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G. William Hill Editor
Kennesaw State University

Linda M. Noble Editor
Kennesaw State University

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Reaching Through Teaching

*A Journal of the Practice, Philosophy, and Scholarship
of College Teaching*



*"If You Teach, Learn To Do It Well;
If You Do It Well, Learn To Do It Better."*

Ludy Benjamin, Texas A & M University

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Reaching Through Teaching

Volume 17, #1, Fall 2005

Reaching Through Teaching is an online journal, which is published at the KSU Center for Excellence in Teaching & Learning (CETL) Web site. Its content is devoted to peer-reviewed articles and invited essays that address the teaching/learning process in higher education. Submissions that address the following topics from the perspective of any discipline are encouraged: research on teaching and student learning; assessment of teaching and student learning; research on problems and issues faculty face and related solutions; and innovative techniques or demonstrations.

Contributions are solicited from faculty at all colleges and universities. Please submit articles in Microsoft Word to the editor on a disk or as an email attachment (bhill@kennesaw.edu). Graphics must be submitted in jpeg format as a separate file with the manuscript. All submissions must conform to the American Psychological Association publication style. We reserve the right to edit articles in keeping with our editorial practices. We do not accept previously published articles. For additional information on submissions, contact Bill Hill, Director, Center for Excellence in Teaching and Learning, Kennesaw State University, 1000 Chastain Road, Mailbox #5400, Kennesaw, GA 30144-5591. Phone 770-423-6410.

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Sharing Teaching: The 12th Georgia Conference on College & University Teaching

Bill Hill, Editor

Director, Center for Excellence in Teaching & Learning and Professor of Psychology

Twelve years ago the then Director of the Kennesaw State University Center for Excellence in Teaching & Learning (CETL), Dr. Donald Forrester, had the vision to establish an annual interdisciplinary conference that would bring together faculty across the University System of Georgia to discuss and share research and innovations in teaching. Over the last 12 years the conference has prospered, providing a venue for faculty to form a community of teaching through sharing and conversation, both during and outside scheduled sessions.

Early in the history of the conference Dr. Lana Wachniak, who succeeded Don as CETL Director, instituted an annual practice of inviting presenters to publish papers of their presentations from the conference in *Reaching Through Teaching*. This tradition continues, albeit slightly revised. Rather than inviting presenters to submit after the conference, we now invite conference submitters to send full papers for conference presentation that are peer-reviewed for acceptance as both presentations and for ultimate publication in *Reaching Through Teaching*. This issue includes the competitive papers that were accepted for the 2005 conference after the peer review process. In addition, this issue also includes the abstracts from all of the other presentations at the conference.

Finally, I invite you to revisit the CETL Web site (<http://www.kennesaw.edu/cetl>) for additional information on CETL initiatives.

Bill Hill
CETL Director
December 2005

To Thine Own Self Be True: Self-Discovery, Diversity, and Pre-Service Teachers

Taharee A. Jackson
Augusta State University

Abstract

In this increasingly multicultural society, it is imperative that teacher education programs attack issues of diversity head on. Pre-service teaching programs must use Self-Discovery, the self-inquiry process through which future teachers discover themselves as individuals operating within a multicultural context, as pedagogy if we hope to successfully train the next generation of multiculturally competent educators. Self-Discovery is a four-step process for teaching individuals to be sensitive to human differences in education and society. The stages of Self-Discovery are: (a) Discussion, (b) Admission, (c) Accommodation, and (d) Proaction. If all programs involved in the creation of future educators successfully guide them through Self-Discovery, we will begin to resolve the multicultural conflicts of society so often propagated in today's schools.

In William Shakespeare's *Hamlet*, Polonius wisely offers the words, "To thine own self be true," just before sending off his beloved son Laertes to travel the world. As removed as I may be from Globe Theater times, I find these words to be incredibly relevant and timelessly appropriate as I prepare pre-service teachers for their educational assignments "abroad." And just as Polonius intelligently advises his young son to remain "true," or honest with himself, so too am I charged with reminding each student who passes through my Diversity Sensitivity and Multicultural Education course to do the same. Polonius knew full well that if one does not openly and willingly confront his or her own beliefs,

fears, and preferences, it is impossible to function honestly and most effectively with all others. This wise counsel, therefore, is not only critical for fresh-faced sons entering the world at large, but also for newly-stamped teachers entering the world of education.

The power of Shakespeare's poetic plea to "be true" must resound loudly in the halls of post-secondary academia. As a professor at a university that prepares the future educators of mass society, nowhere else do I find it more necessary to encourage this notion of "critical self-inquiry" (Gomez, 1996, p. 125), self-confrontation, or as it shall be referred to here, Self-Discovery. It is crucial that pre-service teachers (and all educators currently in the field) own a method by which they can discuss, deconstruct, and discover themselves as individuals operating within a multicultural context. As our surrounding culture evolves into a heterogeneous world, so too do our student populations in public, private, and parochial schools. To match the demands of a diverse and changing society, pre-service teachers *must* have access to a reflective process that adequately prepares them for educating students of all backgrounds in the multicultural hodgepodge we now call America. Self-Discovery, therefore, is an originally-conceived, systematic way to teach all post-secondary students, especially those enrolled in teacher education programs, to "be true" to themselves, or to pinpoint and actively recontextualize those long-held beliefs that may render them biased, prejudiced, or unknowingly ineffective as they encounter students of diverse backgrounds. Self-Discovery is a

four-step pedagogical technique which, if properly implemented by instructors, has the power to uncover, break-down, re-educate, and rebuild stronger society members and better future educators. Pre-service teachers who participate in diversity courses that implement Self-Discovery or a similar method of “critical self-inquiry” will not only exit teacher preparation programs with a better understanding of themselves, but with a genuine understanding of and appreciation for their future students, larger society, and all of humanity.

It cannot be emphasized enough that Self-Discovery as pedagogy should have its definite place in pre-service teacher education programs originating at universities, vocational institutions, or at any venue where individuals are training to become educators. Future teachers must be aware that issues in diversity and the techniques associated with teaching students from diverse backgrounds do not fall secondary to content learning. If anything, it must first be said that regardless of the grade level, content area, or demographic region in which pre-service educators hope to teach, understanding and appreciating issues in diversity will not only be relevant, but salient and necessary for practical classroom success. The current state of affairs in higher education does not reflect the critical nature of diversity learning as the cornerstone of pre-service teacher education (Ladson-Billings, 2000). For Self-Discovery to be adequately and widely implemented on campuses, multicultural education instructors must first believe that educating pre-service teachers about diversity issues is a top priority. Furthermore, the diversity instructor himself or herself must also *undergo* or be fully *willing to undergo* the process of Self-Discovery for any degree of diversity learning to occur. Current courses in diversity and multicultural education at the collegiate level ordinarily mandate a

simple review of relevant literature concerning minority groups, gender-based theory, socioeconomic status differences, and issues in historical racism and current societal prejudice (Bennett, 2003). The optimally effective method of teaching issues in diversity, however, includes a proper balance of emphasis on these important facets as well as on each student’s metacognitive Self-Discovery process.

The operational definition of Self-Discovery can best be summated as a “metacognitive process” that, when used in conjunction with the coordinating pedagogical strategy in any post-secondary course on diversity or multiculturalism, encourages pre-service teacher education students to “think about their thinking” (Smith, Polloway, Patton, & Dowdy, 2004). Self-Discovery is a method and collegiate teaching style that prompts pre-service teachers to constantly discover and reflect on the way they conceive other members of society who are not like themselves, be they children, colleagues, or people they meet on the street. Self-Discovery is both a process and a framework for instruction. The process of Self-Discovery for pre-service teachers includes four stages that all students may or may not fully complete. The pedagogical framework underlying Self-Discovery requires the instructor to understand the process well enough to guide students through each phase of Self-Discovery as both individuals and as a group. To understand this progression for both student and instructor, let us first examine the prerequisite settings and four phases of Self-Discovery.

The first and most difficult stage of Self-Discovery is “Discussion / Invitation to Attack.” The precondition for this initial phase is that both the multicultural education course instructor and students must be willing to enter a psychological setting and the ensuing discussions that address issues

of diversity, culture, race relations, and societal injustice. Racism, sexism, classism, and various forms of discrimination are all topics that have long been regarded as “taboo.” They evoke strong emotions, anger, shame, guilt, sympathy, and disgust. For most, discussing such topics is an arduous and uncomfortable task to be avoided at all costs. The nature of collegiate-level diversity and multicultural education courses, however, should be to delve deeply into difficult topics that most individuals choose not to acknowledge, and certainly not to discuss. It is, therefore, the onus of the instructor to create a safe, nonjudgmental, and confidential environment in which to open such discussions. A student’s willingness to discuss sensitive diversity issues and to enter this first phase of Self-Discovery will depend largely on the ability of the collegiate professor to make everyone in the course feel at ease with the idea of sharing, being disagreed with, and possibly having their ideas labeled as politically incorrect or outright prejudiced – all for the good of their teaching in the future, as well as their ability to function in society today.

In the “Discussion / Invitation to Attack” phase, the instructor and students must ask themselves a series of important questions: Today or in the future, am I willing to: (a) share my personal experiences and long-held beliefs about individuals and groups who are different than me?, (b) have someone disagree with my statements?, (c) consider views that may vary or run counter to my own?, (d) participate in open dialogue where I must speak *and* listen?, and (d) defend my personal views and opinions if challenged?

In the opening days of any collegiate course on multiculturalism, instructors may choose to “invite their own attack” or “break the ice” by sharing anecdotes of their personal encounters with biases, stereotypes, or formerly held beliefs that may have

rendered them prejudiced in the past. For Self-Discovery to occur, it is preferable that instructors take the lead in offering this sensitive and well-reflected-upon information for students to hear, absorb, form opinions about, gather insight from, and most importantly, to learn from, so as to avoid similar pitfalls in their own future teaching experiences. An instructor who models comfort and openness in sharing personal experiences will very likely incite his or her students to do the same. For students to enter the “Discussion / Invitation to Attack” phase of Self-Discovery, therefore, it is important that the diversity instructor ask himself or herself each of the aforementioned questions and answer in the affirmative. And then, even on the first day of such a course, students will begin to romance the idea of being open, honest, and willing to discuss tough issues with themselves and eventually with others.

Some instructors may choose not to share personal anecdotes, and that is to be respected. In this instance, it is helpful to show films, share stories, read testimonies, or invite guest speakers (perhaps even students who are ready to share their own experiences at this early stage) to encourage discussion and give students important information upon which to reflect. The purpose of introducing these personal encounters with bias, stereotyping, or prejudicial treatment is to prompt students to consider alternate perspectives for how persons, even their fellow classmates who are different, may be experiencing education, work, and life in American society. Thus, if the instructor is uncomfortable sharing his or her own stories, all is not lost. Many more stories of misfortune, mistreatment, and misunderstanding lie waiting to be told. Students who are just beginning to engage in the process of Self-Discovery, therefore, need not buy into the concept via his or her

instructor alone. Rather, what is most important is the students' willingness to receive new information from other individuals who maintain different vantage points within the same society. From whom the transmission of viewpoints comes is irrelevant. What truly matters is that these diverse viewpoints and thought-provoking life experiences are presented to students for deep analysis, objective critique, and maximum impact on the formation of their opinions.

The second phase of Self-Discovery is the "Admission / I Am Not Immune" stage. Here it is the instructor's onus to not only share alternate beliefs, experiences, and encounters with multicultural faces and situations, but also to critically reflect upon and qualify those events. For example, while teaching the Multicultural Perspectives in Teaching and Learning course at Kennesaw State University, I once shared a personal story about my Thai immigrant mother as an exemplar of a topic. The students and I were exploring the concept of being and feeling "other," or the problem of having to identify yourself and being treated as anything "other" than a White/Caucasian member of the dominant majority group in America (Greene, 2000). I willingly shared the story of how my short, "slanted-eye" mother would sometimes pick me up from school, bring food or goodies for special events, or carry in a change of clothing if I ever wet my pants as a child. I explained how I would always ask her to park behind the school, wait outside in the hallway, or leave my clothing at the front office and not enter the classroom at all. Since I am darker, have coarser hair, and was generally accepted as being "just Black," I did not want my classmates to see the short Asian lady whom I called, "Mom," or to ask me questions about her, my heritage, or my family afterward. It was much easier to be "just plain Black" than to have to explain why a

short Asian lady was visiting the school on my behalf. I shared with my students that I was outright ashamed of my mother, embarrassed and confused about my mixed racial make-up, and unwilling to discuss any of that with my peers. At that class meeting, I expressed that I had personal experience with our newly-defined term, "other," and I was bold enough to explain how feeling the effect of that term was totally unnecessary and absolutely changeable within our ever-diversifying, increasingly pluralistic society. And gladly, because I took the first step in explaining my own experience with that cultural tragedy, I quickly saw several hands go up. My students were bubbling over with desire to share similar stories. I had done it. I had built the bridge — this important walkway over which we would all need to travel in order to fully understand this nasty term "other," and more importantly, how to abolish it. At that very early point in my course, I myself had passed through the second phase of Self-Discovery and was fully intending to take each of my students along with me.

After the triumph of entering the "Admission / I Am Not Immune" phase of Self-Discovery, students will ask themselves several questions regarding their level of comfort with unadulterated disclosure. They will also begin to consider the idea that they, and indeed no one, are "immune" from harboring harmful and incorrect beliefs about themselves, individuals, or entire groups. They enter the first step of *discovering* that every member of society is subject *to* and suffering *from* misinformed and discriminatory ideologies such as self-hatred, superiority, or good old-fashioned ignorance about the "other." The difficult questions that invite this honesty and admission include: (a) Can I share my personal experiences, beliefs, and true feelings regardless of the consequences?, (b) Can I admit to myself and others that I

may harbor self-hatred, bias, prejudice, or even hate toward a certain group?, (c) Is this a “safe” and “contained” enough environment for me to share painful or telling anecdotes?, (d) Am I willing to accept that I can now qualify my perceptions as biased miscalculations?, and (e) If I am open and honest with my instructor and classmates, will something positive result?

Crucial to entering the “Admission / I Am Not Immune” phase of Self-Discovery is the instructor’s creation of a “safe” and “contained” class setting in which everyone feels as though they can be honest. The term “safe” refers to there being no negative consequences to a student for sharing a sensitive story. There must be no repercussions for that honesty by assigning lower grades, supporting negative class dynamics (encouraging peer condemnation and ostracism), or by treating students poorly after incendiary verbalizations in class. If a student shares that he or she regularly refers to Hispanic migrant workers as “Wetbacks,” for example, the instructor should reinforce that admission, discuss the issue, and disallow harsh judgment from classmates who are outraged. This class “safety,” created and preserved by the collegiate instructor, is vital to the second phase of Self-Discovery.

Equally important for encouraging the second “Admission” phase of Self-Discovery is “containment.” Before completely opening up verbally, students will ask themselves, “will my statements be kept confidential and private enough to remain with my professor and classmates and NOT travel with me outside this setting?” The answer should be a resounding “Yes.” Collegiate professors must respect the confidentiality of the important and personal information students will be willing to share, analyze, and hopefully alter. It is an absolute mandate that instructors remain objective,

professional, and that they keep classrooms “contained,” or as airtight spaces devoid of scandalous “leaks.” When instructors in such courses are fortunate enough to engage pre-service teachers in open dialogue about culture, race, religion, and other extremely taboo subjects, they need to carefully handle such sensitive material with the utmost respect and care.

The goal of creating a relaxed, nonjudgmental and “safe and contained” atmosphere for pre-service teachers is to encourage them to think about their preferences, dislikes, and genuine distastes for working with certain types of students and families as educators. Inevitably, the teacher of today (and tomorrow) will continue to encounter an increasing number of students who are unlike themselves. Gomez (1996) accurately notes that most current teachers in the United States are “White, middle-class, English-speaking people” (p. 111) who have great fears about teaching “other people’s children” in general (p. 109). By creating an environment within the context of a pre-service teacher program that encourages future educators to express such thoughts and fears in an open forum, we can combat the problem of being afraid of “other people’s children,” or students of diverse backgrounds, one college course at a time. Thus, it is imperative that we “catch” possible mistaken, discriminatory, and prejudiced opinions before we ever unleash poorly prepared, non-reflective pre-service teachers on society. It is essential that we prompt teachers to explore their biased beliefs *before* they set foot in a classroom. Future educators may have insecurities about teaching students with disabilities, children who are racially different, or interacting with school families and colleagues of a different social status (Banks, 2001). As a result of entering phase two of Self-Discovery, pre-service teachers are not only asked to confront their taboo

thoughts, but are prompted to consider the consequences of carrying those ideas into a classroom, imparting those beliefs on a young mind, and worsening an already tainted society. In the “Admission” phase of Self-Discovery therefore, pre-service teachers share their faulty fears and views, see that they are not alone in holding them, and ultimately realize that everyone is biased in some way. No one is “immune” from the deleterious effects of misinformation, stereotyping, and superiority mentality regardless of which cultural group they are a part.

