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Richard F. Welch Editor  
*Kennesaw State University*

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# REAC<sup>ING</sup>ING

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## THROUGH TEACHING

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A NEWSLETTER HIGHLIGHTING CLASSROOM PHILOSOPHY AND PRACTICE AMONG KENNESAW FACULTY

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### Tom Scott: Our Teacher of the Year

**T**o say Tom Scott has been a fixture at Kennesaw State College for more than 26 years is both a truism and a gross oversimplification of what Tom means to the school. For most, Kennesaw State would be unthinkable without this his-

tory professor with quiet, gentlemanly ways. For many, Tom embodies all that makes Kennesaw State a special place to teach and learn.

This special role in our school has earned Tom the admiration of faculty and students. And last

spring, he was further honored when he was named Kennesaw State's Teacher of the Year. In an interview conducted shortly after he was selected, Tom talked about teaching at Kennesaw State.



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#### Q: How did you get into teaching?

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A: I didn't start out when I was in college to be a teacher. I really didn't know what I was doing when I went to college but everybody thought I was halfway intelligent so I was a pre-med student as an undergraduate and majored in zoology. But it gradually sunk in to me that medicine or science just wasn't my cup of tea.

At any rate it became obvious to me when I realized that what I really liked was history. What really got me into teaching to begin with was not love of teaching. I didn't know whether I could teach or not. I never took an education course, which I think was a mistake. I wish I had, but I never did.

So it was the discipline that attracted me. I've just always loved history. It is my way of or-

ganizing information that makes life meaningful to me.

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#### Q: You say that teaching seemed a frightening proposition to you. What was frightening about teaching?

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A: I think just the fact that I hadn't ever done it before and didn't know whether I could do it. It's kind of frightening to spend years preparing for something, and you might just be a total failure and get fired from your first job. Yeah, I think the first year of teaching is far and away the worst possible experience that anybody can have.

J.B. Tate used to say when we were young faculty here that he felt when he started his career that he should have given them the money back from his first year of teaching. I know J.B. shouldn't have given the money back and I know he had to al-

ways be a great teacher, but that's the way we felt at that time, that somehow or other we were cheating the taxpayers by taking the money.

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#### Q: Were you looking at people who were teaching and saying "I could never do that?"

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A: No, I don't think I ever said that. I mean I didn't know whether I had anything to say that anybody would find interesting or not. And I was like a lot of people. Public speaking was frightening to me. And I think what happens when you start teaching, you find out what works and what doesn't work.

If you've got any sense at all you quickly drop those things that don't work. You just develop an expectation that students are going to like my class so it's OK to go into the classroom; it's nothing to get fright-

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ened about, but until you do it the first year you don't know whether you can or not.

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**Q: Are there things that make teaching history more challenging than other disciplines?**

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**A:** One of our great problems in teaching history is that we see it all the time. The source of students' unhappiness is that they don't think it has any relevance to anything that matters to them. They think it's a bunch of facts and dates that have been crammed down their throats.

They think history is knowing that Columbus came to America in 1492 and that for some reason or other it's important to know that the Civil War began in 1861. They don't have a clue, the vast majority of them, that history is really about the interpretation of those facts; that the facts are the raw materials, but the facts are not the history. History is what the historian does with those facts when he or she selects and interprets what those facts mean.

*Before coming to Kennesaw, Tom taught one year at Western Piedmont Community College in North Carolina. He said he survived that first year because he didn't do anything but prepare for classes and grade papers.*

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**Q: What was the hardest part about that first year?**

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**A:** Just staying up day-by-day. Being prepared, not to make a fool of myself in the classroom. Knowing what I was going to do

the next day and you know this was a junior college. We had a heavy teaching load, 15 hours, and I think I was teaching Western civ and American history. So I had to keep up. I knew my American history a lot better than I knew European history. Fortunately they didn't have World history back then. I don't know how I would have survived if I'd had to suddenly learn about Africa and Asia and everywhere else at that time. I just worked hard.

At the end of that year, there was one radical student in that school, a female student, 19 or 20. She was a favorite of my department chair, who was a political scientist, and he was a pretty liberal guy although he had just retired just a few years earlier from the Navy, where he had been captain.

