HOSTOS COMMUNITY COLLEGE

TOUCHSTONE

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VOLUME 2.1 (SPRING 2009)

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EUGENIO MARÍA DE HOSTOS COMMUNITY COLLEGE
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TOUCHSTONE
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Cover image: Brian Gonzalez, "B-Building," 2009.

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PREFACE

Lucinda Zoe

It is a pleasure to offer this preface to the second edition of *Touchstone*, the Hostos journal on teaching and learning. In the spring of 2008 the first edition was published by the Magda Vasillov Center for Teaching and Learning to document our work, share ideas and pedagogies, explore best practices and provide an opportunity and incentive for faculty to prepare a manuscript for publication and have it reviewed and edited by a team of consummate professionals. Dean Kim Sanabria and Professor Carl James Grindley bravely stepped forward to go where no Hostos faculty member has gone before, and agreed to serve as the co-editors of the journal, to critically review and edit the work of their peers. This is no small task and one that must be approached in a genuine spirit of care and respect for their colleagues. It is truly an honor to work with such a gifted and intellectually lively team here at Hostos and to witness daily the generosity and commitment each one brings to the task at hand.

What do we talk about when we talk about teaching? That is the question and our challenge as teachers and academics. Over the past several years we, as community of scholars and practitioners, have become more engaged in the scholarship of teaching and learning, and faculty have been encouraged to develop their expertise as teachers and share the results and their experiences on what is happening in their classrooms. As a community college we place a greater emphasis on teaching and the research of teaching than is typically found in a senior college or research university. We take great pride in our skill in the classroom and our ability to reach our students where they live and learn and we are very good at it. Community college faculty in CUNY spend a lot of their time in the classroom—a 27-hour work load, compared to a 21-hour work load at our sister senior colleges—so it stands to reason that we should focus our efforts on applied scholarship and embrace our unique role in the university system. We excel at the first year experience, preparing our students to engage as critical thinkers as they build core academic literary skills and make their way through their academic careers. We are good at language learning and skills development...and we have some stories

to tell about it. In these pages of *Touchstone* you will find the fruits of our labor and evidence of our many beautiful ideas and efforts in the classroom and beyond.

At Hostos, we invest in faculty, which means we put serious resources into our faculty development initiative. The Office of Academic Affairs is enriched by the creative ingenuity of faculty whose great commitment to teaching is complemented by their motivation to continue growing as both teachers and as scholars. Important outlets for these activities are provided by the Office of Instructional Technology and the Magda Vasillov Center for Teaching and Learning (CTL). Supported by our Title V grant, "Shifting the Paradigm on Teaching and Learning to Improve Student Success," as part of the faculty development component, the Committee On Beautiful Ideas (COBI) team planned and executed the third annual December COBI Innovation Awards Ceremony as well as the fourth annual off-campus, two-day retreat at Bear Mountain Overlook Lodge. The December celebration awarded thirteen faculty members with release time to continue the development of their project for implementation. The COBI Advance Retreat hosted 60 faculty and administrators, including twenty-six project co-developers who represented thirteen projects and eight departments. The Retreat was electric, a two and a half day frenetic and explosive exchange of stories, strategies, music, and conversation, with faculty taking the time to share meals and spend the time together to envision new and exemplary plans and approaches to teaching and learning. Seven projects to be selected at the end of the spring semester will each be awarded $2,000 mini-grants for creativity, ingenuity, and the potential to make a positive difference in student learning.

To encourage greater sharing across the disciplines and beyond Hostos, this year we created a new faculty travel fund to encourage greater participation at professional conferences and more opportunities to share the best practices and beautiful ideas that make us who we are.

We care about teaching. And you can so clearly see it in these pages—the love, dedication, passion, and genuine affection of our faculty for what they do. It is with great joy, and my supreme pleasure, to share the work and insights of our faculty in this second edition of *Touchstone*.

Lucinda Zoe
Interim Provost and Vice President for Academic Affairs

INTRODUCTION

Carl James Grindley
Kim Sanabria

The Professor Magda Vasillov Center for Teaching and Learning is proud to present the second edition of our journal,*Touchstone*. Although we are still negotiating our own sometimes difficult learning curve, we are gratified that *Touchstone* is advancing from strength to strength, and we are proud to provide a positive but ultimately critical space to our colleagues.

We include in our thanks many individuals who have guided and overseen the growth of *Touchstone:* our own interim Provost and Vice President for Academic Affairs, Lucinda Zoe, for supporting the project; Dean Amanda Bernal-Carlo, Director of the Center for Teaching and Learning, for her guidance and collaboration: Department Chairs, who encouraged faculty members to submit their projects; reviewers Professors Gina Cicco, Robert F. Cohen, and Jennifer Tang; and Dr. Richard Gampert, Director of Institutional Research. Finally, we extend our gratitude to the contributors themselves, who have generously lent us a point of departure for further discussions about teaching and learning.

The journal begins with a brief report from the Library Department on student satisfaction. Professors Tappeiner and Lyons approach the data gathering exercise formally, recognizing that assessment exercises are now part of the institutional landscape at The City University of New York. One of the problems that the Library Department faced was how to structure an assessment instrument that evaluated access to services and resources rather than achievement of specific learning objectives.

In "Use of a Triple-Entry Journal Assignment in a Writing Intensive Microbiology Course Section to Help Students to Read and Write More Effectively," Professor Julie Trachman from the Natural Sciences Department writes about her efforts to implement the ideals of Writing Across the Curriculum in a section of Microbiology. Discovering that students face considerable difficulties developing their skills and avoiding accidental plagiarism—especially when attempting to translate complex

scientific concepts into their own words—Professor Trachman suggests using a triple entry journal assignment.

Next, in "General Education Inquiry Groups: The Story of a Pedagogical Conversation," Professor Gina Cicco documents and discusses her experiences forming an Inquiry Group in the Education Department. Serving as her group's leader, Professor Cicco outlines the group's General Education origins, and its mission to foster a collegial and productive discussion of how to improve pedagogical practices. Although the group was able to make useful breakthroughs regarding assessment, Professor Cicco celebrates the group's role in opening up a departmental conversation.

In "What is Cheating About," Professor Nelson Núñez-Rodríguez writes about his experiences attempting to reconsider how to conduct examinations in his Chemistry class. Deciding to completely challenge the status quo, Professor Núñez-Rodríguez not only tried to empower his students, but also had to face up to serious questions regarding the nature of cheating in an online environment. Leading into a COBI project he submitted with Professor Gina Cicco, Professor Núñez-Rodríguez discusses his attempts to create innovative approaches to assessing his students' command of the course's learning objectives.

Holding over a loose focus on Chemistry, the next article is "Promoting The Use Of The Flow Chart In Chemistry," by Professors Yoel Rodríguez and Nelson Nuñez-Rodríguez of the Natural Sciences department. Conscious as ever that our students' desire to successfully master difficult concepts in the hard sciences is often tempered by lack of preparation and insecurity, Professors Rodríguez and Nuñez-Rodríguez suggest introducing them to the flow chart. Arguing that using flow charts to help prepare for labs will increase student productivity and accomplishment, Professors Rodríguez and Nelson Nuñez-Rodríguez test out their theories and survey their students on its results.

In "Wikis, Group Projects, and Cooperative Learning," Professors Kate Lyons and Paula Korsko, of the Library and Language and Cognition departments respectively, team up with the Office of Instructional Technology's Carlos Guevara and Iber Poma to discuss the role that online group activities play in increasing Cooperative Learning in the classroom.

Next, in one of *Touchstone's* extended articles, the Business Department's Professor Héctor López presents "The Importance of Teaching Globalization Concepts in Business Education and Across General Education Through Curriculum Implementation Methods." Professor López considers using "infusion" to integrate new concepts from global business into existing business courses.

Fresh from a successful season, Humanities professor Angel Morales, provides a reflection on his production of In the Blood by Suzan-Lori Parks at Hostos in the spring and fall of 2008. Discussing a production that eventually received positive feedback from two respondents from the Kennedy Center American College Theater Festival, Region 2, Professor Morales explores the many changes undergone by his students.

The next article, by Professors Zvi Ostrin and Flor Henderson from Natural Sciences, examines the benefits of group projects in two Biology courses. Although the two professors had different approaches—Professor Henderson used group presentations, whereas Professor Ostrin used a video assignment—both were able to see the

real benefits and potential pitfalls of bringing a new focus on group activities to their classes.

The next three articles present meditations on the nature of scholarly community, research, and discovery. First, Professor Robert Cohen of the Language and Cognition Department reflects on the unique position occupied by the physical bridge between the A and C buildings. Second, Professor Carl Grindley of the English Department muses on the nature of English literary scholarship, wondering exactly how students should approach works that they simply do not like. Third, Professor Vladimir Ovtcharenko of the Natural Sciences Department outlines his decades long pursuit of a new species of spider, one that he would ultimately name after our college and its namesake.

This issue of *Touchstone* closes out by returning to the source of our inspiration, Eugenio María de Hostos. Professor Orlando Hernández offers as translation of Carlos Rojas Osorio's article "The Relevance of Hostos's Ideas on Education." Coming about following two forums held in Puerto Rico to discuss the relevance of Eugenio María de Hostos's pedagogy and educational philosophy, Rojas Osorio's article calls for a new examination and synthesis of Hostos's ideas.

We are very proud of our second issue of *Touchstone*, and hope that its strengths outnumber its weaknesses. As always, if there are any failures, they rightly belong to the editors, and if there are triumphs, they should be dedicated to the spirit, the ingenuity, and the hard work of the authors.

Carl James Grindley
Director of Instructional Technology

Kim Sanabria
Acting Assistant Dean of Academic Programming and Development

HOSTOS LIBRARY FALL 2008 SATISFACTION SURVEY: RESULTS AND DISCUSSION

Kate Lyons and Elisabeth Tappeiner

During the 2006-2007 academic year the library faculty identified learning outcomes as part of the department's assessment initiative. These outcomes focused primarily on student learning in our open workshop program as well as one-to-one teaching interactions with students. However, much of the work we do involves providing services and resources to students that enable learning, but does not constitute direct teaching. We wanted to be able to assess student satisfaction with the information they find through the library, points of service, such as circulation and photocopying, and learn about their perceptions of the library as a place to study, use technology, and interact with other students. We developed a simple survey with both free form answers and a Likert-type scale that addressed our programs and services which we posted on our newly-designed web page.

RESULTS

The survey asked respondents to rate twelve aspects of library services and collections on a four-point scale: Excellent (4), Good (3), Fair (2), Poor (1) or No Opinion. No aspect of library services or collections averaged less than a 3 (Good), and we were happy to see that students rated us most highly in areas related to direct academic support. For instruction we averaged 3.45 (n=221), reference services averaged 3.41 (n=258), and the library's web site averaged 3.46 (n=256), making it the highest ranked of all aspects of library services and collections measured by the survey. Responses about collections were good but not as high. Online resources got higher marks than our print book collection, but overall neither was rated as highly as academic support services. Students were least satisfied with hours of operation, the laptop loan program, availability of computers and access to printing/photocopying and library hours.

The majority of students responded to a majority of the survey questions. The question about laptop loans received the fewest responses (n=158) and the question about seeking help at the reference desk received the most responses (n=258). There are overwhelmingly more reference transactions each year than laptop circulations, and

it is possible that the number of responses roughly reflects the relative usage of each service.

The survey focused on specific services: workshops, laptop loans, photocopying and printing, but not users' opinions of the physical environment or how the library influences their overall experience of Hostos Community College. Nevertheless, some comments conveyed to us a sense of students' overall impression of the library: "library is very helpful" ; and "It is the best school library i have been to" ; and "I enjoy being in the library, sometimes its a little noisey" ; or just "Its ok."

DISCUSSION

The survey has been available to students, faculty, and staff on the library web site since January 2006. However, for the Fall 2008 semester, the survey was included in the Hostos Rewards Points Program, which allowed users to be authenticated based on Hostos email usernames and passwords, which dramatically improved the integrity of the data, and also served as a vehicle for marketing the survey. Inclusion in this program, as well as the web-based nature of the survey, affects our data in other ways as well.

The Hostos Students Rewards Points Program, which was launched in the Spring 2008 semester, gives students opportunities to win prizes for completing tasks like filling out student evaluations, attending workshops offered by the library and the Office of Instructional technology, as well as a variety of other exercises meant to increase students' participation in their educational experience. Although including the survey in the Rewards Points Program did increase our number of survey responses, it did not encourage feedback from students who do not use the library regularly, as we had hoped it would. Most of our respondents (almost 78%) were regular library users. Another concern about the responses was how well they represented the student body in general. Did they represent a small subset of students who are interested in technology and motivated by the possibility of winning a free laptop or Ipod Touch? Regardless, feedback from a small subset of students still provides us with a basis for making improvements to library programs, services and collection.

Additionally, in order to complete the survey, students entered usernames and passwords. This lack of anonymity might have affected the survey's outcome. The benefit of associating students with their responses is that we can later compare student demographics to responses and learn even more about associations between student characteristics and their satisfaction with library services.

Finally, the survey was distributed entirely online. The students who responded were students who most likely saw the link on either the Hostos Rewards Points Website or the library's website, therefore increasing the likelihood that these respondents were comfortable using computers and the Internet. It would be interesting to see whether a survey distributed on paper would have had similar results.

CONCLUSION

The main goal of conducting the survey was to find ways to improve library services to better meet the needs of students. The most obvious sources of dissatisfaction were hours, printing/copying, laptop loans, all of which are directly related to limited resources. The solution to these concerns-- staffing, equipment, and space, are very difficult to increase, especially during an economic downturn. Students have access to

only five photocopy machines on campus, and all are in the library. Between classes and at other peak times, students wait in long lines for access to these machines. It makes sense that they would express concerns about printing/copy services.

However, we will continue to look for opportunities to address students' concerns while staying within our budget. For example, the library is advocating for increased access to printing and photocopying across campus--in computer labs and other student service areas which are open longer hours already. We might also examine the possibility of booking laptops rather than circulating them on a first come first served basis, to ensure more equitable access to them.

Additionally, some of the comments about indicate the long held belief among students (and some faculty) that the library should provide access to all required course readings. Most libraries do not provide current textbooks for students to photocopy. Not only does this practice violate copyright laws, it also diverts resources from the broader collection which is built to support the curriculum and remain relevant for years.

Overall, the survey gave us a useful indicator of our progress, and students' satisfaction with library services. We are pleased to report that we received good scores on all aspects of library services and resources that we surveyed. We look forward to rewriting the survey to elicit other kinds of information, as well as monitoring our progress in areas that need work. We always welcome feedback and dialogue with students, staff, and faculty at Hostos Community College. To access the full survey results, visit our webpage at: http://www.hostos.cuny.edu/library/hcc/surveyresults-points.asp

Kate Lyons
Library

Elisabeth Tappeiner
Library

USE OF A TRIPLE-ENTRY JOURNAL ASSIGNMENT IN A WRITING INTENSIVE MICROBIOLOGY COURSE SECTION TO HELP STUDENTS TO READ AND WRITE MORE EFFECTIVELY

Julie Trachman

"When we make students struggle with their writing, we are making them struggle with thought itself .... Often the struggle of writing, linked as it is to the struggle of thinking and to the growth of a person's intellectual powers, awakens students to the real nature of learning." (Bean xiii).