Once pre-service teachers have embraced the idea that every individual is biased toward or against others, and most importantly, that they are no exceptions, both the instructor and group can proceed to the third stage of Self-Discovery, which is “Accommodation / I Must Change.” The term “accommodation” is lifted directly from the work of Jean Piaget, who defined this important element of learning as changing one’s cognitive structure or thought process to adapt to new information about the environment (Vasta, Haith, & Miller, 1995). The “Accommodation” stage of Self-Discovery is crucial for pre-service teachers because it not only encourages inexperienced teachers to take in objective information concerning destructive beliefs about individuals who are different, but also propels them to alter those specific beliefs, and to subsequently adopt a general mentality of change. The process of receiving new information, considering its value in their lives, and converting that value into meaningful change prepares teachers for lifelong learning. The process of accommodation, just as developing children experience it, requires constant self-reflection and mental modification. In order to begin this process of accommodation and change, however, students must first ask themselves the following questions and

answer in the affirmative: (a) Am I more aware of the feelings and life experiences of others?, (b) Do I accept that racism, sexism, classism, and various forms of discrimination have existed in the past? (c) Do I accept that racism, sexism, classism, and various forms of discrimination still exist?, (d) Am I convinced that members of society who do not look, speak, or act like middle-class, able-bodied White men have a different life experience?, and (e) Do I want to stop partaking in commonly-held beliefs that are inherently biased?

In the “Accommodation / I Must Change” phase of Self-Discovery, students are called to critically consider alternate viewpoints, different perspectives, and altogether disparate “worldviews” that do not coincide with their own. In this stage, the notion of “worldview,” or the lens through which each of us views society based on our individual experiences and social, moral, religious, educational, economic, or political beliefs shared with those belonging to our own cultural group, is explored in depth (Sodowsky & Johnson, 1994). At this critical point in Self-Discovery, pre-service teachers have discussed their beliefs and biases, been honest about their genuine feelings toward those who are “other” and “other people’s children,” and in this phase, hopefully begun to develop negative opinions about discriminatory beliefs and seriously want to change them. It is so relevant, therefore, to refer to the Piagetian concept of “accommodation,” or the taking in of new information and using that information to form new thought patterns around what is true and correct, in the Self-Discovery process. The ensuing “I Must Change” attitude, then, is an eye-opening breakthrough for both professor and student. Instructors can finally conduct discussions about sensitive issues such as affirmative action, institutional racism (Daniel-Tatum,

2000), and the culture of poverty (Payne, 1996) in a way that is fair, balanced, and not dominated by long-held discriminatory beliefs or strong, one-sided emotion.

One of the primary goals of the “Accommodation / I Must Change” phase of Self-Discovery is to convince pre-service teachers that all differences in individuals are not always appreciated in American society. In this phase, students begin to fully understand that dark-skinned Mexican children who do not speak English are having a different and challenging experience in American schools. Those little Black boys with corn rows, gold teeth, chains around their neck, and sagging pants are receiving a different and possibly sub par education. Those girls in Math and Science classes are having a different, and sometimes limited experience in those fields...and if they grow up and apply for an employment position, they will only make \$0.76 on the dollar when compared to male applicants (ABC News, 2004). That a Korean student somewhere, anywhere in an American classroom is constantly being referred to as “Chinese,” and is rebuffed by teachers when he underperforms in his Math class. All these stories are true somewhere in America, and the “I Must Change” attitude they develop as a result of experiencing Self-Discovery will gradually obliterate such overtly biased behavior one class, one student, and one teacher at time.

After passing through the preceding phases of Self-Discovery, students and instructors will likely reach the fourth and final stage, or “Proaction / I Will Do My Part.” In this exciting end-state, both students and instructors alike will feel compelled to take “proaction,” (proactive action) against biased ideas, societal injustices, and prejudiced individuals. Having discussed, admitted, and accommodated information regarding the current state of affairs in schools,

communities, and society at large, pre-service teachers and their classroom leaders will discuss ways to stamp out the various forms of unfair and unequal treatment of the diverse group of individuals residing in America and attending American schools. Taking “proaction,” therefore, will consist of pre-service teachers proactively seeking out information about youth culture, racial minority culture, female culture, bisexual/gay/lesbian culture, obese culture, disabled culture, regional culture, urban/rural/suburban culture, and all other groups for which there is a specific culture. At this point in Self-Discovery, pre-service teachers will have learned that what is more important than identifying and understanding the subcultures, or the array of specific groups to which all individuals belong, is emphasizing the “culture of humanity” in their classrooms, schools, and surrounding world. For example, students will have had the opportunity to express and openly admit their concerns for working with certain types of young children and their families. For most pre-service teachers, they will be children and families who are most unlike themselves – someone with a different skin tone, an accent, ornate hair, almond-shaped eyes, or tattered clothing. At this point in Self-Discovery, however, future educators will be able to appreciate the differences they were once afraid of, and to pursue opportunities to treat all future students as “students,” regardless of their physical, psychological, or situational attributes.

In the “Proaction / I Will Do My Part” phase of Self-Discovery pre-service teachers will learn to actively seek out the “humanity,” or commonality in children and families that anyone can share irrespective of their looks, attitudes, or social class. One of the primary foci of Self-Discovery overall is to encourage pre-service teachers to realize that everyone is a thinking, sentient,

and sensitive human being, and that similarity should be their main emphasis in the classroom, in their communities, and in general. Pre-service teachers should take away from any collegiate course involving Self-Discovery that anyone can be a loving mother, a caring sibling, a hard worker, or a student in need of nurturing in a school setting. They will need to internalize the importance of their role in society as the professionals who shape young minds into those who will either be culturally aware and compassionate members of society, or disgusted and disenfranchised victims of injustice. In this culminating phase of Self-Discovery, the future educators of tomorrow will proactively create and implement ways to develop anti-discriminatory views and unbiased teaching practices that work to stamp out the unfair and unequal treatment of any student, family, or citizen they encounter. They will learn to break down and resist stereotypes, to avoid racist comments and refuse to participate in conversations that degrade or unduly criticize one group, to actively pursue making right the wrongs of discrimination when they see it, and finally, to carve out a space in each of their future classrooms where this very same Self-Discovery dialogue can successfully take place. Pre-service teachers will take on the attitude of “I will do my part” to ensure that with each passing day, our society and education system becomes more fair, more effective, and places more of an emphasis on humanity than any other civilized nation in the world.

In the year 2050, racial and ethnic minorities and immigrants will comprise over 50 percent of the nation’s workforce (Henderson, 2000). To adequately provide quality educational experiences for the children of those minorities and immigrants, it is vitally important that post-secondary institutions that educate pre-service teachers

take Self-Discovery as a part of diversity learning to heart. Training a legion of multiculturally aware teachers who have had the opportunity, at some point in the pre-service teacher education programs, to experience Self-Discovery is the most important mission of teacher education programs today. Collegiate instructors, backed by their teacher-training institutions, must take the lead in addressing the crucial issues of diversity awareness, multicultural sensitivity, the celebration of individual differences, and the emphasis of collective humanity. If we do not seize the opportunity to implement Self-Discovery or the processes by which serious critical self-inquiry can occur, we stand to lose the battle of retaining quality teachers in education systems, serving the vast and growing number of multicultural students and families in America, and uniting our entire nation around the common goal of celebrating individuality, uniqueness, and common humanity. If we do not encourage instructors of multicultural education courses to at least consider asking their pre-service teachers to critically investigate what ideas and beliefs lie at the core of their hearts and minds, we are denying future educators the important opportunity to discover their true selves before stepping into the world of education.

Shakespeare’s Polonius wisely and responsibly counseled his son on the absolute necessity of understanding yourself before ever hoping to understand or “be true” to all others. With the use of Self-Discovery and an emphasis on diversity learning in collegiate settings, we can equip and empower every individual with this same truth before sending them out in classrooms as purveyors and perpetuators of destructive beliefs, discriminatory teaching practices, and disharmonizing societal goals. Self-Discovery, I contend, will not only armor each newly-trained teacher with the

self-knowledge they need to be an effective and progressive educator, but also with the truth they need to be a warrior of real and necessary change.

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Computer Labs and a Web-Centric Course: An Alternative Teaching Model

Baogang Guo
Dalton State College

Abstract

This paper presents an alternative model of teaching based on 4 years of experience using computer labs to teach political science classes. It explores the pros and cons of this model and analyzes the implication of the new approach to the traditional face-to-face classroom teaching in the context of the recent proliferation of online and Web-based courses. The study shows some positive results in improving student learning outcomes and motivation. While students attending computer-lab-based classes had slightly higher grades than students who attended traditional classes, many factors could have contributed to the variation. What I found most encouraging was the level of student satisfaction with the use of technologies was much higher among students who attended computer-assisted instruction.

Undergraduate education is undergoing rapid changes in recent years. Our abilities to deliver instructional materials have been greatly improved thanks to technological innovations. The traditional role as a teacher has also been challenged. Equipped with new technology gadgets and sophisticated computer skills, students now demand more from their teachers. As more and more students are accustomed to active learning, many faculty members feel the need to adapt their teaching style to active teaching, which requires an extensive use of non-traditional methods of communication and interaction (White, 1999).

Computers and the Internet can be of great help in assisting college teachers to

make this transition. Most classrooms today are equipped with a computer workstation and Internet connection. The high-cost and high-tech computer labs are increasingly becoming a favorite place for teaching--not just for science and technical classes, but for social science and humanities classes as well. The spread of Wi-Fi and other types of wireless networks on various campuses will soon bring Internet connectivity in every classroom. Many colleges have also required freshmen to have laptop computers as standard equipment for learning. Web-enriched courses which allow easy access to class materials have proliferated on college servers. Even if most of us do not teach online courses, the use of computers and the World Wide Web has become a part of our daily routine.

Unlike many science or engineering courses in which computer usages are essential, courses like American Government or Introduction to Political Science are still taught mostly in a conventional way, in a traditional classroom, and more often than not, using the time-honored "teaching-as-telling" style. To what extent can a non-method-related political science class benefit from the on-going communication revolution? What are the tools a teacher can use to enhance his or her teaching effectiveness? What are the pros and cons of a technology-intensive course? These were the issues of great concern to me when I started my experiments with computer-lab-based teaching in fall 2001. Computer labs seemed to be an ideal place to assess the impact of technologies on teaching and learning.

In recent years, many teachers in various fields have conducted extensive teaching experiments with using computers and the Internet, and there is considerable literature on these experiments. Overall, three types of teaching experiments on course structure have been conducted (Gizzi & Wilkerson, 1998): Web-enhanced, Web-centric, and Web-based courses. Web-enhanced courses typically use a class Web page filled with limited supplementary information such as the course syllabus, links, and other textual information. Teaching is still conducted in a traditional classroom. Some teachers experimented with Web-based tutorial quizzes (Klass & Crothers, 1999). A Web-centric course allows an instructor to integrate the Internet and computers into the learning process. In this model, the students' self-study or "asynchronous learning" is combined with instructor-led synchronous collaboration in a traditional classroom (Donovan, 2001; Jackson, 2002; Pollock, & Wilson, 2002). Finally, a Web-based course is taught entirely online with very limited or no direct teacher-student face-to-face interaction. We have seen many models being developed, such as "the self-instructional multimedia modules" or "self-paced studies" (Wilson, 1996; Cornwell & Way, 2001; Ko & Rossen, 2001). Several online universities, which offer their courses entirely online, are already in existence.

There are pros and cons for each of these teaching innovations. Web-enhanced courses utilize technologies to supplement classroom teaching by posting basic information online. It has little impact on the actual learning process, and the technology potential tends to be underutilized. Web-centric courses are moving in the right direction by integrating technology into the learning process. However, they tend to substitute classroom teaching with student research projects. It usually means that

students spend more time on data collection, research, and writing. While online courses have come a long way to expand educational access, especially in community colleges (NEA, 2000), many have doubts about their effectiveness. In 2000, Steffen Schmidt and several other scholars conducted a national survey of department chairs of political science to assess the current and future state of distance-learning in that discipline. Their findings included the low utilization of online courses, a low degree of importance, low level of knowledge and interests about distance learning, limited institutional support, and serious doubts about the appropriateness and quality of instruction at a distance (Schmidt, Shelley, Wart, Clayton, & Schreck, 2000).

Computer Labs as an Alternative

Since fall 2001, I have experimented with teaching some or all undergraduate classes in computer labs. The purpose of this paper is to explore the pros and cons of this teaching model and analyze the impact of lab-based courses on student learning, motivation, and outcomes.

The importance of using computers to facilitate the learning process is self-evident. Computers can facilitate self-paced learning, are great tools for multimedia presentations, are interactive, and can be accessed without distance limits. Because computer technologies also change constantly, it can be a double-edged sword. On the one hand, new innovations and user-friendly software make teaching and learning easier and more fun than ever before (Morrison, Lowther, & DeMeulle, 1999; Willis, 2005). On the other hand, frequent system or program failures, or the lack of technical training and support, are frustrating. Technology-assisted learning has posed far more questions than answers. For instance, how can we use technology to

advance our teaching effectiveness and, at the same time, allow us to maintain our close interactions with students? Can we combine the advantages of a Web-based course with the advantages of a traditional course? A computer-lab-based course may provide a solution to the on-going debate (Wrensford & Wrensford, 2003). A hybrid course may combine the strengths of both traditional classroom teaching and online courses while overcoming the major shortcomings associated with each of the teaching delivery methods.

Dalton State College (DSC) is a mid-size liberal arts college with a student population of 4,000. Most of our classrooms have computer workstations and Internet connections. Many teachers are already using them extensively for PowerPoint presentations or class-related Internet surfing. However, the way that students learn remains essentially the same, namely sitting passively either taking notes or observing. Although the inaction on the part of students can be remedied by adding class discussions, debates, or cooperative learning projects, the level of student involvement is still very low due to the size of the classes and the time constraints in a given class period. In recent years, while refurbishing basic computer equipment in traditional classrooms, DSC has added many computer labs on its main campus. Some labs are for general purposes and others are highly specialized. In 1996, there were only 13 computer labs with a total of 250 computers. By January 2005, DSC had a total of 31 on-campus computer labs (9 general-purpose and 22 special-purpose) and 3 off-campus labs. These computer labs contain over 1,000 computers. This rapid advancement in computer infrastructure has increased the number of computer-lab-based courses in recent years. At present, however, teachers in social science disciplines who use one of the computer labs utilize it more like an

enhanced classroom, where he or she can have a better projection system. The potential of computer labs tends to be underutilized.

Methods

In fall 2001 I taught two sections of American Government in computer labs, and two sections of the same class in regular classrooms. In spring 2002, I again taught one section of American Government in the lab, and two other sections in regular classrooms. Students in my regular classes also have access to the same class Web sites, but with much less in-class computer-based activities. This arrangement allowed me to compare class performances in different settings because the traditional classroom classes can be treated as control groups. Since fall 2002, I have taught all political science classes in computer labs.

American Government is a required core course for all undergraduate students at DSC. Though taking this course is a legislative mandate, students tend to have low motivation and expectations about the course because of the general apathy towards politics. As a result, student learning outcomes are directly affected. How to effectively stimulate student interest in this subject is a challenge to all of us who teach this course. At DSC, the size of our regular classes is limited to 30 students, but it can go up to 35 students. For classes taught in a computer lab, the class size has to be capped at 30 because of the limited lab capacity. After mid-semester, the class size can be even smaller due to student early withdrawals from the classes.

Course Design

As Moore and Kearsy (1996) noted, a good course, whether it is taught using traditional methods or online, still depends

on the soundness of its instructional design. The computer lab-based teaching relies heavily on several models (Willis, 2005).

Computer Assisted Instruction (CAI) uses the computer as a self-contained teaching machine. There are several CAI models: drill and practice, tutorials, simulations and games, and problem solving. In my classes, I used Web-based exercises and simulations, WebCT-based online testing, and Internet-based assignments.

Computer Managed Instruction (CMI) uses the computer to branch, store, and retrieve class information and organize instruction. I created a content-rich interactive Web site for American Government

[<http://www.daltonstate.edu/faculty/bguo/p1101/p1101.htm/>]. The Web site was organized into three sections. The “study guide” section contained the syllabus, lecture outlines, PowerPoint presentations, study tips, and reference links. The “learning tools” section contained practice tests, assignments, extra credit opportunities, and a chat room. The “about your teacher” section contained links to my personal Web page, a question posting page, a sign-up page for an e-mailing list, and a page for submitting student works electronically. The materials contained in this page were equivalent to a major Web-based online course. It also contained many key elements of a typical Web-enhanced or Web-centric course.

Computer-Based Multimedia (CBM) uses streaming video, voices, or PowerPoint presentations to present lecture materials. I published all my PowerPoint presentations online so that students could not only have

access to the lectures at home, but also be able to view the PowerPoint slides either at their own pace or simultaneously in the classroom. I no longer had to rush in order to finish everything on my slides. Instead, I could just focus on in-depth discussions. A VCR was used to show videos. Captured short digital video clips were also used as part of the PowerPoint presentations.