The Dean of Students got real concerned that this girl was ruining her reputation because she was spending too much time talking to black male students at the water fountain. That's the only thing he knew about her contact with blacks. He called her into his office and threatened her with disciplinary action if she didn't stop talking to black students.

My department chair, who had all this military background, was so angry at this he just went into the office of the president one day, banged his fist on the desk and said, "I don't care what you do, just make a decision about something." So the president fired him. On the spot.

We started going to meetings all over NC to find lawyers to

defend the chair. I was still pretty conservative at that time. He didn't think I should be going to these things and he didn't want me to feel like I had to form an opinion that I didn't want to have. But at any rate, they offered me a contract; this was right at contract time. They were going to give me a 6% increase in salary, which was more than anybody else was getting. I just wrote them a letter telling them I wasn't coming back and telling them why. I didn't have a job in sight at that time.

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**Q: You became a campus rebel?**

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**A:** I don't know that I ever became a rebel, but it was kind of a turning point in my career. It was the first time I ever stood up for anything that meant anything where I took a huge risk on my own. I could have gotten drafted at that time. I was only 24 years old.

Without a job in sight, I resigned and started looking for jobs. I was just extremely fortunate that a guy named Dale Smith who taught history here at Kennesaw got a job in July at someplace like Northern Michigan University, and it created an opening and they had my application on file.

Dr. Beggs gave me a call. I came on. I'd been telling everybody why I left this other college and Dr. Beggs was about the first one I ever ran into that not only was interested in my story, but it was a plus to him that I had this experience. Maybe he liked to think I stood up for a department chair. Dr. Beggs was

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pretty liberal; he still is liberal.

I had only one year past a master's. It wasn't very bright for somebody one year beyond a master's and with just one year's teaching experience to leave the first job that he had ever had. Dr. Beggs gave me a chance. I don't think Dr. Sturgis was very impressed. But Dr. Beggs wanted me.

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**Q. Has it ever crossed your mind to pursue a more lucrative career?**

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**A:** Well, I started out to be in medicine, but I came to the conclusion that I was making myself miserable trying to do something that I did not want to do.

I think one of the attractive things about teaching is that you are surrounded by people who are motivated by things other than money. I mean none of us would be in teaching if our primary motivation was to make money. We are too smart for that.

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**Q: When you walk into the classroom at the beginning of the quarter, what things run through your mind about this sea of unknown people out there?**

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**A:** The last couple of years I have not been teaching the survey courses. I have been teaching Georgia history and I've been teaching our methodology class. This quarter in my Georgia history class I think there were only two out of 28 who were not at least seniors and a number are graduates in the post-bac program, and so I have students who are just fan-

tastically good.

These students who have come back to college after a few years out, and I don't care what their SAT scores are, bring those life experiences into the classroom and bring high motivation into the classroom with them. They are top notch students, and I would certainly compare our non-traditional students favorably to the traditional students at Emory or anywhere else simply because of all the experiences and the fact that they want to be here and are determined to do well. So when I go into a classroom I start out by telling the students I know they have had successes in their academic careers before and there is no reason in the world you should not all make A's and B's and you should be ashamed of yourself if you don't because you have the capability to do it and it's my job to help you do what you want to do.

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**Q: How have you worked to make yourself a better teacher?**

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**A:** I think for me there has been a fundamental shift. I spent my early years developing as a good lecturer and my concept of lecturing was always that students interrupt at any time to ask questions or make comments so I always had discussion.

I was essentially a lecturer. It was really a big ego booster for people to be hanging on your every word out there and I just decided along the way that students just weren't retaining long enough after the quarter was over the kinds of things I wanted

them to. They just weren't getting the experience I thought they should get.

I got great evaluations all along, but I still didn't feel happy with what I was doing. I kind of reinvented myself as a teacher seven or eight years ago and decided that what we really ought to be doing in history is making primary sources the focus of the class. Everybody else does. It would be weird if somebody was teaching a class on Shakespeare and lectured all quarter along on Shakespeare but never let you read a play by Shakespeare.

