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The Learning Assistance Review

The Journal of the National College Learning Center Association

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About *The Learning Assistance Review*

Call for Manuscripts

Journal of College Reading and Learning

The *Journal of College Reading and Learning (JCRL)*—a national, peer-reviewed forum for theory, research, and policy related to college literacy and learning—invites interested authors to submit manuscripts for publication.

The *JCRL* seeks manuscripts with a focus on the following topics at the college level: effective teaching for struggling learners, learning through new technologies and texts, learning support for culturally and linguistically diverse student populations, and program evaluations of developmental and learning assistance instructional models.

In addition to feature articles, the *JCRL* publishes shorter pieces (fewer than 2, 500 words) in a "Theory to Practice" section. We welcome specific examples of theoretically based, research-supported practice, action research, critical reviews of recent scholarly publications in the field, and policy analyses.

For further information, contact Dr. Cynthia Peterson, Editor, Texas State University-San Marcos, at cpeterson@txstate.edu or by phone at 512.245.3839. We encourage you to visit the Journal website at http://www.crla.net/journal.htm.

Letter from the Editors

To Our Readers:

We have been delighted by the number of comments received from the National College Learning Center Association (NCLCA) membership about the spring 2004 issue of *The Learning Assistance Review* (TLAR). In addition, the discussion of William G. White's article, "The Physical Environment of Learning Support Centers," on the LRNASST-L Listserv created a wonderful flurry of requests for the journal. We are hoping to keep up this momentum with our fall issue.

In response to continuing requests for the journal from individuals who cannot find copies in their area, we will be working to expand the availability of TLAR in community college, 4-year college, and university libraries. You can help us in this endeavor by requesting that your library subscribe to TLAR. Learning center theory, research, and scholarship are an important part of what we do. Our students depend on quality learning assistance services for their personal and academic growth. Through the publication of theory-based research and scholarship, we continue to provide learning assistance professionals with the information necessary to enhance services.

This issue was completed upon our return from the 19th Annual NCLCA Conference in Maryland, *Sailing to Student Success*. We had a great response to the workshop, "Writing and Reviewing for *The Learning Assistance Review*." In fact, five more members have agreed to participate as peer reviewers. Thank you so much for your professional support.

In this issue we are pleased to share a number of interesting pieces with our readers. This issue features three articles, a "Join the Conversation" column, and two book reviews. The first article by Carol Severino focuses on the needs of international students in learning centers. The academic writing preparation of students who attended English as a Second Language (ESL) courses in the U.S. and participated in English as a Foreign Language (EFL) in their native country are compared and contrasted, along with practical ideas and advice for professional staff. This article is followed by a review of the impact of Supplemental Instruction by Tabitha Grier. Noncognitive outcomes for first-year, at-risk students are the focus of this study and ideas for further research are recommended. Our last selection by Scott Chadwick and Sharon McGuire presents the academic gains for tutees when served by tutors who have participated in (a) learning styles training, (b) relational communication and learning styles training, or (c) no addition tutorial training. This selection provides a guide for evaluating the effectiveness of tutor training based on students' subsequent course grades.

We hope that "Join the Conversation" will stimulate online discussion on the NCLCA web site. Suzanne Austin and Eleanor Logrip present the results

from engaging mathematics students in error analysis. Teacher observations and student perspectives are presented and classroom tests are used as teaching and learning tools. We invite you to "Join the Conversation."

We are also featuring two book reviews in this issue. After reading Colin Irvine's review of *Whose goals? Whose Aspiration? Learning to Teach Underprepared Writers Across the Curriculum* by S. M. Fishman and L. P. McCarthy, we all decided to read this book. If you, too, are interested in challenging your assumptions about teaching and learning, this is a book to read. And finally, Joan Dillon provides a review of *Teaching Developmental Reading: Historical, Theoretical, and Practical Background Readings* edited by Norman Stahl and Hunter Boylan. This book is a compilation of previously published articles (many of the chapters first appeared as articles in TLAR) on the topic of developmental education and is a "must read" for anyone involved in the field of learning assistance.

Enjoy your journal and get a friend or colleague hooked on TLAR. We close with a special thanks to David Taylor, Dean of the General College, for his support and in-kind contributions to TLAR. A special thanks to our Editorial Board; Emily Goff, David Arendale, Robert delMas, and Karen Bencke. This journal is the result of a team of professionals contributing to the whole. Thank you so much for your support.