Assessment

Students who participated in these experimental classes were assessed by both objective and subjective methods. The objective tests included four non-cumulative examinations, and each accounted for 20% of the students’ final grades. The coverage of each exam was consistent every semester for all classes taught. Although the exam questions were altered periodically, they covered the same material and had the same format. The subjective assessments included assignments and surveys. The assignments involved research, essay writing, and controversial debates (20%). Students were asked to take a separate exit survey to evaluate various aspects of the computer assisted learning. In addition, the standard college student evaluations were also used to assess the effectiveness of this course.

A Sample Instruction Module

Table 1 summarizes a sample teaching module which highlights the procedure of this teaching model. The topic covered is political ideology. The objective is for students to be able to explain the four major political ideologies, and be able to identify their own ideological affiliation.

Table 1
Sample Teaching Module

Step 1. The instructor initiates some discussion on the opinions and attitudes students have toward some controversial issue (10 min).
Step 2. Students use computers to take an online self-test to find out their own ideological identification. The interactive online program used is called <i>Idealog</i> created by Mythryn, LLC, of Chicago, Illinois (http://idealog.org/index.asp) (15 min).
Step 3. The Instructor gives a short PowerPoint Presentation to explain each of the political ideologies in depth. Students can view the PowerPoint presentation simultaneously on their own computer and pose questions (15 min).
Step 4. The Instructor shows a short video clip on political ideologies (5 min)
Step 5. Students take an online interactive practice quiz to see how much they have learned about the topic (5 min).

Results

Learning Outcomes

Learning outcomes can be measured by average grades students received on exams and their final grades. All classes used the same assessment instruments. All assessments were graded using the same standards. A comparison of lab-based classes with traditional classes showed a positive relationship between student performance and the use of a computer lab. As shown in Table 2, students enrolled in the lab-based classes have slightly higher average final grades (7% for spring 2002, and 6% for fall 2001. The average score for students in the traditional classes was C, while students using the computer labs had an average letter grade of B. But statistically the differences were not significant due to

small sample sizes (less than 30 students in each class). Computer Class 2 actually has a lower average grade than Traditional Class 2. There might be other factors that were responsible for the higher grades. When I compared individual exam scores for spring 2002, the result also was somewhat mixed (see Table 3). Traditional Class 2 was taught at an extended campus and met only once a week. Its average was better than a lab-based class. There were more non-traditional students in this class than the computer-lab-based one, which might play a role in the higher than anticipated scores. In my experience, non-traditional students in general tended to have higher grades than traditional students in American Government courses. Table 4 lists average exam scores for fall 2001 classes. Again, the lab courses had slightly better scores.

Table 2
Comparison of Students' Final Grades

Spring 2002							
	Class 1	Class 2	Average		Class 1	Class 2	Average
<i>Computer</i>	84.15		84.15	<i>Traditional</i>	77.7	78.04	77.88
Fall 2001							
	Class 1	Class 2	Average		Class 1	Class 2	Average
<i>Computer</i>	85.27	78.38	81.83	<i>Traditional</i>	71.8	82.78	77.29

Table 3
Comparison of Average Spring 2002 Students' Exam Scores

Type of Classes	Exam 1 (50)	Exam 2 (50)	Exam 3 (50)	Exam 4 (50)	Average
<i>Lab</i>	39	38	37	36	37.5
<i>Traditional 1</i>	36	37	35	34	35.5
<i>Traditional 2*</i>	38	39	37	37	37.8

*Off-campus class, met once a week.

Table 4
Comparison of Average Fall 2001 Students' Exam Scores

Type of Classes	Exam 1	Exam 2	Exam 3	Exam 4	Average
<i>Lab1</i>	84	82	84	68	80
<i>Lab2</i>	85	80	84	67	79
<i>Traditional 1</i>	76	70	77	66	72

Students' Satisfaction

Learning outcomes are in many ways linked to student satisfaction with a course. A high level of satisfaction yields a positive attitude and good motivation, etc. Every semester, I conducted my own mid-term survey. Overall, I received far more positive comments than negative ones for classes taught in the labs. The following are some of the qualitative feedback I received:

- I really liked the class Web site. It was very helpful. I enjoyed doing the related assignments and using the Internet . . .
- The use of the computer lab seems to be a very effective tool to use in this class as it would be in other classes. It helps students out in understanding the curriculum a lot clearer than it would listening to a lecture throughout [the] class. Helps in assignments and practice tests are very helpful.
- I felt that this class is a “do-it-yourself” class.
- Having the class in a computer lab with Web-exercises is very effective.

- Take the computers out of the classroom.
- Continue to use a computer lab.

It was not surprising to me that a small number of students still had some negative attitudes about interactive learning. They liked to be told what they need to know. Their learning styles certainly need to be accommodated as well.

Impact of Technology

A computer lab is a technology-intensive environment. Does the use of technology have any impact on student learning-related behaviors and self-assessment of learning? This variable is measured by a class survey conducted in all classes.

In my fall 2001 class survey, 57% of all students accessed the class Web sites at home, 37% from campus computer labs, and 1% from work. Forty-four percent of the students spent at least 1-2 hours each day surfing the Internet, 44% spent 3-4 hours, and 11% spent more than 5 hours online. Thirty-three percent of the students in the

lab classes strongly agreed with the statement that "I have learned a great deal about American government and politics in this class" compared to 12% of the students in the traditional classes. Fifty percent of the students in the lab classes agreed with the statement, compared to 79% of the students in the traditional classes. On the statement that the course Web site was helpful in their study, 27% of the lab students strongly agreed compared to 45% of the traditional students. Fifty-seven percent of the lab students agreed with the statement, compared to 45% of the traditional students. Seventy percent of the lab students considered the online practical quizzes to be very useful, compared to 50% of the

traditional students. Twenty-six percent of the lab students disagreed compared to 50% of the traditional students. Forty-six percent of the lab students strongly agreed with the statement that "the PowerPoint Presentations work better than traditional presentation methods." Only 25% of the traditional students strongly agreed.

In spring 2003, after I moved all my American Government classes into computer labs, another survey was taken (see Table 5). Fifty students were given the questionnaire, and 28 answered the questions (56% response rate). The results show consistent positive attitudes among students who used the computer labs compared with previous surveys.

Table 5
Student Survey Responses to Questions Related to Computer Usage

<i>Question</i>					
4 – Any experience in computer lab?	Yes	No			
	18 (64.29%)	11 (39.29%)			
5 – Where is the computer used the most to access the Web page?	At home	At work	On campus		
	16 (57.14%)	2 (7.14%)	12 (42.86%)		
	Strongly Agree	Agree	No Opinion	Disagree	Strongly disagree
8 – The course Web site is very useful overall.	18 (64.29%)	10 (35.71%)	0 (0%)	0 (0%)	0 (0%)
9 – The course Web site helped me to do well in this class.	10 (35.71%)	14 (50%)	4 (14.29%)	0 (0%)	0 (0%)
10 – The in-class computer practice tests are very useful.	8 (28.57%)	14 (50%)	4 (14.29%)	2 (7.14%)	0 (0%)
11 – The on-line practice quizzes helped me to do well in this class.	9 (32.14%)	12 (42.86%)	5 (17.86%)	2 (7.14%)	0 (0%)
12 – The experience of learning in computer lab has been a very positive one.	8 (28.57%)	15 (53.57%)	3 (10.71%)	2 (7.14%)	0 (0%)

Table 5
Student Survey Responses to Questions Related to Computer Usage (Continued)

13 – I like the on-line exams created on WebCT.	17 (60.71%)	9 (32.14%)	1 (3.57%)	1 (3.57%)	0 (0%)
14 – Comparing with other class you are taking, I find this computer-learning environment more interesting and stimulating.	10 (35.71%)	13 (46.43%)	3 (10.71%)	3 (10.71%)	0 (0%)
15 – The on-line assignments helped me to do well in this class.	6 (21.43%)	14 (50%)	6 (21.43%)	3 (10.71%)	0 (0%)
16 – The PowerPoint presentations work better for me than traditional presentation methods.	9 (32.14%)	14 (50%)	4 (14.29%)	1 (3.57%)	0 (0%)
17 – The PowerPoint presentations helped me to do well in this class.	7 (25%)	17 (60.71%)	4 (14.29%)	0 (0%)	0 (0%)
18 – I have accessed PowerPoint presentations online frequently.	8 (28.57%)	15 (53.57%)	5 (17.86%)	1 (3.57%)	1 (3.57%)
23 – I like the idea to have my political science/American government class conducted in a computer lab.	15 (53.57%)	11 (39.29%)	0 (0%)	2 (7.14%)	0 (0%)

One major issue in this study was whether or not I should limit students' access to my class Web sites during my first 2 years of experience. The restriction would have helped me to make a clear-cut comparison between classes conducted in a purely traditional classroom and in a computer lab. However, I decided not to limit students' access because it would simply be unfair for students who took the traditional classes.

Discussion

Developing a lab-based course is more time consuming than a Web-based course. Since it is a combination of traditional teaching and modern technologies, computer-assisted teaching allows teachers to continue to enjoy the

traditional face-to-face interactions with their students, and at the same time, to utilize what the computer technologies and the Internet can offer. Despite the fact that it takes a long time to develop a good Web-centric course, it actually saves a lot of time in course preparation once everything is in place. The instructor may also find technologies to be a wonderful teaching and communication tool. To develop a lab-based class one has to be prepared to become an unsung hero because much of our work goes unrecognized. What motivated me to undertake this project was the desire to improve student learning outcomes and to stimulate student interest in a subject that could otherwise be considered dull and unstimulating.

There are many pros for using this high-tech learning environment. Within a

high-tech environment, teaching is no longer just telling, instead, it is also doing and interacting. When students can control the pace of learning, they feel less frustrated, and understand things better. Furthermore, when teaching is focusing on information processing rather than transmitting, learning will become more challenging (Johnson, & Johnson, 1991).

Although there are many advantages for using a computer lab, there are some disadvantages as well. Students do have a tendency to use computers and the Internet for unrelated activities such as e-mailing or simply surfing for fun. When an online test is used, security and cheating become a recurring issue. System crashes and technical problems can be very annoying at times. Clearly, it is also a very costly alternative. The availability of computer labs remains a luxury for many campuses. However, these obstacles are not insurmountable. As we learn more about the environment, we will feel more comfortable with it. Many technical issues can be solved by practicing patience and acquiring some basic training.

The significance of this new approach to teaching goes beyond the full utilization of computer labs. As more and more campuses install wireless networks, students who bring laptops to classrooms will want to do more with their gadgets and network connections than just note-taking. If it is left unguided, students may simply surf the Internet for fun. Once we can create an effective learning environment and guide them through with useful online sources and well-prepared learning modules, the possibilities for innovative teaching suddenly become endless.

Although this study only shows some effects the use of computer labs have on student learning, nevertheless, not all improvements are proven to be computer-use-related. But the result is still positive

based on the survey responses of the participating students. To systematically assess the impact of the use of computer labs or the incorporation of computers and the Internet into classrooms in general, there needs to be a larger scale study. This certainly is beyond the ability of individual instructors who only teach small classes. What this research has demonstrated is that a better alternative can be developed between traditional and online teaching. Moreover, a computer-assisted class can bridge the gap between traditional classroom teaching and online distance education.

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Lessons Learned From Comparing Web-Based and Traditional Classes

R. Andrew Schaffer
North Georgia College and State University

Abstract

I recently taught two sections of an undergraduate managerial ethics course. I offered one section in a traditional, classroom-based format with mini-lectures, small group discussions, and whole classroom discussions of various case studies and ethical situations and scenarios. I conducted the other section completely online using Indiana University's "OnCourse" software. This class section utilized asynchronous text-based "mini-lectures" (readings), chat room groups, and class e-discussions. Both sections covered the same material and used the same textbooks. While I learned a lot from comparing and contrasting these approaches (which I will share in part one of this paper), the experience also led me to consider how an e-learning methodology might be useful in traditional classrooms. It is this latter point that I find most compelling, and I cover that topic in part two of this paper. I believe that the information and ideas in this paper can be applied in many academic disciplines – not just in management programs.

I am a classroom teacher. I am proud of my classroom teaching successes, and I am equally proud that I have learned from my classroom experiments that failed. I am not proud of the time that elapsed before I embraced Web-based education and e-learning. I was one of those who insisted that the classroom experience, the face-to-face interaction between faculty and students, was mandatory for learning to occur. I argued more than once that only a very few subject areas could be successfully

taught in an e-learning environment. I was wrong.

A large and growing body of research indicates the value of e-learning. Very recent studies show that computer-based instruction helps overcome the limitations of large-group instruction, and computer-assisted instruction can enhance uniformity, relevance, and independent learning skills (Stone, Bongiorno, Hinegardner, & Williams, 2004). With the recent focus on outcomes assessment, it is important to note that electronic dialoging has a demonstrated positive correlation with learning outcomes (Webb, Jones, & Barker, 2004).

Studies like the two cited above, and many others, convinced me to launch a Web-based class. I was assigned to teach an undergraduate managerial ethics course, so I offered one section in the traditional classroom format and the other via the Web. These parallel offerings allowed me to compare and contrast the approaches for myself. I used the same textbooks, offered the courses at the same university to the same majors in the same semester, and of course, the instructor was the same person. Although this certainly doesn't create a research design or research sample, the similarities do allow for some meaningful comparisons.

Part I: Comparisons Between the Traditional and Web-Based Sections

Demographic Comparisons

While this paper offers some quantitative and qualitative comparisons of

the two sections, given the unscientific design, limited sample size, and the limitation of only two class sections, this summary is only meant to offer observations and suggestions and to provide information on the subject of traditional and e-learning approaches.

The traditional classroom section had 28 students. This class was predominately White (75%), with the remainder of the section being Black (18%) and Hispanic (7%).

Twenty-five students composed the Web-based section. This class was predominately White (80%), with the remainder of the section being Black (16%) and Hispanic (4%).

By gender, the classroom section closely followed the management program's overall distribution. The classroom-based section was 58% Women and 42% Men. The Web-based section, similarly, was 56% Women and 44% Men.

By age, the classroom section closely followed the undergraduate management program's distribution with 51% of students 18 to 25 years of age, 35% were 26 to 35 years of age, and 14% were 36 years and over. The Web-based section attracted a slightly older student base with only 45% of students 18 to 25 years of age. The 26 to 35 year olds accounted for 39% of the enrollment and the 36 and older group comprised 16%.

Comparison of Differences in Student Participation: Quantity and Quality

Students in the traditional classroom met twice per week for 75 mins per session over a 16-week semester. Students interacted with one another and with me as we discussed cases and reviewed ethical scenarios. However, some students tended to dominate discussions and took control of the classroom groups. Other students took a

very passive role in the classroom and did not offer much in the verbal discussions. Even when called upon by me or other students, those passive students would respond with comments like, "I don't know" or "I agree with 'Bill' and the comments he made."

However, active and passive students in the traditional classroom did perform equivalently when it came to written assignments. The quality of their work (based on assigned grade) was distributed as one might expect in an undergraduate course. What is striking is that there was no apparent correlation between the performance of the passive students in open discussions and those same students' performance on written work. In fact, the students who said little or nothing in class were some of the strongest performers on the written assignments.

By default, the Web-based section was all "written work." I required the students to read assignments, cases, and ethical scenarios at the same pace I was presenting them in the traditional classroom. However, in the Web-based class, I achieved "discussion" through asynchronous chat rooms set up for different cases and scenarios. Each student posted a minimum number of comments (determined by me and based on the complexity of the case) and also posted responses to at least three other students' comments about that case. In addition, students were required to respond to the comments posted to their initial comments.

From my point of view as the instructor, it was much easier to quantify each student's level of participation in the Web-based class. In addition, I had more time to objectively review and reflect on the quality of the Web-based students' comments compared to student interactions in the traditional classroom.

The series of interactive assignments in the Web-based class resulted in a wider, deeper, and more challenging exchange of thoughts and ideas than I observed in the classroom section. My experience with the Web-based class supported Rigou, Sirmakessis, and Tsakalidis (2004) who argue that Web-based learning environments give e-learning new potential by enabling interactive, current, and user-centric learning tools. Online learning communities can exploit the knowledge and experiences of community members. They can better serve each individual depending on personal preferences, goals, and needs.

Comparative Student Performance

Research studies comparing traditional classroom versus Web-based courses have reached different conclusions about student performance. For example, research on a graduate course in social work at the University of Louisville found the actual content knowledge gain was better for the traditional classroom sections (Faul & Frey, 2004). However, similar comparison research with an undergraduate psychology course in human development at East Carolina University reported significantly higher outcome measures for the Web-based course (Eppler & Ironsmith, 2004). A multi-campus study in Europe reported mixed outcomes. Results indicated that if student group members had to share and exchange knowledge to reach a joint solution they achieved better results in synchronous settings (Schweizer, Paechter, & Weidenmann, 2003). Additional research suggests that learner behaviors in online environments often do not match instructor expectations because the chat tool does not adequately match the educational task (Linder & Rochon, 2003). These authors posit that instructors and learners often fail

to receive adequate instruction before using e-learning tools.