History is a field where teaching has traditionally been that you never exposed the students to material on which the teacher has based all of his or her conclusions. I've decided that's just not right, that you've got to start with primary sources. I made the readings the focus and in effect I don't get that big ego charge from my eloquent sermon up there that students are enjoying so much.

I get far more discussion in class now than I used to get and I think students are getting more that's meaningful to them out of this approach. I still control the agenda by asking the question.

I think I've altered the way I teach and I'm much happier with the way I teach now.

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*Excerpted from an interview in June by Alan Schwartz and Rich Welch.*



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*“What I did with my summer stipend”*

## Factors Influencing Uncompensated Care in Georgia Hospitals

Billie Ann Brotman

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The study I conducted this summer involved information gathered from the Georgia State Planning Agency that included financial data for 144 general hospitals for 1992. I was attempting to see what influenced levels of indigent care in these hospitals.

Hospitals are required to provide information on such care to remain eligible for Certificate of Need reviews. Failure to report the information could restrict

the hospital's ability to offer new services. All hospitals in Georgia were included in this study.

The results showed no influence on indigent care spending based on third-party payors such as Medicaid, Medicare or Blue Cross. This was true whether the hospital was for-profit or not-for-profit, or whether the hospital had an emergency room.

It is likely that a certain percentage of indigent care is done

by all hospitals because of the Consolidated Omnibus Budget Reconciliation Act that requires hospitals to stabilize critically ill patients before transferring them to another hospital regardless of their ability to pay.

The Medicaid variable had a positive coefficient and was significant. This variable probably reflects the fact that poor families patronize certain hospitals or are transferred to these hospitals.

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## Promoting and Managing Classroom Interaction

Dana Hermanson

Assistant Professor of Accounting

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The student's role in many college classrooms is changing from “passive listener” to “active participant in the learning process.” Research in several fields has documented several advantages of active learning, including greater retention of material and greater student satisfaction. I have attempted to incorporate interactive learning in my classes and have developed a few management techniques that may be helpful.

In ACC202, I use the first half of class to cover homework. Instead of working out each problem myself, I randomly assign one of the problems (or a portion of a problem) to small groups of students. The students meet for about 15 minutes and agree on an answer.

The students then compare their group answer with mine

and record the solution on a transparency. One member presents the solution to the entire class and addresses questions from other students. After the student's presentation, I go through the answer again to reinforce the key points.

I have used this method for several quarters, and I have noticed several benefits. First, the groups rarely, if ever, miss an answer. It is amazing how combined effort can guide the group through the toughest problem. Second, students become more comfortable speaking to the class as the quarter progresses. Third, students become friends with group members; at test time, groups often study together. Finally, in course evaluations, students comment very favorably on the interactive, informal nature of the class.

### TIPS FOR INTERACTION

- **Establish an informal classroom environment.** I encourage students to talk with each other informally before and during class. Getting to know each other—and not seeing me stuck behind the podium—seems to create a comfortable, relaxed setting.
- **Don't make it a “sink or swim” presentation.** I make sure to check each group's answer before they commit it to transparency. In that way, students aren't left out on a limb with the wrong answer (which may also have the effect of confusing other students).
- **Manage the process efficiently.** Although the atmosphere is relaxed, I make sure groups stay on task and watch the clock. One way to ease into this process is to make the group activities short (less than five minutes). Gradually, this time can expand as the groups learn to work together.

# GENERAL HIGHER EDUCATION TEACHING RESOURCES

**Diane L. Willey**  
Professor of Education/Director, Educational  
Research & Assessment

## ORGANIZATIONS

### **Alverno College**

3401 South 39 Street  
PO Box 343922  
Milwaukee, WI 53234-3922  
(414) 382-6087

Holds workshops on assessment, teaching, and student learning.

### **American Educational Research Association, Division J, Postsecondary Education**

Adrienne E. Hyle, Editor, The PEN  
Educational Admin & Higher Education  
309 Gunderson Hall  
Oklahoma State University  
Stillwater, OK 74078-0146  
(405) 744-7244

Publishes The PEN (quarterly), a newsletter with information on organization business and short articles on postsecondary education policies, practices, or conditions. Also referees presentations for AERA annual meeting.

