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1. **American Diversity**

**Problem:** The United States has begun outsourcing education. Specifically, it is financially advantageous for government, academia, and industry to import educated people from other countries or to export task to educated people in other countries. If there is no demand for an “American made” scholar then there will not be a sustainable supply and a there will be a price drop (c.f. ECON 101).

**Solution:** If an institution uses American money, i.e. U.S. grants, contracts, state or federal support, then their employees should look like America. This will create a demand. A supply will follow.

2. **Progressive Administration and Administrative Accountability**

**Problem:** Faculty and staff often have ideas to increase efficiency or decrease cost. Currently, lower administrators can be obstacle and barriers to progress and development. If an administrator is failing at their task to often nothing happens.

**Solution:** An avenue for faculty and staff to present their case for progress. Administrators with dismal failure records should be asked to change course or step down.

3. **Faculty Meetings**

A time for all full time faculty members should be set aside for meeting.

4. **Science, Engineering and Mathematics and Health Science**

**Problem:** Students with ambition in STEM fields to have no avenue to success.

**Solution:** Tailor curriculum specific to the needs of STEM students that meets them where they are with the appropriate level of rigor.

5. **Money Saving Measures**

**Problem:** Budget cuts are coming

**Solution:** Use the full intellect of the faculty and staff for money generating and money saving ideas with an emphasis on the former.
American Diversity

Taxation without representation is an injustice. Indeed, it was one of injustices that led to the revolution that gave birth to this nation. Hence, the diversity of the American-funded workplace should reflect the diversity of America.

This article supports the inclusion of ALL people in this country and opposes the exclusion of American born people in an expanding set of fields. In truth, Pro-American is not, and should not be confused with anti-foreign.

Consider the State of Florida. The population is 78 percent American-born, 22 percent Foreign-born, 73 percent American-born white and 14 percent Foreign-born Hispanic.

The Department of Industrial Engineering (IE) at Florida State University is state supported and has received millions of U.S. federal dollars in recent years. Unfortunately, this same department has a faculty that is less than 7 percent American-born white and has no African-Americans and no Hispanic-Americans. Specifically, the American-born representation looks like tokenism and the African and Hispanic American representation is non-existent. The diversity of our work places should reflect the diversity of our people.

The following schools were recently interviewed: Mechanical Engineering Department at the University of Tennessee – Knoxville, the Materials Engineering Department at the University of Tennessee – Knoxville and the Mathematics Department at the University of Massachusetts – Amherst. The majority of funds for these departments come from American born people. Less than half of the faculty members, at these prestigious institutions, were born in America.

At Brown University’s Applied Mathematics Department, Cleveland State University’s Computer Science Department and Florida State University’s Mechanical Engineering Department less than one third of the total faculty are American-born. Please note that American-born people are four fifths of the U.S. population.

Many Science, Technology, Engineering and Mathematics (STEM) departments stopped hiring American-born faculty more than a decade ago.

In 1996 California passed Proposition 209. The state is more than ¾ white. A decade later the student body at UC-Berkley is less than 1/3 white. Again, the destruction of diversity is devastating to ALL Americans. “We will live together as brothers or perish together as fools”.
It should also be noted that many of the humanities departments have less than 20% non-U.S. born faculty member. Diversity for these departments would mean the inclusion of more foreign-born faculty.

According to the Education Resources Information Center, today, in this country, less than a third of graduate students in engineering were born in the United States. The same is true in economics and other fields and the decline of American born graduate students is evident in several other fields. Although 80 percent of the US population was born in the United States, it’s embarrassing that less than 33 percent of the graduate students in STEM areas are American born. And it is getting worse.

The IE Department at FSU is typical of STEM departments around the country. An academic department cannot say, “We can’t find any scholars” because they make them. If an academic unit is not capable of producing and employing American scholars, why should they receive American dollars?

The problem is simple. It is a consequence of the oldest law in every economic system. It is the law of supply and demand. It is cheaper to import educated people than it is to make them. Increasingly our shoes, engineers, and shirts are “made in China”. As long as it costs less to do so, this will continue. There is a decreasing supply of and funding for American-born engineers because there is a decreasing demand for them.

However, the solution is equally as simple. A new law that would state, “If you use American-born money then you must use American-born people.” Call this law American Diversity. This law would not displace people in the positions they have; however, it would have a strong impact on new hires. As a result, there will be an increase in demand and hence the price that we are willing to pay for educated American-born people, which will then increase the supply. The reality is harsh and the trend is staggering. If we want opportunity for American born children we must take affirmative action for all people.