In my two-section, non-scientific comparison, a simple *t* test with an alpha level of .05 revealed that students in the Web-based section performed significantly better (1.15 GPA points higher) than the traditional classroom students, $t(1, 51) = 3.61$, $p = .009$. Similar to Faul and Frey's (2004) findings, my Web-based students reported significantly higher satisfaction scores for the course than the traditional classroom section. In addition, my end-of-semester instructor evaluation scores were higher (although not statistically significant) for the Web-based section. Table 1 summarizes the comparative information presented above.

Part II: Potential Applications of E-Learning in Traditional Classrooms

“E-learning” is often viewed as synonymous with distance education, but why not apply e-learning principles in a traditional classroom? Based on their experience and research, Eppler and Ironsmith (2004) argue that a combination of teaching formats, including Web-based approaches, fits the needs of a growing population of students. While the literature often focuses on translating traditional classroom methods into electronic delivery, why not consider this the other way around? Aspden and Helm (2004) posit that the presence of virtual learning environments in an on-campus setting can alter the dimensions of existing learning and teaching relationships, and can draw teachers and students closer together.

In-Class Electronic Discussions

As I summarized the comparative information presented earlier in this paper, I began to conceptualize how methods

Table 1
Comparison of the Traditional and Web-Based Managerial Ethics Classes

Pedagogy/Methodology	Traditional Classroom Section	Web-Based Section
Textbooks	<i>Business Ethics</i> by Jennings (West) and <i>Annual Editions: Business Ethics</i> (McGraw-Hill)	<i>Business Ethics</i> by Jennings (West) and <i>Annual Editions: Business Ethics</i> (McGraw-Hill)
Meeting Times	Twice per week, 75-minute class periods	No set meeting times Asynchronous chat
Interaction with Instructor	All face-to-face Occasional e-mail inquiry	All Web-based
Interaction with Other Students	All face-to-face	All Web-based
Group Work	Self-selected groups In-class discussions of cases and ethical scenarios	Asynchronous responses to student-posted comments and questions
Assessment	Written case summaries Written answers to homework questions Class participation Three short-answer examinations	Written case summaries Written answers to homework questions Class participation Three short-answer examinations
Grading of Participation	Instructor recorded quantity of comments per student and assigned an immediate grade for quality/depth of comment	Instructor counted quantity of posted comments per student and assigned a grade for quality/depth of comment after reading and reviewing all posted comments
Average Student Grade	2.35/4.0 (“C”)	3.50/4.0 (“B”)
Average Instructor Evaluation Score	4.62/5.0	4.73/5.0

utilized in Web-based courses may be incorporated into other types of classroom environments and to what advantage. Perhaps the most interesting thing I learned from comparing the two class sections was the quantity and quality of participation in the Web-based course. If Web-based discussion threads can markedly increase the level and depth of participation, why not use similar electronic techniques in a traditional

classroom? Imagine an in-class discussion where students are required to post comments and respond to other students’ comments. With this approach, you have created an assignment where student performance can be measured, evaluated, and (unlike a traditional class discussion) printed and handed back to each student. There is even software available that tracks student accesses to sites and allows student

participation and performance statistics to be readily monitored (Stone, et al., 2004).

I envision two relatively simple approaches to blending Web-based discussions into a traditional class. The first approach is to use a computer lab as a classroom and conduct the discussion, case analysis, or review of textbook questions on a synchronous chat room. You are conducting the same basic classroom discussion; you are just doing it electronically. A second approach that requires even less advance planning is to assign homework to be completed on an asynchronous Web chat room. Students would simply sign on and complete the homework at a time of their choosing (but, of course, before an assigned due date).

Electronic discussion forums provide students with additional processing time. While the pace of a classroom discussion may be too fast for some students to process what they want to say and then jump in, an electronic forum allows students extra processing time. Students with less experience in the subject matter, less confidence, or public speaking fears can read the discussion thread, think about a response, type their response, and even think about and modify their response before hitting the “enter” key.

Many undergraduate students suffer from “production blocking” (Nemeth, Personnaz, Personnaz, & Goncalo, 2004). Production blocking occurs when an individual tunes out an ongoing conversation to think about and formulate a question or comment they want to make. This person is so intent on getting the wording of their question or comment just right that they do not hear or process the current conversation. In classrooms, you see production blocking in action when a student asks a question that you have just answered or when a student repeats a comment that another student has just made.

With electronic discussion forums, this problem should be eliminated. Students can read the current discussion thread and see what has been submitted before they enter their comments. If something is already posted that they wanted to state, they can add support to that comment and expand on it.

Anonymous Participation

Another option to try in an electronic discussion forum is anonymity. Give every student a code number so students cannot identify the participants’ comments (but you can for grading purposes). Anonymous participation puts everyone on equal ground. In an anonymous chat room there are fewer (or no) irrelevant issues associated with White vs. Black vs. Hispanic, different academic majors in the class, different GPAs, Juniors vs. Seniors, Greeks vs. non-Greeks, Men vs. Women, etc. Everyone can participate and have their comments and questions evaluated at face value without any intervening variables that may bias the receivers’ evaluations.

An additional advantage of this technique is that the instructor can also participate anonymously. This would make the instructor’s comments equal to everyone else’s. Imagine, if you dare, a classroom discussion where any student could challenge the instructor’s comments and assertions, and the rules of the forum dictate that the instructor would have to defend his or her position! What a rich and challenging educational experience that could be for everyone involved. It would also give instructors feedback on how well they are actually communicating their message and subject matter.

Other Issues

One potential problem with this type of e-learning is that lengthy processing times do not represent actual real world conditions; conditions where individuals in work settings may not have the luxury of long periods to contemplate complex issues. In these real-life settings, people must respond quickly to be heard or the opportunity to state an opinion is lost. Thus, I would propose that this e-learning technique be used in introductory courses where students are learning to process the opinions of others, form their own responses, and then articulate those responses. The use of electronic discussion forums should be supplemented with additional courses that require public speaking and discussion and debate in “real-time” settings.

I have noticed that some teachers take a team approach to course development and delivery, especially when experimenting with new technologies. However, research indicates that blending e-learning and a traditional classroom approach works best when the e-learning course developer is the same person who teaches the traditional classroom version of the course (Barabesh, Guberman-Glebov, & Baruch, 2003).

Conclusion

The current generation of traditional college students (and an increasing number of nontraditional students) is quite comfortable with electronic chat. The proliferation of chat rooms, instant messaging, and text messaging provides students with a level of comfort that teachers need to exploit. In fact, it is we, the instructors, who will probably need to bring ourselves up to speed with the technology, techniques and jargon of e-chat (Ryan, Carlton, & Ali, 2004). While most of us can

probably interpret the smiley face :) and the wink ;) are we up to speed that “b/c” means “because” and “lol” means “laugh out loud?” Will we allow our students to use Internet slang in our academic chat rooms or will we uphold the traditional standards of written English? These questions, and hundreds more, will need to be thoughtfully explored and researched as we move farther into the e-learning frontier.

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Teaching and Learning in an Under Prepared Culture: Lessons from a First-Year Experience Program

Whitney Cain & Teresa Holder
Peace College

Abstract

Increases in college enrollment offer many challenges stemming from open enrollment policies and a lack of student preparedness. As a result, institutions of higher education have to find ways to help students be ready for the academic challenges of college life. The researchers examined the introduction of a first-year experience program at an urban women's college for its impact on first-year student success and, in particular, under prepared student success. Comparisons were made between predicted grade point average and outcome measures including persistence, probations, and suspensions for two first-year cohorts. There were declines in probations and suspensions and an increase in persistence to sophomore status for students who participated in the first-year program compared with those who did not.

The American Association of Colleges and Universities (AAC&U, 2002) has reported that over the past four decades, colleges and universities have experienced incredible growth with some 75% of all high school graduates entering post-secondary education within 2 years of their high school graduation. Although, the ethnic and socio-economic diversity resulting from this growth has undoubtedly enriched the classroom experience, because of the high correlations among poverty, under education, and minority status (e.g., Kozol, 1991), it has also presented challenges. As many as one-third of entering first-year students are classified as at-risk or under prepared (Ley & Young, 1998). Many students need assistance in writing and math

and 53% of students need remedial courses prior to beginning college-level work (AAC&U, 2002; Rouche & Rouche, 1999). This may not be particularly surprising, given that just over three-fourths of U.S. high school seniors have the reading skills at a level of a newspaper audience, and only 40% are able to apply what they read and what they learn in the classroom to their own experiences (Donahue, Voelkl, Campbell, & Mazzeo, 1999; Haning, Donley, & Eckard 2002). Consequently, many entering college and university students are considered academically at-risk and have lower high-school GPAs and lower SAT scores as compared to their peers (Cole, Goetz, & Willson, 2000).

What accounts for these lowered performances and why are colleges and universities admitting students who are likely candidates for academic failure? Greater access to financial aid, gains made through affirmative action, more effective campus support systems for academically at-risk students, and some colleges' open admissions policies are among the reasons for greater numbers of under prepared students in higher educational settings (Cohen, 1984; Richardson & Sullivan, 1994). The AAC&U argues that "public policies have focused on getting students into college, but not on what they are expected to accomplish once there" (2002, p.1). These characteristics contribute to AAC&U's assertion that "preparation for higher learning has not kept pace with access" (p. 2) and form the basis of what we refer to in this paper as an *under prepared culture*.

So what does an under prepared culture mean for college students, their professors, and their campus communities as a whole? It means that academically risky students are the norm rather than the exception and that students are at greater risk for being placed in remedial courses or on academic probation or suspension once they are in college. This results in a culture where students, and oftentimes their professors, have lower expectations concerning students' academic ability and performance. It is also a culture that requires creative strategies for preparing students. Such strategies are also needed for retaining students since academically weaker students are less likely to persist to matriculation.

To further complicate these trends, students of all ability levels are attending colleges differently, with a "rapidly rising majority" attending two or more institutions prior to graduating with a Bachelor's degree (AAC&U, 2002). Indeed, more than one-fourth of all students leave the colleges where they completed their first year (Hoffman, Richmond, Morrow, & Salomone, 2002; Tinto, 1993). Thus, colleges and universities are faced with developing accommodations for academically weaker students, as well as strategies for retaining them.

Examining why students are under prepared for college level work is more arduous. Overall shortcomings in the U.S. K-12 educational system – especially as they relate to teaching literacy and writing skills – are likely contributors (Cohen, 1984). Supporting this, some cite that the lack of communication between secondary and postsecondary institutions encourages students' lack of preparedness for upper-level work (AAC&U, 2002). Additionally, because many students report that because they did not expect significant differences between high school and college, they avoided college-preparatory classes and

developed minimal and erratic study habits. Less than one-half of all college students completed even "minimally defined college prep courses" before beginning postsecondary work (AAC&U, 2002; Astone, Nunez-Wormack, & Smoldaka, 1989; Richardson & Sullivan, 1994). Certainly, those in higher education have anecdotal evidence supporting the latter proposed cause of students' under preparedness. Take, for example, the following exchange between one of the authors and a first-year student.

Author: So how are things going?

Student: Uhh. . . . I don't know. College just isn't for me.

A: Why do you say that?

S: This just isn't what I thought it would be. I didn't know there would be so much discussion. Some teachers even grade on it; on how much you talk in class. So that means you have to read – a lot – and then talk, too. I just didn't know about that.

Students' beliefs about the nature of knowing and learning also contribute to the culture of under preparedness (Jehng, Johnson, & Anderson, 1993; Schommer, 1990). Cole and her colleagues (2000) assert that under prepared college students view knowledge as innate rather than earned through work and study. This type of thinking fosters under prepared students' assumptions that studying is of minimal importance while providing insight into the motivational factors contributing to under preparedness (Yarwarski, Weber, & Ibrahim, 2000). Demographic characteristics such as learning disabilities, perceived learning disabilities, first-generation college attendance, low socio-economic status, and/or minority status also contribute to students' under preparedness (e.g., Dunn, 1995; Grimes & David, 1999). Thus, shortcomings on a national level within the

context of our educational system, as well as shortcomings on an individual level within the context of course choices, study habits, and views of knowledge, clearly promote student under preparedness and the culture that supports it.

How might the national statistics and themes characterizing an under prepared culture relate to a private, liberal arts women's college? The current study examines under prepared students in such a setting, in which all entering first-year students participated in a comprehensive, required first-year program aimed at encouraging students' academic adjustment to college.

Method

Participants

Intervention group. All first-year, first-time students attending a small, liberal arts women's college in the southeast participated in the study. The 175 participating students were of traditional college age (18 – 19 years). Ethnically, students were quite homogenous; 90% were white, 5% African American, and 7% classified as "other." Like the entire student body ($N = 634$), a majority of the sample came from rural backgrounds.

Participants completed the Cooperational Institution Research Program (CIRP, Higher Educational Research Institute, 2001) survey during new student orientation prior to the start of the academic year. Less than one-third rated themselves as "above average" in academic ability and 66% had never taken an advanced placement course. Twenty-seven percent of the students had a predicted grade point average

(PGPA) under 2.0¹ and the entire group's average SAT score was 740 (range 440 – 1070). One-half of the students indicated they would require remedial work in math, more than one-third in foreign language instruction, and 20% in writing. Finally, almost half (48%) of the students were from communities 11 to 100 miles from the college and over half (53%) were from rural communities. Moreover, the CIRP's own classification system for comparing participating institutions categorized the student body at this college as "low selectivity." Taken together, these indicators point to a culture of under prepared students at this institution and reflect national trends cited by AAC&U (2002).

Comparison group. Students who were admitted to the same college in the previous year and who did not participate in the first-year program served as a comparison group ($N = 163$). CIRP data were not available for this group; however, PGPA and SAT scores were similar for the two groups. Twenty-two percent of this group's students had PGPA's under 2.0 and their average SAT score was 720. In terms of ethnic background, the sample matched well with 92% being categorized as white and 8% categorized as African American or "other." Likewise, almost half (48%) came from communities of fewer than 20,000 residents, while just one-fourth were from urban areas.

¹ Students' predicted grade point average was calculated by dropping all non-academic courses (e.g., band, PE, etc.) from students' high school transcripts and then applying the following formula: $.000063$ (SAT-Math) + $.8$ (High School GPA) + $.15$.

Intervention

Faculty and staff at the college participated in a task force to develop a comprehensive first-year program for all students. Based on Tinto's (1993) model of student persistence and withdrawal, the program focused on strengthening students' academic performance and encouraging their adjustment to campus. Key components from other first-year programs were tailored to promote under prepared first-year students' learning and success on this campus (Barefoot, Warnock, Dickinson, Richardson, & Roberts, 1998). However, because research finds that these components encourage all students' success – not just those who are considered under prepared – first-year students who might not be considered under prepared (e.g., those with PGPA's above 2.0) also participated in the intervention.

Common summer reading. The first component involved a common summer reading for all first-year students. The book, Lee Smith's *Fair and Tender Ladies* (1989), provided a topic of discussion for first-year students and their advisors during a 1-hour session that was part of a 3 day orientation session prior to the start of classes. This component of the program was directed toward introducing the student to a college faculty member, as well as modeling the type of discussion expected in college-level courses through providing a campus-wide shared intellectual experience.

First-year seminar. Faculty who also served as first-year advisors taught a required, 1-credit seminar designed to meet the needs of first-year students. Tinto and colleagues note that the “classroom functions as a gateway for student involvement in the academic and social communities of a college” (Braxton, Milem, & Sullivan, 2000). Based on these and others' ideas (e.g., Astin, 1993; Hagerty,

Lynch-Sauer, Patusky, Bouwseman, & Collier, 1992), seminar discussions emphasized the importance of students' “sense of belongingness” with regard to both their personal and academic experiences.

A variety of classroom methods facilitated students' academic and personal discovery. Students worked together in small groups to solve problems or to educate one another on particular topics through “jigsaw” activities. In addition to small group work, faculty lead large group discussions modeled on Bloom's Taxonomy of Critical Thinking (Bloom, Mesia, & Krathwohl, 1964). It was our belief that, particularly for women as feminist scholars point out, this “sharing, expanding, and reflecting . . . lead to ways of knowing that enable individuals to enter into the social and intellectual life of their community” (Belenky, Clinchy, Goldberger, & Tarule 1997, p. 26). Finally, students served community agencies as part of their class requirements so that they could examine their own ideas concerning leadership and community involvement, as well as become acquainted with services and centers around the college.

Small group activities, large group discussion, and service activities linked to topics noted as important for first-year students (Barefoot et al., 1998) and included personal and academic transitions, wellness, communication, relationships, conflict, and career exploration. To maintain consistency in course content, instructors used class outlines compiled in instructor manuals. Thus, the first-year seminar encouraged adjustment to campus by focusing on transitional issues salient to first-time, first-year students. Secondly, the seminar format, like the summer reading discussion, modeled the expectations for students to be active participants in their classes and active consumers of information outside of them.