INTRODUCTION

Many individuals in academia have recognized the benefit of having students become more effective writers, irrespective of the discipline, through what is called the "Writing Across the Curriculum" ("WAC") initiative (Bean 15; Harris and Schaible 31; AACU 12). It has even been promulgated that the writing process itself, if properly designed, can help the student understand course content better and become more adept at critical thinking in what is sometimes referred to as "writing to learn" (Bean 2; Fisk 182; Elbow 1; Elder and Paul 2). This includes the science disciplines (Yore 105). However, it has been noticed that many American students in the recent past have been lacking in their ability to communicate via writing (The National Commission on Writing in America's Schools and Colleges 9; Lewin A15).

The "WAC" movement has had its goal for a number of years to improve the writing of American students. At least 638 college and university campuses in the United States (Thaiss and Porter) have implemented changes in their curricula to address the poor writing abilities of American students (Bean 15; Harris and Schaible 31). In the recent past, the movement has gained proponents with the realization that our students need to excel at written communication for the U.S. to continue being a dominant force in the global economy of the 21st century (The National Commission on Writing in America's Schools and Colleges 11; Friedman 309; AACU 12). A recently conducted survey of the American people sponsored by the National Writing Project clearly indicates that the American populace understands the importance of writing in the education process regardless of subject matter (Belden, Russonello, and Stewart Research and Communications 2).

Although I was not too familiar with the "WAC" movement before joining Hostos in 2004, I inherently knew that writing benefitted student learning and I had been giving students writing assignments in almost all of my previously taught classes, although type and scope varied considerably. Writing of lab reports and the answering of straight-forward questions regarding course material were performed with some success by the majority of the students. With these assignments, I was mainly looking for the ability of the student to explain what they accomplished in lab or correctly correlate information with the questions without much concern as to whether they could provide answers completely in their own words, respectively. However, I routinely encountered difficulties when I assigned students to write term papers or create summaries of research articles or other scientific texts. Briefly, I noticed that most students (at least 90%) have difficulties in paraphrasing (i.e. writing in their own voice) and this inability prevented the student from properly writing summary statements of one text. If the students were asked to write a research paper, the lack of ability to paraphrase was again problematic. It was further complicated by the fact that students did not know when they needed to cite references or in some cases were not able to generate a proper bibliography. From discussing these problems with colleagues, I knew I was not alone in my frustrations. A literature search done in preparation for this article confirmed that the problems I encountered with my students' writings are found on many U.S. and international campuses (Roig, "Students Determine Whether Text is Plagiarized", 113; Roig, "Avoid Plagiarism"; Intronas and Hayes 83).

In spring 2005, I was introduced to the triple entry journal format at a junior faculty orientation session described in more detail by B. Wissinger in the Hostos publication "Making Meaning, Making Sense" (29). I recognized that this might be the solution to some of my problems and decided to implement this assignment immediately in the Writing Intensive (WI) Bio 3904 General Biology 2 class that I was teaching, where yet again I was experiencing student difficulty with the task of summarizing an assigned New York Times article from the Science Times section. The two page article was entitled "Minds of Their Own: Birds Gain Respect" (Blakeslee F1) and I asked the students to summarize the information provided to them in the text that suggested that birds were much intelligent than previously given credit for. I gave my students an opportunity to restructure their writing to fit into this new format. The students, using the triple entry journal format, were asked to create a chart whereby they had to identify several specific quotes from the article and then paraphrase the quote as well as explain why they believed the chosen quote supported the author's belief that birds were more intelligent than originally believed. Several students opted to redo their assignment and I saw they were now able to demonstrate real understanding of the article, not evidenced when they were just piecing together "snippets" of sentences from the original article with an occasional change of wording or what is sometimes referred to as "patch-writing" (Roig, "Avoid Plagiarism"; Intronas and Hayes 83).

Based on my experiences with the WI Bio 3904 class, when designing my WI Bio 310 Microbiology class with the help of my assigned writing fellow (Randol Contreras), I decided to design a "staged" assignment incorporating a triple entry journal formatted assignment and the staged assignment would be used as early in the semester as possible for students to receive the maximum benefit. Additionally, because the WI courses give students the opportunity to write rough drafts first and revisions afterwards, we decided that the triple entry journal assignment was a perfect

approach. The triple entry assignment, used as a low stakes assignment, would lead to students being asked to write a summary (a high stakes assignment), thus providing the students with some scaffolding to help them carry out this more difficult task. I felt with the structure of this staged assignment, student writing would improve on several levels and also importantly, it would improve students' critical thinking skills. By forcing students to actively engage in a text to cull out three important points, rewrite the salient points in their own words and then relate these points to information they should already be familiar with and then use their logic to explain why these points are germane, the students are "struggling with the text" and "learning" something of value, as Bean suggest (Bean xiii; Fisk 182). This staged assignment can also be considered to be a type of generative learning strategy (Thomezcek et al.; Ritchie and Volkl 83), which is useful in improving students' critical thinking skills. By wrestling with these points, the students gain clarity of thought. Unfortunately, most students when not understanding the material often dodge the question(s) they are asked by obfuscation – in other words, vague writing (even if it is beautifully written). As Paul and Elder have shown (2), students start learning how to become "substantive writers" by being asked to practice these types of writing skills, and they start to recognize "the difference between 'style' and 'substance.'"

Additionally, as mentioned above, many students do not properly write summary statements. By extending the triple entry journal assignment further to lead the student to using the information to generate a summary statement, students start learning to more effectively write a coherent statement about the contents of an article by using their own words.

Lastly, all of us have had problems with student plagiarism to varying degrees. There is evidence in the literature (Roig, "Students Determine Whether Text is Plagiarized", 113; Roig, "Avoid Plagiarism"; Intronas and Hayes 83) which proposes that much of the observed student plagiarism is "unintentional" because students do not have good paraphrasing skills and do not even recognize what a well-executed paraphrase is in comparison to poorly written paraphrases. In some cases, students are fearful about "translating" the scientific text into their own words because they are concerned that what they write will no longer convey the original meaning and subsequently, they are afraid their grade will suffer. This "staged" assignment gives the student practice in a setting where this concern about the grade should be allayed. As the student revises what he or she writes following the provided feedback, the student gains confidence in his or her ability to do this in the future. After carrying out revisions of their rough drafts, 87 % of the students in my two WI sections were able to write at least part of the summary statement using their own words. By helping students develop these skills, this will help students further down the road when they are called upon to write at length in their own voice. As a result of this exercise, I have seen students make more attempts at paraphrasing in other assignments and I have an easier time getting students to place citations in their "term paper" assignment. With respect to "term papers", when I compared my two sections of WI microbiology to four previous sections of non-WI microbiology, I found that 84% of students in my WI sections put citations in their papers rather than 40% for the non-WI students. I found that 59% of my WI students were making some attempt at paraphrasing as compared to the 41% seen in the four non-WI sections. The change in the amount of students in attempting to paraphrase is not as large a change as one would hope for but

it is progress. Additionally, the fact that students are at least acknowledging now where they are obtaining their information from and placing quotes around statements that are not their own is significant progress.

THE STUDENTS

Students enrolled in WI Bio 310 Microbiology are supposed to be concurrently taking English 111 Literature and Composition or have already completed the English requirement. In addition, students are supposed to have taken the pre-requisite of a year-long biology sequence of Anatomy and Physiology or General Biology for science majors. The other Bio 310 sections only require the Biology courses, which require students to have Eng 91 Core English as a pre- or co-requisite. Over the several semesters that I have taught Bio 310 (non-WI and WI), I have found that many of the students taking Bio 310 are Hostos pre-nursing students (full-time or part-time), who are hoping to enroll in the Hostos nursing program or elsewhere. A few of the students are already enrolled in our RN or LPN programs.

The age, nationality and educational backgrounds of the students vary tremendously. Quite a few of the students have completed the Eng 110-Eng 111 sequence (or their equivalent) through the English as a Second Language pipeline. Occasionally, a student has a Hostos degree in another discipline and now is coming back to enter the Allied Health Science professions. A number of students have four year college degrees and are practicing accountants, etc. all wanting to change their professions. I have even had a few students who are practicing lawyers and students with Masters in Social Work, who have been working in the field for a number of years.

THE ASSIGNMENT

The first step in the staged assignment is for students to do a low stakes assignment where they would describe three benefits we human beings incur from having microorganisms in our environment (including us human beings) or at our disposal. They were to use knowledge gained from lecture, textbook and prior experiences from other classes, work, etc. to aid them. This low stakes assignment was collected and reviewed by me in order to give the students some sort of feedback and to get a sense of their abilities. At the time the students were carrying out the first low stakes assignment, the students were handed a three page New York Times article entitled "Aliens Inside Us: A (Mostly Friendly) Bacterial Nation" (Gorman F3) to be read at home which covers a topic related to this first low stakes assignment. The article discusses how we mostly benefit from the presence of many microorganisms in our gastrointestinal (GI) tract with an emphasis on three benefits that we accrue from the mutualistic symbiont Bacteroides thetaiotaomicron. Briefly, the three benefits are: a)these bacteria prevent the colonization and / or replication of potential pathogens in our GI tract b) microbial catabolism of organic molecules, which can not be catabolized by us human beings thereby making more nutrients available to us c)fostering the innervation of small blood vessels in the intestinal lining increasing our ability to absorb nutrients by the GI tract. The first time I used this assignment, the students were asked to select three quotes from this article regarding the specific benefits from B. thetaiotaomicron. In the following class, I explained to the students the concept of a triple entry journal as outlined by Wissinger (29). On the assignment sheet that was given to them at the next class session (when they will be carrying out the second step of the assignment),

an example of how the format is used was provided using the same article but covering a separate aspect of the article (see example below). The triple entry journal format involves three columns of writing and I formatted the page for the students to make the information transfer easier. In the first column, students were asked to write down the three selected pertinent quotes that the student thought related to how B. thetaiotaomicron benefitted us. In the second column, they were asked to paraphrase (write in their own words) the information expressed in the three selected quotes. The third column is for analysis with attention paid to why these particular quotes were chosen by the student and how their answers were based on his/her prior knowledge from the textbook, lecture and elsewhere.

Example of Triple Entry Journal using a statement from the second paragraph of the article:

Quotation	Paraphrase	Analysis
"Peach trees and watermelon vines will not grow there, but parasites, worms and cysts willdo fine."	Our bodies will not support the growth of peach trees, etc.; however, various body sites will support the growth of microorganisms that can do damage to its host.	As we learned from Chap. 1 in the text, the human body can be infected by can many different types of microorganisms, including bacteria, viruses, protozoa and and worms which can produce virulence factors that can cause a disease state in the host.

After evaluating the students' writing, the assignments were given back to students the following session. I also went through the feedback orally with them somewhat generally to discuss many of the commonly made errors and then gave them their first high stakes assignment, which was to take their results and generate a summary (taking into account my feedback when necessary). In some cases, because the feedback suggestions were not successfully followed through by the student, I ended up giving at least twelve students feedback on the summary and then allowed these students to submit the essay again later in the semester if they cared to. Because the triple entry journal assignment using three quotes took more than 30 minutes to perform in class by the students, the second time I tried this assignment, students were asked to only cope with one quote in class. I gave them feedback on the one quote, then asked them to do the second and third at home in triple entry journal format and to generate a summary after that. If they cared to, they had the option of turning in the completed triple entry journal assignment to get feedback before attempting the summary part or receiving feedback on both the triple entry journal and the summary. Then, the student would have an opportunity to resubmit the summary at least one more time.

RESULTS AND DISCUSSION

Given that this was an assignment based on a New York Times article written for the lay public, I was somewhat surprised to see how many students do not display "clarity of thought." I say this because many of the students have demonstrated difficulty locating all of the three benefits. For example, one student selected appropriate quote 1 "Our internal bacteria help us digest food that otherwise would simply pass through us" (and successfully paraphrased it) and an appropriate quote 2 "They fend off unfriendly bacteria" (and successfully paraphrased it) but was completely flummoxed for quote 3. The student selected "[t]hey function, as Dr. Gordon would say, as an organ." In some cases, students even have problems addressing the question posed to them. For example, one student in his final summary wrote about the role bacteria play in the food industry by producing amino acids, antibiotics, etc. and went on to talk about yeast involvement in producing bread, beer and wine among other points of information.

In a few cases, students locate the one sentence in the article that covers all three benefits superficially but then have trouble recognizing that they did so and demonstrate difficulty on expanding on it. Even if they find one or more of the benefits in one or more sentences from the article, they have difficulty in putting the sentence in their own words – often "patch-writing" to do so. For example, one student wrote: "Bacteria helps in the digestion of some food that cannot easily pass through our system. It also help in regulating metabolic process. Bacteria helps with the blood flow to the intestine, the growth of a capillary network is initiated by the presence of bacteria." In addition, in many cases, the student is unable to give a clear cut reason as to why the information in the chosen quote is a benefit to the human being. After getting feedback from me and encouragement to keep looking, many of the students eventually go on to pick at least one more of the acceptable quotes. In my feedback, I try to help the student figure out how to write out a statement that serves as an "acceptable" paraphrase, where there is a significant amount of difference from the original wording. For example, students keep often using the word digest (which was used several times in the article) and I try to get to use substitute words like degrade, metabolize or break down. I also often have to nurse the student along in terms of what is "acceptable" thinking regarding "the why" of what he or she has selected as a benefit. Here I am looking for some sort of logic to their selection. An example where a student went off track on the point regarding capillary network formation in the intestines is as follows: "As we learned in Chap. 14, our large intestine is colonized by trillion of bacterias that if they stayed within their environment they won't produce any damage, instead they will be benefit, both themselves and the host, by mutualism." The effort in getting the student to do this accurately parlays into much more precise thinking on the student's part later in the semester.

Fortunately, the Hostos WI Taskforce has provided us with opportunities to survey the students at the end of both semesters that I have taught the WI Bio 310 course The Hostos WI Taskforce was willing to share the results with me both semesters and I have compiled the results. The surveys are not specifically asking about this particular "staged" assignment but do ask about the value of both the low stakes and high stakes assignments along with the value that students derived from being able to revise their assignments (this triple entry journal / summary assignment is one of the few assignments where the student has the opportunity to revise).

FEEDBACK FROM SPRING SEMESTER 2008:

Almost all students (24 of the 26) reported that they felt their writing improved in some fashion - by virtue of both the informal and formal assignments and that the revision process contributed to this improvement. One of the few who did not feel so had self-reported as having a learning disability (but did note that the graded assignments helped him or her "formulate ideas" and the students "had to go deeper.") Consistent with this, the student felt that the informal non-graded writing allowed him or her "to learn more about the course." A second person seemed to be under the misimpression that the writing instruction was for helping with the student's grammar as opposed to helping the student learn the information (see below) and also reported there was improvement in using specific details / examples, understanding the assignment, and deciding what to include.

Some of the comments from the spring 2008 semester that suggested we were achieving the goals of "writing to learn" were:

"Because writing about certain topics help me understand better what was taught in class."