International Students in a Learning Center: Self-Perceptions of Their EFL and ESL Preparation for Academic Writing in the U.S.

Carol Serverino
University of Iowa

Abstract

To improve the tutoring of Asian international students, we surveyed them about (a) their perceptions of the similarities and differences between their English as a Foreign Language (EFL) instruction in their home countries and their U.S. English as a Second Language (ESL) instruction and (b) whether they thought their instruction prepared them for U.S. academic writing. The responses of the 42 students who took the survey reveal that unlike their U.S. ESL work, their EFL courses emphasized grammar rules and sentence structure more than writing and rhetoric, and were thus perceived as more helpful for language learning than academic writing.

Learning center staff generally know less about the cultural and educational backgrounds of the international non-native speakers of English (NNES) who seek tutoring than they do about their native English-speaking clientele. After all, the international students who visit the learning center did not attend the local high school, or probably any U.S. high school. Also, many of the learning center tutors and directors who have studied or taught abroad may have lived in Europe or Latin America, rather than in the Asian countries from which many international students who use learning and writing centers come (Open Doors, 2003). The demands of NNES students' course work and deadlines also prevent tutors from learning more about these students' previous educational experiences and their perceptions of their own preparedness for academic writing tasks. In drop-in or appointment-based centers, even less time is available for these conversations than in enrollment programs in which students meet twice a week with the same tutor all semester. Most tutors know more about their international students' writing assignments than about their writing histories, especially their assessments about whether their previous second language experiences have prepared them for the tasks they now face in U.S. academic programs. Tutors usually do not know which instructional and tutorial

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practices their students have found helpful, and international students' voices on these matters are not often heard at conferences or in academic journals.

Yet such information about the experiences, knowledge, skills, and perceptions with which second language writers arrive in the U.S. would enable tutors to instruct these students more wisely, especially when research has shown the multiple ways in which second language writing differs from first language writing (Silva, 2001). Knowing what non-native English speakers bring and do not bring to the table from their English as a Foreign Language (EFL) classes in their home countries and from their English as a Second Language (ESL) classes in the U.S. would enable learning centers to compensate for areas not covered fully or at all. Knowing, from the students' point of view, the perceived differences between their second language (L2) writing and their first language (L1) writing and the perceived difficulties they have making the transition from first language to second language writing would contribute to more enlightened tutoring.

Because the most of the composition literature focuses on monolingual native speakers of English and most of the second language writing literature focuses on English as a Second Language (ESL) rather than EFL education, false assumptions tend to circulate about non-native English speaking writers and their EFL experiences (Silva, Leki, and Carson; Leki, 1992). For example, on our campus, we had heard that Asian NNES students' English as a Foreign Language education consists mainly of cramming for the Test of English as a Foreign Language (TOEFL), resulting in score inflation, and that NNES students struggle with English writing because their EFL classes emphasize speaking instead. One of the most common beliefs about international students, held by both learning center and ESL staff, is that they know more about English grammar and syntax than about English rhetoric (Powers, 1993; Reid, 1997; Gillespie and Lerner, 2004). Assuming this is true, to what degree is grammar emphasized over rhetoric in EFL? To what extent is this grammar emphasis then repeated in their ESL classes in the U.S.? What similarities and differences do they perceive between their EFL and ESL courses? How have EFL and ESL courses and the differences between them affected students intellectually and emotionally? As a result of their ESL and EFL preparation, how comfortable are NNES students with grammar and syntax as compared with rhetoric? How much should our courses and learning centers be stressing one or the other (Kroll, 1990; Blau & Hall, 2002)? Now that these Asian international students are studying in the U.S., for which academic tasks do they believe that EFL and ESL courses have prepared them? For which tasks do they feel unprepared?

Method

In order to fill the gaps in our knowledge about our Asian second language writers' educational backgrounds and perceptions about their preparedness for academic writing tasks in the U.S., we conducted a survey to answer the following questions:

1. What kinds of English as a Foreign Language instruction do our NNES writing center students receive in their home countries? What linguistic and rhetorical skills and areas are stressed? Which are not stressed? What academic tasks in the U.S. do Asian international students perceive their EFL programs overseas did or did not prepare them for?

2. Because international students have probably written more in their first than their second language, do they perceive that their first-language writing experience helps their English writing? If so, how? If not, why not?

3. How do their experiences with English as a Foreign Language in their home countries differ from their experiences with English as a Second Language in the U.S? What changes and improvements do they recommend for both?