One may believe that the U.S. president’s pledge to increase the quality of American education will solve the problem. For more than two decades, American presidents have pledged to increase the quality of American education. They have promised to increase a supply of American-born scholars with a decreasing demand for them. They have promised to break the oldest law of economics and have failed!

In addition, Americans are only 4% of the world’s population. When high-tech U.S. supported jobs are posted on the Internet, Americans are often only 4% of the applicants. American-born people will only hold 4% of these high-end jobs while paying 80 percent of the money that creates those jobs.

If we improve the quality education by 10 percent in the United States and other countries improve education by 15 percent we will be even worse off than we are today. A U.S. president cannot promise to hold educational systems outside the U.S.
fixed while he improves ours. An increase in U.S. education alone will not yield American Diversity.

Finally, a U.S. president cannot guarantee the changes made in education will last beyond their term. Just four years, say 3rd to 7th grade, of solid education does not make a physical chemist.

American institutions, that is, academia, government and private industry, all make short-term financial gains by divesting in the education of Americans.

There is an uneasy silence surrounding the lack of opportunity of American born people in STEM and other fields. If nothing is said, the three U.S. institutions, (public, private and academic) will continue to divest in American education. Again, there is no sustainable supply without a demand. The long-term impacts have and will continue to devastate all three groups.

Consider academia. Professors at research universities are promoted and rewarded by the number of grants they receive and the number of papers they publish. Competent graduate students add to this effort and teaching undergraduates detracts from it. Thus, professors maximize the status of the university, the status of the granting agency, their own status and pay by ignoring undergraduates (which are mostly American born) and importing graduate students that have been trained elsewhere (mostly foreign born). That is, we pay professors in the United States not to teach U.S. students and rely on imported intelligence to drive their research. This set of incentives has brought higher education to the state that it is in today.

In the long run, professors have found that since American-born undergraduates are no longer needed to support graduate programs in America, their undergraduate classes have gotten larger. That is, the job of training undergraduates is being outsourced. It is only a matter of time before U.S. graduate education is outsourced. As this happens nationally, it will be increasingly difficult for professors to teach or do research and for them to find quality education for their children in this country.

In of 2006, I spoke with an American-born student, whose parents were from China. She was a graduating senior at MIT. I asked if she planned to go to graduate school in chemical engineering. She stated, “There is no way I could do that next year. The professors here are so wrapped up in their research that they just pass you along with a C or a B even if you are completely lost. I am graduating and I am totally unprepared for graduate school.”

If professors must use American-born graduate students to receive American research dollars, then, to maintain productivity, they must educate American undergraduates.

It is arguable that K-12 education has already been outsourced. If Americans demand American Diversity, K-12 will get additional support from higher education,
government agencies and private industries that receive federal funds. The institutions will then have a vested financial interest in the success of K-12 education. Thus, a revitalization America’s of K-20 will be necessary if those in higher education want to be successful.

Consider private industry. Short-term profit for an American chief executive officer will come from cutting training and educational programs and outsourcing labor. However, if you tell that same CEO that he must employ of scientists, engineers, managers and laborers that reflect the Diversity of American before they get American grants, contracts or bail-out money then that same CEO will know that they need to educate, train and employ American-born people immediately.

In the past CEOs have imported engineers and managers. They came here and learned the best practices of U.S. manufacturing. They went home and improved their own companies. With the U.S. and, say post-WWII Japanese, best practices combined, they out-performed and devastated U.S. companies. Thus, in the long run this is bad business for private industry.

It is in the short-term interest of most government CEOs to disregard diversity. That is, take the US tax payers dollar in import someone who is already trained and will work for less. It is in the long-term interest of every US institution to embrace American Diversity. If our industrial and military advantage comes from highly experience scientist and they go home overseas, they take our advantage with them.

Again, many government departments and divisions need to increase their foreign-born employees so that they represent the 20 percent of people in this country that pay taxes for those positions.

Our alternative is to tell our American-born children,

*We have paid 80% of the money that supports many of the better U.S. sponsored jobs and you only have a 4% chance of getting those jobs. Laws in other countries prevent you from applying there directly and some prevent you from owning land and becoming a citizen. Other countries are poor and/or non-democratic so you don’t want to live there. So they can come here and get a job, buy a house and become a citizen and vote but you can’t go there and do the same. In addition, since there is no demand for an educated American your school budget has been cut, so you would not be competitive overseas anyway.*

We call this nation the Land of Opportunity.

Please note that what is proposed here has no impact on institutions that do not use US government funding. It does not close the door on immigration.

One may assert that the best product will come from an internationally constructed team without regard to national origin. As American people we must ask, “What is
more important, a high tech gadget or educational and employment opportunity for our children?” and “How much do we value the diverse inclusion of all Americans?”

*One may argue* that young Americans don’t want to be educated in the STEM fields. This was also said about African-Americans in the 1960s.

*The fact is* that our K-12 teachers are under prepared and the schools are overcrowded and underfunded. Many students, including this author, finished 11 years of education and had never been taught to add fractions.

The barriers that once primarily affected blacks now affect most American-born people. Even if students make it to college with their interest in STEM still intact, the above mentioned disincentives to meet them where they are and provide them with the education they need to succeed yields another tall barrier. And if they make it through undergraduate school, Americans are often less than 10 percent of the graduate and faculty applicant pools making it unlikely that they will be selected.

Near Lansing Michigan, to get from Hagadorn Rd to College Rd you need to take Willoughby Rd across Sycamore Creek. *One may argue* that young Americans no longer have an interest in College. *The fact is* the Willoughby Bridge is out.

This country was conceived with the self-evident truth that “all men are created equal”. We now exist with the reality of the exclusion of American-born people in math, science, engineering, and economics. This inequity is rapidly spreading to other fields. Our democratic nation is constructed of the people, by the people and for the people. This country must continue to lead the world in freedom, equality and opportunity. It must respond to “taxation without representation” with justice.
Progressive Administration and Administrative Accountability

Administrators should be seen as facilitators of achievement and many here at FAMU are perceived as obstacles or barriers to progress.

**Forward Progress:** Currently, if a faculty member brings a grant, curriculum proposal, employee paperwork, etc. to an administrator, the administrator can find one small error in it and send it back. The often requires the faculty member redo forms and recollect signatures around campus.

With a Forward Progress Policy, the administrator calls the faculty member to their office, the problem, is fixed there, and the proposal moves forward instead of being sent back.

For example: If a faculty member introduces a new course and it is approved by the departmental curriculum committee, the department in chair signs, it is approved by the college committee, if the dean has a problem with it, he or she should work with the faculty member to move the new course to the university committee.

In the current system, if the dean finds an error in the new course document, the faculty must get both committees to revote, the department to revote and the chairperson's signature. It is no wonder that the curriculum in mathematics and other areas has not had any significant change in more than 20 years despite of the fact that our student body has change significantly. It should be no wonder why the failure rate is so high. One should wonder why this continues to be acceptable.

**Administrative Accountability:** Both their superiors and their subordinates should evaluate administrators. The evaluation should focus on the performance of their division. For example, a dean and a chair should be asked, “What did you do to increase the grant writing in your college or department this year?” and “nothing” should be unacceptable. Every administrator should be asked what he or she did to move the individuals in division forward and the entire division forward.

Numbers (including, changes in the number of graduates, grants, publications, etc.) publicized and used to evaluate the performance of a division.

There should be special attention to the progress of African-Americans faculty and staff members. Slave mentality is “alive and well” in America and at FAMU. We can no longer afford to be silent on the subject of Black on Black oppression on this campus.

**Budget:** Every administrator should have a real budget.
Faculty Meetings

The exchange of information and ideas is vital to any institution with the vision of keeping pace with changes in the new millennium. Florida A&M University's aspiration to compete with research institutions on a national and global scale will be realized if the faculty can meet, discuss, and implement ideas that are in line with or ahead of the new elements in science, technology, and society.

To this end I propose a campus wide meeting time. During this time we will request that the registrar schedule no classes for full time faculty, the faculty hold no office hours, and that the administration schedule no appointments so that faculty members are free to assemble.

The time that I recommend is 4:00 PM on Mondays or Tuesdays. During this time adjuncts are typically available and can fill all of the classrooms on campus so there is no loss of revenue. I envision that during the first Monday of each month committees will meet. The second Monday departments meet and the ideas that come from the committees can be refined and acted on. The third Monday the full faculty senate can meet. Here the department can discuss new ideas and how they can actuate interdisciplinary collaboration and progress. The forth Monday can be available for the Vice President or President to meet with the full faculty.
Science, Engineering, Mathematics and Health Sciences

With fourteen full time mathematics faculty members and twelve thousand students it is abundantly clear that we cannot do a thorough job teaching all of them. However, if we do not meet students in STEM fields where they are and do a thorough teaching them mathematics, we will continue to see decline of FAMU students in science and engineering fields. I recommended a mathematics sequence for scientist and engineering.

In addition to meeting the needs of STEM majors there are other fields that require, or should have, a three semesters sequence of mathematics. The majors that are both in need of special attention and large enough to completely fill a classroom are Health Sciences and Business. For these students I recommend the following.

Precalculus 1 for STEM majors
Precalculus 2 for STEM majors

or Precalculus
for the students that are well prepared and only need one semester of study to be ready for calculus.

Calculus 1 for STEM majors

Note that calculus 2 and 3 courses are primarily attended by STEM majors.

Precalculus 1 for Health Science majors
Precalculus 2 for Health Science majors

or Precalculus
for the students that are well prepared and can cover all of the material in one semester.

Precalculus 1 for Business and Economics majors
Precalculus 2 for Business and Economics majors

Or Precalculus
for the students that are well prepared and only need one semester of study to be ready for calculus.

Calculus for Business and Economics majors

Note that the current, “one semester of College Algebra” is not working for most students who hope to graduate with a degree in Business or Economics.
Supplemental Materials: Currently, many mathematics professors use Course Compass, a computer software package, to grade students homework. The cost is about ($75.00 per student X 35 students = ) $2,625. To hire a student the cost is ($10 per hour X 10 hours per week X 15 weeks =) $1,500. Thus, offering mathematics courses with a lab fee to hire a student will increase the quality of feedback, provide an on campus job and reinforce the education of a Rattler. All for $1,125 less!
Money

“Consider your resources. A man always has resources. If he has shoes, he can walk. If he has paper and pen, he can write. If he has a mind he can dream and if he has hands he can build. Next, consider what you want to achieve. Then figure out how to use the resources you have to achieve what you need to achieve”

-William Jones, Sr. circa 1870
My great grandfather.

Money – Generation

Before the administration considers cuts to make up for the budget shortfall we need to consider how to generate revenue. Much of the talent on campus goes untapped.

For example, consider a faculty member given one course release time for one semester to write a collage algebra textbook that is distributed via email. Currently, the student pays about $150.00 for the book. Instead, charge the student a $100.00 supply fee with the course. The student saves $50.00. The university makes (10 sections X 40 students per section X $100 supply fee =) $40,000 per semester. Next consider how many intro courses in various departments we have and do the math.

I was offered a full fellowship from the National Institute of Standards and Technology last July. I asked for unpaid leave for fall 2010 and was denied. The University would have been able to hire 4 full time adjuncts for $8,000 less than what I am paid. It would have made a total of $241,000 from tuition and savings. Then it may have made a few hundred thousand from the resulting patent. More than a quarter of a million was lost and I am one professor out of more than 500. Again, if you do the math, non-progressive administration is suppressing millions of dollars of potential revenue for the university.

Money – Saving

1. Consult members in the School of Architecture, the Departments of Civil Engineering, Construction Engineering and members of the physical plant before making physical changes to the University Campus. The bidding process alone has caused FAMU to overpay for many projects. Not only will this save money for the university but it will also give students in those programs vital experience.

2. Auto shut off light switches will save electricity. If one has ever driven by campus late at night, one would see that it is a city on the hill. Every light in every building is on; from
Foote-Hilyer to the pharmacy building. Turning off lights in classrooms and offices that are not being used could save the university thousands of dollars.

3. Individual thermostat controls in offices with help save heating and cooling cost.

4. A recycle bin in select locations on campus could also help the university add revenue. Recycle bins should be placed in main locations such as the mail and copy rooms in each building but also in the atrium of Tucker Hall and Benjamin L. Perry. Recycling paper will add a steady influx of revenue to the university and also show that African Americans are Earth conscience too.

Money – Students

Students often drive expensive cars, wear designer clothes, talk on cell phones, etc. thinking that they are displaying their wealth. They all need to know that if Cadillac and BP have their money, and if Armani and Marc Ecko has their money, and if Sprint and Verizon has their money, etc. then they look broke! We have too many students that cannot pay their tuition or buy books because they drive nice cars and talk on a cell phone. I recommend posters about campus that remind the students how broke and in debt, they look. In addition, students are very reluctant to give up luxuries that they have had for so long. If the university could show students the benefit of decreasing their spending, students might be more likely to invest more in their education rather than designer clothes or sporty cars.

At schools where the majority of the students are rich, the campuses are filled with bicycles and blue jeans. In addition, students are very reluctant to give up luxuries that they have had for so long. If the university could show students the benefit of decreasing their spending, students might be more likely to invest more in their education rather than designer clothes or sporty cars.

In the “all you can eat” cafeterias students often waste food. If you have ever eaten at Pizza Hut in the student services building, you would see that pizzas not consumed by a certain time are thrown away. Not only is it a waste of money for the school, but it is also a waste of perfectly good food. If students cannot consume the “hour old” pizza, should we not just give it to homeless people that are less fortunate than us? If the food was given away rather than discarded, it would show that Florida A&M University cares about the community.