(The informal assignment)..."help me to have a base to do my formal assignments."

"It helped me understand the class material."

"The subject is too heavy. You find yourself more concerned with the information than grammar."

"The more you write, the better you become / practice makes perfect."

"To write about it you have to understand the material."

"I received constructional criticism that helped me get on the right track."

"The information expounded on things I had heard about before but was unclear."

"Because the assignments make students familiar with the type of microorganisms and the disease in a more practical way."

FEEDBACK FROM FALL SEMESTER 2008:

A majority of the students (13 of the 19 respondents total) felt that the writing instruction benefited them overall. A couple of students were somewhat neutral and five of students felt the instruction did not help; however, one of these negative students did say that he or she would recommend a friend to take the course. It is interesting to note that the students who tended to have negative views regarding the value of the instruction (three students) were the least prepared to take the course with respect to their English course background (either taking Eng 111 at the same time or claimed to only have taken Eng 110 and not taking Eng 111 concurrent with the Bio 310 as they were supposed to). They felt the course was overwhelming for them because its format detracted from their learning the microbiology material. The student who was most consistently negative in feedback (among the five who were felt that their writing did not benefit from the course) did at least report that the course helped in developing his or her paraphrasing skills and in helping him or her to learn how to incorporate quotes from the readings. This student did not report taking any English courses at Hostos and reported only taking 12 credit hours at Hostos. Since some students have college degrees from elsewhere and may only take a few science courses here, it is very possible that this person does not really have the appropriate writing skills background and we

can not control for this possible lack in regard to his or her educational preparation to take this course.

Some of the comments from the fall 2008 semester that suggested we were achieving the goals of "writing to learn" were:

"The course so far has forced me to widen my vocabulary especially in my day to day conversation. I actually found myself thinking more and wanting to figure out more class material on my own, and overall, though this course is a challenge, I'm enjoying it and look forward to finishing strong."

"This WI course help me grasp & understand the material better."

"This course helped my understanding on the topics & concepts of this course."

Based on the feedback of the students and my own observations, I feel that the WI microbiology course is achieving its aim to help students to write more effectively by becoming more "substantive" writers and learn the subject of microbiology as a result. A significant contribution to the students' improvement is due to their participating sincerely in this "staged" assignment. It has been successful with this particular New York Times article, but I believe this strategy can be adapted to any number of writings with the appropriate complexity in other courses. As an added benefit, this exercise appears to give students a better understanding as to how to do citations and makes the students more tractable when pressed to include citations in their term paper (research) assignments.

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GENERAL EDUCATION INQUIRY GROUPS: THE STORY OF A PEDAGOGICAL CONVERSATION

Gina Cicco

INTRODUCTION

In September of 2007, I was asked to serve as leader of the Education Department's Inquiry Group at Hostos Community College. At the time, the General Education initiative to form inquiry groups across all academic departments was fairly new. The first goal for our department was to define "inquiry group" and to establish a precise purpose for our group. My interest in quantitative assessment seemed to lend itself to the ongoing development of our inquiry agenda. However, as this article will describe, our group evolved to a point where implementing a more qualitative approach of co-operative reflection and analysis occurred. The group also traveled through the various stages of group development, from initial to working stages.[1]

WHAT ARE INQUIRY GROUPS?

A review of the literature on the use of the inquiry method for assessment and evaluation provided evidence of success for professionals across academic disciplines who sought to reflect on and improve their pedagogical practices.[2] Marilyn Parker, Charlotte Barry, and Beth King describe the inquiry group as an "in-depth, open-ended group discussion of one to two hours' duration that explores a specific set of issues on a predefined and limited topic with five to eight participants and is convened under the guidance of a facilitator."[3] Cassandra Drennon views inquiry groups as learning communities at which practitioners collaborate on conducting systematic inquiries into practice-based problems.[4] The inquiry group discussion forum may be useful for participants in navigating the workplace and resolving everyday difficulties in a fast-paced academic environment.[5] Other benefits of inquiry groups include sustaining educational reforms, developing critical colleagueship, and facilitating teacher learning.[6] John Bray asserts, however, that authentic participation in inquiry groups is contingent upon voluntary acceptance of an open invitation.[7] This information was helpful in creating the appropriate atmosphere for our group.

OUR PROCESS

The Education Department's Inquiry Group at Hostos began with five faculty participants. Invitations were delivered to all department faculty members informally at a department meeting and then in various email messages. Although only five faculty responded to the invitation, they were eager and enthusiastic to join in what seemed to be an interesting and engaging process. These five faculty eventually became the core of the group, present at almost all the monthly meetings, which have continued to be held in the 2008-2009 academic year, totaling over a dozen meetings so far.

The first task for the group was to define its purpose. It became immediately clear that the group was interested in assessing the levels at which students were required to use and develop critical-thinking skills in instructor-generated assignments and classroom lessons. The product of this goal was the development of a critical-thinking rubric, based on Bloom's Taxonomy, which aimed to measure the level of higher-order thinking skills required in various course assignments.[8] This rubric was used by the group members and the department at large and presented at the General Education Conference at Baruch College in May of 2008.

Although the group focused primarily on quantitative assessment, much of our regular meeting time involved discussion, collaboration, and qualitative self-assessment. Pedagogical strategies were often the topic of conversation, along with the joys and frustrations of daily life as a faculty member. The monthly meetings were limited to one hour in duration, and offered coffee, tea, and cookies in a relaxed, informal environment. As time progressed, more and more faculty became active in the inquiry process because the word had spread about how engaging, informative, and enjoyable the meetings were. In fact, the most recent meeting received ten participants, doubling the original five.

As the fall 2008 semester began, the Inquiry Group was again faced with delineating its purpose. The faculty participants unanimously suggested that the group continue on its course as an informal and ongoing conversation for assessing and improving pedagogical practices, perhaps by incorporating differentiated instructional methods. The rubric and quantitative analyses were still useful, but qualitative self-assessment became the group's preference because it seemed to be the most feasible form of assessment for many group members, contrary to my preference for analysis quantitative data. Furthermore, the group decided to extend the discussion about inquiry to students, to encourage their participation in our discussion. Faculty created and incorporated student feedback forms to determine whether or not particular instructional strategies were deemed effective by students across courses. Lastly, the group decided to further its mission to benefit the community. Again inspired by the higher-order thinking model of Bloom's Taxonomy, it seemed clear that students could better develop their skills by putting learning into action in real-life settings.[9] This call for community service will lead course assessment in a new direction, to determine the extent to which assignments involve application of learning.

RESULTS

The evolution of our inquiry group proved to mimic the model by Mash and Meulenberg-Buskens.[10] Their model for the inquiry group cycle involved planning for the purpose of inquiry, action or enacting the stated plan, observing experiences, and reflecting on experiences.[11] Perhaps the most crucial part of this cycle for the Education

Department was continuous reflection and discussion of experiences. The reframing of questions and analyses voiced by inquiry group participants led the way for starting new cycles, new agendas, new questions, and at the same time strengthening collaboration and communication across the department. Faculty members became engaged in deeper conversations about syllabi, analyzing student feedback on pedagogical practices, and revisiting instructional practices such as lesson planning. Interdisciplinary collaboration also resulted from the inquiry, as the Education and Business departments' inquiry groups met to discuss mutual pedagogical questions and concerns on measuring students' higher-order thinking skills in oral and written assignments. Further collaboration involved the work of faculty members from Education, Humanities, and Natural Sciences departments on pedagogy-based proposals that analyze the learning process through multimedia and technology tools, as was discussed by Joan Hughes and Ann Ooms.[12] Mash and Meulenberg-Buskens express the importance of repeating the inquiry cycle many times before arriving at conclusions[13]. The interest and willingness of our faculty to continue discussion and assessment will certainly allow for us to repeat this cycle of inquiry as a tool for constant reflection, evaluation, and improvement of practice. Faculty members in the Education Department continue to express the desire to participate in the exciting conversation of our inquiry group. The group has become just that, an ongoing discussion, a place to express pedagogical preferences, to obtain suggestions for course development, revision, and assessment, and to converse with colleagues about meaningful professional concerns.

CONCLUSION

It has been a wonderful experience working with colleagues both within my department and across disciplines in re-examining, revising, and ultimately improving pedagogical practices. As a result of these working relationships, understanding among colleagues has become stronger and there now exists a comfortable college-wide forum for generating and exchanging ideas. The goals from month to month may seem to change, but they essentially involve what has been called a redefinition of action research in changing and perfecting instructional practices.[14] The Education Department's Inquiry Group stands committed to encouraging and supporting this ongoing conversation.

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12. Hughes and Ooms.

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14. Mash and Meulenberg-Buskens.

WHAT IS CHEATING ABOUT?

Nelson Núñez-Rodríguez

The immediate internet access in student hands by use of mobile devices generating an exponential increase of the access to the information, and the demand of new skills by the volatile job market challenge us to understand the boundaries of what students have to learn. What is learning and how do they learn? What is cheating? Usually, the words exam and cheating provoke a tapestry of reactions in our faculty and student community. We recognize the constant need of revising our teaching methods, as the professional job market demands new capabilities. Is our perception about cheating and learning also evolving to be attuned with the modern world?

The fall 2008 chemistry 210 was an example of this need of evolution. Can we harmonize the dilemma between the increasing demand of our science courses implemented to fulfill the dual program agreement with senior colleges, and our students' plethora of academic and social difficulties? The midterm is a critical time point in this Chemistry course. At this time, the overwhelming pressure of deadlines, assignments and homework invaded the classroom; the syllabus completion seemed unreachable. The two first partial exams were a disaster considering the students' talent and effort. Did I have to keep running to complete the syllabus? Did I have to schedule more exams? The formative assessment was demanding an urgent and creative solution before Fs and Ds would pile up in the roster.

With my ultimate goal in mind, improving the learning process of my students; I focused on engaging them from another perspective. If students have to play a larger role in their educational process, they might as well help assessing it. If we are fostering freethinking behind each human being, we might as well nurture a free environment in the classroom by giving the students some power. I decided to plan with them how to solve the critical situation of their Chemistry course by involving them in the decision making process of their own learning assessment.

Are we willing to engage our students in the discussion of syllabus policies? Are we prepared to accept their suggestions if the natural evolution of the course demands it? As a result of my dialogue with the whole class, I devised a different assessment

strategy for each of the subsequent chapters covering Gases, Thermochemistry, Quantum Theory, The Periodic Table and Solutions. All students had to demonstrate the material learning by four different, ways instead of the only traditional face-to-face exam. It also intended to ameliorate the "crime and punishment atmosphere" surrounding the science exams that ultimately does not necessary validate different ways of learning. As a consequence of this assessment strategy, all students took:

- a face-to-face exam
- a take-home exam—received 6 days before the former in order to engage them into the chapter assessment for several days. It was due two days before the face-to-face exam. It contained a strictly deadline police because the answers of this take-home exam were posted in the Blackboard after the deadline; consequently, students can revise themselves immediately after they handed this exam, and before they take the face-to-face-exam
- an online non-graded exam for practice—available several days before the face-to-face exam and with unlimited access. It was intended to familiarize students with the online environment, plus to give more opportunities to solve problems.
- an online timed exam—accessible only once in the 12 hours before the face-to-face test and 12 hours after it. For the last chapter, there was an online exam only.

This new evaluation process with several exams spontaneously triggered a student network of learning. They began to study together. They invaded my office trying to find answers before the face-to-face exams. Were the students empowered by the "the adrenaline of sharing the exam questions"? Did that power foster the learning process? This multiple assessment strategy connected the students bringing the otherwise isolated learning process into the center of the pedagogical process.

The grade average for the students taking the four written exams, showed improvement after the practical, online and the take-home exams were embedded in the course (Table 1). The significant correlation (94%) between the grades obtained in the online and face-to-face exams during examination period IV shows how the online exam ultimately showed each individual performance in the learning process. During examination period III, there was no significant correlation mainly because of the multiple difficulties associated with the online experience such as student lack of computer skills and the use of the Blackboard. The higher online exam averages may be attributed to the less stress associated to this approach since students can use books and their materials to address it and/or the impact of the student "potential collaboration" on this exam type. The varying content of each exam might be another variable impacting the grade. Each evaluated chapter present different challenges for the students. Some chapters require more abstract reasoning skills; other ones require more problem solving skill and mathematic background. Taking into consideration our students' preparation, we believe all chapters have a similar and high level of difficulty for them.

Table 1: Face-to-face exams were only scheduled during the first two periods of examinations. A set of four exams (face-to-face, take-home, non-graded practical online exam, and online exam) was scheduled during the third and fourth examination periods. An online exam was scheduled during the fifth examination period.

	Face-to-Face exam Average (%)	Online Exam (%)
Examination Period I	68.7	-
Examination Period II	62.4	-
Examination Period III	73.0	78.4
Examination Period IV	75.5	82.2
Examination Period V	-	80.5

The chemistry course grade policy includes credit of 10% for the homework; nevertheless, ongoing faculty conversations in the unit about this issue show that this process is not really nurturing the learning process. It is not possible to revise 30 problems for each student from a 25-30-student group and give clear recommendations before each of the four partial exams. This process, indeed, nourishes a passive mode of learning behavior. I believe the online discussion board, the self and peer-assessment tool available in the Blackboard 8, and the online exams will give avenues to foster problem-solving skills engaging students in an active learning process. I am revising this grade policy by giving more weight to those activities that promote active learning instead of those nourishing isolated learning processes or generating copy-paste homework mechanisms. Are we willing to give importance to the learning process by including it as part of the grade and to assess its deep nature?

The online assignments can be a way to address this issue. In this experience, the one-time-access and time restricted online exams were randomly crafted from different test banks. This process also brought a fast way of assessing skills because each test bank contained questions and problems addressing specific skills. It simultaneously used the multimedia language that students use currently to communicate; moreover; the multiple access, non-graded practice exams spontaneously nurtured a student-learning networking. In this regard, the submitted COBI project: "iChemistry: Let's assess student learning" (Prof. N Nunez-Rodriguez and Prof. G. Cicco) is intended to address this goal. This project will evaluate the critical thinking and problem solving skills in science students who will use a discussion board to post exam questions and develop chemistry problems. They will have to explain why the question should be in the exam. Other students can agree or disagree explaining their viewpoints. The problem solving online forum is intended to expose students' and instructor different problem solving strategies. The instructor will participate as another student in this forum and the students participate as instructor suggesting exam questions in the discussion board. Students' participation and accuracy will contribute to their grades. These online venues will contribute to unravel the deep nature of chemistry learning; furthermore, this role exchange will also help to reconcile the intrinsic contradiction between students and the teachers because both will be simultaneously learners and instructors; avoiding the students' position as oppressed (Freire 72). These non-traditional ways of assessment, including the online exam, acknowledge different ways of learning, as well.