### **Association of American Colleges**

1818 R St. NW  
Washington, DC 20009  
(202) 387-3760

Publishes LIBERAL EDUCATION (six issues / academic year), a journal that focuses on issues and innovative curriculum developments in higher education. Also publishes ON CAMPUS WITH WOMEN (quarterly), which provides updates on issues on women and institutions of higher learning.

### **Association for the Study of Higher Education & ERIC Clearinghouse on Higher Education**

One Dupont Circle, Suite 630  
Washington, DC 20036  
(202) 296-2597

Publishes HIGHER EDUCATION REPORTS (8/year), monographs on higher education problems. Topic categories include teaching, learning, and assessment. ERIC-HE publishes THE NATIONAL TEACHING AND LEARNING FORUM (6 issues/year), a newsletter of effective teaching practices and new research on teaching & learning in higher education; focus is multidisciplinary. Holds annual conference with refereed presentations.

### **Association for General and Liberal Studies**

Dr. Bruce Busby  
Ohio Dominican College  
1216 Sunbury Rd.  
Columbus, OH 43219  
(614) 251-4634

Provides a forum for professionals concerned with undergraduate liberal and general education. Publishes a newsletter and holds annual conference with refereed presentations. Affiliated with American Assoc. of Higher Education.

### **The California State University Institute for Teaching and Learning**

Office of the Chancellor  
400 Golden Shore  
Long Beach, CA 90802-4275  
(213) 590-5856

Assists faculty in teaching within their disciplines. Coordinates research and dissemination of information on teaching & learning issues. Special emphasis on education of minorities and women. Sponsors conferences, publications, and electronic conferencing.



Listings continue on next page



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**International Society for Exploring Teaching Alternatives (ISETA)**

Nancy E. Gill, Editor  
Dept of English  
Bloomsburg University  
Bloomsburg, PA 17815  
(717) 389-4250  
gill@mercury.bloomu.edu

Publishes CONNEXIONS (quarterly newsletter) and holds annual conference with refereed presentations. Has multidisciplinary national membership.

**Learning Research Center**

1819 Andy Holt Avenue  
The University of Tennessee  
Knoxville, TN 37996-0631  
(615) 974-2459

Publishes TEACHING-LEARNING ISSUES (monographs) and books on teaching and learning in higher education.

**National Center on Postsecondary Teaching, Learning, & Assessment (NCLTA)**

The Pennsylvania State University  
403 South Allen Street, Suite 104  
University Park, PA 16801-5252  
(815) 865-5917

Funded by US Office of Educational Research & Improvement (OERI) to carry forward the work of National Center for Research to Improve Postsecondary Teaching and Learning (NCRIPAL). Five-year project will conduct and disseminate research on postsecondary teaching & learning. Publishes quarterly newsletter and disseminates publications and videotapes.

**National Center for Science Teaching and Learning (NCSTL)**

104 Research Center  
1314 Kinnear Road  
Columbus, OH 43212  
(614) 292-3339  
NCSTL@magnus.acs.ohio-state.edu

Funded by OERI to support research to improve science teaching and learning. Holds conferences, conducts research, funds research, disseminates research findings.

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**PUBLICATIONS**

**College Student Journal**

PO Box 8508  
Spring Hill Station  
Mobile, AL 36608

Published four times/year. Includes articles dealing with college student values, attitudes, and opinions, and all aspects of post-secondary instruction, instructional design, and evaluation.

**College Teaching**

Heldref Publications  
1319 Eighteenth Street, NW  
Washington, DC 20036-1802  
(800) 365-9753

Refereed articles on issues, practice, and research related to undergraduate and graduate teaching. Must have multidisciplinary application/appeal.

**Education**

1362 Santa Cruz Court  
Chula Vista, CA 91910

Published quarterly. Includes articles dealing with innovations in learning, teaching, and education at all levels and in every area of education and learning.

**Educational Research Quarterly**

Grambling State University  
Adams Hall 105  
Grambling, LA 71245

Refereed articles on issues related to higher education, elementary and secondary education, industrial/business education, as well as non-traditional learning and environments.

**Interdisciplinary Humanities**

365 A. B. Anderson Hall  
University of Minnesota, Duluth  
Duluth, MN 55812  
(218) 726-8548

Published by the National Association for Humanities Education. A quarterly journal dedicated to the teaching of integrated studies among the humanities, arts, and related fields in schools, colleges, and cultural institutions.