Learning community. A course and residence hall pairing constituted the third program component. Each seminar section was paired with a first-year English composition course and a first-year residence hall. Thus, students in a particular seminar section also attended English together and lived in the same residence hall. These pairings or learning communities promoted social adjustment by creating smaller communities within the larger campus community and thus increased opportunities for students to interact with classmates in the residence halls and residence hall-mates in the classroom. Hoffman et al. (2002) provided support for the value of learning communities by documenting that students participating in learning communities on their college campus were better able to establish friendships than students who were not participating in these communities. Moreover, in addition to increased perceptions of social support, students reported academic benefits of learning communities that non-learning community students did not. Finally, students in Hoffman et al.'s study also reported feeling more comfortable asking questions in class, making presentations in class, and approaching their instructors – behaviors that are likely to contribute to academic success. Thus, the researchers expected that the learning community experience would facilitate students' academic and social adjustment to college. It was our hope that the relationships begun in the first-year seminar would become transformative. As Belenky and her colleagues (1997) found in their research, these experiences of “mutuality, equality, and reciprocity” would be important elements in each student's development of “voice.”

Peer Educators. The fourth key component involved outstanding upper-level students serving as Peer Educators. Peer

Educators were assigned to particular seminar sections and co-taught the seminar with faculty members. Peer Educators also lived with first-year students in first-year residence halls and designed community service opportunities for first-year students. In these ways, Peer Educators acted as resources for new students and offered opportunities for new students to engage in “valued involvement” (Hagerty et al., 1992) as well as models for academic engagement and leadership. Nelson (1999) reported that small group discussion with peers has been found to increase content learning, the ability to apply information, and enthusiasm. Peers contribute positively to learning because of “speaking the same language” (Nelson, 2002).

Focus Groups

At the end of the fall semester, researchers asked first-year students to participate in focus groups concerning their first-year experience. Focus group discussions took place in March and April of the students' second semester.

Participants. Researchers invited 40 randomly selected students from each of the first-year seminar sections to participate in one of two focus group discussions. The 22 students who elected to participate matched the college demographics well. PGPA's for the group ranged from 1.6 to 3.0 ($M = 2.52$), and their mean SAT was 760 (range 560 to 1000).

Discussion format. At the beginning of each focus group, researchers asked students to write about their first semester at the college. Researchers prompted students with the following: “As you reflect back over this year, how would you evaluate the first year program as it has impacted your adjustment to college life?” They were given 20 mins to write. This written activity was meant to prepare students for the focus

group discussion, as well as provide an outlet for additional information that the student might choose not to articulate in the group discussion.

After the pre-discussion writing activity, a faculty member at the college who did not participate in the first-year intervention program asked students open-ended questions about their first-year experience. Discussions were audio-taped and transcribed verbatim (see Appendix A for the focus group discussion questions).

Written narratives and transcribed focus group discussions were examined for themes by the principle investigator and an undergraduate assistant. Once the key themes were determined, inter-rater reliability was 98%.

Results

Researchers analyzed participants' academic performance for both the fall and spring semesters and compared it to the previous first-year cohort who did not participate in the first-year program intervention. Particular attention was paid to the intervention group's academic improvements in relation to the comparison group, as well as the two groups' persistence to the second year. Researchers analyzed focus group discussions and pre-focus group discussion narratives for themes.

Table 1

Number (and Percent) of Student Suspensions and Probations for Comparison and Intervention Groups

Indicator	Comparison Group (<i>N</i> = 163)	Intervention Group (<i>N</i> = 175)
Fall Probations	17 (11.6%)	8 (4.6%)
Fall Suspensions	11 (7.5%)	4 (2.3%)
Spring Probations	4 (2.7%)	2 (1.1%)
Spring Suspensions	5 (3.4%)	2 (1.1%)

Quantitative Analyses

In relation to the comparison group, the intervention group significantly decreased in academic probations, $\chi^2(1, N = 338) = 5.10$, $p < .05$, and suspensions, $\chi^2(1, N = 338) = 5.42$, $p < .05$. Table 1 summarizes the differences in the two groups.

Although all students appeared to benefit from the program, those who were academically weakest (PGPAs of < 2.00)

benefited the most as evidenced by the finding that they exceeded students with PGPA's of above 2.0 in outperforming their predicted GPA (see Table 2). More students in the intervention group persisted to the sophomore year (74.9%) than in the comparison group (71.2%). However, the difference between the two groups was not statistically significant, $\chi^2(1, N = 338) = .85$, $p > .05$.

Table 2
Students' Success as Measured by PGPA for Students with PGPA's Above and Below 2.00

	Average PGPA	Cumulative GPA (+ increase over PGPA)	Percent Outperforming PGPA (number)
PGPA < 2.0	1.84	2.23 (+.39)	71% (27)
PGPA > 2.0	2.66	2.81 (+.15)	59% (81)
Total Sample	2.47	2.68 (+.21)	61.7% (108)

Qualitative Findings

Changes in the academic indicators were quite positive. However, it was anecdotal evidence gathered from the spring semester focus group sessions that was the most enlightening for understanding the program components that students perceived to be most beneficial. Students' pre-discussion written narratives were examined for themes. One predominant theme emerged from examining the pre-discussion narratives: the significance of strategies for community adjustment for students' success. Three commonly cited intervention components supported this theme: the first-year seminar's importance to college life adjustment, the value of the learning community, and the benefits of working with Peer Educators and seminar instructors. The following summarizes data from the pre-discussion narratives and provides comments from the both the narratives and the focus group discussions to provide examples of these data.

The first-year seminar's importance to college life adjustment. Twenty of the 22 students wrote about the importance of the first-year seminar in their academic and social adjustment. The following quote from one of the focus group discussions summarizes students' written ideas concerning the seminar.

I just thought it was a good place to go and get ideas

about how to do stuff better – sometimes school stuff, sometimes roommate stuff. It just helped to get to know how things go here, because sometimes it's really different than what I'm used to.

Some students' writing reflected conflicting ideas about the seminar and the benefits of the class. For example, one student wrote:

I didn't like having to go to the class every week, but once I got there, I learned things about myself and my class members.

A quote from one of the focus group discussions also reflects these sentiments.

Overall, I didn't like it. I guess some of the material we went over helped me adjust, though, and it made me think about my values. My Peer Ed was there to help through things and I liked my teacher. OK, I liked it; I'll admit it. . . . I learned some things about how things work in college and with new people.

Two seminar topics were particularly salient for students. Sixteen of the 22 focus group participants wrote about the seminar

sections focusing on personal values. For example, one student reported in her written narrative that it “helped set some guidelines away from family and friends . . . that was very hard at first.” Likewise, students in the focus groups noted that the stress and time management sections were beneficial. One student summarized in her written narrative:

This class helped me with my stress management and time management. We talked a lot about how to manage stress. This helped me most because I found it extremely hard not to get stressed out before tests. High school just wasn't like that; I never even had to study, let alone get stressed before a test.

The value of the learning community. Although analyses of the pre-discussion narratives indicated that the seminar was most central in students' first-year experience, the learning community component of the intervention was also positively reviewed and frequently cited. Fourteen of the 22 students wrote about the value of living and learning with their classmates. Dialogue between two students in one of the focus group discussions reflects this theme.

Student A: I can say I have friendships with each of the girls in my seminar; I can't say that about other classes. Oh, except English 'cause they're in my seminar. Living with the same people who are in your class . . . you can study together and stress about studying together, and avoid studying together (just kidding). It's nice.

Student B: Yeah, I know what you mean. I felt more comfortable expressing my

ideas. Usually the other girls already knew them anyway from discussions on the hall. So why not say them in class?

Likewise, another student reported in her pre-discussion narrative that she “loved that the program joined me and the people who lived on my hall. It was a great way to get to know them and to make friends.”

The benefits of peer educators and instructors. Fourteen students indicated that the link to both a faculty member and a Peer Educator was also beneficial. Finding “it was cool to talk about stuff you were thinking about with a professor instead of just learning formulas and stuff.” Another student said, “my Peer Ed was great; she still sends me notes and stuff.”

Less frequently cited themes. Other program components that were noted with less frequency in the narratives and discussion included the summer reading ($n = 6$), the seminar's corequisite co-curricular activities ($n = 3$), the program components as a whole ($n = 2$), and orientation discussions concerning the summer reading ($n = 2$).

Discussion

With greater numbers of under prepared students entering post-secondary institutions, it is imperative to develop and implement innovative strategies for strengthening their scholastic skills, while maintaining the academic standards of the college. Certainly, not all students who are categorized as under prepared are destined for academic failure. Indeed, many of these students will develop new attitudes and study strategies that allow them to be academically successful or at least outperform their academic expectations with or without the help of institutional programming aimed at these ends.

Nonetheless, most would agree that developing such programming provides academically weaker students with a clearer path toward academic success, and thus benefits the institutions that serve those students in many ways.

The data reviewed here indicate that this study's first-year intervention program encouraged students' academic success, perhaps through contributing to attitudinal changes and behavioral practices that encouraged students to outperform their PGPA's. However, from students' own perspectives, it was the program's focus on and strategies for social and community adjustment – whether through seminar topics, the learning community or Peer Educator and instructor interaction – that they appreciated most. Hosts of researchers have documented the merit of institutional fit and overall campus adjustment as a strong predictor of student adjustment and persistence (e.g., Astin, 1993; Kanoy & Woodson-Bruhn, 1996; Tinto, 1993; Strumpf & Hunt, 1993). Consequently, it's not particularly surprising that a program focusing on encouraging students' social adjustment would result in higher levels of persistence than one focusing wholly on academic improvement.

What is more consequential is the possibility that students' under preparedness extends beyond academic preparedness and into social arenas, as well. It's likely that a culture of under preparedness has challenging aspects in areas beyond the academic, and these areas are likely to offer additional challenges for at-risk students' success. For example, under prepared students may be less savvy to the social clues and self-monitoring that encourages adjustment to campus settings. If this is the case, academic strategies and interventions targeting under prepared students may not be particularly effective because they are treating only one area of deficit. Future work

should focus on these variables to determine more effective strategies and best practices so as to optimize students', as well as their campuses', success.

Postscript

Since the introduction of the first-year college seminar in 2001, we have continued to see fewer suspensions and probations than before the program was implemented. Perhaps the most significant measure of success has been indicated by the percentage of students who outperform their PGPA. This has been most pronounced among students who were identified in our study as under prepared and therefore, more at risk (PGPA < 2.0).

The program has continued to experiment with its design. This year, for example, the 1-hour course is meeting twice a week for the first half of the semester (as opposed to once a week during the length of the semester) in part, because students' need for survival information for college tends to peak at the beginning of the academic year and wane by mid semester. In evaluations, students indicated wanting some of the course topics earlier in the semester than when they were discussed (personal wellness and safety, for example). The role of the peer educator has continued to be emphasized and participation by deans, directors, and vice presidents within the college has been used as a strategy to connect students with a diverse group of instructors, in hopes of personalizing the college campus, building community, encouraging retention, and better preparing students for higher education.

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Authors Note

We would like to thank Peace College's class of 2001 for their participation in this research. Correspondence concerning the article should be addressed to Whitney J. Cain, Department of Child Development, Peace College, 15 East Peace Street, Raleigh, North Carolina, 27604 – 1194. E-mail: wcain@peace.edu.

Appendix A

Focus Group Questions

In what ways has your first year met with your expectations?
 How has it not?
 What surprised you this year?
 How have you changed this year?
 What do you like about that?
 What do you not like about that?
 How would you evaluate these aspects of the first-year program . . .

- academics?
- reading topics?
- paired classes?
- living and learning (residence hall and class pairings)?
- peer educators?

Is there anything I should have asked, but didn't?

Untangling Biological Reality from The Social Construction of Race

An Essay by
Leslie S. Jones
Valdosta State University

Abstract

Race is unquestionably a “loaded” term, rich with socio-cultural power and laden with scientific ambiguity. Race has always been obscured in biological education, and since most people do not understand the fundamental basis of human similarities and differences, they are unable to recognize how scientific information has been misused as part of racial propaganda. There is a tendency to confuse the fairly consistent genetic transmission of inherited morphological features with the much more complex multifaceted determination of social characteristics. For the sake of inclusive teaching, it is critical to find productive ways to interrogate this persistent biological distortion of race. Race takes on a very different meaning when viewed in light of the current understanding of inheritance and population genetics. Dissemination of a more scientifically accurate interpretation of race is a key step toward the development of both equitable learning environments and scientifically literate citizens.

Historically, required courses for non-majors have been one of the lowest priorities in college science departments. In the sciences, research always comes first. Teaching and service activities are rarely even mentioned in the same breath, much less given the attention they deserve. Even at primarily undergraduate institutions with an emphasis on teaching, science majors take the “important” courses and the core or

liberal arts courses are taught with whatever instructor energy is left over. The primary departmental focus is on the importance of producing the next generation of technologically trained researchers. Non-major courses chronically suffer from watered-down versions of the standard content delivered in the majors’ introductory courses rather than information that is likely to reflect the interests or the needs of these students. We can hardly be surprised that students widely report hating most science courses because they were boring, difficult, and covered very little relevant scientific information.

Recently, concern over the need for scientific literacy in the general populace has brought much-needed attention to the role of college science courses for non-majors. These underserved courses have benefited greatly from broad calls for the reform of science education. Departments are beginning to care about the reputation of their teachers, and administrators often notice which units are serving the general student population well. New recognition of the importance of these classes has led to curricular changes that are likely to enhance the quality of instruction. Student satisfaction matters and we are all looking for strategies that might enhance the relevance of the subjects that are covered. I accidentally discovered that I could dramatically increase interest in genetics and heredity by focusing on the subject of human race. Actually, I have developed an

antiracist approach that teaches how little biological validity “race” really has.

Inscription of Human Difference

It would be ridiculous to dispute the idea that there is a great deal of difference between groups of individuals all over the world. People dress differently, eat different foods, and have established cultures with diverse traditions, religions, and social structures. Lifestyles range from the quiet simplicity of hunter-gathering societies to the frantic complexity of urban populations. Beyond the many socio-cultural distinctions, there are obviously disparities in physical appearance. Visible markers such as skin coloring, facial features, and body structure vary consistently and noticeably between people from different parts of the world. These traits were used in early attempts to categorize people and led to the idea that there is a racial basis for biological difference. Racial typing was extended with unfounded implications that social behaviors were inherited along with physical appearance. Assumptions of fundamental disparities grew into a mistaken belief in typological morphology, or the expectation that fixed and invariant traits characterized human populations. One ideological foundation of race is the misconception that external features characterizing groups of people with common ancestry are genetically linked to cultural tendencies.

Skin color is both the primary marker of racial categories and an excellent example of racial misconceptions. Color has been used as the single criterion for dividing people into “Black, White, Yellow, Brown, and Red” races. The fallacy of such a system is the absence of any lines of demarcation. Skin colors actually range across a broad spectrum from dark to light and also spread out to include a wide variety of differing tones or hues. People with common

ancestry, even full siblings, often have somewhat different skin colors. Other people, such as Africans and Australian Aborigines, can have similar skin color in spite of having little recent ancestral connection.

Scientists and biology students who have been exposed to the most basic training in genetics know that skin color is not determined by the simple inheritance of different versions of a single gene. The amount of the dark skin pigment, melanin, is regulated quantitatively by the additive effects of several genes. The shade is influenced by other genes which modify enzymes regulating the type of pigment that is produced. Skin color is not linked any more directly to common descent than traits such as hair (color/texture), facial features (nose shape, lip size, or epicanthic eye folds), or body type (size and build) which also vary dramatically among different groups of people.

For the last century, scientists have known that various physical traits are determined by the inheritance of genes that are transferred independently. Studies by the Austrian monk, Gregor Mendel, demonstrated how color, wrinkles, and other characteristics of peas are all separately regulated. It was clear from family studies that human inheritance is similar. Today, noticeable morphological differences in human groups are readily explained by population genetics. Genetic principles explain how various forces effect large groups and result in changes in a species over time. Biologists are well aware that all humans are part of a common gene pool or collection of hereditary possibilities. Processes known as microevolution led to alterations of the gene frequencies in separate populations as they responded to dissimilar environmental pressures and were superficially transformed by natural selection, over time.

If there were even any question that appearance could be a reliable predictor of race, there are modern studies that show this could not be the case. A recent study published in one of the most prestigious scientific journals in the world, *Proceedings of the National Academy of Science*, demonstrates that skin color and other features are not a reliable predictor of genomic ancestry (Parra et al., 2003). These scientists used the most sophisticated genetic techniques from molecular biology or the study of DNA to show that the appearance of a Brazilian individual does not correlate to genetic markers of African ancestry.

Historically, the wide distribution of migrating people created ancestral demes or local interbreeding populations. Geographic separation of such populations produced pockets of reproductive isolation within the species. Mutations caused by changes in the DNA created new genetic possibilities in different populations. These groups became visibly or phenotypically distinct as evolution changed gene frequencies by selection for morphological traits that conferred survival and reproductive advantages. Thus, people appear physically different because populations have been subjected to dissimilar environmental selective pressures. Patterns of skin color correspond to the latitudinal distribution of indigenous people due to variation in the quantity and type of melanin which regulates the penetration of ultraviolet sunlight. Exposure to ultraviolet radiation has been linked to birth defects and this might explain an evolutionary mechanism for geographic population differences in the genetic regulation of skin color, except for the fact that that people die of skin cancer after they usually have reproduced and therefore passed on their genes to their offspring.