The online exams, by itself, present a number of important benefits. These include quicker and more accurate grading, more time to spend in covering important topics during class, and faster feedback for the students (Epilon 2). Even though

some concerns about "online dishonesty" may arise, I believe it is better to creatively implement ways of avoiding student collaboration on the online exams (McKenzie; McMurtry 37) such as the use of passwords, limiting time access, etc, than eliminating the use of these tools altogether. Do I have to use the cheating word to define the procedure they used to grasp the material? Some institutions do not use the word "cheating". It is such a charged word and can be difficult to prove. Instead, they create clear online exam policies and, eventually, try to document the fact that the exam rules have been violated (Epilon 2). In this regard, there are only a few empirical studies of cheating in online classes (McMurtry 37); however, data from two undergraduate classes in principles of economics at a single institution suggest that online exams administered in a proctored environment might equalize the incidence of academic dishonesty between online courses and face-to-face courses (Harmon 123).

The implementation of the online exams, originally intended as an emergency strategy in the middle of the semester crisis, taught me an even more valuable lesson. First, It reinforced the idea that student interpersonal relationships can reinforce motivation, and ultimately facilitate the learning process (Anderman 118). This different exam approach opened a spontaneous network of communication, understanding and learning where students freely found their own way to grasp the content of the course. This strategy is also a valid tool for facing the future larger enrollment and the constricted classroom availability, and eventually, to shed light on the crucial issue how the increasing enrollment can be switched into larger retention, larger graduation and ultimately, better-prepared professionals. The recognition and the approval of students' own ways of learning show another pathway for nurturing student spiritual and professional horizons. If not, what is learning about?

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PROMOTING THE USE OF THE FLOW CHART IN CHEMISTRY

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The student approach to the science courses at Hostos Community College shows a similar profile to what is going on nationwide. Inadequate background and lack of motivation are the most common problems found among our students, problems that make them fearful and insecure when approaching the subject matter (Zumdahl A266). These could be some of the reasons why the students do not consider science careers as professional options despite the great demand in the United States for potential scientists (AACU 9; Mervis, "NIH Told" 328; Mervis, "NIH Wants" 1119; Rochin and Mello 307). Most of the liberal arts students just take science courses because they are a requirement for earning a college degree. The hands-on experiences in these laboratory courses are scenarios where all these difficulties occur. The students do not read the experimental procedures and in some cases, even when they read them, they are not prepared to understand these procedures. In addition, the technical language of the laboratory manual makes it more complicated to comprehend the laboratory activities. All these difficulties come together at the beginning of each session. The instructor must spend too much time, about 25% of the class time, explaining the procedure and some specific techniques to be used during the laboratory session; therefore, the time to make predictions, carry out the experiments, and wrap up the procedures, which have been designed to foster the art of inquiry, problem solving and analytical skills is frequently insufficient.

Trying to overcome this problem, and to develop skills associated with the art of inquiry, analysis, reasoning, and problem solving, the flow chart methodology was introduced as a laboratory requirement at the beginning of each General Chemistry I laboratory (CHE 210 lab) in fall semester 2008. It was intended not only to help students to summarize, and understand the information, but also to minimize the laboratory procedure time. Students had to use it in order to avoid continuous book consultations and a loss of concentration and, thereby, save time. As was expected, this new "requirement" for them naturally triggered reluctance and complaints. Nevertheless, they rapidly came to understand the advantages of making the flow chart prior to their

arrival at the laboratory. The students realized that it was not only useful for studying and saving time, but it was also helpful to both facilitate their understanding of the experiment and the decision-making process itself. Some students, working in pairs, immediately began to complain when their partners did not bring the flow chart because they realized that it delayed the experimental procedure. Even more surprising was the fact that by the end of the semester some students started to ask questions about the lab before they went to it, just based on the critical process triggered by the construction of the flow chart. Such questions as "Why do we have to add this reagent in this sequence?", "Why is this color developed?", "Why is this bubbling produced?", "Why do we need to develop color?" became natural parts of the inquiry process. The students themselves were aware of the benefits of the flow chart because at the end of the semester they saw how it had changed their attitude towards the lab. Some of them commented that at the beginning of the semester they found the lab like "Another Chemistry lab, what a nightmare!" They also admitted that they were less afraid to make mistakes, which is an important ingredient in the learning process.

STUDENTS' EXPERIENCES

Based on the student feedback received during the course, the students were overall very satisfied with the flow chart strategy. Most of them, about 90%, converged on the idea that the flow chart allowed them to be better prepared for the lab, to better understand the procedure, to save time in the lab, and to work more quickly and productively because it demanded that they study the experiment before they came to the lab. Others mentioned that the flow chart helped them to achieve their learning goals. Some realized the fact that the flow chart is a good solution to the experimental work because it makes it easier to undertake such experimental work without going back and forth and re-reading the long lab procedure paragraphs, a time-consuming procedure, to be sure. Eight students pointed out that the flow chart helped them not only with the chemistry lab, but also with other classes. Some of the students' comments were:

"...the flow chart definitely helped me top work fast and clearer in the lab because it demands to study the lab before I came to the lab. Keep going with this technique..."

"...I think that the flow chart helps because in the beginning of the class I and my partner used to do bad because we were not prepared but after we started doing the flow chart we knew what we had to do and therefore were prepared for class..."

"...when the professor asked the class to do a flow chart before the class, I didn't know how to do it. Therefore, I have learned throughout. It was extremely helpful and interesting. It has helped with other classes also..."

On the whole, students found this experience a positive one where the flow chart helped make their work more organized, easier to understand the procedure and to know what they had to do, to proceed more quickly and finish on time. Three students suggested that we include this activity as a mandatory one in the course syllabus at the beginning of the semester and acknowledge their understanding of it by giving them some credit toward the final lab grade. This way the students would likely be more motivated. Regarding this point, some of the students' comments were:

"...I do think that the flow chart is really helpful. Keep on encouraging the students to do it and consider to ask for it as an obligation because when we talk about flow chart, we talk about a more professional way and this is college, students have to learn and practice how to be professional..."

"....regarding the flow chart I think you should assign it as mandatory since the beginning of the semester. Students usually do not do anything if don't have to. An advice is to give some credit for doing the flow chart, it always works..."

STUDENTS' PROGRESS

At the beginning of the course, obviously, the students did not know how to make the flow chart, but by the middle of the course most of them, about 75% of the class, had learned how to do it. In order to quantify how well the students had learned how to prepare their experiments, during the last four labs the flow charts were collected and graded by the instructor. For the first one collected, only about 15% of the students obtained an A grade, 70% received a B grade and the remaining 15% received a C grade. By the end of the four labs collected, almost all the students obtained A and B+ grades. The most significant fact was that 90% of the students obtained an A grade in the flow chart question of the final lab exam which demonstrated that most of them had acquired the skills to prepare the flow chart and to understand the way experiments should be performed.

The flow chart technique has been extensively used by chemists, mathematics, biologists engineering in different ways. That it helped students to develop a new way of reasoning using algorithms is clear because from on-going discussions with them regarding the advantages of the flow chart procedure it was apparent that students realized how these methodological skills can be used beyond the lab duties. For example, in the last lab of the course, the efficient use of the flow chart gave time to both apply and understand a mathematical technique called Least-Square Analysis, which fits experimental outcomes to a straight line in order to find unknown quantities (Nelson and Kemp A12). Computational programs to do this analysis in order to improve these statistical experiments analysis were used as well. It was very surprising that about 60% of the class, even when it was not mandatory, prepared their lab reports by drawing on this analysis. This shows not only how the use of the flow chart and the math in the lab became more accessible to most of the students, but also how a different way of reasoning, synthesis and analysis could guide the students to build useful knowledge skills and allow them to go further in their active learning process.

In the spring 2009 term we hope to assess the use of the flow chart experience in the learning process of the General Chemistry II students (CHE 220 course). This class will be formed by students who have used the flow chart technique in CHE 210 and for those who have not used it yet. After running this experiment for two semesters, we will be able to see how these two different groups of students with dissimilar backgrounds in the use of the flow chart will develop their lab skills. We will also have a better idea about how effective the use of this technique could be in improving the performance of our students in the laboratory and in their learning process in general.

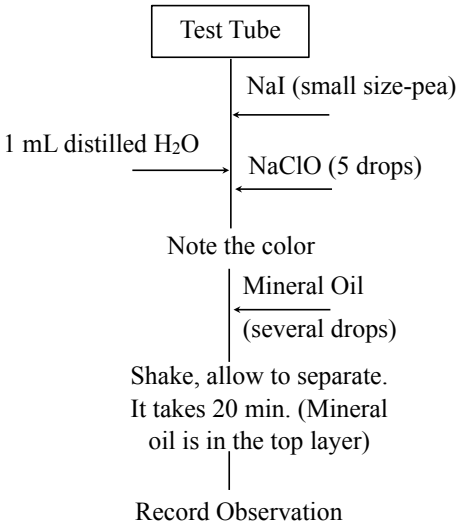
FUTURE DIRECTIONS

In the future, depending on what we learn from the experiment to be conducted in spring 2009, we are planning to include the flow chart in the syllabus as a requirement in order to encourage the students to be prepared before the lab starts. Clear rubrics will be provided for them, so they can become familiar with the flow chart preparation at the beginning of the course. We believe that this strategy, which was suggested by some students (Figure 1), will help foster students' problem-solving skills by improving their ability to interpret scientific observations, analyze relevant aspects of the experiments they have to carry out, and delineate conclusions. A long-term goal will be to prepare a final lab exam asking the students to use the flow chart strategy by synthesizing the results of different experiments where they would have to make a hypothesis, predict and propose possible techniques in order to solve specific problems.

FLOW CHART EXAMPLE PROCEDURE

Use of aqueous (aq) chlorine (Cl2(aq)) to identify iodide salts

In a small test tube, dissolve a small amount (about the size of a pea) of sodium iodide, NaI, in 1 mL of distilled water; add 5 drops of bleach. Note the color, then add several drops of mineral oil, shake, and allow to separate, which takes about 20 sec. Note that the mineral oil is the top layer. Record your observations on the report sheet.



We think that this strategy should be able to inspire students to have scientific curiosity and give them opportunities to develop the expected hands-on and experimental design experience and the statistical and computational skills as well. It is important to point out that this flow chart initiative is just part of the current curriculum innovation and revision strategies in the chemistry courses. At present, many faculty members in the Physical Sciences Unit of the Natural Sciences Department are revisiting the teaching and learning methods in chemistry by considering our students' weaknesses and strengths in order to make this pedagogical process more "inviting" to the students in light of the growing demand for scientists in our world today.

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WIKIS, GROUP PROJECTS, AND COOPERATIVE LEARNING

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WIKIS, GROUP PROJECTS, AND COOPERATIVE LEARNING

Teamwork is essential for success in the workplace. Requiring students, therefore, to work in groups on course-related projects not only helps students learn the subject matter, but also helps them practice the language and social skills needed to complete a project task successfully. Group work, which asks students to produce a jointly created document or artifact, is the venue for cooperative learning. As Kaufman, Felder, and Fuller explain, "Cooperative learning (CL) is an instructional paradigm in which teams of students work on structured tasks" (1). Johnson, Johnson and Holubec have outlined five essential components, which make group work cooperative: a) positive interdependence, b) face-to-face interaction, c) individual and group accountability, d) interpersonal and small group skills, and e) group processing. Numerous empirical studies have shown that cooperation leads to higher achievement and greater productivity, more positive relationships, and stronger psychological health (Johnson, Johnson, & Smith).

Knowing, then, that students benefit academically from working collaboratively on projects, how can instructors facilitate group work? The purpose of this paper is to show how an online tool, namely wikis, can foster equitable interaction and collaboration among team members to produce a coherent group project. Our paper will describe the process of integrating wikis into an existing content-based ESL course, which among various other assignments requires students in groups to complete a comprehensive multi-task project on Thomas Jefferson. This paper is a reflective account of classroom practices based on informal observation.

WHAT IS A WIKI?

A wiki is an online space that allows multiple users to create and edit a single, shared document from any place and at any time. In 2001, wikis grew popular with the creation of Wikipedia, a web-based encyclopedia that was created with the intention of being open to anyone to edit and add entries. According to Phillipson, "wikis drive

collaboration, the promote community, they spur interactivity, they spawn archives" (19). The term wiki is Hawaiian for quick, reflecting clearly the purpose of a wiki to rapidly create content.

Although wikis and blogs both facilitate group collaboration, wikis are different from blogs in a number of ways. Wikis incorporate many authors' work on a single document or group of documents, whereas blogs typically consist of a collection of posts that are usually displayed in chronological order, much like diary entries are recorded day after day. Each blog post is usually one person's opinion or voice on a single topic. One person, in other words, creates a blog, while many people create a wiki document. A text developed by means of a wiki grows quickly and continuously because contributors are constantly changing, updating, and adding content to the text. A blog beyond the initial text develops more slowly by people posting one by one their comments, often monitored by an individual blogger.

WHAT IS THE JEFFERSON PROJECT?

The Jefferson Project—developed by Lew Levine, director of the Hostos Intensive ESL Program, for ESL 084/088—is a major assignment within a much larger unit on personal, political, and civic freedom. Because the project requires students to complete various tasks, one student alone cannot easily complete the project by him- or herself. Students in groups of three or four do the following five tasks over a two-week period: a) students rewrite The Declaration of Independence in their own words and in a way that a 12-year old child can understand the concepts in the text, b) students write a biography of Thomas Jefferson by answering questions based on a movie they watch of Jefferson's life, c) students summarize and compare two critical essays written by two well-regarded historians on Jefferson, d) students summarize and compare two critical essays on the founding fathers written by two other leading historians, and e) students summarize and react to an essay by a fifth scholar, Pauline Maier. The final paper for the project must also include an introduction and conclusion.

As one can readily appreciate, The Jefferson Project is quite complex and time-consuming. It requires that students meet often and for extended periods of time to carry it out. Time and convenience, as we all know, are at a premium for students who come from the tri-state area to attend classes at Hostos. In addition, many students have jobs and family commitments, thus, limiting their availability for getting together to work on course projects. In a broader perspective, these are common factors at any educational institution in large metropolitan areas. In an effort, therefore, to reduce the constraints of group work, wikis were created to provide students with an online space, which they could access at any time and from any place to work on their projects outside of class time.

HOW WERE WIKIS PRESENTED TO THE CLASS?

A wiki is just one of many collaborative online tools available for instruction through Blackboard, a web-based course management system. However, before presenting wikis to the class, Blackboard first needed to be introduced. Anecdotally, most of the ESL students taking the Blackboard workshop provided by the Office of Instructional Technology (OIT) said that they did not know what Blackboard was or how Blackboard supplemented a face-to-face course. Blackboard is an online support system for all courses, not solely for hybrid or asynchronous courses. Since learning

about Blackboard, students have frequently accessed it for class texts, assignments, and library resources.

As The Jefferson Project approached, a second workshop was planned with the cooperation of OIT to introduce students specifically to wikis. Students were divided into groups, and each group was given their own wiki site in which to do their project. Instructions and Library research resources relevant to the project were provided in every group wiki as a guide. A third workshop was arranged for the students to have access to OIT consultants and Hostos librarian as they completed their projects. Students were directed to consolidate all work into a single site in preparation for their final project draft.

WHAT ARE SOME USEFUL FEATURES AVAILABLE THROUGH WIKI?