Even though many of the survey questions address classroom instruction and not tutoring per se, what has or has not happened in classrooms affects what does or does not happen between tutors and writers, and thus is of interest to learning and writing center staff. Learning center tutors often address issues in rhetoric, organization, expression, vocabulary, and syntax that have not been covered fully in students' classrooms. Thus, learning and writing center tutoring complements classroom instruction (Healy, 1993).

Instrumentation

The survey was designed partly as an aid for learning center tutors, to help us learn about our second language writers' perceptions of the strengths and weaknesses of their linguistic and rhetorical preparation. If tutors and students were interested, they could discuss the responses to the survey questions in the tutoring sessions in our twice-a-week enrollment hours, our most popular tutoring program among non-native speakers of English, who comprise at least half of the participants. In this program students meet with the same tutor for two tutoring sessions each week throughout the entire semester. Our Appointment and E-mail Tutoring programs, on the other hand, are dominated by native speakers of English who comprise 80% of the participating students. For Appointment Tutoring, students sign up for tutoring as needed on sign-up sheets outside the Writing Center. For E-mail Tutoring, students submit their drafts for feedback through our Writing Center Web site (www.uiowa.edu/~writingc/). Our center is called the Writing Center but also functions as a learning center because we also help students with reading, speaking, test preparation, and study skills.

Tutors in our twice-a-week program were able to help NNES students interpret any questions that they were not sure they understood and thus reduce the number of unusable responses. Half of the survey questions were open ended to allow students further practice writing in English. These open-ended questions functioned somewhat like the writing prompts called "Invitations," which our center uses to help students generate informal writing, and with which most of the survey respondents were familiar. Thus,

the process of interpreting and answering the survey questions served as a springboard and enrichment for the tutoring session.

Respondents

As is the situation at many large universities, the majority of the international students studying at University of Iowa come from Asia, namely from China, Taiwan, Korea, Japan, Thailand, and Vietnam. Except for the Vietnamese students who have immigrated to the U.S., most plan to return to their countries with their advanced degrees. International students from Europe, Africa, Latin America, and the Middle East also work in our writing center, but the largest group comes from East Asia.

From summer, fall, and spring semesters of the 2001-2002 academic year, a total of 42 students in our twice-a-week Enrollment Program completed surveys. The national breakdown was as follows: 16 Chinese speakers (11 from the People's Republic of China, 5 from Taiwan), 14 Koreans, 10 Japanese, and 2 Vietnamese. Breakdown by academic level was 25 graduate students, 12 undergraduate students, 3 professionals, and 2 post-doctoral students, a proportion that reflects our center's international student population, as the majority of international students in the Enrollment Program are graduate students. This proportion of Chinese, Korean, and Japanese students also represents the international student population of the University of Iowa and many other large U.S. research universities. The respondents averaged 2 years residing in the U.S.; they had received an average of 8.4 years of EFL instruction in their home countries. Several other Asian students had been asked to fill out surveys but did not have time to complete them.

The student sample was professionally oriented with 9 students in engineering, 8 in education, 6 in business, 5 in medicine, 2 in nursing, 1 in law, and 11 in liberal arts. Of the 42, 33 had already completed at least one college degree in their home countries.

Results

The survey results are both quantitative and qualitative. Quantitative results are reported as averages and tallies of types of responses to the survey questions. In conjunction with those tallies, qualitative results are reported as discernable and revealing patterns in students' responses. A goal in quoting responses is to hear the international students' voices, thoughts, and feelings so often absent in educational research. Some interpretation is included in the reporting of results.

Linguistic and Rhetorical Skills

Because students are dealing with rhetorical issues of argumentative purpose and disciplinary audience when they write at the university, we wanted to know how much rhetorical, as opposed to linguistic, preparation they had received, or more accurately with self-reporting, that they perceived

they had received in their home countries. Thus, students were asked to rank 17 areas of English instruction on a scale of 1 to 5, with 5 representing the most emphasized. Because of the rhetoric and language focus of the survey, the list of areas does not cover every language art; for example, reading and listening activities are missing.

According to the results, in order of the areas most to least emphasized, Grammar Rules was most emphasized and scored the highest with an average of 4.6, followed by Sentence Structure with 4.4. Both of these results confirmed what our students had been telling us informally about their EFL classes' emphasis on grammar and syntax. The third area was Spelling at 4.2, followed by Learning Vocabulary and Expressions at 4.1, and then Avoiding Error at 3.5.