Race has never been a valid biological category, because there are absolutely no genetic or physical criteria that distinguish different racial groups. Race also has never been a functional system for socially categorizing people, because there has never been agreement as to the number of races or how to distinguish them. Racial divisions have ranged anywhere from two to several hundred depending on whether the Nazis or anthropologists were counting. The concept of race was based on the completely mistaken assumption that populations could be “pure,” because they inherited a collection of distinct traits as a whole. Not only is this idea of the mode of inheritance flawed, but genetic evidence indicates that human populations have always shared genes through cross-mating. Furthermore, as geographical and social mechanisms for isolating human populations break down, genetic pools are blended and physical traits becomes even less useful as markers of difference. In this global society, populations are mixing so rapidly that intermediate gradations may eventually erode morphological distinctions that were used in attempts to define races.

Evidence of Human Unity

While there is no denying some distinction between people from different parts of the world, it is important to recognize that attention to difference distracts us from recognizing the significance of the common characteristics of all human beings. The comparison of humans with other species of living organisms demonstrates how clearly the resemblance among humans far outweighs the collective differences between us. Even the great apes, with some almost hauntingly human features and behaviors, give perspective to the degree of similarity and only minor differences that exist between

members of our species. Additionally, modern genetic techniques have established that the human is one of the least diverse species of animals with only about 0.3% diversity compared to at least 3.0 % in most other species. Only the cheetah has been shown to have less genetic diversity as a species. The presumption of *Eidos*, a Platonic concept for type or essence, which should be used to describe all humans, is unfortunately more likely to be erroneously applied to racial subcategories.

On the biological level, there is far more similarity among every member of our species than there is difference between groups with dissimilar physical features and lifestyles. "Racial" characteristics are rarely discrete or completely different in separate populations. Most traits are highly variable and present in multiple geographic groups. The expression of these characteristics is distributed across a range of variation and shows considerable overlap among different groups of people. A number of facial features are often implied to be racial distinctions, but none provide a clear criterion for delineating race. The size or shape of the nose, eyes, and lips or even the facial angle range dramatically and cannot be absolutely distinguished between groups. Not only are there no purely physical distinctions, there are also no known genetic markers that can be used to resolve racial difference. Furthermore, if human DNA is more than 99% identical to the DNA of chimpanzees, how much genetic difference can really exist among members of our species?

The characterization of both the familiar nuclear form of DNA and the less recognized, completely different circular form of DNA in mitochondria, provide solid evidence of human similarity. Mitochondrial DNA is only transmitted in the egg cell at conception and, although the sequences differ from person to person, geneticists

have tracked the maternal lineage to a single ancestral female (Cann, Stoneking, & Wilson, 1987). Recent determination of the full sequence of the human genome answered any question of basic human similarity by spelling out the chemical details of the "Book of Life." This information can seem rather obtuse and the numbers can be difficult to relate to human characteristics, but this accomplishment allows scientists to make precise comparisons with a high level of certainty. It is now clear that the DNA of every human is more than 99.99% identical. Of the three billion nucleotides or molecules that make up chromosomal DNA, only one in every 12,000 is estimated to be different. Since only about 10% of the total DNA is functional, many of the single nucleotide variations occur in sections that are of no consequence.

Patterns of heredity are more familiar to most people and somewhat easier to comprehend than the molecular evidence. Approximately 30,000 human genes have been identified, but 75% of these templates are monomorphic or completely identical in every individual. Therefore, only the remaining 25% of human genes are polymorphic, containing the multiple gene forms known as alleles. Within the variable portion of the human genetic script, a remarkable 85% degree of variation can occur between individuals with the same two parents. Of the remaining variation, less than 7% is possibly attributable to major ancestral groups. Thus, increases in the understanding of inheritance have shown that non-identical, full biological siblings actually differ to a much greater degree than people from different racial/ethnic groups.

Another way to demonstrate both human similarity and the illegitimacy of racial separations employs the familiar blood markers in the A, B, O blood groups. These blood types provide valuable genetic

information because the patterns of inheritance are simple, straightforward, and well-documented. Blood typing has been carried out on large numbers of people all over the world. Gene frequencies vary among different indigenous populations, but the patterns of distribution do not correspond to geographical regions occupied by racial groupings based on morphological features. In fact, the A, B, O blood markers distribute in basically longitudinal patterns that are completely different from the latitudinal distribution that is characteristic of skin colors. This demonstrates the fallacy of assuming people are genetically segregated according to skin color, because if traditional racial categories had a genetic basis, the frequencies of these blood types would be congruent with the patterns of distribution of skin color categories.

All people have the same basic genetic material and, as members of one species, humans are capable of interbreeding and producing fertile offspring. Small, gradual changes did occur in isolated human populations as adaptations to dissimilar environments. Even though the process of microevolution has led to the distinctive appearances of various geographical groups, the groups remain capable of interbreeding, and all people remain members of the same species. A species is the most specific category of biological classification and labels for subspecies are merely references to phenotypic or observable distinctions. In the same way all varieties of roses are roses or all breeds of dogs, horses, or cows remain members of their species; all humans are belong to the same group. Technically, race could have been a useful label for human subspecies if there had ever been enough difference to clarify the categories and recent blending had not made it even more difficult to make distinctions between groups.

Conflation of Nature/Nurture

Attempts to racially categorize people are based on mistaken assumptions that aspects of character are governed strictly by genetic inheritance and that these qualities are inherently linked to the physical appearance of groups of people. Racialization started with a collection observable physical characteristics that are common to one particular group of people and distinct from others. The obvious transmission of these visible traits from parents to offspring left little doubt that such features are inherited. Because parents and offspring are also observed to have common temperaments and dispositions, aspects of character were presumed to be governed by similar types of inheritance and associated with particular groups of people. Since the physical traits were immutable, behavioral patterns were also assumed to be fixed at birth, linked in inheritance and, therefore, unquestionably typical of different geographical groups.

Attention to mechanisms of genetic regulation has overshadowed the fact that environmental conditions can play a critical role in the expression of inherited tendencies. Some characteristics are not indelibly determined at conception and can be modified by non-genetic factors during prenatal development and after birth. The observable constitution of an organism is known as the phenotype. By definition, this expression of variable features in individuals is a consequence of the interactions between the genotype (genetic template) and the environment. Genetically, only a limited number of characteristics are qualitatively determined strictly by the presence of certain forms of a single gene. Most variation is initiated by polygenic inheritance or the effects of several genes. When the range of expression of an inherited trait is further enhanced by a

multitude of potential environmental influences, it is known as a multi-factorial trait.

Many mistaken beliefs about race are based on confusion over multi-factorial influences. Human attributes have provoked considerable debate over the relative significance of innate and external influences. The matter is part of the nature/nurture controversy which questions whether genetics or the environment is ultimately more important. Actually, phenotypic variance is usually the product of the interactions of both the genetic template and environmental changes. Genetic factors create the potential for particular phenotypes. Environmental impacts can range from subtle to strong, and are likely to modify various genotypes in different ways. Thus, the complex interactions of both nature and nurture are responsible for phenotypic variance.

From an educational standpoint, one of the greatest racial problems is ignorance of the fact that intelligence is clearly a multi-factorial trait. A particularly damaging distortion of race involves the implications that certain morphological characteristics are linked to intellectual ability or academic potential. This idea has been supported by numerous attempts, under the guise of science, to make the case that intelligence is immutable, genetic and linked to race. This practice is coupled with common failure to acknowledge the significance environmental factors have on shaping intellectual ability. Whether it is the myth of the innate math/science ability of Asians as a “model minority” or expectations of lower ability in other groups, the assumptions reflect basic ignorance of the determination of academic potential. Racial links to intelligence have been made by blurring important distinctions between genetic and environmental factors, implying that questionable social science demonstrates

biological differences. After many attempts to determine the heritability or amount of variation in intelligence that can be attributed to genetic differences, estimates range from very low to moderately high values. Unfortunately, studies that contradict the idea of a racial basis for intelligence have been overshadowed by those that purport to document difference.

Since behavioral traits such as intelligence are not genetically linked to overall physical appearance or governed strictly through inheritance, racial generalizations about intelligence lack biological validity. Racial groups are supposed to be delineated and identified by the way people look, but the implications in terms of social power go far beyond mere physical characterizations. The physical features used as racial markers are not the basis of the racial hierarchies associated with them. Social rankings reflect judgments based on cultural characteristics. Racial status is based on the illusion that one group is superior to another in its collective moral and intellectual capabilities. Biological evidence shows that psychological tendencies are not related to appearance. Untangling existing confusion as to the actual biological implications of inherited traits can be one of the most effective approaches to antiracist leadership in higher education. Biology professors developers are in good positions to begin to dismantle the mistaken belief that variations in physical appearance correlate to essential dissimilarity in aspects of character.

Construction of Race

It is no accident that assumptions of significant biological distinctions between different groups of people prevail. The scientific community that has provided so much information about our species has also been complicit in the social construction of

race, and the history of science reveals an unfortunate pattern of participation in the assembly of racial hierarchies. Members of the scientific community took an especially active interest in human difference during the Enlightenment of the 18th century. As part of the emerging belief that human reason could be used to provide explanations of social and natural phenomena, the idea of fundamental racial variation served as a convenient excuse for social inequities.

Scientific attention to race blossomed at precisely the same time the natural sciences happened to be moving into a position of greater academic credibility. Scientists implicitly demonstrated their usefulness by providing explanations that justified discrepant treatment of people from different ancestral groups. The construction of a biological basis for racial difference rationalized practices of segregation and discrimination in a society considered to be egalitarian. Enough racial cants accumulated under the pretext of scientific studies that it is obvious why it is so hard for the public to discern the truth about the biological reality of racial difference.

One of the earliest and most clearly documented examples of scientific prejudice can be found in the system of classification devised by Swedish scientist, Carolus Linnaeus (1707-1778). His landmark treatise *Systema Naturae* is a complex hierarchical system that provides the basis for modern taxonomy or the naming and classification of living organisms. The original version contained descriptions of groups of humans that show how science could be corrupted to support the creation of racial hierarchies. The *Homo sapiens* category is subdivided into four different groups that are described with far more than objective anatomical images. The primary distinguishing feature seems to be skin color, but Linnaeus goes on to label groups according to a variety of moral/ethical categories that appear quite

capricious. Europeans are considered gentle, acute, and inventive, while he found Asians to be severe, haughty, and covetous; Africans to be crafty, indolent, and negligent; and (Native) Americans to be obstinate, choleric, and content free. Such distorted images demonstrate how fallacious descriptions of racial character became part of mainstream scientific discourse.

Education for Equity

Race is virtually ignored in biological education. Widespread presumptions that people from various geographic groups are inherently different stubbornly persist because biological scientists do little to challenge the dissemination of erroneous information based on stereotypes and cultural biases. Attention to the social construction of race almost never includes scientific information that would expose the unjustified use of biology in the construction of racial hierarchies. The frequent misuse of science to legitimate the concept of racial difference has usually gone uncontested; leaving most people to assume there must be significant fundamental differences.

Furthermore, basic misunderstandings of the genetic dimensions of human difference constitute an important and often unrecognized impediment to educational equity as racial stereotypes lead to unwarranted expectations of student performance and chances of success. Biological misunderstandings are based on a tendency to confuse the fairly consistent genetic transmission of inherited morphological features with the much more complex multifaceted determination of social characteristics. Mistaken assumptions of racial variation operate in insidious ways to reinforce hierarchies of intelligence and distort perceptions of other people. Expectations of innate academic potential

can be shaped by the erroneous suppositions about particular racial/ethnic groups. Common fallacies involve the ideas that heredity is the primary determinant of intelligence and genetics prescribe a linear hierarchy of intellectual ability. For the sake of inclusive teaching, it is critical to find productive ways to interrogate this persistent biological distortion of race. Race takes on a very different meaning when viewed in light of the current understanding of inheritance and population genetics. Dissemination of a more scientifically accurate interpretation of race is a key step toward the development of inclusive learning environments.

One of the most difficult aspects of teaching about this subject is the fact that modern biology texts do not cover the subject of race. A recent survey of 20 of the leading college biology texts, for both majors and non-majors, published in the last five years, revealed that the term was not used in either the glossary or index of three quarters of the books. In one sense, this sends a clear message that biologists do not consider human race to have biological legitimacy, but it also allows misconceptions to remain unchallenged

In the five textbooks in this survey that list race as a defined or indexed aspect of biological terminology, there is further conformation that biologists do not support the common social use of the word. Johnson (2003) defines race as a general label for an ecologically distinct subspecies and makes no reference to humans. In the other books that actually used the word race in reference to humans, there were antiracist agendas that purposely deconstructed the ideas of human races and discussed that biological use of the term is inappropriate. Enger, Ross and Bailey (2005) have a small insert cautioning that two common problems with using race are that it focuses attention on difference and tends to confuse genetic and cultural differences. Tobin and Dusheck (2005)

defined the word as morphologically different populations that are capable of interbreeding. This text also has a three page section called “What Are Human Races” in a genetics chapter that goes into detail about the futility of trying to create discrete groups on the basis of human traits that show phenotypic variability spanning a continuum. Freeman (2005) defines race as a population that has different characteristics than another population of the same species, and includes an insert on “Human Races” that explains how genetic divergence among human populations is lower than almost all other species.

The most thorough treatment of race in a current biology textbook can be found in Minkoff and Baker’s (2004) *Biology Today: An Issues Approach* (3rd Ed.). This book thoroughly interrogates the idea of human races in Chapter 7 - Human Variation (pp. 203-244) which is an outstanding example of antiracist teaching. The unit employs current understanding of population biology to clearly explain biological variation between and within the species. Problematic aspects of the concepts of race are linked to social contexts. To the authors’ credit, they have compiled an outstanding collection of examples that explore not only descriptors of race, but racism itself. This interesting chapter includes a great deal of very sound science and is a model of the way biological science can be used to deconstruct race and build a more legitimate understanding of human difference in scientifically literate citizens.

Outside of this effort by Minkoff and Baker, I would consider Ashley Montagu’s (1997) *Man’s Most Dangerous Myth* to be the best resource for supporting a structured classroom approach for teaching against the validity of biological race. This is the sixth edition of a book that first came out in 1942. While this is not a formal life science text, this anthropological analysis is substantiated

by the impeccable use of biological information. The late Dr. Montagu was the first person to thoroughly support an argument for the idea that race has no scientific justification for the way it has been applied to diverse human groups (Brace, 1997). The book presents the “biological facts” and untangles these from their complex intersection with social issues.

Socially Responsible Science

The social power of race is supported by the unfortunate perpetuation of a mythology of fundamental biological difference. Since scientific information has been distorted to justify racial discrimination, scientists should be part of attempts to rectify this ignorance. Scientific contradictions are likely to be the only source of information powerful enough to counteract the erroneous construction of race. While there were good reasons Audre Lord (1984) cautioned that, “the master’s tools will never dismantle the master’s house,” the fabrication of racial biology may be a case where those are the only devices that can begin to undo the damage that has been done. Scientific misinformation is so firmly woven into the fabric of race that only concerted instructional efforts are going to untangle fiction from reality.

The genetic evidence of overwhelming human similarity rarely surfaces in a coherent form. Initially, it may take support from biologists or those with solid training in genetics to assemble crucial facts and figures. Beyond the obvious involvement of science specialists offering diversity workshop sessions demonstrating how good science negates the biological validity of race, there are a number of possibilities for incorporating antiracist teaching into the postsecondary science curriculum. Effective strategies for dissemination of such important information

might include interdisciplinary collaborations between biologists and cultural anthropologists for seminars on topics that examine aspects of “Nature & Nurture.”

A variety of different approaches for deconstructing race can be taken within either biological science or physical anthropology. The amount and complexity of genetic information demonstrating human similarity could easily constitute an upper level major’s course, but this would obviously only reach a very limited audience. Alternatively, race could be mentioned as an important part of the explanations of genetics in introductory biology courses, extending the exposure to a much larger group of people. However, the most significant impact will probably come from the use of race as a thematic focus for heredity in human biology courses for non-majors where social interest in the topic of race enhances the personal relevance of genetics.

Suggesting the movement of the subject of race to the forefront in biological or genetics education is likely to be perceived as a radical notion by faculty members in the natural sciences. A significant aspect of our postgraduate training as biologists involves learning to delineate social from natural phenomena. Biologists judiciously avoid anthropomorphism or the ascription of human attributes in order to accurately interpret the characteristics of other living organisms. Since biological scientists are enculturated to see our own discipline as being unrelated to social phenomena, the idea of looking at scientific information in a social context can seem inappropriate. Even though issues-based approaches have been touted among the suggestions for improving the delivery of science education, the practice has not been widely adopted. For many biologists, it will be challenging to

move outside of disciplinary boundaries and make a deliberate connection of science to this unpopular social conundrum.

Emphasis on race also calls for a fairly drastic move in biological education, because it involves a reversal of the usual style of presentation of scientific information. Most explanations of the living world are made with a reductionist approach, breaking down systems into smaller and smaller components for the sake of clarity. The human genome serves as a classic example, since knowledge of the complete sequence allows for description of structural genetic regulation down to the level of every atom in DNA molecules. The explanation of the biological fallacy of race calls for an explanatory shift to a holistic method that assembles selected genetic information regarding heredity and relating it to the construction of a larger concept of humanity. Ultimately, holistic approaches are not unprecedented, and this examination of the similarity and differences of humans can be seen as a different way to look at the classic topic of “the unity and diversity of life.”