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### **International Journal of Lifelong Education**

Taylor & Francis, Inc.  
1900 Frost Rd, Suite 101  
Bristol, PA 19007-1598  
(800) 821-8312

Published quarterly, providing articles in the fields of adult, continuing, professional, and distance education, and human resource development and training.

### **Issues & Inquiry in College Learning and Teaching**

Sally Knight, Executive Editor  
519 Pray-Harrod  
Eastern Michigan University  
Ypsilanta, MI 48197-2210  
(313) 487-1160

Published by the Faculty Center for Instructional Excellence, Academic Affairs Division. Includes refereed articles on issues, practice, and research on college teaching. Must have multidisciplinary application/appeal.

### **Journal of Higher Education**

Robert J. Silverman, Editor  
Ohio State University Press  
1070 Carmack Road  
Columbus, OH 43210

Published bimonthly in affiliation with the American Association for Higher Education. Refereed articles on broad topics in higher education including teaching and learning. Focus is multidisciplinary.

### **The Journal of Experimental Education**

Paige Jackson, Managing Editor  
Heldref Publications  
1319 Eighteenth St., NW  
Washington, DC 20036-1802  
(800) 365-9753

Refereed articles that present studies of levels of schooling in the US and abroad. Purpose is to improve teaching, learning, and schooling.

### **The Journal of General Education**

Penn State Press  
Suite C, Barbara Building



820 North University Drive  
University Park, PA 16802-1003  
(800) 326-9180

Published quarterly. Refereed articles on current issues and practices in pre-college and collegiate general education.

### **Journal of Learning Improvement**

Adams Hall 105  
Grambling State University  
Grambling, LA 71245

Published twice/year. Refereed research, practice, and policy articles on pre-college and college teaching, learning, and schooling.

### **New Directions for Teaching and Learning**

Jossey-Bass Inc., Publishers  
350 Sansome Street  
San Francisco, CA 94104  
(415) 433 1767

Monographs (4/year) on recent research and practice for improving college teaching. Jossey-Bass also publishes books and other series, such as New Directions for Higher Education, which address topics related to college teaching. Comprehensive catalogs of books and series are available.

### **Open University Press**

Taylor & Francis  
1900 Frost Road, Suite 101  
Bristol, PA 19007-1598  
(800) 821-8312

Publishes a number of titles on higher education topics. Focus is international, although most authors and content are British.

### **The Teaching Professor**

Maryellen Weimer, Editor  
Magna Publications  
2718 Dryden Drive  
Madison, WI 53704  
(608) 246-3580

Refereed articles offer information to help faculty members teach more effectively. Topics include lectures, testing, and course planning.



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# I Didn't Come to College to Compete with My Mother for Grades!

## *Unintended Consequences of Mixing the Generations in Class*

Michael B. Reiner, KSC Department of Psychology, Melanie McRae,

Mary Beth Bickes and Brad Robinson

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*(Editor's Note: This is a condensed version of a paper delivered at the 1994 American Educational Research Association conference. For full text and citations, please contact Michael Reiner).*

In the past decade, one of the most dramatic trends in higher education has been the change in the composition of the student body. Traditional age college students are no longer the norm on many campuses due to the dramatic increase in the number of adult learners pursuing undergraduate degrees. To test the impact of this changing student mix, a study was conducted to examine generational impact.

### The Study

A sixteen item attitude questionnaire was developed based on the instrument originally employed by Mishler (1984). Half of the statements were positive and half were negative. There was a Likert-type agreement scale for each item ranging from "strongly agree" to "strongly disagree." Students were also asked to write comments. During the summer, participants were mailed coded questionnaires to ensure anonymity and stamped return envelopes.

### Results and Conclusions

An ANOVA was conducted with Age (Traditional vs. Non-Traditional), Year in School (Sophomore, Senior, Alumnae), and Course Mix (a self report as to whether less than 50%, more

than 50%, or almost all of a student's classes were noticeably mixed-age) as between-subjects factors.