Tied for fifth with a much lower mean of 2.1 were Speaking and Writing in General, an unexpected result because we had thought Speaking would be much higher. We had assumed writing was not emphasized in EFL because speaking was emphasized instead. But through responses to the other survey questions and through informal interviews, we discovered that the grammar-translation method common in EFL instruction in Asia, which does not involve generating one's own writing, does not involve speaking either, sometimes because NNES EFL teachers themselves are unsure about their speaking skills. Less emphasis was placed on Organization in Writing at 1.9, which tied with Correct Grammar in Speaking. It is interesting to note that Spelling at 4.2 was emphasized much more than Writing in General (2.1) or Organization (1.9).

Even less emphasis was placed on preparation for Test of English as a Foreign Language (TOEFL) at 1.8. The relatively little importance assigned to TOEFL preparation was also unexpected because we had assumed that a major goal of high school and college EFL instruction was a good TOEFL score, but students explained both on their surveys and in tutoring session interviews that because most Asians are not going abroad to study, TOEFL preparation was not a school's responsibility and that anyone who wanted it had to pay for special classes at a commercial service.

Significantly, the lowest categories, in the third group, except for Correct Pronunciation and Intonation in Speaking, were all rhetorical, especially the components of Western academic rhetoric. Writing for Academic Purposes, Writing for Your Major, and Writing Clear, Direct Thesis Statements tied at 1.7. Supporting the Thesis with Adequate Evidence and Appealing to Your Audience tied at 1.5. Notably, the lowest in this category, but the most important endeavor in U.S. academia—Argumentation in Writing—scored a mere 1.4.

Preparation for U.S. Writing Tasks

When asked for which U.S. writing tasks their English as a Foreign Language instruction prepared them or did not prepare them, students'

responses were in line with their numerical rankings. Ten students noted that writing instruction was nonexistent, not emphasized, or that they themselves did not have the opportunity to receive such instruction. These replies suggest a view of writing as a less important adjunct skill, the last of the four language arts to be learned, rather than a skill that assists and accelerates language learning (Harklau, 2002; Zamel, 2001) or develops analytical and reflective abilities (Brauer, 2000). Indeed, the role of writing seems to be as underplayed in EFL abroad as it is in foreign language (FL) education in the U.S. (Brauer; Scott, 1996).

Five of the 42 students answered that EFL instruction prepared them for nothing or almost nothing here in the U.S. When asked the types of writing in English that they found difficult or uncomfortable, nine mentioned argumentation, persuasion, summaries, critiques or analyses; eight mentioned professional essays, literature reviews, proposals, dissertations, or articles for publication; and six students mentioned research papers. Logical demands—supporting claims with relevant evidence—were mentioned repeatedly, a typical comment being, "Argumentation and persuasive essays are difficult because of logical reasons." One self-deprecating student said, "Any type of writing is difficult for me."

Helpfulness of L1 Writing

Before distributing the survey for fall and spring semesters, we added a question that addressed the second language writing theory advanced by researchers such as Alister Cumming (1989) and Bill Grabe (2002) that writing is a construct separate from language proficiency because of its strategic and process components. This means that if students are skilled first-language writers, as would be many of the advanced undergraduate, graduate, and professional students in the sample, we could predict that they would transfer these high level skills from their first language to their second language writing. But students were divided in their responses about whether they perceived their first language writing assisting their second language writing. Students' exact words are quoted so readers can "hear" their voices and also note the few features of English that are still troublesome for them. The names that the students requested, either their actual names or pseudonyms, will be used when reporting the survey results. No name will be used if a student requested his or her name not be used. In three cases, students requested their American names be used.

Those who said that their first-language writing facilitates writing in English pointed to the similarities and carry-overs between first- and second-language writing or said that they first form their thoughts in their first language. A student from Taiwan said, "My first-language writing helps my second-language writing because I think the basic organization of an article in both languages is the same." Aki from Japan said, "Yes, because the Japanese language is well-structured in grammar and rich in rhetorical expression as well as English." Another student from Japan said, "Yes,

because of the process of pre-writing such as brainstorming." Yi Li from China said "Yes, probably the basic rules are the same."