Progressive movement toward a more equitable educational system depends on the development of a more sophisticated understanding of the nature of race. Currently education provides little explicit distinction between the biological and socio-cultural components of race. One of the first steps for every individual must be the construction of a solid understanding of the basic biological information that is available regarding human similarities and differences. Most people have an intuitive understanding of race, but few people are comfortable articulating an answer to the question “What is race?” Confusion over the conflation of nature and nurture in the

social construction of race demonstrates a very important lack of scientific literacy. Recognizing that this important topic is neglected in biological education can prompt us to assemble and disseminate concrete information about the extent of human difference.

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Presentation Abstracts
12th Georgia Conference on College & University Teaching
February 11-12, 2005

Abstracts are arranged alphabetically by title within each of the following categories: Assessment, Diversity/Culture, Innovative Pedagogy, Interdisciplinary Teaching and Learning, Mentoring, Teaching with Technology,

Assessment

Addressing the NCATE Standard for Assessment and Unit Evaluation

Donna Kelly & Robin Bynum, Troy University

The revised NCATE standards require evidence of "an assessment system that collects and analyzes data on applicant qualifications, candidate and graduate performance, and unit operations to evaluate and improve the unit and its programs. This conversation hour provided an opportunity for representatives of teacher education programs embarking on the NCATE review to get a fresh perspective on the assessment system adopted by Troy University's College of Education, which recently received notification of its continuation of accreditation. Attendees were able to ask questions and hear/see an overview of the development and implementation of the assessment system process that successfully addresses the demands of Standard 2: Assessment System and Unit Evaluation.

Assessing an Interdisciplinary Core Curriculum: The LaGrange College Experience

Brenda Thomas, Tracy Lightcap & Lydia Rosencrants, LaGrange College

In 2000, LaGrange College initiated a new interdisciplinary core curriculum based on a set of four objectives for undergraduate education. Part of the implementation of that

curriculum was an assessment and evaluation component. Our paper describes the LaGrange College core program and the system presently being implemented to assess it. The process of formulating curriculum goals and the strategies for evaluating progress towards them were at the center of our discussion. We also describe some of the difficulties in obtaining institutional consensus favoring the assessment methods chosen and the strengths and weaknesses of the assessment plan at the eve of its implementation. We hope our experience will be helpful to other institutions attempting such a task.

Differentiating Assignments, Assessments and Evaluations

Don Livingston, LaGrange College

Using the handouts, the participants formed permanent groups where they decided who will complete each intra-group assignment and who will join the intra-groups. The participants also discussed what differentiated instruction and assessment methods they have chosen to express their understanding of the concepts and content.

Measures of Student Outcomes: A Review of Critical Concepts In Assessment

Kingsley O. Harbor, Jacksonville State University

This study reviews some critical concepts used in student outcomes assessment. It defines and distinguishes among terms such

as assessment methods, techniques, and measures; describes, with concrete examples, the difference between direct and indirect measures, as well as mission statements, goals, and objectives. The purpose is to contribute to the enhancement of the quality of literature on learning-outcomes assessment.

Portfolio-Based Assessment: New Rules that Require Documentation of Learning

Leslie S. Jones, Valdosta State University

Since many students come to college for a diploma rather than an education and will spend more energy figuring out how to pass rather than the best way to actually learn, the trick is to create course requirements that beat them at their own game. Portfolios can be designed to ensure that students do much more than just memorize enough information to pass tests. Good grades are linked completion of a collection of documentation that demonstrates engagement in and understanding of course material. Grading rubrics are one way to articulate requirements and remove some of the inherent subjectivity in the grading process. The greatest challenge can be convincing students that their efforts are part of the learning process and not merely “busywork” devised by a cruel professor who does not realize that they have better things to do than spend time on their coursework.

Rubrics: Assessments of Products, Processes, & Performances in Language Arts Methods in ECE

Tonja Root, Valdosta State University

A variety of analytic rubrics developed as assessments of students' assignments in a language arts methods course in early childhood education were given. These rubrics included assessments of journal and narrative writing instructional strategies, oral and written personal narratives, analysis

of oral and written personal narratives, and oral presentation of an instructional strategy.

The Reality of Departmental Assessment: A Descriptive Case Study of the Assessment Plan

Kingsley O. Harbor, Jacksonville State University

This study provides a handy document capable of assisting those people—unit administrators or anyone else—charged with the responsibility of directing an assessment team, in developing an effective assessment plan. It provides a detailed model of how to develop a comprehensive assessment plan from the mission statement to the application of results in closing the loop.

Diversity/Culture

Diversity Education: Examining Identity and Responses to Multicultural Curriculum

Wendy Reynolds-Dobbs, Matthew S. Harrison, & Kecia M. Thomas, The University of Georgia

This workshop addressed a main topic among higher education today, as well as reinforcing the mutual relationship that diversity curriculum and individual racial identity share. In addition, this session was designed to help educators understand the process of racial identity development, which can ultimately help them prepare and work through students' resistant attitudes. Furthermore, the session offered implications for the classroom which will help both professors and students achieve a positive educational experience. The session addressed how diversity curriculum can not only enhance one's knowledge, but can also challenge one's initial views regarding diversity.

From a Room of Your Own to a World of Our Own: Negotiating Authority and Difference in the College Classroom

Phyllis F. Lawhorn, Clark Atlanta University

This presentation asked teachers to help their students understand their own identity positions of power and difference with respect to ethnicity, gender, race, and class. It briefly identified several strategies teachers might use to help students explore, evaluate, and reflect on their positions of power and difference. It used several popular college essays to demonstrate these ideas for instruction.

Identifying Some of the Possible Stressors of ESL Students

Tlene H. Miller, Savannah Technical College - Liberty Campus

There are more people immigrating to the United States than ever before. The availability of jobs and hopes of a better life for themselves and their families brings them to America (Curre, 2000). For many, the opportunity to attend a university or college is part of their vision of their new life. The purpose of this project is to identify stressors of those nursing students who are non-native English speakers. A focus group was conducted to help identify the stressors that create barriers to the education of students with L2 or ESL (English as a second language).

Integrating Effective Civic Education in Accounting and English Composition Classes at two Historically Black Universities in South Carolina (Adapted from a FIPSE Project – Performance Arts for Effective Civic Education)

Miriam Chitiga, Claflin University & Joseph Onyeocha, South Carolina State University

The presentation took the audience through a series of simulated college classes in which the instructors infuse civic education

into Accounting and English Composition classes. Realizing the importance of active and engaged citizenship for African Americans students in South Carolina, the instructors engage students in stimulating research, discussions, and performance on key civic and political issues relevant to their respective disciplines. The presenters aimed to increase other instructors' awareness and possible interests and subsequent involvement in innovative incorporation of civic education into their curricula

Mentoring and Retaining Black Male Faculty

Randy Lattimore, The University of North Carolina at Wilmington & Vincent Snipes, Winston-Salem State University

This paper addresses issues that are critical to the personal and professional success of Black male junior faculty members, and particularly those in predominately White institutions. Additionally, the authors added to current discussions and literature that address questions about mentoring that might facilitate success in predominately White institutions.

User-Friendly Classrooms Require User-Friendly Faculty Creating Diversity within Ivory Towers

Randy Lattimore, The University of North Carolina at Wilmington & Vincent Snipes, Winston-Salem State University

This paper focused on how departments can implement proactive strategies that can help facilitate the professional and personal growth of black male faculty. In particular, the discussion focused on some of the implications for teaching and practice in mathematics.

Innovative Pedagogy

A Masterstroke of Diplomacy: Using Simulations in the History Classroom

Laura Cruz & Nathan Best, Western Carolina University

This presentation discussed a project, called Masterstroke, created to promote the use of role-play simulations in teaching diplomatic and military history. The project uses interactive databases to keep track of information used in these simulations. Discussion focused on the limitations and benefits of using historical simulations, the lessons learned from the creation of the computer program, and the possibilities of linking simulations across different campuses.

Action Research as a "JIT" Strategy to School Improvement Problems in Cobb County Schools.

Ikechukwu Ukeje, Kennesaw State University, Jennifer Ely, Stephanie Coon, Rebecca Smith, Paula Dumbacher, & Tara Schaefer, Cobb County School System

The Professional Educational Teacher Unit (PTEU) at Kennesaw State University has as its conceptual framework, "Collaborative Development of Expertise in Teaching and Learning". Within this framework, graduate students are perceived as instructional leaders whose objective is to develop initiatives aimed at finding solutions to identified school improvement issues. Through a process of Action Research, working collaboratively with a research professor using a performance based teaching strategy graduate students develop effective research skills. Further collaboration with county research and teacher development unit, these student teachers identify classroom problem and apply the principles of research to identifying possible solutions to immediate classroom problems. This process

empowers and encourages practicing teachers to actively become problem solvers rather than observers of problems. This presentation illustrated several studies that demonstrate the success of this process.

Arousing Curiosity and Stimulating Imagination: Applying Enchantment Theory to Teaching

David Carefoot, Lane College

It is widely recognized that the attitude of disenchantment is fundamental to the modern period. But disenchantment is more than an attitude, it is a world-view. One could argue that the goal of education under modernity has been to instill a disenchanted world view. With this project much was gained, but much was lost. The author presented a brief theory of the relationship of disenchantment and enchantment to knowledge, arguing for the re-enchantment of the classroom and the learning process. Participants were encouraged to share views of enchantment and learning.

Assessment of Academic Posters in a 2000 Level Course

Sabine Smith, Kennesaw State University

FL 2209 "World Languages and Cultures" includes two poster exhibits (in conjunction with oral presentations by the students). One poster exhibit documents students' community interviews with representatives from diverse cultural backgrounds; the second set of posters delineates students' professional prospects in an anticipated "Career Path" and the extent to which they will benefit from linguistic and cultural proficiency. In this presentation the author shared assignments, assessment tools, and sample student work.

Bud, Branch & Bridge: Top Ten Strategies to Increase Cognitive Connections

Zafrullah Khan, Belmont University

In recent years, since the development of new brain imaging techniques in neurology and research in cognitive psychology, we have a substantial basis for learning theory. This presentation highlighted that brain research-based learning theory gives support to inquiry-based learning, alternative assessment, creative and critical thinking, education reform and habits of mind. Participants left with an understanding that brain-based teaching strategies give positive hope for all students, substantiate broad as well as specific aims, and give reasons to forge connections between and among prior and new learning. Much of what goes on in higher education not only fails to be brain-compatible, but is actually brain antagonistic. The brain functions best with adequate time, the absence of threat, immediate feedback, dynamic interaction, with global contexts as well as delineation of parts, and in a state of relaxed alertness. This presentation guided participants' inquiry through ten strategies to improving the art and science of teaching and learning, having them consider: brain compatibility and learning styles, idea extension techniques, teaching for understanding and transfer, using questioning and graphic organizers, inquiry and essential questions, teaching for creativity and fostering authentic learning moments, encouraging reflective practice, and using integrated patterning and discovering meaningful connections.

Can Peer Reviewing Work? Collaboration Techniques for Oral and Under Prepared Communities

Elizabeth Cranford, Georgia Perimeter College

The pros and cons of using "peer reviewing" in composition classrooms have often frustrated instructors due to the students' lack of confidence and analytical skills. Moreover, students who come from primarily oral cultures, as well as those who are under-prepared, are intimidated by the responsibility of peer review sessions which force them to interact solely with the written word. The techniques described in this presentation help to resolve these concerns and lead to more fruitful peer review sessions.

Connections: Building Learning Communities Through Reading Groups

Ann Cunningham, Jean Crocket, & Mary Evelyn Lynn, Cleveland State Community College

This session provided a brief overview of the Cleveland State Community College Pages Reading Groups. This carefully structured initiative has promoted for the students, faculty and staff participants a connectedness to the campus and an appreciation of discussion of ideas garnered from reading. The conference session included group activities to model and simulate the Pages concept.

Dynamic Student Presentations

Stephanie C. Smith & Juan Santandreu, Lander University

This presentation offered a process through which students' presentation skills and knowledge can be developed and enhanced to prepare them for future classes and for their careers. Beginning with the definition of the purpose, analysis of the audience, and an overall plan, the process takes the students through creating and preparing the

presentation using advanced techniques. Rehearsal with coaching and videotaping helps to bring the presentation to a professional level. Videotaping the presentations allows the students to assess other presentations but especially to conduct realistic written assessments of their own skills and presentation content.

Early Childhood Education: Looking to the Future

Feland Meadows, Raynice Jean-Sigur, & Emily Schmidt, Kennesaw State University

A triboard used during the recent Kennesaw State University NCATE Showcase had the department's professional organizations and affiliations, the faculty, and photos of teacher candidates at work. An updated version presented at the conference included additional information about the future directions in the Department of Early Childhood Education such as the proposed laboratory school and the Birth to Five Certification. In addition, a new interactive approach to classroom readings, utilized by our faculty with teacher candidates, called "Videatives" was demonstrated on a laptop.

Effective Teaching of Intermediate Accounting I--A Source Documents Approach

Joseph Onyeocha, South Carolina State University

This presentation demonstrated and highlighted the use of Business Source Documents and other stimuli in the effective teaching of Intermediate Accounting. We discovered that many students who complete the Intermediate Accounting Series were not very familiar with the role and importance of source documents in the Integrated Accounting System of a business enterprise. This gap of knowledge may be expensive to the students and those who hire them. Therefore, source documents are integrated in the course and highlighted throughout the

semester through the use of a targeted textual materials and assigned projects.

Engaging Plagiarism?

Deanna Womack, Kennesaw State University

Should we believe students have never been taught that "cutting and pasting" words or sentences from an article are wrong? How can we encourage students to "own" the responsibility for creating real paraphrases? This paraphrase exercise takes less than 15 min, engages students' interest, and helps students realize that they must substitute their own words for an author's, not just shorten the author's sentences.

Enlivening the Lecture -- A Constructivist Approach

Judy Lehr, The Citadel

Over 95% of college professors use the lecture method as their primary mode of instruction. Effective teaching is more than providing content. In a learner-centered classroom, students are actively involved in learning and constructing the meaning of content. The presenter shared research on the assets and liabilities of the "typical" lecture and provided practical ways to enliven lectures through involvement of the learner.

Focusing the Experience of Nature Through the Lens of the Naturalist's Journal

Steven McCullagh & Joseph M. Dirnberger, Kennesaw State University

The field journal was an essential tool for nineteenth century naturalists such as Bartram, Darwin, and Wallace or explorers such as Lewis and Clark. The sketches and reflective thoughts that they recorded in their journals often gave rise to significant syntheses in the biological and environmental sciences. Now, in an age when most of us live and work in highly

artificial environments, reviving the art of writing and sketching in field journals can be an effective strategy to engage learners with the environment. In addition, when the direct experience of nature is absent, as it may be with prepackaged science-modules, some of the most exciting aspects of scientific inquiry may be lost. Through this presentation we encourage using the Naturalist's Journal as an effective strategy for 1) developing a deeper awareness of the natural environment and 2) providing a more authentic experience of the excitement of scientific inquiry.

"If Teachers Would Only...": Helping Students Navigate College Successfully

William F. Mugleston, Floyd College

For the last 18 months I have asked classes to complete this sentence in a short, written statement: "My college life would be easier and more productive if teachers would only...." This presentation is based on some 130 replies received thus far.

Reaching Outside the Classroom: Service-Learning and Community Awareness Projects

Michelle Emerson, Kennesaw State University

The presenter discussed the details, outcomes, and suggestions for improving service learning projects and community awareness initiatives to advance learning beyond the classroom. The focus was on undergraduate students in a Victimology course, but can be applied to other courses, as well. She focused on the students' experiences based on write-ups by students regarding these methods of learning and her own evaluation of using these methods.

Teaching Abroad--Teaching in Georgia

Howard Shealy, Kennesaw State University

This presentation summarized the results of a survey of returned study abroad faculty,

and explored such questions as effort vs. rewards for faculty (faculty find teaching abroad more rewarding than teaching on their home campus, but they also find that teaching abroad more demanding.), effects of teaching abroad on classroom teaching upon their return, mentoring opportunities, and student learning.

Teaching First Impressions First: Choosing Atmosphere over Method and Management

Aaron Levy, Kennesaw State University

This presentation suggested a different spin on classroom management, beginning with the first day of school. Instead of filling students up with the rules of the syllabus, let the first impression be one of passion for the content area, leaving students with the idea that they will be learning something interesting taught in an interesting manner every day. There will be time enough for rules and syllabi. The presentation invited and suggested many ideas for different content areas, as well as the logistics and performance of presentation. If we believe that teaching is more an art than a science, then we must pay special attention to our first impressions.