Wikis provide three useful features—Editing, Comments Box, and History—for instructors to give input on student work and monitor participation on projects. Like students, instructors can access student work at any time and place through the Internet to provide feedback on content and language. Because the Editing feature on wikis is similar to Revising features found on word-processing programs, instructors can add, subtract, and highlight content and grammatical items for students to revise and edit in their work. Group members can then work on making the changes collaboratively; that is, each person can fix what he or she is capable of fixing. A great advantage is that all changes to the text are saved in case team members or the instructor need to consult texts previously revised and edited.

Comments can be written to the groups in the Comments Box at the end of each text, much like comments instructors include at the end of student papers to direct students' attention to areas or items that need further work as well as praise students on work well done. Words of support come not only from the instructor, but also from team members and classmates, who can encourage their classmates throughout the project process by also writing comments in the Comments Box. On Blackboard, instructors have the flexibility to set the permission settings on the wikis they create. Instructors, in other words, establish beforehand exactly who can read, add comments, and/or edit the texts. In our case, each student in the class could see the wikis that the other groups created; and, because these wikis were viewable by every student, each group's work acted as a model for the project tasks. Groups that were struggling were able to consult their classmates' wikis to better understand the assignment, the content, and the language to be used in doing the project. For instance, students seeing other groups include pictures in their projects also included pictures and visual aids to enhance their work.

The History feature provides valuable information for not only tracking group progress, but also identifying which students are and are not contributing to the project. Discrete friendly reminders to those students who are not contributing as well as to those who are taking over the project help make group participation more equitable and satisfying for the students. The History feature, moreover, saves all revisions made to texts, so nothing is lost when changes are made to the text. In short, one of the capabilities in the learning environment is the continual assessment of student work; and, although wikis were not created with that setting or function in mind, wikis incorporate assessment of student progress as well as team performance. Wikis, follow-

ing a cooperative approach, allow for all participants, instructor and students alike, to examine at any point how group work is moving forward toward completion.

WHAT ARE SOME OTHER WAYS TO EXTEND WIKIS?

In answer to students having said that wikis were effective for doing the project itself, but not for presenting it, Power Point presentations and Podcasts have been considered as alternative ways for students to present their work. Recent presentations of The Jefferson Project were podcast and made available online (on the class Backboard site). Students are able to see their project texts and hear their voices (i.e., a sort of voice-over) explaining the various elements of the project that they created. So, the final product/artifact to be viewed online is text that they wrote and revised, images that they selected to accompany the texts, and a voice-over presentation of their work.

The pedagogical point for recording presentations is to allow students to listen not only to the content delivered, but also to their oral delivery. The goal here is to incorporate software that will allow students to edit their oral presentations. This student-directed, editing feature helps students identify areas of their oral production to modify, which might extend to their written work. Audacity is a free downloadable audio-editor software that allows students to edit their pronunciation and revise their intonation, so that they can hear differences between texts. This technology acts as an explicit monitoring device that could possibly become an automatic and internalized skill in students' oral and written production.

To conclude this paper on how wikis can facilitate group projects, Johnson, Johnson, and Smith (1998), as stated earlier, propose that cooperative learning is predicated on satisfying five criteria. To that end, using wikis encourages positive interdependence among group members while holding individual group members accountable for contributing to the text. Although online interaction is not literally face-to-face, it still involves authentic communication between participants. Wikis make use of collaborative skills and promote continual assessment of team functioning. While the conclusions drawn here are impressionistic, and merit empirical research, some positive outcomes when using wikis to work on group projects have been increased involvement and more equitable participation; and, this in turn has led to higher student satisfaction with the learning experience, resulting in improved collective and individual self-esteem. Working cooperatively on group projects using wikis, a collaborative online environment, develops skills that will help students succeed not only academically, but also professionally.

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THE IMPORTANCE OF TEACHING GLOBALIZATION CONCEPTS IN BUSINESS EDUCATION AND ACROSS GENERAL EDUCATION THROUGH CURRICULUM IMPLEMENTATION METHODS

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Each day the impact of the global economy is evident around the world and in our communities through the business transactions that are made among people from different countries with diverse cultures and varied religious beliefs. The need for international business education is therefore apparent in the products purchased by Americans, in the companies where people work, and in the cross-cultural interactions that normally takes place. Because this economic interdependence is so important to the business world, all students must be prepared to live and work in a system that facilitates global business activities.[1] This reality is reflected all the more in the growing importance of business education.

THE GROWING IMPORTANCE OF BUSINESS EDUCATION

With its emphasis on both a strong general education (GenEd) and career foundation and real-world learning experiences, business education is uniquely suited to providing the new basic and employability skills that are critical to the success of all students, regardless of their major, in today's highly competitive global workplace not just planning a career in business.[2] These new employability skills encompass critical thinking skills, written and oral communications, computational and technological skills, honesty, integrity, teamwork, and interpersonal skills.

Today business educators are taking the lead in integrating new business practices, trends, and educational technologies into the classroom; for example QuickBooks and Peachtree for Computerized Accounting and web-related course sites that enhance critical thinking skills and student learning. To help business educators meet these challenges, the National Business Education Association (NBEA) has updated the National Standards for Business Education[3] to serve as a guide for constructing curriculum, designing lesson plans, and evaluating students.

THE SIGNIFICANCE OF INTERNATIONAL BUSINESS EDUCATION

The need to include international business in the business education curriculum is increasingly finding its way into the professional literature,[4] and international business courses are being designed to respond to the exigencies of the global marketplace.

Furthermore, international business courses are essential in preparing students for future success in our global economy. Courses in international business frequently include the following topics and concepts:

- Foundations of International Business
- Global Business Environment
- International Business Communication and Culture
- Global Business Ethics & Social Responsibility
- International Trade Foundations
- Organizational Structures
- International Trade Relations
- International Management
- International Marketing
- International Economics
- International Accounting and Finance
- International Law and the Political and Legal Environment
- International Human Resource Management

Combining these curricular areas in teaching international business at the undergraduate level is further supported by the accreditation standards used to assess college business programs. The standards published by the Association to Advance Collegiate Schools of Business (AACSB) indicate that "every graduate should be prepared to pursue a business or management career in a global context."[5]

As business relationships and global competition increase within the global marketplace and among international business partners, businesses seek employees who have an understanding of international concepts previously listed at all levels of the organization.[6] An International Business course provides students a basic understanding of international business concepts that employers seek. No coincidence, therefore, that Policy Statement 83[7] notes a call for action by business educators to assist learners and future employees to acquire the knowledge, skills, abilities, and attitudes necessary to function successfully in the global business and economic environment.

Graduates therefore must have an assured level of competence concerning international business and who have the ability to relate to other cultures in different parts of the globe.[8] They need to understand differences in time zones and the impact on business functions, understand global currencies and fluctuations in such currencies, and global measurement systems. They need to be ready to work in and accept responsibility in a global economy, to be able to communicate across cultures, and have a firm foundation in workplace diversity.

Students must continually be made aware of the trends and processes that characterize international business. Increased interconnectivity of cultures and countries requires that business students acquire or gain a worldwide perspective and be prepared to be flexible and adaptable in the cross-cultural setting they will in due course encounter.[9] This will become more critical and demanding as international business continues to expand and the global marketplace becomes even more seamless and challenging due to pressures created by global economic fluctuations.

Business educators need to impart to students the skills for lifelong employability in a rapidly changing and dynamic global market.[10] To accomplish this, business

educators are beginning to infuse international business concepts into all areas across the curriculum and at all levels of education, including general education. At the same time, the business curriculum is becoming more comprehensive and specialized, and international business courses are being offered at both the two-year and four-year college levels, and it is primarily through two methods – infusion and creation – that such curricular development is being accomplished.

At the two-year or four-year college level, basic international business concepts such as trade organizations, economic communities, international marketing and management, are often integrated as instructional units into other courses such as introduction to business, management, marketing, and business communication.[11] In most postsecondary programs, however, a one-semester course in international business is often offered and may also include a comprehensive international business program with specialized international business courses.

CURRICULUM IMPLEMENTATION METHODS

Infusion introduces and integrates international business terminology and concepts as instructional units and standards into existing courses. Creation develops a standalone International Business course. As discussed below, either method helps students develop a greater understanding of international business concepts, thereby facilitating greater understanding of the process of globalization and a worldwide perspective of the global marketplace.

INFUSION METHOD

By far the simplest form of incorporating international business terminology and concepts into the curriculum is by using the infusion method. This method focuses on integrating primary international business concepts into the existing business curriculum. Infusion is best suited for programs that are unable to expand and create a standalone International Business course.

Infusion allows educators to use international business concepts when and where they feel it is necessary. Many business educators offer that in order for business students to be globally aware and best prepared for the future workplace, international topics must be integrated into the business curriculum, for example, business ethics and social responsibility, and international business communication and culture.[12]

The infusion method is best exemplified in the Introduction to Business (BUS 100) course at Hostos Community College. The course textbook includes a chapter devoted to fundamental concepts in international business. Instructors regularly select relevant and current supplementary material from periodical literature and infuse into the international business lecture and subsequent class discussions. The same process of infusion of takes place in other courses, among them Accounting, Marketing, E-Commerce, Business Ethics, Management and Entrepreneurship as instructors design class discussions and activities with an international focus with articles from newspapers and periodicals such as The New York Times, Financial Times, The Wall Street Journal, BusinessWeek, The Economist, and U.S. News & World Report. While students are exposed to currents events in the international business environment, they become more conscious of the effects of globalization on both the domestic and international front.

CREATION METHOD

The second method of incorporating international business concepts and content into the curriculum is the creation of a new course. This is the ideal option because the course is created to cover in depth the concepts specific to international business and the global economy. Such a course would allow students to fundamentally expand their understanding of the basic concepts at the international level. In addition, students enjoy their instructors' focus on the following International Business Standards:[13]

- Raising awareness of the interrelatedness of one country's political policies and economic practices on another
- Teaching strategies to implement international business relations through appropriate communication strategies
- Familiarizing students with the global business environment, and the interconnectedness of cultural, political, legal, economic, and ethical systems
- Exploring basic concepts underlying international finance, management, marketing, and trade relations
- Identifying forms of business ownership and international business opportunities

Business education programs have an obligation to meet the need of the global economy and provide students with an understanding of international business as it relates to their future. The depth of an International Business course is far greater than what can be covered in the core business courses.[14] Educators have an opportunity to expand on the material and go deeper into the content, allowing for a greater understanding of the subject matter. A standalone course provides the greatest opportunity to reach these needs.

The products Americans buy in the global marketplace – from food and clothing, to automobiles, to electronics - are also evident in the cross-cultural interactions that take place daily.[15] In addition, a variety of cultural variables influence human behavior and business practices. For example, humor in the form of a personal joke is a complex behavior that does not travel well across international borders. It requires sensitivity and awareness of cultural and social practices when conducting business abroad.

The worldwide accessibility of the Internet makes it an ideal tool for exploring business activities in other countries, the export/import regulations of a particular foreign country, or the political and economic news affecting markets around the world. The Internet also provides a venue for students to communicate with their counterparts in classrooms around the world as e-pals or through cooperative international projects, such as planning a global marketing strategy for introducing a new product or service or implementing an international business plan for conducting business on a global scale.

CURRICULUM INITIATIVE & COLLABORATION

The Business Department is working closely with Columbia University School of International & Public Affairs (SIPA) on an initiative with other community colleges

within and outside the City University of New York for creating a global academic network of resources for teaching international business. The primary objective of this grant-based initiative is to develop a full-fledged website with syllabi and teaching resources that faculty across the higher education spectrum may access to initiate a new course in international business, enhance an existing course, or expand an existing curriculum. The second objective is to advance curriculum development in other specialized areas of international business such as international management, international marketing, international ethics and trade relations, and international finance. This initiative will be embraced on a website.

Sound pedagogical modalities, standard syllabi, and current teaching materials for international business practices, globalization, global business trends and the global business environment in general will be made available on the website. The first stage is to develop and make available instructional strategies, effective leaning activities and materials for international business – from foundations of international business and global risks to other major topics that characterize international business, especially the expanding field of international business communication education.[16] The second stage is to standardize the instructional methodology for international business. It is estimated that the website, webmaster support and corresponding material for the project will be completed by Spring 2010.

IMPLICATIONS FOR BUSINESS EDUCATORS

Of course, the dynamic nature of political, economic, and technological environments provides relevant and real-life scenarios to expose our students to international topics through the infusion and creation method. These pedagogical approaches will allow our students to develop a more sophisticated understanding of the global marketplace.

The infusion and creation methods present two pedagogically sound practices to bring international business into the curriculum. One significant economic event can start a ripple effect throughout the global economy and students need to understand how one phenomenon influences another. The global marketplace demands knowledge in international affairs by all students at every level, and schools need to meet this essential need. Preparing students to understand international business and globalization can only benefit U.S. companies in becoming more competitive in the global marketplace.

SUMMARY

This article calls attention to the importance of teaching international business in the business education curriculum and across the general education curriculum. The global business environment will impact careers of all business students at all levels. Business educators should view globalization as an essential component of the business curriculum and foster the creation method.

Business educators should also help students develop a balanced understanding of international business and the policies and programs that facilitate global business. In addition, business educators should help students gain attitudes and skills that will enhance their successes in the international business environment. This includes flexibility and adaptability, intercultural communication and collaboration skills, and a sense of urgency that will help facilitate an increasingly globalized workplace.

On the other hand, the infusion method allows educators across the general education curriculum to use international business concepts when and where they feel it is necessary. It encourages the educator to look into international business resources to find current information that is relevant to the topic under discussion. By expanding their own knowledge and skills and through interdisciplinary collaboration with other colleagues, departments and other post-secondary institutions of higher education, educators can provide students with the "bigger picture" when it comes to international business education. The goal is to ensure that graduates from career and Liberal Arts programs will be better prepared to function in the global marketplace.

While there are many reasons for reduced American competitiveness in terms of educational performance, many observers point towards the complacency and poor work ethic of American students. Friedman,[17] speaking of the urgency that Americans should feel in response to globalization, stated:

There will be plenty of jobs out there…for people with the right knowledge, skills, ideas, and self-motivation to seize them. But there is no sugar-coating the new challenge: Every young American today would be wise to think of himself or herself as competing against every young Chinese, Indian, and Brazilian…individuals [will] have to think globally to thrive, or at least to survive. This requires not only a new level of technical skills but also a certain mental flexibility, self-motivation, and psychological mobility. (276)

A better understanding of international business will help students make more informed career decisions. Business educators have the responsibility of preparing students with a confident level of competence in international business and to live and work in a system that facilitates global business activities.

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A DRAMA OF HEALING: IN THE BLOOD AS AN AUTHENTIC LEARNING EXPERIENCE

Angel Morales

The use of theatre in education often achieves what the curriculum and many teachers cannot do, that is involve the students, interest them in the subject matter, lead them to see its relevance to the world around them, and motivate them to learn more. In addition, when you have a group of students who have never been involved in the process of "making art" through rehearsals and characterization, something magical can happen: the transformation of the individual and the discovery of the self.