The students who said that their first language writing did not help their English writing or had doubts about the helpfulness of their first-language writing experience pointed to the two languages' contrasting syntax and rhetoric. Chen Liu from China said, "No, because of totally different syntax and logical structure." Satomi from Japan was undecided: "I'm not sure because the way of thinking in Japanese and English is different." Sheng-Lan from China said, "My first language should help me, but it isn't." Too few students of each national, disciplinary, and gender group answered this question to draw any conclusions about the factors that correlate with either a positive or negative response. Students' perceptions about the relationship of their first-language writing to their second-language writing is a fruitful topic for future research.

A Comparison of EFL and ESL Instruction

When students were asked to compare and contrast their English as a Foreign Language with their English as a Second Language writing instruction, nine students explicitly pointed out an EFL-ESL division between grammar and rhetoric reflecting those numerical rankings. Sheng-Lan said, "In U.S. practice more about thesis statement and main points and organization, but in my home country, emphasis on grammar." Minako from Japan observed, "Writing instruction in the U.S. seems to focus on academic writing. On the other hand, in my country, it's a checking if students understand correct English grammar." Kyoko, also from Japan, confirmed what Minako said, "The big difference is that Japanese instructors emphasize the grammar in English. Especially writing center instructors, however, give me how to write more detail and how to persuasive others." Two other Japanese students, Chiemi and Tempei, mentioned that grammar-translation was the method in which they were taught English in Japan. Thus, English writing usually meant translating someone else's Japanese writing into English rather than generating their own prose.

A business student from Taiwan corroborated the emphasis on sentence-level grammar. "The students in my country were taught to write an easy or basic essay. Therefore, 'sentences' are the basic units that were taught, but not the whole essay." Jung Eun from Korea said, "We usually concern about spelling, grammar, but in U.S. they have importance on the structure and flow of the writing and variety of expression." Another Korean noted, "In my home country, grammar and spelling. In the states, organization, brainstorming, and revision." Four students said they could not make the comparison because they did not have English writing instruction in their home country. Noriko, the only student who received whole language English instruction from native English-speaking teachers throughout high school, said there was not much difference between her EFL instruction in Japan and her ESL instruction in the U.S. Ping from China also noted little

difference between her EFL and ESL instruction. In sum, it is reasonable that EFL emphasizes the sentence level in order to promote language proficiency, and that ESL emphasizes the discourse level to prepare students to write in their fields. However, the transition from grammar to discourse is not always a smooth one for international second language writers.

Advice for Their EFL Teachers

Students had much good advice for their English teachers at home when asked on the survey what they would say in a hypothetical letter to them about what they should add to or change in their English as a Foreign Language programs. Almost every student said that writing should be emphasized more; some included the recommendation for less grammar along with more writing, persuasion, and rhetoric. Tomomi from Japan said, "Think about the argument first. Getting what the argument is the hardest part for me." Some mentioned that along with writing, practical conversational skills should be taught. They had very specific recommendations. Jeonghee from Korea said, "Give students many chances to write with different styles. Teach grammar within context (because although I was very good at grammar out of context, when I write in English, I keep making errors). Teach writing with some purpose (not start with 'I am a girl.')" Adam from Korea was a process advocate: "Feedback again and again," he recommended to his home country teachers. "Try two and more drafts before final paper." These students believed that the rhetorical and process emphases of their ESL curricula could benefit their EFL programs.

Minako pointed out the problem that EFL teachers themselves don't write in English. "First of all, I think even teachers need to learn how to write in English so that they can know students' weak points. . . . It seemed to me that even the Japanese teachers didn't know how to write in English so that was no way to evaluate students' writing skill. . . . Also, teachers shouldn't concern grammatical mistake as much as they do and encourage students to write more without worry of mistakes."

Seven students indicated that the lack of native English speaking teachers or their teachers' or their own lack of contact with native English speakers is a serious problem. For example, a student from Taiwan said, "I think most English teachers never go abroad. It is a big problem because their pronounciating and expressing are not always correct." In my post-survey interview with Quang from Vietnam, one of my own writing center students, he told me that none of his high school English teachers had ever had a conversation with a native speaker, so they lacked the confidence and skill to converse with the students or to have the students converse with one another. Their only spoken exchange was when the teacher walked in the classroom and greeted the students, "Good morning, class," and they responded, "Good morning, teacher."