Teaching Techniques that Influence College Student Motivation

Christy Price, Dalton State College, & Lynn Boettler, Kennesaw State University

What factors influence students' desire to show up for classes and engage in the process of truly learning? Obviously, there are some influences beyond the professor's control, but research in educational psychology suggests that there are things professors can do to increase students' willingness to attend class, their ability to maintain interest, and their desire to learn. As college professors, we are all experts in our content area; however, we may not be aware of the body of research within

educational psychology that provides insights into motivating our students. During this interdisciplinary participatory session the presenters briefly reviewed the literature regarding student motivation and shared the findings of their own research on this topic. Throughout the presentation, participants engaged in activities that required them to reflect on their own teaching techniques. Open-ended questionnaires, check-lists, and digitized video clips of student interviews were utilized in order to facilitate discussion regarding practical steps faculty can take to increase student interest and desire to learn in the courses they teach.

Using Lesson Planning Activities to Study Prospective Teachers' Subject Matter Knowledge

Clarence "C.E." Davis, The University of North Carolina at Greensboro

The Lesson Plan Study (LPS) research method was based on the idea of Japanese lesson study and looked at ways prospective teachers (PST) developed an introductory lesson on chosen topics. LPS allows educators opportunities to investigate areas of the PST subject matter knowledge that are of concern. The LPS contained four distinct stages. The first stage was an individual interview in which a researcher tried to get an understanding of what the PST knew about the topic. The protocol for the individual interview consisted of three major components: pre-interview, lesson planning, and post-interview. During the second stage was a group interview, the PST was grouped with four other individuals and asked to discuss their ideas and construct a group presentation on the topic. The third stage was the presentation of the group lesson to their methods class. In the last stage of the LPS, the PST produced a reconstructed view of their individual lesson plan (Berenson, 2002).

Interdisciplinary Teaching and Learning

Integrating Biology, Chemistry, and Mathematics to Evaluate Global Water Problems

Erica Kosal, Rodney Austin, & Carol Lawrence, North Carolina Wesleyan College

To help foster an understanding of the importance of evaluating environmental problems from an integrative approach, a course focused on global water issues was introduced into the curriculum at North Carolina Wesleyan College. Another course goal was to provide a venue for our students to get assistance with and practice applying math and chemistry, two of their weakest areas. A third goal was to foster student critical thinking skills by having students evaluate complex environmental water issues in light of scientific knowledge and civic responsibility. Students were placed into one of four groups: mathematics, chemistry, biology, or mapping in which they conducted a semester-long project of their design. Together, the students chose to study six sites along the Tar River in Rocky Mount, North Carolina for analysis and mapping. Student progress was evaluated using the instrument Student Assessment of Learning Gains (SALG) (www.wcer.wisc.edu/salgaines). This assessment tool was utilized at both the beginning and the end of the semester to collect information on the students' abilities and attitudes. Results on student attitudinal change and success of integration were discussed in this paper.

Integrative Approaches: Reading, Writing and Mathematics--All Together

Mary Nielsen & Lydia Postell, Dalton State College

This symposium focused on strategies that are being used by English and reading

faculty members to integrate the teaching of Learning Support Reading, Learning Support English, and Learning Support Mathematics as a part of Dalton State College's Learning Communities Initiative.

One Good Novel Enfolds and Unfolds Many Disciplines: Interdisciplinary Uses of Literature

Marian J. Parker, Troy University

As partial fulfillment of their requirements for Literacy IV: Reading in the Content Areas, all secondary and P-12 candidates at Troy University, regardless of academic discipline, read a young adult novel and develop strategies for team-teaching it across the subject areas in grades 6-12. Titles selected reflect the interests of a diverse student population and characters who face conflicts that are engaging and meaningful to the students our candidates will teach. Units generated from this assignment include group reading strategies; vocabulary enhancing exercises; comprehension-building activities; art projects; and an assessment that includes factual, empirical, productive, and evaluative questions. In addition, the candidate must identify course of study objectives addressed by the book in three different content areas. Workshop attendees received four complete unit plans and had the opportunity to relate the content area objectives to their own state courses of study.

Processes and Paradigms: Models for Engaging Interdisciplinary Scholarship

Nathanael Pollard, Jr., Johnson C. Smith University

The primary purpose of this paper is to illustrate how intradisciplinary models in mathematics can engage interdisciplinary discussion. Two critical concepts of scholarship always preface interdisciplinary

engagement: interpretation of meaning and integration of knowledge.

Team Teaching "Dimensions of Prejudice: Race, Class, Sexual Orientation, and Gender"

Teresa Rust Smith & Rebecca C. Dunn, Salem College

This conversation hour focused on interdisciplinary teaching of a college level course designed to introduce students to the concepts of prejudice and discrimination along the lines of race, class, sexual orientation and gender. The presenters approached these topics from the two disciplines of biology and sociology. They encouraged faculty from a wide variety of disciplines to undertake the teaching of these difficult concepts, which may not be comfortable either to study or teach. Many faculty may be reluctant to teach these subjects because they feel they lack expertise in some or all of these areas. This is where the interdisciplinary component is of the greatest value. The collaboration of two or more individuals, in addition to the obvious complementing of disciplines, permits interactions in the classroom that enrich both students and faculty learning and personal growth. In this conversation hour they discussed insights that they have gained from co-teaching this course and asked others to share similar experiences.

Team-Teaching Politics and Literature: Interdisciplinary Approaches to Spanish-American Society

Susan M. Linker, High Point University

This presentation discussed the design and delivery of an interdisciplinary course entitled "Spanish American Society, Politics and Literature in the Twentieth Century" (IDS 363), taught at High Point University. It is a team-taught course (one instructor in Spanish and one in history) that integrates a study of modern and current social and

political issues in selected areas of Spanish America with the analysis of works of modern literature (in English translation) for the same areas, works that reflect and comment upon those socio-political issues. Films and videos that support and expand on the issues are also viewed and discussed during the course. The areas of Spanish American examined include Mexico, parts of Central America, Colombia, Chile and Argentina, with literary works by Mariano Azuela, Miguel Angel Asturias, Gabriel Garcia Marquez, Luisa Valenzuela, Roque Dalton, Pablo Neruda and others.

The Immersion Seminar: Unexpected Discoveries

Joseph Trimmer, Director, Virginia B. Ball Center for Creative Inquiry, Ball State University & Carol Harrell, Associate Professor of English and English Education, Kennesaw State University

What happens when professors experiment in a new pedagogical dimension? Do the educators grow professionally? Do their students experience the academy in exciting ways? Or do pedagogical experiments simply repackage the status quo? This workshop explored the creative processes of interdisciplinary instruction and implementation.

Mentoring

Cluster Internship Partnership Program Promotes Self-Efficacy

Michael E. Bush, Auburn University

This session presented the structure of the Cluster Internship Partnership Program and the benefits for pre-service teachers, in-service teachers, university educators and elementary students. It also reported the findings of the change in self-efficacy of pre-service teachers as a result of being a part of the CIPP.

Mentoring Students and Faculty, an Interdisciplinary Conversation Among Equals: Is What's Good for Business Good for the Academy?

Deborah Bailey & Linette P. Fox, Johnson C. Smith University

Having a successful mentoring experience will help to ensure a positive educational experience for the faculty and student. The overall purpose of this conference session was to have an interdisciplinary conversation about the potential of formal programs of student and faculty mentoring as a strategy for the recruitment and retention of teachers in public schools. The first part of the session was devoted to a brief discussion of the extent that formal student and faculty mentoring programs exist among the institutions represented by the session participants.

Orienting and Developing Support Faculty - Little Things Mean A lot

Nancy Prochaska & Kathy Wilcox, Kennesaw State University

This presentation shared the programs and policies used by all departments in the Coles College of Business at Kennesaw State University when new support faculty are hired. The reviewed the orientation materials, and discussed the outcomes they have discovered from this new initiative. They also noted the special efforts the Department of Management and Entrepreneurship use to motivate and retain their Supporting Faculty.

The Freshman Experience: Instilling a Sense of Community

Larry Bouldin & Adolf King, Roane State Community College

The presenters outlined the process involved in making the Freshman Experience happen (from who to involve and how to finance it, to how to get the students and faculty to cooperate) as well as pitfalls and what did

not work. Examples of team-building activities were given with audience participation involved. Some preliminary data from surveys taken were supplied and anecdotal accounts of results and reactions were shared.

Teaching with Technology

Distance Education and The Adult Learner

Ingrid Thompson-Sellers, Georgia Perimeter College

This project examined adult learners in distance education programs from the practitioners' perspective with supporting theoretical evidence. Based on Malcolm Knowles' theory of andragogy, adult learners need to be informed of the objectives of the material being taught, and then treated as self-directed learners who take equal or full responsibility for their learning experience. The study included data collected from interviews of adult learners taking distance education classes and review of the current literature on the subject. The results showed that we make invalid assumptions about adult learners; however, there are successful practices that can help adult learners succeed.

Electronic Document Markup with Adobe Acrobat

Andrew J. Brovey, Valdosta State University

The author demonstrated how the commenting features of Adobe Acrobat and a graphics tablet can be used to review and annotate electronic documents. He also shared how he uses this markup method to support the exchange of documents with students in his online courses.

From Shoebox to Computer: The Journey of the Diorama

Rhonda Bowron & Jan Oliver, Troy University

Presenting the electronic diorama (e-diorama) illustrated to higher education instructors an alternative method for displaying concepts within text. This visual display is interactive, has the capacity of crossing the curricula and contains the potential for meeting the needs of diverse learners (including bilingual and special needs students). The e-diorama can be created within a variety of formats allowing the use of both higher level and lower level technology skills (e.g. power point, word, webpage, etc).

How Can the Use of Technology Impact How Students Learn?

David O'Drobinak, Valdosta State University

The author has developed an extensive series of online resources for Human Anatomy and Physiology that student's feel have helped them learn differently. Teaching a service class, anatomy and physiology, poses many problems including level and load of material, student access to instructor and laboratory, and variable student academic background. Additionally, since many of these students are not science majors, continued immersion in the material is very important for their comprehension and retention. To address these problems the author supplemented the traditional materials with extensive online offerings including complete interactive laboratory review units. Student's have made extensive use of the resources and have been extremely positive in their support of the content and effort. And, a funny thing happened; the student's began to learn differently. Student response has indicated that the content and format has allowed them to organize and direct their study time

and effort away from traditional studying methods while maintaining their interest.

I'm a Better Teacher (and Person) Because of Technology

Beverly R. King, University of North Carolina at Pembroke

In this paper, the author presented (within a framework of Positive Psychology) some of the virtues that she has developed or refined through teaching numerous online courses. In explaining how these traits were perfected, she shed some light on how other online instructors and users of technology can learn to anticipate and circumvent problems, handle crises, and create a sense of community in an online course. Attendees also picked up some tips on how to maintain a sense of humor and take things less seriously even when technology (or teaching) is at its most frustrating!

Incorporating a Video Assignment and Online Quizzes into a Hybrid (WebCT) Base Class

Leonard Gaffga, Kennesaw State University

Using a hybrid teaching environment based on WebCT, you can make assignments, have students submit course work online, and allow the system to grade their input thereby dramatically increasing student involvement in your course. The increase in student involvement can be accomplished outside of class at the schedule convenience of the student. Preparing to teach such a course involves more work, however, there is substantially no increase in instructor effort during the semester.

Responder Pads in the Classroom: Pros & Cons

Charlotte Collins & Linda Hightower, Kennesaw State University

Remote controls can grade tests & quizzes, take attendance, tally surveys, provide instant feedback & study guides, and

encourage group discussions. Students love them; faculty either love or hate them. Is it for you? Explore one department's experience with this technology.

The Fizzics & Fizzles of Online Learning: Strategies for Success

Zafrullah Khan, Belmont University

Given the premise that the foundation for any course is based on good instructional design, which begins with the development of explicit learning goals, engaging course content, discerning what students should know or accomplish based on the critical content, and what the student must know in order to function in authentic or real world situations, the presenter shared his practical and tactical experiences about teaching online courses. Participants heard first hand accounts about the "perils" of teaching an online course as well as cutting-edge ideas for making it a successful online collaborative "community" experience for all. Effective online teaching strategies discussed included: building rapport, having clear expectation, preventing e-mail burn-out, and much more.

Two-way Electronic Correspondence to Explore Authentic Newspapers in Language Classes

Jose I. Gonzalez, Clayton College and State University & Leonor Vazquez-Gonzalez, The University of Montevallo

This project took advantage of students' innate cyberspace skills in order to create person-meaningful links to learn a foreign language. The authors assert that such strategy will motivate the students to communicate with other virtual students in a natural and authentic manner. In this activity students introduce themselves through three messages that additionally invite the recipients to participate in diverse cultural activities. Finally, there will be a last message to accept or reject the

invitation. The pedagogical objectives of this activity include reading comprehension, writing and communicative skills.

Using the Internet to Enhance Classroom Instruction

Marcella "Cindy" Prater, Valdosta State University

This workshop explored various internet sites which may be used in teaching high school Economics or other business courses. Hands-on activities were used, along with accompanying handouts. Attendees explored several of the Federal Reserve web sites including FED 101, a web site designed for educational purposes; calculated currency exchange rates; learned a few fun facts about money; visited interesting corporate web sites such as Coca Cola, McDonalds, and Hershey's; looked up government statistics such as the inflation rate and unemployment rate; found out how much the national debt is by the second using a national debt time clock; explored career sites which include many free resources such as information on resume writing, interviewing, and business etiquette; and previewed StocksQuest, an on-line stock market activity based out of the University of Georgia. A packet of handouts for classroom use with StocksQuest were provided.

Using WebCT and TI-89 in College Algebra classes

Shinemin Lin, Savannah State University

Following the CUPM Curriculum Guide 2004, I integrated TI-89 into College Algebra classes and Adopted WebCT as part of instruction delivery. At the beginning many students could not adjust to the change from instructor-centered to student-centered learning environment. I used publisher's e-pack for WebCT as the major instruction tool, and a well-designed personal website as a backup tool. We met in class two times

a week, and students worked by themselves on WebCT materials or materials from my Website. At the end of the semester, most of them agreed that student-centered learning environment made them have more confidence in themselves. Further, the results on the final departmental test were beyond my expectation.

Virtual Computer Lab - Construction and Implementation

Arvind Shah, Georgia Southwestern State University

In this paper the authors described the experience of design, construction, and implementation of virtual laboratory to support online courses in computer science in the School of Computer and Information Science at Georgia Southwestern State University. Courses in Computer Science/Computer Information Systems often require special software to supplement laboratory experiments, application testing, database access, and so on. Several such online courses forced the authors to develop a virtual lab. Distributed Web Applications, Advanced Database Systems, Decision Support Systems, and other courses require necessary laboratory environment.

WebCT Vista: The Good, the Bad, and the Ugly!

Mary Dwyer Wolfe, Barry Monk, Patt Impink, & Jeff Delaney, Macon State College

While the WebCT Vista system is robust, with many worthwhile features that encouraged the team evaluating various course management systems to adopt it, there are also many features that, as designers and instructors, took us totally by surprise. The presenters shared a summary of Vista features from the perspective of what they found to be good, what they found to be bad and a few things that they found to be down right ugly! They conveyed shared

lessons learned to those who are about to make the same transition to Vista, so that they might be better prepared to begin using Vista than the presenters were.

What Works With 18 Year Olds--Can You Recruit More Science Students With Course Technology?

Suzanne E. Lindley, Limestone College

As a full-time Day and experienced Virtual Program Biology faculty member at Limestone College, I now also have WebCT 4.1 available for use with my regular classes. Our historic science building includes a new state-of-the-art technology classroom as well, so I have been “reverse course engineering”, taking pedagogical approaches highly successful in my virtual classes with primarily adult learners and incorporating them into the same day classes with 18-20 year olds, making them true “hybrid” courses. At the end of my fall Human Biology class, Honors students conducted a survey to get some honest feedback. They assessed changes in student attitudes over the term about using course technology (busting the computer-savvy

teen myth) and the usefulness of different online features to the learning experience. There was a strong correlation between performance, attitudes, and time spent in the online course environment. Interestingly, I have FIVE non-science majors from this group taking second half General Biology this term (also hybrid) as an elective!

When You Have To Spell it All Out: Strategies for Designing and Teaching On-line Courses in Music and Education

Doyin Coker-Kolo & Herschel V. Beazley, Georgia Southwestern State University

Issues with communication in online courses presented in this workshop will cover all areas of the course including, but not limited to: planning, content presentation, assessment, feedback, and reflection. The two presenters are from different disciplines: music and education. They discussed and illustrated the similarities and the differences in online tools of communication in a web-based environment based on the nature of their subject fields and possible differences in their student demographics.

Conference Coordinating Committee:

Bill Hill, Professor of Psychology and Director, KSU Center for Excellence in Teaching & Learning

Todd Shinholster, Director of Conferences, KSU Division of Continuing Education

Linda Noble, Professor of Psychology and Associate Director KSU Center for Excellence in Teaching & Learning; CETL Fellow for Mentoring for Faculty and Student Success

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Lynn Lamanac, Administrative Coordinator, KSU Center for Excellence in Teaching & Learning

Lori Buechling, Administrative Coordinator, KSU Center for Excellence in Teaching & Learning