Generally, traditional-age students had a more negative attitude than adult learners. There was also a significant Age X Course Mix interaction, indicating that the magnitude of the difference in attitude between the age groups increased the greater the reported number of mixed-age classes experienced by students. Thus, greater integration of the age groups, rather than reducing hostility, may have exacerbated the problem.

An item analysis of questionnaire responses indicated more negative attitudes by traditional-age students on the following statements: "Both groups are treated equally well by the faculty," "I'm more attentive when other students talk in a mixed-age class," "I learn more in mixed age classes," "I prefer mixed-age classes," "Tension frequently exists between the age groups," and, "There are difficulties between the age groups centering around academic issues."

A content analysis of the written comments supported the above findings. Overall, 45% of traditional-age students and 38% of adult learners wrote comments.

A chi-square analysis was

conducted on the frequency of positive or negative comments as a function of traditional- or non-traditional student age. The results indicated that traditional-age students often expressed resentment toward adult students, citing the belief that adults received more help, attention, special favors, and extensions on assignments from faculty, as well as the view that too many academic awards were given to the adults.

In contrast, adults frequently commented that both groups benefitted from the diverse input in class provided by students of different ages, although many noted the "chilly climate" younger students created in class.

### Educational Implications

The trend to include adult learners on campus is likely to increase in years to come. Demographic changes in the student body may hinder our efforts to make the classroom a place that facilitates learning and development for all students. While the initial increase of adult learners on campus may be viewed as benign, age discrimination may surface when the proportion of adult students is perceived to be relatively large, thereby encroaching upon territory originally dominated by traditional age students.

Competition between individuals from different cohorts and inequities in the distribution of limited resources may lead to negative perceptions, stereotyping, and prejudice. Recruiting adults to campus may be similar to other cases of minority integration in college, such as blacks or Asians, with subsequent negative effects on campus climate and the development of stereotypes and prejudice between social groups.

Therefore, institutions trying to increase student diversity must be aware that such change may come at a price. Attitudes of the extant student population cannot be ignored while pursuing the goal of greater inclusiveness of under represented groups on campus without risking the development of animosity and bigotry between social groups. Unfortunately, the rise in hostilities and intolerance on American campuses toward ethnic and racial minorities,

homosexuals, women, as well as adult learners, may be a symptom that administrators and faculty have forgotten lessons in social psychology that should have been learned years ago. Greater care must be taken if we are to make the college classroom and campus an environment that nurtures the growth and development of students of all ages.



*“What I did with my summer stipend”*

## Capturing the Teaching Philosophy of Juan Jose Arevalo

Alan LeBaron, Assistant Professor of History

Last summer I spent a month in Guatemala researching the teaching philosophy of Dr. Juan Jose Arevalo. Dr. Arevalo was one of Guatemala’s greatest presidents this century (1945-1951), but he also was one of Guatemala’s greatest educators.

Before and after his term as president, Dr. Arevalo wrote books and taught university courses in the field of education theory. He was a forceful, effective and popular teacher.

There were three highlights to my trip. First, I interviewed Dr. Raul Osequeda, who was Dr. Arevalo’s Minister of Education for several years. He supplied some inside information of significance.

Second, I was lucky to find all of Dr. Arevalo’s books on education, long out of print, at several used-book stores. This treasure hunt took me to three towns and left me with a dusty cough, but I found books I thought lost.

Third, I visited a local school in Guatemala City that had been designed by Dr. Arevalo and embodies the physical form of his teaching philosophy. I met and made friends with the director and several of the teachers,

and talked with groups of the students.

I plan to offer a workshop sometime in the spring on Dr. Arevalo’s teaching methods, and I am preparing a conference paper and article on the same topic.

### Tips for Service Learning

*As more and more faculty incorporate service learning into their curricula, there are several points to consider to make the experience more academically enriching for students.*

•**Make it real.** Although hypothetical situations may be controllable (you get to pick the problems), they fail to challenge students with the vagaries of real situations.

•**Use our resources.** VKSC (Volunteer Kennesaw State) is in constant contact with non-profit agencies throughout the metro area. VKSC is more than willing to help locate agencies suitable to the needs of your service-learning exercise. You can even specify the type of problems you are looking for and VKSC will track down agencies willing to have students work with them.