In studies conducted every semester by the Center for Research on Learning and Teaching (CRLT) at the University of Michigan since the year 2000, faculty have evaluated the effectiveness of theatre on students by administering surveys directly after performances, following up with additional surveys and focus groups three months to a year after the performances, and interviewing key administrators who use the Theatre Program to affect change at the University of Michigan. Results from these multiple sources indicate that on an individual level, participation in the theatre performances affects not only the students involved in the production as actors or designers, but also audience members' awareness and their behavior. That is the case of the student actors who performed for two seasons in the theatrical production of In the Blood by Suzan-Lori Parks at Hostos Community College in the spring and fall of 2008. After several weeks of rehearsals, it was noticeable that they had developed their craft, become more positive toward their school work, learned about discipline, developed empathy, clarified values and attitudes, and understood the collaborative art of theatre.

Some days of rehearsing and re-rehearsing for In the Blood were more grueling than others. Sometimes two student actors just wanted to quit under the pressures of school, part-time jobs and other obligations of being a student nowadays. The five student actors had to play two different roles in the play, and had a lot of lines to memorize. But then, the thoughts of the two students that wanted to quit would turn to the main character of Hester, La Negrita, and they would imagine what she would say at moments like this. "I just want to have my leg up," Hester continuously says in the play, and that is exactly what the student actors wanted: to have an advantage. They

considered they already had an advantage over the students who were not in the cast – the advantage of what it means to be on stage, and transmit a message and receive recognition for it. One of the student actors said to me at a rehearsal, "It is a privilege for me to be here. I am here for a reason." Another student said, "I auditioned just for fun, and I ended up getting the part! I have never had a challenging experience like this one." It was at that moment that I realized that my duty as a director of the play was not only to conceptualize the production, but also to provide the students in the cast with an opportunity to discover that they were capable of playing their roles in a believable way and connect with the audience – something they had never experienced or studied.

During rehearsals, we studied and discussed the world of the play, analyzed their characters, identified objectives and obstacles, and understood the behavior of each character through improvisations. For example, I once prepared a scene to be improvised between the Doctor and Hester (two of the characters in the play) that was not in the script with the purpose of making the actors "feel" what the characters were supposed to feel. The student actor playing the Doctor needed to feel compassion for Hester at some point in the play, and it was difficult for him to express it through performance. I told the two actors to imagine that they were in the street and that the Doctor's objective was to convince Hester to get a hysterectomy. I suggested to the student playing the Doctor to think he was breaking the news to a loved one in his real life. The improvisation started and the performance resulted in a very moving and believable moment in which the Doctor almost cried and hugged the actress playing Hester. I witnessed how his body responded to the emotions in a natural, organic way without me telling him what to say or do in terms of body language. I froze the scene at some point and asked the actors to relax. Then I asked, "How did you feel?" The student playing the Doctor answered, "Really sad. Now I understand how the Doctor is supposed to feel in that scene." I also employed the method of emotional recall developed by Constantin Stanislavsky to bring sadness to life. This method, if not conducted carefully, could cause a catharsis and could sometimes be emotionally unsafe. But, since trust had already been developed within the group by spending four weeks together sharing experiences, playing theatre games to create a character, doing voice warm-up exercises and rehearsing, I felt the students were ready for it. Besides, the rehearsal room was intimate and the actors felt safe in it. One day, a student actor said to me, "Professor, I really enjoy coming to this room to rehearse. It is a therapy for me and I feel so relaxed. This is like a family to me."

The emotional recall exercise I conducted with the cast was the following: there was a scene in the play where the five children cry because their mother, Hester, screamed and insulted them by saying they were all "bastards." The children start crying and then the mother apologizes, hugs them, and finally sends them to sleep. At first, the student actors' crying was fake and funny instead of being sad. It was then that I decided to employ the emotional recall. I asked them to think about a moment in their lives where they had experienced deep sadness, for example, the death of a relative or a break-up. They sat down around a table and spent about three minutes thinking about it while I was observing how their thoughts were affecting them physically. Two of them stood up and walked around the classroom while the other three remained at the table with their heads down. After three minutes, I asked the actress playing Hester, out of role, to go to each one of them and ask them what had happened. One by

one, they expressed to the actress in a very low voice what their sad moment was. One student started crying and could not finish telling his story. He suddenly walked out of the room and the actress went after him to console him. He recovered from crying and came back into the room while the others were observing deeply moved. I personally was moved by this moment as well. I asked the students not to let go of the sadness and use it for the scene. Everyone assumed their roles, took their places in the rehearsal space, and the actress playing the role of Hester continued the scene that was in the script by saying her line. What happened after that was a really powerful moment: the students in role as the children stood up when the mother apologized and went to her to hug her still crying. It was very believable. Not only did they understand the nature of "being in the moment" to make the scene believable for the spectator, but they could at the same time heal the emotional pain they had expressed during the exercise and, consequently, feel better. It was drama therapy. I told them that if they could move the audience the way they moved me during rehearsals, then the audience would believe. At the end of the rehearsal, a student came to me and said, "Professor, that exercise really made me feel better and now I realize that being a good actor is really difficult."

Having a professional actor from Actors' Equity playing the main character of Hester was essential in "leading and controlling the drama from within". Working "out of role" and "in role" as Hester, she advised the students during the emotional recall, led some warm-up exercises such as stretching, head rolls, breathing and voice training, and was the "driving force" that kept them focused during the shows. She helped them rise to her level of acting, and the audience was able to suspend their disbelief and be impressed by their performances. Comments from the audience include, "I was amazed at how intensely some other people in the audience were moved by the presentation. A person was crying next to me." "I had never seen a play before and I loved it. I will definitely see more plays from now on." "I think they are good actors, and I couldn't believe some of them had never acted before. They all acted like professionals." "I enjoyed the way the issue of homelessness was presented with some humor."

One of the most gratifying experiences of producing In the Blood was the discussion sessions after each performance. The cast remained on stage after the curtain call to answer questions from the audience. Questions such as: "What was the inspiration to produce the play?" "How did you prepare to play two roles?" "What is the symbolism of the letter "A" for Hester?" and "Why is the play entitled In the Blood?" indicated that the show had promoted critical thinking and sought rewarding educational experiences. It was interesting to see how the student actors held their own with the audience by answering the questions very well. It was then that I realized that significant learning had occurred, and that my goal that the students be able to articulate what they understood by having participated in an artistic endeavor had been accomplished. These discussions were the best method of assessment. It occurred in public and it rounded out the learning process.

After the last performance of In the Blood in November, 2008 we had a discussion in the Green Room of the Repertory Theater with two respondents from the Kennedy Center American College Theater Festival, Region 2. I had submitted the production to be considered for the regional festival, and the respondents, theatre professors Debra Otte and Georgia McGill, were very impressed with the students' work. They commented that the performance had been a real "ensemble" work. It was the

highest compliment we could receive given the fact that, currently, we do not have a theatre program at Hostos Community College.

The students explained to the respondents that the creative process was a shared experience, but also an individual one as each performer contributed his/her own view. In addition, working with a professional actor had added another dimension to their work because they felt that rehearsals were daily workshops where they would learn something new. One student said, "This was a real class! I learned much more here than in my other classes this semester." Although they felt it was a safe environment, it was a constant challenge to have a "model" to follow. The respondents commented that the professional actress, also present at the discussion, did not have an "entourage" and was not behaving like a "diva". That was a good sign.

Through theatre the students in the cast had an opportunity to see the world from another point of view and respond as the person they played would respond. If the inner attitudes of another can be identified and understood through creative drama, and if students can experience "walking in another's shoes," then more understanding and more effective communication will be the result. I witnessed it during this session. I had never heard these students speak so well, not even in rehearsals! One student said, "By doing this play I have discovered that theatre is an option for me." "I feel I have become a better student and person after this play. I want to continue exploring other characters," another student said.

The impact of In the Blood remains intact with the cast, the audience and me, not just from the multiplicities of actions and ideas but because, most of all, it was an experience of authentic learning. I still receive comments from individuals that saw the production such as: "I think that the theatrical production of In the Blood was an excellent example of active learning. I realized that during the discussion after the performance." "That was the best play I've ever seen."

I am certain that for the student actors it will be a lasting experience that will positively influence their future work in any discipline. The five student actors from In the Blood, along with five other students, have been cast in the spring 2009 production of No Child... by Nilaja Sun to be presented at Hostos Community College. They have already become leaders in the College by encouraging other students to audition for future productions, advising the students taking the Acting I course, and helping in the coordination of theatre workshops as members of the Theatre Club. That is the power of theatre: it engages, challenges, shakes, heals, transforms, and enlightens.

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'PROJECT GROUP' WORK IN BIOLOGY

Zvi Ostrin and Flor Henderson

Students who participate in small class learning groups tend to improve their understanding and retention of the subject matter, and also tend to be more satisfied with their classes.[1] Various names and styles fall under this type of learning, including cooperative learning, learning communities, peer teaching, team learning, study groups and work groups.[2]

Pedagogical theory suggests that the group dynamic releases students from the "tyranny" of the traditional lecture, forcing them to rely more on their own and their peers' thought processes.[3] Thus a major advantage of group work is that it creates an environment for active learning.

Faculty members in the Hostos Natural Sciences Department have introduced group activity into their classes in order to capture its pedagogical benefits. The results are generally favorable, but of course every silver lining has its cloud. In this note we report on our initial experiences with one type of group work—"project groups"—in two Biology courses. Our hope is that this report will be of interest to Hostos faculty in the sciences as well as in other disciplines.

GROUP WORK TYPOLOGIES

Group work can be divided into two general types—learning groups and project groups—which are distinguishable by the time required to accomplish the task. Learning groups focus on short-term assignments, and project groups focus on more complex long-term projects.[4]

Learning Groups

This category includes short-term assignments which range from activities done in the classroom that last for a few minutes, to tasks that may last for a couple of weeks and will likely require out-of-class work. Learning groups may be informal or formal in nature.

An informal learning group has a very limited goal, which is achieved within a single class session, and is typically ungraded. For example, a teacher who tells a class to organize into groups of four students, to discuss a concept or question for a few minutes, is using one form of informal learning group. Common types of informal learning groups include buzz groups, think-pair-share, jigsaw, and rotating trios.[5]

A formal learning group has a more ambitious goal, involving completion of a more complex task, such as carrying out a lab experiment, or writing a brief report or paper. The task can be completed in a single class session or over a few weeks, and is typically graded. Although a formal learning group may contain the same student members throughout the semester, the collective work done on each assignment is relatively limited. A study group—such as a team of four students who cooperates throughout the semester on reading and homework assignments, and on review and exam preparation—can be considered to be a formal learning group. York College implemented just such a study group program in a General Education biology course for non-majors.[6]

Project Groups

This category includes long-term assignments or projects that students work on for a major part of the semester, and that require sustained effort in order to create a substantive work product, such as a long paper or a video. Project groups are inherently formal groups. Significant out-of-class cooperation is needed from each team member to plan, discuss, share ideas, create the work product, and carry out the final editing. The individual and group components are assessed and graded.

"PROJECT GROUP" WORK IN BIOLOGY

Although educational benefits should accrue from all forms of group work, long-term substantial collaborative assignments—i.e., project group work activities—are particularly well-suited to biology, where the focus is on a combination of scientific concepts and a dense set of facts. For this reason we decided to incorporate "project group" activities into two of our courses: Biology I and Anatomy & Physiology I.[7]

The project group activities are designed to stimulate a deeper understanding of biology through "peer teaching" and "active learning." Even though course content differences and instructor predilections have led to very different kinds of assignments in the two courses, the underlying structure and goals of both assignments are similar, and therefore the benefits and problems that we have encountered are similar. In the following account we describe the techniques we have tried, our observations on student dynamics and problematical areas, and our tentative conclusions about the pedagogical advantages and disadvantages of project group work in biology.

Research Paper and Oral Presentation (General Biology I; Henderson)

Over the course of the past several semesters, students taking General Biology I (BIO 210) have formed project groups of four to five members who work cooperatively on an assigned theme during the entire course.

The theme for each group is broad. The nature of the research project requires each group to divide their theme into sections, as suggested by a "guide questionnaire." Students are expected to have the basic knowledge and skills to handle the work. They need to be familiar with library research strategies, and they are advised to take library

workshops such as "Finding Articles" or "Keys to Database Searching and Plagiarism." After these basic elements are fulfilled, the groups are free to organize the teams, arrange meeting times, and apportion work among team members. At the end of the semester each group presents the results of their work as a scientific research paper and as an oral presentation in front of a large audience.

Three strategies have been tried in forming the student teams: random assignment, assignment according to the pre-existing laboratory groups, and assignment by student-selected affinity groups. The outcomes in student performance from these three strategies do not differ significantly—none of these strategies eliminate inherent problematical aspects of this type of cooperative endeavor. Project group work is apparently not an activity that students adapt to easily. The level of complaints increases as the semester advances, the deadline looms, and teams discover that they have not made sufficient progress.

Several problems recur frequently in the project groups. The students often have a problem agreeing on mutually convenient meeting times. A second problem is the unequal distribution of work: in each group some students, generally the most organized, get stuck with most of the work while the other members simply "dump" unedited and undigested research in the laps of the "organizers," who are expected to do all of the work to shape the final project. A third problem is attrition: when team members withdraw from the course, they often do not take responsibility for passing on their work information to the rest of the group. The result is a gap in the structure of the research piece, which the remaining members must correct by re-distributing the work assignments.

Two strategies have been implemented in Biology I to improve the dynamic of group work and to ensure that every student is graded fairly. First, students must submit research logs as part of their individual assignments. Research logs document the research strategies used by each student, including the date that they found each resource, and a paragraph describing how the student will incorporate the resource into their portion of the research project. The student research logs are evaluated on the basis of the quantity and quality of the reviewed documents—refereed sources have more grade value than non-refereed sources. Second, each student submits a confidential "peer-evaluation" document to the instructor every three or four weeks. In this document, students have an opportunity to provide open-ended feedback on the project and to assign points to their teammates for punctuality, contribution to research and group work, and interpersonal attitude. The "peer-evaluation" grade is incorporated into the teacher's overall assignment grade for each student.

Instructional Video (Anatomy & Physiology I; Ostrin)

This past semester, a "jumbo" Anatomy & Physiology I class of fifty students was divided into teams of four students, and each team was assigned a specific course topic on which to create a three-minute video.[8] The topics covered most of the course syllabus, ranging from atomic structure through the human musculature.[9] Each group had six weeks to work on the video assignment and produce a final polished video to be shown during the departmental Open House, before a large audience comprised of their fellow classmates, departmental faculty, and other interested students.

There were several pedagogical rationales for this project. First, the group dynamic necessary to create each video would stimulate active learning and increase

understanding. Second, the increased social interaction and "fun" generated by the project would give the students a more positive view of the course and lead to greater engagement and achievement. Third, the video products collectively produced by the class teams would be posted on the Web for students to review the major concepts covered during the semester, thereby enhancing long-term information retention.[10]

Students were assigned to teams based on their pre-existing laboratory positions, where they sit at lab tables in groups of four. Early in the semester these teams work as formal learning groups to carry out experiments and write laboratory reports that are due the following week. Because lab team members had already worked together successfully, it made sense, therefore, to use these "natural" lab group formations for the video project as well.