Although weaknesses predominated, students also pointed out the strengths of their English as a Foreign Language programs in response to

the question about which features of these classes should be retained. Two of the most common features of their EFL programs they wanted to retain were grammar instruction and journals and diaries. Thus, by no means did these students want to eliminate grammar instruction, just to reduce it and supplement it with more authentic speaking and writing. A student from Taiwan recommended that all methods be kept, "but reduce the time for correcting errors and spend more time on learning correct expression." Six students left that question blank; Kyoko from Japan wrote, "Unfortunately nothing should be kept"; and five students continued making recommendations from the previous question about what should be changed in their EFL programs.

Advice for Their U.S. ESL Teachers and Tutors

To balance the survey questions, students were also asked what they would tell their U.S. ESL instructors in a letter about what they should change or add to better prepare them for writing tasks in U.S. universities. Again, respondents had thoughtful and helpful suggestions for improving ESL curricula and instruction. To provoke frank and honest responses, the question was purposely ambiguous about whether their writing center tutors should be considered part of the ESL endeavor. Our tutors, as at most institutions, are writing tutors, not ESL writing tutors, although it is safe to say that for many NNES students who have finished their required ESL courses, the writing center is their main or only source of ESL writing instruction (Williams, & Severino, in press). Five students wanted their ESL teachers here in the U.S. to know more about cross-linguistic and cross-cultural issues, a recommendation that is more convincing when it comes from students than from a teaching manual. A Korean graduate student recommended, "ESL teachers should know the difference between English and other languages, so teachers can understand what are the areas that students are confused." Aki from Japan suggested, "It might be necessary to learn more about cultural issues." Tomomi, also from Japan, said "I think ESL teachers may be better to know that depending on culture, students are not prepared to express critical views of the topic in front of teachers." Contrastive rhetoric, the idea that discourse varies by culture, was also mentioned by Susan from Taiwan. "I would remind instructors that people from different parts of the world have different ideas about what a good writing should be like."

Other students also had clear ideas about which English as a Second Language teaching practices here in the U.S. they thought effective. Jeonghee from Korea thought that having students self-correct by reading their papers aloud was much more effective than ESL teachers correcting students' papers for them. Tae-Sang said that ESL teachers themselves should write model essays, which he called "paragons," on the same topics assigned to the students. Ping from China also recommended imitation of models, a practice important to becoming socialized into a field of study. Tomiko wanted more informal writing in diaries to become familiar with writing. Two students wanted more explanations of variations in vocabulary. Adam wanted more

reading before writing, another student more practice with multi-source research papers.

Features of their U.S. English as a Second Language programs they wanted to keep included multiple drafts, journals, and reading-writing connections. Three students mentioned feedback methods that should be retained. Tae Sang said, "Keep the kind manner of checking students' writing." Sandra from Taiwan said, "Keep answering questions about grammar very slowly." Six students left the ESL question blank, some because they did not experience ESL instruction in the U.S. but went right into regular classes because of their higher TOEFL scores.

Conclusions: Implications and Recommendations for the Classroom and Learning Center

So what do these survey results imply for EFL, ESL, and Learning Center Programs? First, the survey results emphasize the need for more research and teaching contact between the EFL and ESL communities. We need more teacher exchanges so that EFL teachers can teach in the U.S., England, and Australia, and so ESL language teachers can teach in Asia. English need not be taught abroad only by native speakers, but opportunities for teacher and student contact with native speakers should be increased so that Asian students' English language experiences are more authentic.

Both EFL and ESL curricula, especially EFL, need to emphasize genuine writing practice and generative writing more than translation of others' writing and ensure that process elements of brainstorming and multiple drafting are taught along with rhetorical elements of writing for different purposes: to summarize, critique, analyze, inform, argue, persuade. In writing classes and writing and learning centers in the U.S., we should closely examine models of argumentation in different fields for thesis, support, organization, and style, and practice imitating them. It is obvious that we in the U.S. can do more to improve ESL instruction and U.S. writing instruction and writing tutoring than we can to improve EFL, over which we presently have limited influence and control. Given the EFL emphasis on grammar and sentence structure necessary for proficiency revealed in the survey results, writing and learning centers and writing courses can compensate by emphasizing rhetoric—purpose, audience, thesis, and support—and by examining and imitating models of typical genres in different disciplines from an English for Academic Purposes (EAP) perspective. This way students will be more comfortable critiquing and writing essays and articles in their own fields. There is also a need to train teachers and tutors so they are knowledgeable about students' native languages and cultures. Tutor and teacher training courses should have significant linguistic and cultural components about different populations of second language writers—international students as well as immigrant, bilingual resident, and citizen students (Harklau, Losey, & Siegal, 1999). