook, YouTube and TeacherTube postings and sponsored FIRST Robotics, Skills USA and Technology Student Association competitions to attract the attention of the current generation of career and technical education entrants. Industry has again sponsored an "advertorial" in the 2007-2008 edition of *Florida Trend NEXT* magazine resulting in nearly 4,500 student directed inquire. Additional aspects of the outreach campaign include "roll out" events that are organized by local and regional economic development organizations in conjunction with their partner school district, workforce boards and regional manufacturers associations. The Florida industry tours to date have touched 2,014 students and \$15,000 worth of NSF commitment has been leveraged by \$72,000 from schools and industry. It was clear during joint discussions between the NVC and the Industry Advisory Committee that the IAC is still deeply informed and intimately engaged in the participant outreach process.

**Opportunity:** The NVC is pleased with the ongoing outreach to secondary students in traditional high schools as well as Florida Tech Academies. The Committee was unanimous and vocal in its encouragement that further outreach is needed to post-secondary partners capable of implementing the Engineering Technology degree. It was recommended that the FLATE staff gain a position on the agenda of the quarterly meeting of the Occupational Deans of the Florida post secondary system at the earliest opportunity. The objective would be an INDUSTRY

REPRESENTATIVE presentation of the value proposition provided by partnering with FLATE and the alignment of the FLATE goals and objectives with those of state, regional and local manufacturers. It was felt that the industry delivery would enhance the presentation for two reasons:

1. It will increase the awareness of the industry representative for the spectrum of services provided by FLATE.
2. Through the Manufacturing Association of Florida (MAF) the industry representative can put individual deans in touch with engaged manufacturing leaders in their own community as a follow-up.

The long range objective of this presentation is for the deans to encourage the presidents of the community colleges to host a similar presentation at their quarterly leadership conference. The NVC feels that the level of implementation of the ET curriculum is low and must be expanded through this and other outreach efforts. As MAF liaison to the NVC, Mr. Don Gugliuzza has agreed to locate spokes persons from the MAF to make these presentations.

### **Curriculum**

**Success:** Previous NVC reports and FLATE progress reports have chronicled the goals and accomplishments of the FLATE initiative in this critical area sufficiently to forgo their reiteration here. The end result of the articulation process envisioned by FLATE is a pathway for participants from high schools and secondary academies to enter the post-secondary education system for pursuit of an engineering or engineering technology degree. This journey can take as little as four years to reach an engineering degree and provides multiple exit and reentry points for workforce integration. This same pathway is afforded incumbent workforce members who wish to obtain higher education degrees and certifications. The NVC recognizes the inherent value of the articulation agreements forged by Florida Department of Education in concert with FLATE and the alignment of these articulations with the MSSC standards.

**Opportunity:** As mentioned earlier, this aligned; articulated curriculum needs to receive state and national recognition and adoption. To this end the NVC has already encouraged FLATE to continue its outreach to additional secondary and postsecondary stakeholders.

### **Professional Development**

**Success:** The same efforts that unified the curriculum reformation, those for alignment to the MSSC skill standards, now provide an excellent strategy for further professional development efforts. Florida Technical Academy and Community College faculty now have access to a unified framework, articulated at a state level, with which to direct their own professional development plan with assurance of its conformity and durability.

**Opportunity:** The NVC recommended that FLATE explore avenues such as the Florida Technology Education Association to make inroads into the dissemination of FLATE framework to future technology educators in the state. The current efforts at one-on-one professional development are a necessary intermediate step but real remediation can only be sustained through incorporation of the manufacturing technician and technologist skill profile into the technology educator cultural framework. It must be as natural for a Florida technology educator

to enter a teaching career teaching mechatronics and/or instrumentation as it is to teach “woods” and “metals”. At very least these graduates from Technology Education programs must be MSSC certified. FLATE can provide the pathway for this to occur.

### **Quality Assessment**

While the NVC remains committed to the Sterling process initiated last year to assess the quality of the activities carried out during this (the no-cost extension year) and the 3 remaining years of NSF funding, we have one major concern. The *FLATE Strategic Hierarchy 2008-2011* provides organizational, program and activity level goals oriented structure of the quality assessment as well as a list of key performance indicators used to assess success in each of four goal areas. The *FLATE Effectiveness Measures* lists the key performance metrics associated with the KPIs listed in the strategic hierarchy. The process for quality assessment was presented again to the NVC during this year’s review meeting. It was the unanimous opinion of the committee that this presentation is too much about process (activities) and not enough about outcomes (accomplishment). We at the NVC who have watched the development of FLATE are “instinctively” aware that progress has and is being made but lack the hard data necessary to present this to newly arriving NVC members.

Therefore, the committee request that a report be given at the next and each subsequent NVC meeting that directly reports each Goal Activity with its associated metric and interpretation of progress, stagnation or regression. It was stated repeatedly during NVC closed door deliberation that members feel uncertain regarding KPI and their associated reporting metrics. It is clear from comments made by both the Sterling evaluator and FLATE staff that steps are being taken to collect the necessary data from various activities and using targeted DOE database queries. The NVC looks forward to the early interpretation and dissemination of these metrics. It was further suggested that this performance data be presented to us by the principle FLATE stakeholders rather than by FLATE staff. For example, have a representative from one of the ET schools present the data on how many kids that were touched by FLATE outreach are currently enrolled in the ET programs. Have a member of MAF present how many of the ET students transitioned into industry since the beginning and each year. It was felt that this forces the data to the consumers that need it and gives the NVC a sliding metric with which to assess annual outcomes.

### **Sustainability:**

It is clear to the NVC that FLATE’s goal of a unified, efficacious technical education system is attainable using its current model with planned expansion to additional participants statewide. It was clear from input provided by both the Banner workforce development advisory council (BAC) and the Industrial Advisory Committee that they were anxious to see the FLATE model extended statewide. Thus, FLATE sustainability continues to be of primary importance. The NVC discussed several facets of sustainability but the most likely model appears to be one in which Banner and FLATE are collectively administered by a transcendent 501(c)(3) organization. The NVC requested submission of a diagram of such an organization and its dependents. In addition to this institutional structure the NVC requested distillation and dissemination of the roadmap resulting from the combined FLATE-NVC/IAC/BAC brainstorming session. The intent is to map the needs outlined in the roadmap to the solution provider(s) identified in the institutional structural chart. The NVC remains confident that the next year will see the maturation of an affective sustainability model.