There was some concern that some teams would lack either the hardware (camera or computer) or the technical savvy to carry out this ambitious digital project. However, a technological skills survey of the class showed that most students owned computers and the digital cameras needed to create the videos, and were comfortable with computer hardware and software. Thus there was no pressing need to modify the lab teams for technical reasons.

Once the video topics were distributed to the class, each team's first meeting was devoted to allocating the different steps or "jobs" in the video—i.e., outlining, scriptwriting, storyboarding, acting, props, shooting the video, editing, titles and credits. Responsibility for allocating the jobs was left entirely up to each group: every team member was to be given a primary individual job that would be graded individually, as well as a team-wide responsibility for the overall success of the video that would receive a "group grade."[11]

Problematical aspects of the cooperative endeavor emerged, just as it did in the Biology I project described above.[12]

One major problem was the "free rider" student, a team member who contributed little, but benefited from the work (and the grade) of the rest of the team. The project was designed to prevent free riders—by asking individual students to be responsible for, and to put their names on, the outline, script, storyboard, etc.—but in practice it became difficult to tease out the work of each individual. Students felt most comfortable working in two's or three's on each aspect of the project, perhaps because the video-making project was ambitious, novel, and necessarily collaborative. As a result, even though it appeared to the teacher that some students had not contributed their share of the work, it was not possible to establish that fact with certainty. Students tended not to complain to the teacher about "free-riders" on their team, preferring to shoulder the work themselves rather than "snitch" on their fellow students.[13]

A second problem was the "no-show" student, a team member who did no work because of illness, procrastination, absence or withdrawal from the course, or interpersonal conflict.[14] Video project jobs need to be done in a logical order—i.e., first the outline, followed by the script, the storyboard, shooting the video, and finally the editing. A "no-show" student upsets this order by leaving a gap in the work sequence, and thereby creating serious problems for the rest of the team.

Future iterations of the video project will attempt to resolve the "free rider" and "no-show" issues. The distinction between individual and team effort will be more clearly delineated in future projects, for example by having each group member prepare a preliminary and independent "digital story."[15] These digital stories would be

graded individually, so that each student could be clearly held responsible for their part of the project.[16] It would be obvious which students were free riders or no-shows. The remaining team members would be able to adjust their efforts to fill in the gaps of their project, and avoid depending on the work-product of the missing student.[17]

CONCLUSION

Our experiences with group projects in the two biology courses suggest that such work enhances student learning and general education competencies, and therefore we plan to continue using these projects in our classrooms. However, these observational conclusions need to be supplemented by more rigorous analysis, and our future efforts in this area will include developing assessment instruments to evaluate the effectiveness of group project work.[18] Additionally, because adverse intra-group dynamics can negate much of the pedagogical advantage of group work, we will also explore techniques to monitor student work and facilitate cooperation among team members.

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ENDNOTES

1. Gross, Barbara (1993). Tools for Teaching. San Francisco: Jossey-Bass Publishers.
2. Ibid.
3. Ibid.
4. This typology modifies Gross' (1993) categories.
5. Centre for Teaching Excellence (2009). Group work in the classroom: types of small groups. University of Waterloo, Canada. www.cte.uwaterloo.ca/teaching_resources/teaching_tips/ tips_activities/gw_types_of_small_groups.pdf (accessed January 30, 2009).
6. Keiler, Leslie S. (2008). General Education Biology Students' Perception of Active Learning through Collaboration in an Urban State College. DisCover, vol. 1.1. http://york.cuny.edu/centers-institutes/cetl/programs/discover/discover-volume1.1.pdf%20/view (accessed January 30, 2009).
7. Professor Henderson teaches, and is course manager of, Biology I (BIO 210), a course that is designed for biology majors. Professor Ostrin teaches, and is course manager of, Anatomy & Physiology I (BIO 230), a course generally taken by students who wish to enter the health science professions, such as nursing or radiology technician.
8. A COBI award aided in the development of this video project.
9. Nearly every topic from the Anatomy & Physiology I syllabus was included: atomic theory, chemical bonds, carbohydrates and proteins, lipids and nucleic acids (in general), DNA and RNA (more specifically), cell structure, cell transport, tissues, integument (skin), skeleton anatomy, skeleton physiology, muscle anatomy, and muscle fine structure. Topics from the end of the semester—blood and cardiovascular system—were not assigned because the students would not have

covered these topics by the time the projects were due, and it was thought that they would have too much difficulty assimilating the unfamiliar material.

10. For maximum ease in uploading and access, the videos were posted on Youtube and the students were told how to find the videos. YouTube, for better or for worse, is now an integral part of our common digital culture, and it is more user-friendly and accessible than Blackboard.
11. It was originally thought that the primary effort of each student could be independently identified, and that grades could be assigned coherently, with seventy percent of the grade based on each individual's job(s), and thirty percent on the overall quality of the final project (i.e., the 'team effort'). Ultimately, this thinking was unduly optimistic: it was not easy to isolate the individual student's contribution from the collective effort that resulted in the final submitted video.
12. The tension endemic to group work is reminiscent of the two men described in Robert Frost's poem, "Mending Wall."
13. Perhaps ten percent of the students fit into the free-rider category, but of course it is impossible to know this with certainty. Ironically, the only significant complaints came from groups whose team members were working hard, but could not come to agreement on the methods or the schedule for doing the work.
14. Approximately ten percent of the students fit into the "no show" category. Together, the no-shows and the free-riders account for approximately fifteen percent of the class (adjusted for those who belong to both categories). It is obvious that group work, like civilization, has its "discontents."
15. Digital stories can be created using the same Windows Movie Maker software that is used to make videos. Both types of presentations can combine images, audio, titles, and even music to yield the final product. The difference lies in that the digital story is essentially a narrated slide show, similar to PowerPoint, where the image and the sound are created separately before being linked, whereas in a video the moving image and audio track are usually created simultaneously. In practice, however, a digital story can have video elements, and a video can have digital story elements—i.e., still images or titles—within the same creative product, ultimately blurring the distinction between the two formats.
16. During the Spring 2009 semester, groups in an Anatomy and Physiology II class (BIO 240) were asked to create digital stories rather than videos. In every group, each team member was explicitly responsible for one minute of the digital story. It is hoped that this modification will adequately resolve the free rider problem.
17. Another partial solution would be to incorporate research logs and peer evaluations into the Anatomy and Physiology video project, as was done in the Biology I project, to better monitor the students' activities.
18. As Bonwell and Eison point out, "most published articles on active learning have been descriptive accounts rather than empirical investigations, . . . and a large number of important conceptual issues have never been explored. Therefore, it is imperative that any group work effort would be implemented with qualitative and quantitative evaluative strategies." Bonwell, Charles C., James A. Eison (1991). Active Learning: Creating Excitement in the Classroom. ED340272 Sep 91 ERIC Digest.

THE HOSTOS BRIDGE

Robert F. Cohen

Whenever I seek a few moments of "quiet" time at Hostos, I take a seat on the bridge that connects the "A" and "C" Buildings. Amid the flurry of activity, as students, faculty, and staff quickly pass by, my eyes soon delight in the great expanse of traffic swelling the Grand Concourse. Despite the "noise" all around me, these silent rhythms lull me into a reflective state.

The bridge is my favorite man-made invention. It connects people, places, and ideas. It creates a transition – from one subject to another, from one mode of thinking to another, from one way of life to another. Like these words, it provides a link between me and you.

Without a bridge, there is often a gap, a chasm from whose depths it is sometimes far too difficult to emerge. Unprotected from the elements, in such a state of despair, an individual remains as much a victim of the darkness as of the blinding light.

Seeing through the right filter in order to negotiate the steep climb to the top consequently requires not only guidance but also courage, patience, and the kind of humility that is wedded to the willingness to learn. For how else but through E-DUCATION can we find a way to LEAD ourselves OUT OF the abyss and transform our identity as a result?

Fortunately, for our students, Hostos itself is a "bridge," an illumined haven that kindles the spirit and nurtures the imagination. Within its portals, students can embark upon the pursuit of their dreams and translate the dark prose of an ever elusive present into the poetic vistas of a more glorious tomorrow.

Robert F. Cohen
Language and Cognition

A CURE FOR THE COMMON POEM[1]

Carl James Grindley

One of the biggest challenges that college English department faculty members face is that undergraduates, especially those in the allied health or business fields, typically characterize the essential texts of English literature as boring, pointless or irrelevant. Students encounter difficulties with the material for the simple reason that they do not like it. Typically, the faculty response is an outraged but largely impotent attempt to instill in their students a love of literature—even when a dispassionate observer would readily confess that there is much in English literature that is wholly unlovable.

Professors try to provide students with the ability to see the beauty of words and images, to give them a firm grounding in culture, and help them to develop an aesthetic that will serve them for the rest of their days. The more callous faculty member will stress to students the importance of being culturally-aware by warning them that seemingly innocuous cocktail party conversations may influence promotions and appointments, or insinuate that a lack of cultural capital can make an otherwise educated person seem ignorant.

These approaches, in my opinion, merely feed the beast, merely serve to further reinforce the idea that English Literature is not a serious subject of study on its own. I doubt that any natural science professor sells titration as a cocktail party skill, regardless of how useful it might actually be. Neither would a physicist tout that familiarity with the Lorenz Transformations is indicative of basic cultural awareness. No. If English faculty members are to defend the texts they study from an accusation of dull irrelevancy, let them steal strategy from their colleagues in the Natural Sciences.

Often, it is simple enough to provide an apologia for literary texts. Anyone who honestly earned his or her doctorate can defend Chaucer's cultural relevancy, historical persistence and literary merit, if only as a way to reinforce in students the idea that English is a changing and dynamic language. It is not difficult to use Chaucer as a conduit by which students may be convinced that people in the past were not stupid even though they did not have cars, televisions or video games. The same holds true for Shakespeare, for the Romantic Poets, for James Joyce and so on. What wins

students over is that the texts of Chaucer and Shakespeare and Shelley and Joyce are good. They are fun to read—yes, even Finnegans Wake is fun to read. No one has ever been bored by "The Franklin's Tale," or by Twelfth Night. When taught with passion, "Ozymandias" will infect a student for the rest of his or her life; but what happens when students encounter a wholly indefensible text?

Jude the Obscure: justifiably hated by countless legions of students, it is the pointless and irritating tale of an utter toss pot who is somehow unable to figure out that he is living in the 19th century and that England is awash in universities begging for incoming students already well versed in Latin and Greek. It is the story of a whinging malcontent who refuses to make even modest concessions in order to live as a productive, useful and unmolested member of society. When I first encountered the text, I simply could not wait for Jude to drink himself to death. When faced with two dozen or so profoundly disappointed students—I cannot be blamed for Jude as I had inherited the class when the original teacher suffered a devastating back injury—I was aghast. Jude the Obscure had physically and mentally hurt these students. Reading it had harmed them in ways that I still do not understand, and yet I was supposed to defend this wretched little book from a perfectly just sheet of serious charges.

Amid the stricken faces, I was at a loss for words, and then, quite suddenly, I began talking about frogs. This is more or less what I said:

I approach the study of literature as if I have discovered a new type of frog. Everything starts off in the field. The conditions are appalling, there is little shelter, and the food is inedible. It rains all the time. There are biting insects by the trillion. Exploration may be non-productive, it may yield accidentally duplicate results, it may end in some accidental injury, but sometimes it is successful. Sometimes after suffering through an interminable trek through some leech-infested tropical rainforest, I discover a new type of frog. After the initial thrill of discovery, I settle into the business of science. I measure the frog. I weigh the frog. I describe the frog in intricate detail. I check the GPS. Grids are involved. Photographs are taken. Drawings are made. What color is its skin? What sort of markings does it have? I make a recording of its mating calls. I back up my data. I want to know how this new frog fits in with its environment, what keeps it alive, what it eats, where it lives, how it reproduces. I have to take careful notes because I do not know when I will get another chance to go back into the field. Then I take my frog back to the lab. I build a little terrarium and take good care of the frog to see what it does. I run its vital signs. I try to get it to reproduce. I observe every stage in its life cycle. Then, and with no hard feelings, I insert a needle into its foramen magnum and wipe its little frog brain clean by a speedy lateral and vertical movement within its brain case. Then I cut the frog open and watch its guts in action. Finally, I put it in a jar of formalin and put that jar on a shelf next to countless other pickled frogs. Oh, and I get to write the label, and draft the article that gives the frog its binomial nomenclature.

Nowhere in there, I said to those students, is there anything about liking that particular frog, nor for that matter, about liking any frog.

Seen through the lens of herpetology, Jude the Obscure becomes a delight to analyze. The very features that lead students to despise its characters, story and author, become fascinating positives. Hardy's book, when properly pithed, is an exercise in pure science.

Thinking about it today, perhaps a better metaphor would be to liken the study of literature with the study of cancer. Poems are like terminal cancer, universities are like hospices, literature professors are like attending oncologists and students are like students. No one would ever ask an oncologist, even an intern, if he or she liked cancer. Nor would an intern ever be upset and refuse to go on rounds because they disliked cancer. At its most elemental, cancer is something fascinating to study, something to examine, to measure, simply to see how it works. At some level, oncology is pure science, but then again, so is the study of literature.

When English faculty members try to convince or to teach their students to "like" the texts they read or when faculty members cite incredibly dubious "real world" reasons for studying literature, they do the field serious harm. Realistically, the study of literature requires no more of an apologia than does oncology. The pursuit of knowledge for its own sake is all that matters; but within my students' demand for a likable text is the shadow of a serious concern—their desire implies that they have unsuccessfully encountered what can only be described as a minimally acceptable threshold concept, a seemingly basic mental construct whose navigation is required for even a limited level of proficiency in an academic discipline. In order to progress in the study of literature, they are going to have to be able to read Jude the Obscure. As poorly written and ill-thought-out as Hardy's novel is, it is well worth researching if only to reassure ourselves that Hardy is currently unable to draft its sequel. Students have to transcend the idea that literature's sole academic purpose to delight or inspire readers.

English courses frequently address racist and sexist texts, encounter the documents of colonialism and imperialism, and consider jingoistic and xenophobic stories and poems and plays. Many of these texts are not only politically, culturally and socially offensive, but poorly written. Jude the Obscure, at the very least, attempts to forward a very progressive political agenda—although it does so with a hamfistedness not seen in anything outside an old ABC After School Special.

As is well known, horrible reviews of Jude the Obscure cost Hardy his readership and he spent the rest of his life focused on poetry and drama. Scholarship, on the other hand, soldiers on. A recent search of JSTOR and Academic Search Premier insist that well over 500 articles have been written about Jude the Obscure this past century.

My advice to English Department colleagues, therefore, is to abandon the aesthetic of text as lover and instead forward the idea that poems are cancer. Our discipline is not solely concerned with whether or not a text should be enjoyable, but rather our field of study exists with the open-ended charge to examine texts for their own sake. No more apologies. This term, we are studying Hardy.

Carl James Grindley
English/Instructional Technology

ENDNOTES

1. The title of this paper was taken from a remark made by Randall Bass during "Workshop on Threshold Concepts and Syllabus Design," Eugenio María de Hostos Community College, The City University of New York, The Bronx, NY, March 28, 2008.

Hostosinia eugenia

MY 20-YEAR RESEARCH JOURNEY FOR A NEW SPECIES OF SPIDERS, OR HOW TO COME TO A NEW DISCOVERY

Vladimir Ovtcharenko

From time to time students ask me whether it is difficult to discover new species of organisms on our planet. To answer this question, I have decided to tell my story of how I discovered a new species of spider that I have dedicated to Eugenio María de Hostos.

This story begins in 1986 in the Betpak-Dala desert of Kazakhstan, a country in Central Asia. I participated on a research expedition with a group of colleagues from the Kazakhstan Institute of Zoology. During this expedition we collected spiders in the early morning, in late evening and often during the night. The midday temperatures typically reach 122°F in the Betpak-Dala desert and it was virtually impossible to collect spiders or carry out any activities during this time. Therefore, we spent the midday in the shade, writing in our diaries and having a slow chats. One time, I noticed that some spiders were running extremely fast in the desert even in the midday. We caught some of them - they were males with slender bodies and long legs. These spiders belong to the group of spiders scientists call ground spiders or Gnaphosidae in Latin. Ground spiders do not produce webs; instead they live on the ground, under rocks, under logs, in leaf litter. Sometimes these spiders will retreat into the ground, or a burrow. The males that we collected in the Betpak-Dala desert had long legs. The last segment of a leg is called the tarsus or "foot". The tarsus has two claws, and the claws of these particular males were unusually long, almost half as long as a tarsus. It turns out that these spiders actually walked on these claws and not on "foot" to avoid burning the soles of their feet on the unbearably hot sand. An example of this would be you walking on a Caribbean beach under the scorching sun, where the sand is extremely hot and to avoid the heat, rising up on your nails. Of course, you would need to be very strong and to have very long nails. All the males we collected in Betpak-Dala had legs with long claws and they used these claws to walk on the hot sand - this is quite unusual for spiders. Additionally, these males looked completely different from all known spiders in the entire Central Asian region. It was definitely a new species of spiders and also, actually, - a new genus. I named this spider the "long claw" spider.

However, the problem with the males that we collected was that all of them were young spiders. Scientists call spiders at this stage 'immature', and this means that they molt or change skin a few times before becoming a mature adult. An adult spider is ready for reproduction, with completely developed reproductive organs inside its body and secondary reproductive organs outside it. Why is it important to have adult specimens to study spiders? Most of the features used to identify spiders are the structure of secondary reproductive organs, which are called palps in males and epigyna in females. Immature spiders do not have secondary reproductive organs, which develop only after a spider's fifth molt. So, because all males that we had collected were immature, we searched heard for adult males but we could not find any. Since that summer in 1986, I have been trying to find adult males and females of this spider, because I knew that I was dealing with something exceptional, most probably a new genus and a new species of desert spiders. I have not had a chance to return to the Betpak-Dala desert again but I regularly ask my colleagues who collect spiders in the deserts of Central Asia to keep their eyes open for this spider. After more than 20 years of collecting, I have gathered around 15 adult males from different regions of Central Asia.

How does a researcher find new material for his/her studies? Of course, s/he can travel to places that the target organism is likely to occur. Although a well-known method, this method is a more difficult method than one might think because the scientist has to be in a right place at right time. Furthermore, as a rule, all research expeditions require a lot of time and sufficient funding. Therefore, we often try to find other ways to gain access to research materials from a particular place. You can ask your colleagues collecting in a region of interest to bring you sample data. Or – you have available research material in museum collections. As a rule, big museums such as The American Museum of Natural History in New York or The Zoological Institute of the Russian Academy of Sciences in St. Petersburg have enormous research collections. These collections have millions of different animals, including insects, spiders, mollusks, fishes, reptiles, birds, mammals, etc. Research collections are located in special storage areas of the museum and regular visitors rarely get to see them. But who collects these research materials and why preserved in storage rooms? These collections have been compiled by different scientists and, quite often, by ordinary people. Sometimes, big museums organize research expeditions to different unexplored parts of the world to collect all animals and plants and to bring them back to the museum. As a rule, all collected materials are sorted to the family or generic level group of organisms. As such, they are stored in research collections so that scientists can study particular groups of living organisms. Scientists who study animals are called zoologists, and they are called taxonomists if they study the classification of living organisms. Typically, each taxonomist is an expert in a particular group of living organisms. And if a scientist who studies spiders needs to examine some spider specimens, he can visit a research collection and check the spiders from a particular group of spiders, such as ground spiders or wolf spiders, and from regions all over the world.

For more than 20 years, I have been examining all the spider collections from the deserts of Central Asia. During this time, I have found a few males of this new spider that I called "long claw" in different research collections. Some of the male specimens have been sent to me by my colleagues. Once I had a sufficient number of adult males for description – I was sure that they were definitely samples of a new genus and a new species of a spider. However, I still needed an adult female spider as well! Without the

description of a female spider, the entire description is not complete, in part, because a female can appear as a completely different spider. In summer of 2008 I was at the Zoological Institute in St. Petersburg for almost two weeks, sorting specimens in the research collection of the museum and looking for a female of the "long claw" spider. I had already briefly checked this collection without finding the "long claw" spider. This time everything was almost the same, however, I decided to check specimens that had been recently sorted and identified by a research assistant of the museum. After a few hours of checking collection, I found a vial, full of "long claw" spiders. I opened the vial and found 24 adult males inside and – BINGO! Two adult females!! Males of a "long claw" spider are light yellow in color with a slender body and very long legs. I expected to find the female as a "slim lady with long legs" as well, but the "lady" was completely opposite of a male: females had a large body, were fat, and had very short and spiny legs. Nonetheless, it was clear that all of them were of the same species, because generally they were quite similar and were collected around the same place. When I found the females, I understood why it had been taken so long to find them. Females do not travel much. Instead they dig burrows and live in them. The bodily features of the females tell us about them. Their short and spiny legs are clearly modified for digging and living in a narrow burrow. The males, on the other hand, travel and look for females' burrows – therefore, they have long legs and slender bodies for easier traveling and keeping their bodies far from the hot ground.

My research journey for more than 20 years was coming to an end. Now my next step is to provide a scientific name for these spiders. This involves making a scientific description of all anatomical parts of the species, sketching secondary reproductive organs and publishing the results of my research in a peer-reviewed journal. Only when a new spider has an official "citizenship" in the research community, will it be a new known spider. I was very excited about the name I would give to the long-claw spider. As a researcher who has found a new genus and a new species, I am entitled to give any new name to a "long claw" spider, but this name must be in Latin. I thought because it had taken me more than 20 years to find this spider and the discovery happened when I was already teaching at Hostos Community College – that this was a sign. I decided to honour the name of Eugenio María de Hostos with this discovery. Hostos traveled to different countries, where established educational systems. He discovered new worlds of knowledge that he shared with his students. So, I thought I would dedicate the name of the discovered spiders to this great man. Finally, when the official description of a "long claw" spider is published in a research journal, these newly discovered spiders will be named in his honor - Hostos and Eugenio.

Vladimir Ovtcharenko
Natural Sciences

THE RELEVANCE OF HOSTOS'S IDEAS ON EDUCATION

Carlos Rojas Osorio
Translated by Orlando Hernández

TRANSLATOR'S INTRODUCTION

In 2001 two forums were held in Puerto Rico to discuss the relevance of Eugenio María de Hostos's pedagogy and educational philosophy, at which several important Hostos scholars congregated.[1] A debate had been brewing for several years about the role that Hostos's ideas could and should play in the island's educational programs, and two viewpoints emerged. There was a longstanding perception held by many Puerto Rican intellectuals that the country's educational system had failed to incorporate Hostos's contributions to that field. Conversely, a different point of view considered Hostos's ideas as a 19th century corpus that has been surpassed by contemporary pedagogical science.

Hostos's ideas about education were grounded in the rational and empirical outlook that became the trademark of positivist thinking. They were influenced by Karl Kraus's philosophy, by Darwin's theories about evolution, and by the development of the emerging social sciences. His work borrowed critically from August Comte and Herbert Spencer, among his contemporaries.[2] But as Prof. Carlos Rojas argues in his article, Hostos ideas about education have to be understood as part of the libertarian tradition that ushered in our contemporary critical perspective.

Hostos became a teacher out of necessity in 1877 in Venezuela, where he also proposed the creation of an "objective school" using the new scientific methodology. He believed in using science and empirical observation as the basis for instruction. Although he could not put his ideas to a test in Venezuela, shortly thereafter Hostos was invited by President Gregorio Luperón in 1879 to develop the educational system in the Dominican Republic. There he established the escuelas normales or teachers schools, for men and, jointly with Dominican writer Salomé Ureña, for women. In 1873, during his first stay in Chile, he had argued in favor of giving women access to scientific education. In Santo Domingo he also founded night schools for workers, all of which attests to his inclusiveness on issues of gender and class. Hostos was forced to leave that country in 1889, after Ulises Hereaux (Lilís) became dictator.

During the 1890s Hostos went back to Chile. This time President José Manuel Balmaceda invited him to be part of that country's educational reform, and he became the director of the Liceo Manuel Luis Amunátegui, in Santiago. In 1898, he returned to New York and Puerto Rico, where he organized the League of Patriots, a citizens's educational and civic movement, in response to the United States takeover of the island. In 1899 Hostos founded, in the city of Mayagüez, the Municipal Institute, which included a school of agriculture and short-lived municipal school. There the teaching of natural sciences incorporated field tours and the teaching of math included manipulatives.

Hostos would return to Santo Domingo once more when Heraux was assassinated and the new president, Horacio Vázquez, invited him to take charge of education in his government, which Hostos did until his death in 1904. During this last stay, Hostos founded vocational schools and started coed educational institution. He also devoted energy and thinking to the creation of la Liga de Ciudadanos, a non-partisan organization that promoted civic education and citizen's participation in public affairs. John Dewey would propose and develop a similar idea a few years later in the United States. Towards the end of his life, Hostos explored how learning could take place outside traditional institutional frameworks. This is what we now know as adult education or "education without walls." Moreover, Hostos wrote about the need to strengthen democracy by articulating el poder social or social power, a concept that is similar to what we now call "the civil society", after Gramsci.

This presentation by Dr. Carlos Rojas Osorio in the second forum, which I have translated into English, is a brief but poignant statement on Hostos's pioneer thinking about education and its relevance from a contemporary perspective. His ideas about education build on the legacy of Rousseau, Pestalozzi and others, as he anticipates Dewey's and Paulo Freire's contributions.

Orlando José Hernández
Humanities

ENDNOTES TO TRANSLATOR'S INTRODUCTION

1. These forums were cosponsored by the University of Puerto Rico's Institute for Hostosian Studies and the University of Puerto Rico in Cayey. They took place at the UPR campus in Cayey on August 8, and at the University Carlos Albizu in San Juan on October 5. Rafael Aragunde and Vivian Quiles-Calderín, Eugenio María de Hostos: Un debate intelectual en torno a sus ideas pedagógicas. Instituto de Estudios Hostosianos; Oficina de la Rectora, Recinto de Río Piedras; Universidad de Puerto Rico en Cayey; and Federación de Maestros de Puerto Rico, [San Juan,] 2002.
2. For a discussion of Hostos's life and pedagogical ideas see the entry by Ángel Villarini Jusino and Carlos A. Torre, "Eugenio María de Hostos, in Joy A. Palmer, editor, fifty Major Thinkers on Education. From Confucius to Dewey. Rutledge, London and New York, 2001, 146-154.

THE RELEVANCE OF HOSTOS'S IDEAS ON EDUCATION

Carlos Rojas Osorio
Professor of Philosophy, University of Puerto Rico at Humacao

Education as the practice of freedom maintains its validity. Hostos writes: "Rousseau is among those who have understood best that one of the primary purposes of education should be to teach how to be free." As we know, Paulo Freire developed and extended the idea of education as the practice of freedom.

The idea is that education follows the evolution of the psychological development of children and that it should adapt to it. Today this is a truism, but during Hostos's times knowledge about child psychology had not been well established. During the 20th century, this branch of psychology grew tremendously, as shown by the works of Piaget, Vigotsky and others. But Hostos had the right intuition, which has been confirmed by psychology and by the science of education. "Reason functions by always using its previous activity."

The guiding ideas on critical thinking are expressed very clearly in Hostos's work. Hostos writes that education is not about teaching an image of the world, but rather about the learner seeing the world by him or herself. To attain this, it is necessary not so much to teach knowledge as "to learn how to acquire it; it is not enough to offer science as a finished product; it is necessary to teach how to construct it." Education should not seek to direct understanding, but it should "allow the learner to be the perceiver."

The critique of education that instills conformity and uniformity is also found in Hostos. "The horrible gymnastics of memorization has deformed and impeded understanding for so many generations in the world." It should be noted that the great reformers of education have always fought against the same evils: mechanization, routinization, indoctrination. Luis Vives, Erasmus of Rotterdam, Montaigne and Rabelais during the Renaissance; Rousseau and Pestalozzi during the 18th century; Hostos in Santo Domingo and Paulo Freire in Latin America were critics of existing systems for falling into the same shortcomings and routines. For example, Hostos depicts Erasmus as: "The funniest satirist of the scholastic foolishness and ridiculous practices and one of the most vigorous and determined precursors of the

religious reform." Hostos praises Montaigne when he states: "His judgment as a sharp knower of the true object of human education is encompassing in his exact appreciation that knowledge is the instrument and not the object of education." In Rousseau's work, Hostos praises the idea of "leaving the most initiative possible to the learners. Children's reasoning should be free, so that it pursues truth in itself."

Hostos's principle, "The touchstone of all teaching is the interest it arouses," is still valid. That is to say, nothing is more important than motivation in the learning process.

There are other important ideas, for example, in the area of education for democracy. I think that is a point that Hostos emphasizes, and it is necessary to integrate into our evaluation what he says about democracy, with its limitations, as well as the importance of education in a truly democratic process.

In Tratado de moral, for example, in "Moral social," he insists that having rights implies the obligation to become educated. Hostos says that the best way to defend our rights is to become educated. So there are obligations that correspond to rights. And those corresponding obligations require becoming educated at each different level. The other point that I had already made at our last gathering is the need to update pedagogy from a scientific perspective, in keeping with Hostos's spirit. And Hostos's pedagogy was scientific as it fought against the religious excesses that he saw as detrimental to Latin America. And therefore those were irrational scientific instruments. But obviously pedagogical science is a science of continuous movement, and we cannot remain fixated on the pedagogy that existed during Hostos's times, but rather follow its progress to its current status. In general, then, I agree with the proposal that we should make a new synthesis in which Hostos's important ideas are critically assumed, as José Miguel [Rodríguez Matos] mentioned, in light of our knowledge, of the current evaluations and of the transformation of our society.

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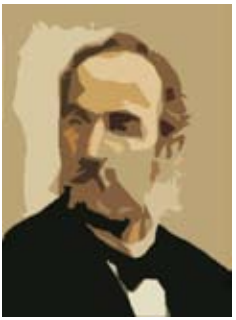

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