•**Make it optional.** Forcing students to work for non-profit agencies might engender resentment in some students. Make sure you offer other alternatives (a hypothetical situation or for-profit organizations).

•**Make it count.** If you don’t make the service-learning project part of the course-assessment structure, students will not give it the attention it deserves.

--Richard Welch

*For more information about the service-learning initiative on campus, call Sybil Meyers at Ext. 6443.*

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*"What I did with my summer stipend"*

## Physics Professor Designs Space Shuttle Experiment

Hank Brittain, Associate Professor of Physics

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I felt like a kid who just smacked his first little league home run when my cardiac tissue samples began beating this summer at the Kansas State University NASA Specialized Center for Research and Training in Gravitational Biology.

Because I had been awarded a Faculty Development Grant, I spent many hours this summer hunched over a microscope, painstakingly dissecting pre-cardiac tissue from 36-hour-old chick embryos with knives thinner than a human hair.

By the next day, pin-head sized tissue had formed into crude chambers, and began pulsing rhythmically. After two months, I had enough data to indicate that the tissue, which stops developing if kept below

98.6 degrees F, would still develop once returned to that temperature, even after three weeks at room temperature. This means that experiments with this tissue designated for space shuttle flights will not be seriously disrupted by launch delays.

It is important that we study biology in a microgravity environment to answer the question: Can we grow food in space? We know that without gravity, plant root tips grow in random directions. Embryonic development is also affected—late-stage chick embryos hatch after an extended period in space, but very young embryos do not.

Future shuttle flights will carry pre-cardiac tissue as well as an experiment that I designed to study wound healing. Scheduled for launch in February 1995

on Shuttle Mission STS63, this project will examine cells that help repair damaged blood vessels. Injuries as minor as a paper cut do not readily heal in space, and I hope to show that the decreases of gravity in earth orbit impair the growth rate of these important cells.

The KSU and NASA contacts will help open doors for other Kennesaw State faculty to possibly place experiments on future shuttle flights. The experience has also given me some ideas for undergraduate research projects, and I am currently working with other biology and chemistry faculty on a proposal to the National Science Foundation for \$50,000 to obtain equipment to continue applied research and teaching in cell culture systems at Kennesaw State.

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*"What I did with my summer stipend"*

## Building Better Communication Networks

Virginia Rice, Assistant Professor of Mathematics

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With my summer stipend, I continued work on the inclusive edge connectivity graph parameter and began grant proposals for outside funding.

A graph consists of a set of objects called vertices and another set of objects called edges, which show relationships between the vertices. For example, one could think of the vertices as computers and the edges as

the communication links between the computers.

Visually a graph looks like small circles (vertices) connected by lines (edges). The inclusive edge connectivity parameter attempts to identify vulnerable vertices, i.e., vertices where the removal of just a few edges leaves the vertex in the position that if it fails it will disconnect the graph. My current work is the search for special types of graphs

where the removal of a few edges does not produce such vulnerable vertices.

I discovered a stable graph this summer and a technique that may be useful in constructing such graphs. As of yet, I have not been able to prove that this technique always works.



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## Undergraduate Research: Moving Toward Publication

*Excerpts from a symposium presented at the Southeastern Psychological Association*

Valerie W. Lawrence, Associate Professor of Psychology

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**M**ost undergraduates feel their goal is to take required courses and finish with a decent grade-point average. Al-

though it is possible to get into graduate school without having published research, publishing provides valuable experience that will give an

added advantage. Below are rules that students should consider when submitting a paper for publication.

### Rules to consider when submitting a paper for publication

**Rule 1-** Take into account the extent of the reader's technical vocabulary. Whenever a complicated word can be replaced with a simple word, replace it. If technical words must be used, define them.

**Rule 2 -** Maintain a level of formality in writing that is appropriate for the audience. Formality is not a substitute for readability.

**Rule 3 -** Include only those details that are appropriate for the audience.

**Rule 4 -** Avoid abbreviations. They can be annoying and often interfere with the reader's comprehension of the text.

**Rule 5 -** Write clearly. A major reason for lack of clarity in writing is an author's unwillingness to go back over what

has been written and rewrite it; the writer can't assume the imperfections in writing will pass by the reader unnoticed.