**Conclusion:**

The members of the FLATE National Visiting Committee members continue to be proud of our association with this exemplary effort in technological education reformation. We retain a high degree of respect and admiration for the staff and commend them for their candor in reporting to the committee. The evidence before the NVC is that FLATE has accomplished its stated goal of reforming manufacturing oriented technical education in its original target region of central Florida and stands poised to export this reform mission to a broader market encompassing the entire state.

Once again, it is without reservation that the NVC stands unanimously behind FLATE, confident in its ability to accomplish its stated goals and objectives. As always, we wish to acknowledge the hard work and dedication of the FLATE Executive Committee and staff and want to thank them for all submissions in support of this report.

The NVC wishes to particularly thank Tropicana for its generosity and hospitality in hosting this year's meeting.

Respectfully submitted,



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**Attachments:**

FLATE 2008 Goal Status Report

NVC Member List with contact information

**FLATE Goal Status Summary**  
**NSF National Visiting Committee**  
**Annual Meeting**  
**January 29-30, 2009**

**Prelude**

A summary of FLATE activities in the context of FLATE's goals and target objectives since the February 2008 meeting is provided. FLATE was granted a one year no-cost-extension (NCE) on its original grant to complete these objectives using its remaining funds in support of this successful effort. FLATE also submitted to NSF a renewal proposal that was reviewed and accepted. Consequently, FLATE began planning both how it will execute the new grant's objectives in what is now a challenging economic climate, and continue towards its long-term sustainability. As in the past, this document provides a wide range of information that is intended to trigger rich discussions and subsequent suggestions regarding FLATE's short-term and long-term future.

**Executive Summary**

FLATE drives its activities with a three pronged strategy (Curriculum, Outreach, and Professional Development) embedded in its objectives. FLATE's mission is to help Florida's Community Colleges and their feeder high school programs, add industry-relevant depth and breadth to Florida's manufacturing workforce, and increase public awareness of rewarding technician-based careers. During FLATE's first four-year funding cycle and the current NCE year, FLATE has operated under a set of six goals with a number of Target Objectives that were intended to provide the statewide resources needed to develop the high performance workforce required by Florida's manufacturers and to elevate FLATE to statewide recognition and value to facilitate sustainability. With the award of its renewal grant, the FLATE Leadership Team has defined a vision statement that encapsulates our mission and goals:

*“FLATE will be Florida's leading resource for education and training expertise, leadership, projects, and services to promote and support the workforce of the high performance production and manufacturing community.”*

**Status Details**

Since the previous NVC report, no changes have been made to the text of the six major goals. However, to facilitate attaining those goals within the frame of our new NSF funding, a couple of our Target Objectives have been changed, combined, clarified, or deleted. No new Target Objectives have been added to the original center grant. In an effort to accurately represent our current progress towards completing our original target objectives, several of the start and completion dates have been adjusted in response to external and internal factors. The following narrative contains updates with respect to our goal attainment for our first grant, and refers to goals in the timelines posted at [http://fl-ate.org/about\\_us/evaluation.html](http://fl-ate.org/about_us/evaluation.html). The Objectives Timeline for the Renewal Grant (10/1/08-9/30/11), which has four goals with their own target objectives are also posted on the same page, but is not addressed in this document.

**GOAL 1:** Create an administrative region for FLATE that will have statewide recognition as an educational resource for manufacturing-related curriculum, content, and activities.

This goal has been achieved with outstanding results. FLATE's recognition in the state continues to grow, as FLATE has become known as a catalyst for industrial career and technology education curriculum leadership as well as a unifying force for manufacturing and related technologies education. This recognition is evident at local schools, school districts and community colleges, within a number of Divisions of the State Department of Education, the Manufacturers Association of Florida, Workforce Florida, Inc. and the regional workforce boards, as well as numerous other statewide professional and civic organizations.

**FLATE Staff:**

FLATE is currently fully staffed with the following changes in the past 12 months. John Pacheco resigned from his P.T. Student Assistant in May 2008. Mike Zajac, P.T. Administrative Technician resigned for other full time employment in April 2008. Teja Burri has recently been promoted from P.T. Student Assistant to P.T. Clerical Assistant (January 2009) and Ms. Jolanda Thompson started as our FLATE Senior Staff Assistant in April 2008, replacing Martin Leinberger, who resigned and moved to Arizona. Ms. Kim Wilson joined the FLATE team as the Biomolecular Identification and Targeted Therapeutics (BITT) Project Manager in August 2008. Current staff listing can be found on <http://www.fl-ate.org/contact/index.html>. The HCC Brandon Campus organizational structural that supports FLATE remains unchanged. For a global view, FLATE's organizational chart and the organizational chart for the HCC Brandon Campus are posted at [www.fl-ate.org/about\\_us.htm](http://www.fl-ate.org/about_us.htm).

The FLATE Ambassador Program that supports our Outreach Program outside of the Greater Tampa Bay has had several changes. Three ambassadors are now under contract in the greater Ocala area, greater Volusia area, and Brevard County. The FLATE Ambassadors report directly to David Gula, the FLATE Outreach Manager. The activities of this program are discussed and reported later under the specific Goal 4.

**Industrial Advisory Committee:**

Our Industrial Advisory Committee is holding its 12<sup>th</sup> meeting in conjunction with the 2009 NVC meeting, January 29, 2009. The committee currently has over 30 members (See list on the IAC web page - [www.fl-ate.org/committees/iac.html](http://www.fl-ate.org/committees/iac.html)). The IAC subcommittee organized and carried out the FLATE Educator and Industry Awards and Recognition Program and continued their financial support. The continuing success of this successful activity is reported under Goal 4. The IAC worked hard on its statewide expansion plan and offered its first meeting with call-in capability in September 2008. Over 25 members attended the meeting hosted by Linvatec and 5 members participated remotely via teleconference. The FLATE Leadership still has difficulty in keeping this group up-to-date with FLATE activities and getting the group engaged in a very short meeting period and are working on how to better engage the geographically-disperse group (that has a changing attendance) with important issues, questions and projects. Details about the recent meetings can be found on the IAC web page under the "committees" menu ([www.fl-ate.org/committees/iac.html](http://www.fl-ate.org/committees/iac.html))

**National Visiting Committee:**

Our NVC has had a few changes in the past 12 months but it still maintains significant “corporate” memory. Our 3 academic members continue to serve: John Stilp (Milwaukee Area Technical College), Dr. Ken Ryan, NVC Chairperson (Alexandria Technical College), Dr. Bob Williams (Daytona Beach Community College). Andra Cornelius (Workforce Florida) and Eric Owens (Florida Department of Education) also continue to serve. In addition, 3 founding industry-based members, Stefan Kraemer (Siemens), Al Carlson (Sun Hydraulics), and Anthony Fedd (BASF) continue to serve. However, Anthony Fedd has resigned as chairperson of MAF’s Workforce and Education Committee, and now represents BASF; Mark Berg of 3i has resigned, but has indicated that he will look for a replacement within his organization; and Don Gugliuzza, current Chairperson of the MAF Workforce and Education Committee now represents MAF on the NVC. Ms. Nancy Cordill has retired and Ms. Loretta Costin, Vice Chancellor of Workforce Education at the FLDOE has agreed to serve. We are also pleased to announce that Mr. Grant Petersen, Shareholder Ogletree, Deakins, Nash, Smoak & Stewart P.C., has also joined the NVC. Mr. Peterson brings extensive experience with respect to manufacturer’s needs from a statewide perspective. Duncan McBride our NSF Project Manager and Phil Centonze, FLATE’s External Evaluator, also participate annually in the National Visiting Committee. Details from previous meetings can be found on the NVC’s FLATE webpage, [www.fl-ate.org/committees/NVC.html](http://www.fl-ate.org/committees/NVC.html).

### **Executive Committee:**

This group met in December 2008 but the representatives from USF and SPC are new because previous members have left their respective institutions. In addition to the FLATE Leadership Team, the members are: Dr. Rod Casto, USF V.P. of Economic Development and Liaison to the Florida High Tech Corridor Council; Dr. Stan Vittetoe, Senior Vice President, St. Petersburg College, Mr. Mark Snyder, V.P. Production of Conmed Linvatec and Chairperson of the FLATE Industry Advisory Committee (IAC) and Dr. Carlos Soto, Brandon Campus President, HCC. The committee is focused on FLATE’s interactions with its founding institutions and their internal organizations as well as FLATE’s name “brand” recognition within the Tampa Bay region and long-term sustainability. More details about the Executive Committee’s work can be found at [www.fl-ate.org/committees/EC.html](http://www.fl-ate.org/committees/EC.html).

### **Sterling Application:**

As an extension of Goal 1, FLATE continues its preparation to submit an application for state-level Sterling recognition. Phil Centonze, our external evaluator, has worked closely with the FLATE leadership team this year to update our organizational profile and integrate the data collection and reporting required and desired by NSF with our Baldrige/Sterling quality initiative. We are currently identifying benchmarks for particular data items we will track. Our Evaluation Plan can be found on our website at: [http://www.fl-ate.org/about\\_us/evaluation.html](http://www.fl-ate.org/about_us/evaluation.html).

### **Strategic Planning:**

FLATE Leadership has continued to focus significantly on long-term strategic planning during the last 12 months. It now is using a set of seven Guiding Principles ([http://www.fl-ate.org/about\\_us/docs/VisionMissionGuidingPrinciples%20090908.pdf](http://www.fl-ate.org/about_us/docs/VisionMissionGuidingPrinciples%20090908.pdf)) to evaluate potential projects and initiatives with long-term sustainability in mind. The following activities/partnerships/initiatives have been undertaken, including:

- A 3-year, \$2.7M renewal grant award from NSF ATE in October 2008 (October 1, 2008 – September 30, 2011). An electronic version of the full proposal is posted at [www.fl-ate.org/proposal](http://www.fl-ate.org/proposal).

- A 2-year, \$118,000 supplemental award from NSF to organize a series of joint center displays at national conferences. This award provides additional networking opportunities with other ATE Centers and the national technical education community.
- A 3-year, \$500,000 subcontract from the USF Florida Center of Excellence “FCoE-BITT” as their workforce development partner. This contract was signed in December 2007. The award will support one person to manage the project as well as support skills assessment, curriculum development, and training for biotech and biomedical technicians related to the BITT Center. One goal for FLATE under this contract is to develop another Technical Specialization for the Engineering Technology Degree in Medical Systems.
- Continued to seek funds/donations to the “Made in Florida” outreach campaign through the FLATE account in the HCC Foundation as an operational tool that is currently supporting the FLATE awards. We have not determined if we can use it to handle state level scholarship funds for manufacturing related programs.
- Continued the delivery of industry-focused training courses that provide funds to a program income account. Currently, we are looking into online delivery of courses related to the Amatrol hydraulic and pneumatic equipment in the HCC laboratory.
- Opened a FLATE “Marketplace” through the HCC online bookstore in December 2008. Currently we have a number of “Made in Florida” items (poster series, polo and tee shirts, lapel pins, and the Toothpick Factory©) available for purchase. We hope to expand to more curriculum materials in 2009. Our philosophy and policy for curriculum materials will be to continue to offer our materials as downloadable files on our websites but to also offer hard copies through the Marketplace.
- FLATE’s workforce development partner, the Employ Florida Banner Center for Manufacturing, has submitted its proposal for a third year of funding from Workforce Florida. Anticipated start date is mid-winter 2009 and anticipated funding is \$300,000. This year, the Banner Center’s MSSC training curriculum, “Manufacturing Essentials” and “Manufacturing Fundamentals”, have been made available through Lulu, a print-on-demand service. The Center went on hiatus in October 2008 but expects to be fully operational by February 2009 once its year 3 funding is secured.
- FLATE was named as an operational partner for technician training and community college education for Florida Energy Systems Consortium (FESC) in Florida House Bill 7125 and Senate Bill 1544. FESC is a consortium of Florida universities units, centers, and academic departments to facilitate commercialization of research activities within the state to help develop Florida as a leader in new, alternative, and sustainable energy technologies, production, and operations. FLATE is currently working with the FESC Leadership to develop a plan for its share of the \$2.5M allocated by the state for Outreach and Education. Current funding is for 3 years (2008-2011) after which FESC will be trying to secure recurring funds from the state.
- FLATE was named in over 8 NSF ATE and DOL CBJIG proposals submitted this fall as a consultant for either curriculum development or outreach.
- FLATE and the Banner Center for Manufacturing leadership have organized a Stakeholders’ Summit to take place during the annual FLATE NVC joint IAC meeting. The Banner Center for Manufacturing’s Advisory Council (BAC) has been invited to participate in this facilitated meeting. The goal of the summit will define the long-term needs from industry and educational institutions of the services that the FLATE and Banner Centers provide and, ultimately, what the redefined organization will look like. The

anticipated result of the summit is a task force that will develop and help to implement the long-term strategies for sustainability of both centers.

**GOAL 2:** Create, for statewide implementation, an educational delivery system that contains curriculum, content, and technical programs to support high performance manufacturing.

**GOAL 3:** Adapt and/or create needed regional-related manufacturing curriculum, content, activities, and/or services that can not be adopted from existing NSF, NSF-ATE or other appropriate sources.

FLATE has essentially completed all the Target Objectives in Goals 2 and 3. Accomplishments of note are discussed below. Goals 2 and 3 have been combined into one goal in the renewal grant covering all aspects of curriculum including reform, development, and delivery. We anticipate that this will be easier for us to track and evaluate.

The Curriculum Frameworks for the AS/AAS Engineering Technology Degree were streamlined for more efficient use by the adopting colleges. A single CIP number was assigned for each of the A.S. and A.A.S. Engineering Technology Degrees. Beginning in the 2009-2010 academic year, these will be the only 2 CIP numbers associated with the degree programs. All college certificates retain their original CIP numbers. The newly organized frameworks have been distributed to the community college partners adopting the degree and will be posted by the FLDOE in March 2009. At this time, FLATE will also post the new frameworks on its website. In the fall of 2008, Hillsborough Community College adopted the ET Degree with the Advanced Manufacturing Specialization and 4 technical college certificates. We anticipate that Florida Community College at Jacksonville, Tallahassee Community College and Daytona State College will complete their own adoption processes in the spring of 2009, bringing the number of colleges that have adopted the degree to 8. Other colleges continue to be interested in implementing the ET degree. FLATE is currently engaged in conversations with the following institutions: Manatee Community College (MCC); Chipola College (CC); Miami-Dade College (MDC); Lake City Community College (LCCC); and Polk Community College (PCC).

FLATE has completed the remapping of the MSSC skills to the ET curriculum frameworks. The mapping document is available for public access at <http://fl-ate.org/projects/degree-reform.html>. A statewide articulation agreement (<http://fl-ate.org/projects/degree-reform.html>) was approved by the FLDOE Statewide Articulation Coordinating Committee in March 2008. This agreement allows the student to be awarded 15 credit hours toward the ET Degree at any institution that offers it. It is a “first of its kind” in the state to offer statewide articulated credit via certification for any current certification holder. This agreement opens the door to college for many incumbent workers as well as encourages high school students to continue their education, either right out of high school or after gaining experience in a work environment. This agreement can provide the technical credits for the ET Core, but students entering a community college must still take the college placement tests, and meet other local college requirements.

FLATE continues to work on new specializations in Medical Systems Technologies; Energy Production, and Technical Design and Prototyping, but put these on hold while working out the framework reorganization and new CIP numbers. We anticipate submitting the new specialization frameworks to the FLDOE in the spring of 2009.

FLATE has partnered with the FLDOE Workforce Division's Office of Budget, Accountability, and Research for college ET degree enrollment collection. We anticipate receiving our first report from this office to share with the NVC during the meeting. We will also be requesting HS enrollment data for programs that feed into and articulate directly with the ET Degree AS/AAS programs across the state.

FLATE's work with feeder high school programs took a big leap during the past year with the onset of the FLDOE's Next Generation Occupational Standards for Career and Technical Education - Cluster working groups (<http://www.fl DOE.org/workforce/ngosedu/>). The Manufacturing Cluster working group chaired by Don Gugliuzza and Co-Chaired by Eric Roe set strategic plans for framework review, revision, and consolidation. The first priority of this group was the development of a new secondary and post-secondary curriculum framework aligned with the MSSC Skill Standards, which would, therefore will become a direct feeder for the ET Degree programs with opportunities for students to articulate 15 credits via the MSSC Certified Production Technician (CPT). The committee work has been completed and the proposed framework, "Automation and Production Technology" is awaiting final approval by FLDOE. We anticipate 3-5 adoptions of this framework for the 2009-2010 academic year by high school partners. Additionally, MSSC has significantly lowered the price of assessments for HS students (\$18.50/test), which should also enhance the implementation of this framework. To support the use of the MSSC CPT, 3 members of the FLATE staff, Marilyn Barger, Eric Roe, and David Gula earned their MSSC CPT credential in the spring of 2008 and Jodi Sutton also became certified in Safety. Additionally, 4 community college faculty have become certified: one at HCC (Glenn Byrnes), 2 at Brevard CC (Meer Almeer, Bruce Heshner) and one at Central Florida (Robert Frank), bringing the total number to 5 community college faculty that have earned this credential in the past 2 years, all supported by FLATE.

FLATE has been working with the SCNS (State's Common Course Numbering System) to better define and organize courses in the engineering technology disciplines. A new Century Level Discipline has been defined "Engineering Technology" under which will fall some existing decades (e.g. Electrical Engineering Technology, EET), and other new discipline decades are being defined for courses related to energy and courses related to biotechnology, and medical systems. All decade definitions have been revised/updated to be more consistent with each other in scope and details. These changes will become effective in the 2009-2010 academic year and should help both colleges and industries with a more appropriate taxonomy for courses.

FLATE is continuing its work for the career paths to support both Medical Systems (SPC) and Biotechnology (HCC) in partnership with the SPC NSF ATE project for Medical Devices and the USF Center of Excellence for Bio-identification and Targeted Therapeutics (FCoE-BITT). This collaboration will provide comprehensive products with broad appeal across the state. Currently, the BITT office is compiling industry survey data collected over the past several months. Preliminary data will be available at the NVC meeting. Four science faculty at HCC have been developing a plan for adopting 2 Biotechnology courses as electives to Science AA degrees. They will be attending a professional development workshop in the February 2009, visiting a biotech facility, and preparing new course paperwork. Ultimately, we hope that this work will evolve into a new Biotechnology AS Degree program at HCC, that may also be implemented at SPC. Currently, there are 4 small active Biotechnology AS degrees in Florida

(Santa Fe CC, Gainesville; Florida Community College at Jacksonville, Palm Beach College, and Miami Dade College).

The HCC WebCT component of the Linked Distance Learning Outreach Curriculum (Target Objective 3.1.2) has been moved from the HCC Learning Management System to an internet Wiki (<http://flate.pbwiki.com/>), and as such has gone through more revisions under Jodi Sutton's leadership. With the help of a teacher who worked for FLATE over the summer, Mr. Eric Fernandez, additional materials have been added, including five that have been developed specifically for the FLDOE Careers resources site ([www.fldoe.org/workforce/ced/](http://www.fldoe.org/workforce/ced/)). The FLATE Wiki requires a password for access, but is given freely when requested. Currently there are 4 High School level MIF Learning Challenges; 5 Middle School level MIF Learning Challenges; 4 Career and Education Planning lessons for Middle School students.

The Soft Skills Module Faculty Workshop for “The Toothpick Factory<sup>®</sup>” was delivered to 60 teachers in Connecticut in June and to 20 teachers at the SAME-TEC conference in July 2008. Most recently, it was delivered to 24 teachers in China through MATEC and Intel. We are awaiting additional opportunities there. Additionally, the “Production and Productivity” module has been completed and is available free online to complement the Toothpick Factory Kit. We also have assembled 100 Toothpick Factory Kits for sale – through our Marketplace on the online HCC Bookstore (<http://flate.hccfl.edu/home.aspx>). They are also listed on the National Center for Manufacturing Education website ([www.merconline.net](http://www.merconline.net)) and the Endeavour Academy ([www.endeavouracademy.com](http://www.endeavouracademy.com)). This activity continues to get very good reviews as a vehicle to teach teamwork and the soft skills.

To address the content of Target Objective 3.1.2 FLATE has begun to prepare materials for the Technical Core courses of the Engineering Technology AS/AAS Degree, including alignment with the MSSC skills. This activity will carry over into the new renewal grant period.

**GOAL 4:** Create a viable Manufacturing Education Awareness System (MEAS) that promotes manufacturing careers, honors outstanding manufacturing education champions and educators, and fosters industry-supported academic scholarships in manufacturing education.

FLATE continues to believe that engendering an awareness of and interest in Manufacturing and STEM careers is essential to systemic and long-term increases in Florida's manufacturing workforce. The objectives identified in Goal 4 serve to guide FLATE on this important mission. The principle advancement toward this goal over the past year has been the expansion of FLATE's outreach campaign “Made in Florida”. We have continued to grow many aspects of this program as well as add new ones, partnering with the Manufacturers Association of Florida (MAF); the Florida High Tech Corridor Council; regional manufacturers associations; individual industries; academic institutions; local, regional and statewide economic councils along with social and workforce development organizations. Our goal is to be able to provide resources across the state wherever this need and interest exists. New components of the campaign are: FLATE Focus quarterly newsletter; FLATE Educator Recognition Awards; support of local and regional robotics competitions; FLATE “Made in Florida” poster series, legislative advocacy with MAF; “Made in Florida” toolkits for FLATE's Outreach Ambassadors; partnering to host and judge the SkillsUSA manufacturing-related state competitions; and FLATE's “Made in

Florida” lapel pins. FLATE believes that it has completed Goal 4, but many of the activities will continue during the renewal grant. Below is an update of our outreach activities.

The outreach campaign’s main communication vehicle is still our outreach website, [www.madeinflorida.org](http://www.madeinflorida.org). Through 2008, there have been over 734,000 hits. Additions to the site this year include the addition of information about the new Engineering Technology degree; updated wage and occupational data; the Made in Florida PSA’s and Senate Resolution; direct links to the Florida Trend’s NEXT content; a further enhanced educators’ area which now directs the teachers to FLATE’s new wiki for online classroom resources, links to a database of professional development opportunities ([www.TeachingTechnicians.org](http://www.TeachingTechnicians.org)) and the Toothpick Factory®; and six new manufacturing virtual tours.

FLATE and HCC offered a summer camp for 20 middle school students, most of whom are students at Dowdell Middle School, not far from the HCC Brandon Campus. This year, FLATE purchased 10 Lego Mindstorm robots and the accompanying Lego Curriculum. We hired a middle school teacher from Dowdell, Mr. Allen Dyer, through the Teacher Quest program for 5 weeks during the summer. Allen developed the curriculum for the camp under the guidance of David Gula. FLATE charged the students \$50 for the week and provided snacks, a cinch bag with the camp logo, and a tour. The camp was a very big success and we plan to run 3 camps this summer, hopefully, in partnership with the School District of Hillsborough County (SDHC) and 3 schools (2 middle and 1 high school). Information about last summer’s camp can be found at <http://www.madeinflorida.org/community.htm>. Additionally, we are exploring “exporting” the camp this summer to Central Florida CC by training their staff and an identified camp teacher(s) and lending them our team of robots.

FLATE also participated in several other summer camps this summer by making “Made in Florida” presentations and providing “give-aways”. FLATE staff visited various technology-related camps in Tallahassee, Palm Bay, and Sarasota hosted and/or sponsored by partner community colleges. We plan to expand this activity in the summer of 2009 to both support our partners and reach more students directly.

FLATE presented its second annual recognition awards at the awards banquet at the MAF Annual Manufacturers Summit in Jacksonville, FL in November 2008, using the same protocol and a new online nomination form. The Awards Committee (FLATE personnel plus members of our IAC) selected the recipients. Three awards were given: FLATE Secondary Educator of the Year (Gil Burlew, Braden River High School); FLATE Post-Secondary Educator of the Year (Ed Niespodziany, Central Florida Community College), and Distinguished Industry Contributions to Manufacturing Education (Anthony Fedd, BASF Corporation). The awards were sponsored this year by Conmed-Linvatec, Tropicana, and Jaeger Corporation. In addition to a recognition piece, the two educator awardees received congratulatory letters from Governor Crist, which has brought both winners additional recognition in their schools and districts. We hope to generate more nominations from our stakeholders for the 2009 awards, which will also be awarded at the MAF Summit (location to be determined). More about the awardees, including the letters from Governor Crist can be found at <http://www.fl-ate.org/projects/awards.html>.

We have published 4 additional quarterly issues of the FLATE Focus Newsletter, and the first issue of Volume 3 will be published in February 2009. The four page newsletter continues to

highlight one of our stakeholders, give calendar events, and summarizing FLATE projects and activities. Over 2688 individual copies have been emailed to our stakeholders and partners and a PDF version is posted on the FLATE website, [www.fl-ate.org/news/](http://www.fl-ate.org/news/). All past newsletters are also archived on that same page. In addition to the electronic distribution, about 50 hard copies of the current newsletter are distributed monthly. In addition to our newsletter, FLATE has published 12 “Manufacturing Monthlies” since early 2007, with one previous year being archived on the website. FLATE developed a standard “Media Kit” which is posted online, released 7 press releases in 2008 and were cited or highlighted in 8 news articles.

The “Made in Florida” DVD is still being distributed throughout Florida. To date, over 850 DVD’s have been distributed to educators, guidance counselors, workforce development professionals, and manufacturers throughout Florida. We lost our videographer in the late spring and have recently identified someone to take over the re-mastering project of the DVD to include a Spanish voice over and chapter markers that point to various Manufacturing sectors. We hope to have the updated video available by May 2009. MAF has contributed an additional \$3000 in 2008 to support this initiative.

In 2008 FLATE continued its work with several Regional Manufacturer Associations (RMA’s) and the Outreach Ambassadors to maintain and expand the student “Made in Florida - Industry Tours”. This brings tour totals to 2,014 students and 194 faculty over the course of 98 tours at 40 distinct facilities. Each tour provides an overview of Florida Manufacturing careers, a prelude of the facility and its product(s) as well as a focus on a particular technology that is integral to the particular site. Additionally, students are directed to the “Made in Florida” website and FLATE’s mascot (Flater) MySpace page ([www.MySpace.com/FloridaFlater](http://www.MySpace.com/FloridaFlater)). The results of the post-tour student surveys continue (similarly to the past 3 years) to indicate significant increases in interest in manufacturing and related technologies careers and that the students increased their awareness of the importance of math, science, and technology in industry. From July 1, 2005, until December 31, 2008, FLATE matched \$38,060 of personnel and materials costs with \$20,000 from the FHTCC and an additional \$86,540 of in-kind and \$4,000 cash support from the RMA’s and industry.

Associated with the “Made in Florida” tours, 2008 marked the continuation of our FLATE Outreach Ambassador Program. As mentioned earlier, this program supports our Outreach initiatives outside of the greater Tampa Bay area and 3 Ambassadors are currently under contract. From January 2007, until July 2008, at an expense of \$12,432, Ambassadors disseminated “Made in Florida” materials in 3 additional regions of Florida; conducted Made in Florida tours for students and educators; participated in Regional Manufacturer Association meetings; conducted student and industry presentations; and developed school/business partnerships in their communities. Overall impact in this period was 780 students, 137 educators, 200 parents, and 335 industry and community personnel. After this period, new Ambassadors have been recruited and changes to the contract and data reporting process have been implemented based on Ambassador feedback.

FLATE and its partners produced a third, “Made in Florida” manufacturing careers advertorial (<http://www.fl-ate.org/projects/fl-trend.html>) in the 2008-2009 edition of Florida Trend’s NEXT magazine and accompanying teen career website, [www.floridanext.com](http://www.floridanext.com), with an accompanying lesson in the NEXT Teacher Guide. The National Association of Manufacturers (NAM), the Florida Manufacturing Extension Service (MEP), the Banner Center for Manufacturing, BASF, Pepsico/Tropicana, Hoerbriger, Lockheed-Martin, Atlantic Marine Florida, and MAF provided

the financial support while the content was developed by FLATE and the layout by FLATE and the staff at Florida Trend's NEXT. This student edition of the Florida Trend is published annually and distributed free of charge to over 750,000 Florida high school students. From distribution in October 2008 to January 1, 2009, 3,790 students have responded to the 2008-2009 advertorial, inquiring about degrees in manufacturing and other technical careers as well as information about community colleges and technical schools. FLATE has responded to each of these students' requests for information with electronic handouts discussing careers and educational pathways in manufacturing and information about Florida's technical schools and community colleges. FLATE also sorted the student requests by county and distributed the contact information to partner community college and technical school department heads and/or faculty for localized recruiting. Thirty academic institutions requested and receive this data regularly from FLATE. Hillsborough Community College will be conducting a pilot effort to code students in its service area that requested information from the NEXT advertorial. These students (any who become HCC students) will be coded for having requested information from NEXT. This may provide data that demonstrates the impact of the advertorial and/or the follow up information that students get via email from FLATE. We will begin working with the HCC Brandon Student Services to develop a protocol for coding this year.

FLATE completed the design, production, and distribution of the unified marketing materials for the ET Degree to the 3 colleges that have begun implementing the ET Degree (Brevard, Central Florida, SPC). Each college received 300 copies each of: generic ET Degree folders, 3 different informational inserts; a college-specific degree outline and over 50 posters for them to use as they needed. They also received a CD with electronic versions of the documents; several web and print ads specific for their colleges; generic radio spot scripts; and sample press releases to use at their discretion. Electronic versions and customized materials were also developed for HCC to provide them with a tool to use in promotion of the ET Degree rollout in Fall 2009. A webpage for the degree (<http://www.madeinflorida.org/Pathways.htm>) provides information about the degree programs at all the schools and provides articulation information to 4-year degrees as well. Sample items will be available for review at the meeting. We have also developed a pull-up banner for each school for the ET Degree that they should be receiving by late January 2009. Shortly, we will begin developing college specific materials for FCCJ, TCC and DSC, and adding them to the website once their programs are approved this winter.

In addition to the direct outreach campaign, FLATE has launched a modest social networking initiative. A MySpace site for the ET Degree, defined under our "mascot" Flater ([www.myspace.com/floridaflater](http://www.myspace.com/floridaflater)) was established. To generate interest of young people, we are populating the site with information about student industry tours and upcoming related events. We have engaged 1 student from PJC to provide content regularly about his ET program there. Once some curriculum-related material has been posted, we will soon make a "public" announcement about the site to the other partner colleges in hopes that the students will build a community and social/educational network. We are in the development phase of a Facebook page (<http://www.facebook.com/home.php?ref=logo#/pages/Made-In-Florida/39266254105?ref=ts>) for FLATE that will expand the social networking initiative and have more professional networking interface for students compared to the MySpace site. We have also posted a short version of the "Made in Florida" video on YouTube ([www.youtube.com/watch?v=zUT4Hf1LFSI](http://www.youtube.com/watch?v=zUT4Hf1LFSI)) and both the full and short versions on doFlick ([www.doflick.com/video.aspx?tags=made\\_in\\_florida](http://www.doflick.com/video.aspx?tags=made_in_florida)).

Expanding our outreach initiatives to capitalize on a statewide opportunity, FLATE partnered with RWD Technologies to produce a series of “Made in Florida” Public Service Announcements for Florida Manufacturers Week (read the Senate resolution at [http://madeinflorida.org/mfg\\_week.htm](http://madeinflorida.org/mfg_week.htm)). The PSA’s are designed to recognize the contributions made by more than 16,000 manufacturers across the state, and highlight three aspects of Florida manufacturing. The first focuses on the nature of Florida’s diverse manufacturers; the second highlights the economic impact made by manufacturing to the local and state economy; the third PSA centers on education pathways and career opportunities in manufacturing. Additionally, FLATE offered its RMA partners to customize these PSA’s for their regional markets. Five regions took advantage of this offer (Tampa Bay, Capital Region, Southwest Florida, Volusia, and Central Florida). The PSA’s were distributed to television stations in nine major media markets of Florida in October 2008 and were asked to run them through the beginning of 2009. Follow-up surveys to determine PSA broadcast have been disseminated to the stations. To view the PSA’s visit <http://madeinflorida.org/psa.htm>.

In Florida, to demonstrate technical, leadership, and academic proficiency-high school and technical school students compete in two SkillsUSA contests related to modern manufacturing, “Automated Manufacturing Technology & Robotics and Automation Technology”. Students receive their instructions, begin “building” the virtual solutions through software programs and then apply them to an actual robotic manufacturing assembly line or CNC operation. After the Statewide competitions, the winning teams go on to national competition in Kansas City to test their skills against the best in the nation. For two years, FLATE has provided support by coordinating the State competition for these manufacturing contests by arranging for event sites and equipment, participating as judges, and assisting in the overall competition design and requirements. Key partners in these events have been Tropicana and Jaeger Corporation. FLATE is currently scheduled to coordinate the 2009 events.

To address previously open Target Objective 4.2.2, creating a scholarship and/or awareness program, FLATE compiled and published a database of Regional Manufacturer Associations’ Scholarship opportunities. This information was disseminated in the Spring 2008 FLATE Focus newsletter and is published at <http://www.madeinflorida.org/scholarships.htm>. The following RMA partners provide scholarships that range from \$500 to \$2,000 and are either merit or need based: SAMA (Sarasota/Manatee Area Manufacturers Association), BAMA (Bay Area Manufacturers Association), MRMA (Marion Regional Manufacturers Association), FMCC (The Florida Minerals & Chemistry Council), FCMA (First Coast Manufacturers Association), and SFMA (South Florida Manufacturers Association).

**GOAL 5:** Create and implement a faculty development program for technical and educational skills as they relate to best practices for high performance manufacturing in the state.

Addressing professional development for teachers and faculty is the third major component of FLATE’s three pronged strategy (Curriculum, Outreach, & Professional Development) to add depth and breath to Florida’s manufacturing workforce. Goal 5 focuses on professional development related to technical and workplace skills. Additional professional development in the area of best and current practices for curriculum development, pedagogy, and teaching and learning strategies are addressed in Goal 3. Reform of the curriculum frameworks encompassed both technical content and pedagogical philosophy. Many of the professional development

activities will continue in the renewal period, to continue to support Florida faculty and teachers. FLATE is comfortable that it has satisfactorily completed this goal for the first grant period.

Professional Development opportunities and activities include:

- 2 Toothpick Factory© train-the-trainer workshops were offered this year as discussed under Goals 2 and 3. The Production/Productivity Module is available for download on the FLATE Wiki and the Toothpick Factory is available for purchase online. We will also do train-the-trainer workshops upon request. We have two workshops scheduled: one in Orlando at the CIEC Conference in February and the second for the Process Technology ATE Center in Galveston TX in April.
- High School Technology Initiative (HSTI), the product of a previous NSF ATE Curriculum Development (2002-2006) and professional development project, whose materials have been left for FLATE to disseminate. HSTI produced science and math content designed to connect high school students and teachers to today's technologies and be aligned with the standards. HSTI modules will be available through our marketplace later this year.
- Curriculum reform project for the new ET degree involved ten community college faculty across the state in defining competencies and aligning industry needs with curriculum frameworks in both formal and informal sessions over 2 years. The effort continues as we develop additional specializations for the ET degree, mentor more faculty who adopt the degree, and continually check for industry relevancy.
- A partnership with Teacher Quest, the summer externship program of TRDA's Florida Endeavour Academy ([www.endeavouracademy.org](http://www.endeavouracademy.org)), in which FLATE provides recruitment of both industry and teacher participants. This program is partially funded by the state and places K12 technology, science, and math-focused teachers in STEM-related companies during the summer throughout the state, to explore applications of science and technology that they can bring into their classrooms. During the summer of 2008, 8 FLATE partner companies hired 1 teacher each and for the upcoming summer, two of FLATE's industry partners have already committed to hire a teacher for 2009. Additionally, FLATE participated in Teacher Quest 2008 by hiring 2 teachers who developed and delivered our FLATE Lego Robotics Camp. FLATE will again hire 1 or 2 teachers under the TQ program in the summer 2009.
- FLATE continued to support self-sustaining partnerships between industry and academia as a natural outgrowth of the Outreach program. These initiatives expand beyond the Teacher Quest program and facilitate real-world connections for students and educators.
- FLATE provided training for MSSC CPT Credential for CC faculty in 2008. Five faculty took the online training, 3 of which are now MSSC CPT. Two others will be testing in February 2009. One took the MSSC exams and earned the CPT credential without taking the training course.
- FLATE's partner, the Banner Center for Manufacturing, delivered a beta version of its MSSC related Instructor Certification Course (ICC) in September 2008 to 2 Secondary faculty, 2 Technical School faculty, and 2 corporate trainers. Four of these participants have earned their MSSC CPT and the others are in process.
- Other professional development activities include FLATE supported and/or delivery of formal training, participation in conferences, workshops, webinars, etc. In 2008 FLATE provided and/or facilitated 5 professional development opportunities to 171 secondary and post-secondary educators. A listing of all professional development activities will be available at the NVC meeting.

- FLATE continues to offer supplementary funding for faculty that wants to take advantage of any of the professional development opportunities posted on the clearing house [www.teachingtechnicians.org](http://www.teachingtechnicians.org)). However, no faculty has taken advantage of this opportunity to date.

The effort to partner with the Florida Department of Education to provide professional development for teachers and faculty in programs related to manufacturing and aligned with the MSSC Certified Production Technician (addressed in Target Objective 5.4.1) has been dropped. The FLDOE developed a more comprehensive professional development strategy for all Career and Tech Education teachers and faculty working in all clusters (in support of Perkins IV) that is beyond the scope of FLATE. Financial resources for faculty training and certification (e.g., MSSC) are available through the new state Professional Development Institute (PDI) being operated by Central Florida Community College and Valencia Community College, which, for MSSC certifications, supplements FLATE funding for this activity.

**GOAL 6:** Create an exciting manufacturing and technology educational environment that encourages and facilitates under-represented student participation in partner educational programs and activities.

As reported last year, FLATE's Underrepresented Student Participation Plans (UPP's) are a work in progress based on a "grass roots" model for developing strong relationships with the under-represented students in the educational pathway. The Target Objectives in Goal 6 address activities targeting under-represented student population including women, black, and Hispanic students.

Succinctly, FLATE's overall UPP identifies existing local minority student supportive activities, programs and/or organizations and then offers to work with that local program to extend its message to include awareness of technical career path awareness (particularly manufacturing), development of strong and secure math and science backgrounds, increasing student involvement, and promotion of faculty development with respect to technology and its supporting careers. When such opportunities are identified, FLATE has and will continue to work with the group to support a local program and also determine if that particular activity has the potential be tailored to a regional and/or state model promoting and/or supporting underrepresented students in Florida's community college technical programs.

Hispanic students - In order to connect with Spanish-speaking students and often more critically, Spanish-speaking gatekeepers such as parents, FLATE has expanded the awareness of technical education and careers in manufacturing via the translation the "Made in Florida" video script into Spanish and subsequent recording of a Spanish language overdub of "Made in Florida" video. The Spanish language streaming version of the video was posted on the "Made in Florida" website and is currently being created as an optional language track on the DVD. Additionally, the content of the Florida Trend NEXT advertorial is available on the NEXT website in Spanish ([http://www.floridanext.com/article\\_view.asp?id=613](http://www.floridanext.com/article_view.asp?id=613)). This content is accessed by following the link and clicking on the "En Espanol" button.

Elementary School Interaction – FLATE continued its mentoring and developmental activities with a predominantly African-American Elementary School through December 2008. Douglas L. Jamerson Elementary School is a magnet/attractor school with an engineering attractor in

Pinellas County. It is located in an urban neighborhood where the neighborhood students are all eligible for free or reduced lunches. The school has set a standard of excellence for its teachers (requiring them to attain national board certification) and curriculum (total integration of all its subjects with the engineering theme). The faculties blend interactive learning experiences as elements within their integrated math, science and engineering curriculum.

Women in the technical workforce – FLATE has continued its UPP addressing women by continued support of the Robotics summer camps at Girls, Inc. These summer camps help to address the under-representation of females in engineering technology through their comprehensive program of concentrated summer academic work, coupled hands on technology experiments, and mentoring by female professionals in the manufacturing fields. Additionally, FLATE hopes to offer a variation of the IWITTS (Institute for Women in Trades, Technology and Science) Female recruitment workshop for Florida to community college and high school faculty in 2009. This program is under development in partnership with the Next Generation Manufacturing Center in Connecticut. This professional development workshop facilitates faculty and teacher in the development of a specific plan for recruitment and retention in the participant's own institutions.

### **Summary:**

The FLATE Leadership team believes we have successfully met our target objectives from the first grant cycle, with the exceptions mentioned above and summarized here. With the success of our renewal grant proposal, FLATE will be continuing and expanding many of the activities that support our original Target Objectives which can be identified in the Objective Timelines for both grants. FLATE does have at least one “end of grant” target objective for each Goal in our first center grant (2004-08), which, at this time remain incomplete (Target Objectives 1.4.1, 2.5.1, 3.4.1, , 4.4.1, 5.4.3, and 6.3.2) and will be addressed through stakeholder surveys and final reporting to NSF in the spring and summer of 2009. Specific Target Objectives that are incomplete, but that we are specifically carrying over are: Target Objective 3.1.2, which deals with the implementation of distance learning for the ET Degree which was discussed under Goal 3; and Target Objective 4.2.1., which creates and disseminates a student honor role population as students are identified by partner colleges and high schools on the MIF website and offers them individual recognition.

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