**Rule 6 -** Eliminate redundancy. Although repetition in writing is sometimes appropriate, it can easily slip into redundancy. Writers usually find it difficult distinguishing what they have thought about from what they have written. Have someone else read the paper because other people are more likely to recognize redundancy.

**Rule 7-** Don't rely on textbooks or outdated journal articles in developing a paper. In pursuing a topic, consider whether it is of current interest. Students relying on these sources may find themselves generating ideas that someone else thought of

several years before.

**Rule 8 -** Proofread your paper. The best method of proofreading is to check the final typed copy line-by-line; do this after putting the paper down for a couple of days so the reading is fresh.

**Rule 9-** Request a critical reading of the paper by an advisor or colleague. Encourage the readers to be critical and offer critical paper reading services to them in return. Also, make sure the colleague publishes in the area related to the paper or is familiar with current work in the area.

*Undergraduates who follow these suggestions should succeed in overcoming some of the obstacles in getting research published!*

*"What I did with my summer stipend"*

## Developing a Teaching Conference for Theater

Kurt Daw, Associate Professor of Theater

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**I** spent my summer planning for a regional teaching conference on the topic of teaching theater in a liberal arts context, scheduled for March 31, April 1 & 2, 1995 at Kennesaw State. This conference is being co-sponsored by The Forum on Theater as a Liberal Art (TLA),

which is the largest and most prestigious division of the Association for Theater in Higher Education.

Planning has included establishing a steering committee with national representation, and a local committee deeply involved in organizing the arrange-

ments. I have developed budgets, agendas and publicity materials, and I traveled to Chicago to discuss our plans with, and get approval from, the executive committee of TLA.

The announcement brochure is about to go out, and information  
(See DAW, page 12)

# You're Not Getting Older; You're Getting Better

## *Student Characteristics and Academic Achievement*

Michael Reiner, Bill Hill and Clayton Small

Department of Psychology

*This is a condensed version of a paper presented at the Conference on Human Development last April. Full text and statistical results are available from the authors.*

While research on academic achievement in higher education often has examined the relationship between performance (GPA) and ability (SAT), few studies have investigated differences in student motivation and academic success. This gap in research may be particularly noteworthy given the demographic changes in the student population.

Anecdotal evidence across many institutions indicates that adult learners generally are more serious about their studies than traditional-age students. Adults are more committed to the learning process and have greater appreciation for the value of education than their younger classmates.

In a study of 410 traditional and non-traditional students, respondents were asked to complete an

*(DAW, continued from page 11)*

tion requests are already coming in, so I have great hopes for good attendance at this first, and perhaps annual, event on this topic here.

For anyone considering a teaching conference at KSC, the support systems available here are terrific. I have been able to talk to experienced planners in English, nursing and psychology to tap their expertise. The conference office of Continuing Education has been unflagging in its support, especially on the complicated local arrangements. I encourage anyone with an inkling to take the plunge, because the help you need is available.

instrument that assesses differences in learning orientation (LO) and grade orientation (GO). Past research indicated that LO students are eager for the college experience to enhance their personal and intellectual development. GO students engage in academic work primarily for grades.

Results indicated that the strongest effect is due to age, with increasing age associated with higher GPA. Women were more likely to have a higher GPA than men. When all of the predictors were considered, LO and GO scores did not contribute to predicting GPA.

As was expected, the greater number of hours a students works,

the lower the GPA. In our sample, students worked an average of 24 hours per week, reflecting the nature of our campus, where the mean age is 26.5.

Adult learners are often burdened by the demands of a full-time job and family responsibilities in addition to their studies.

Nevertheless, the good news is that with increasing age comes greater maturity. Adult learners generally are more successful academically in spite of greater obstacles as they pursue their educational goals. So relax; they're getting older, but they're getting better.



# REACHING

THROUGH TEACHING

Contributions from KSC faculty are solicited. Please submit articles to CETL on a 5.25" or 3.5" disk in WordPerfect. Preferred length of articles is 900 words. Deadline for the next issue is February 6.

Giving guidance and vision to CETL is a Faculty Development Committee including the following:

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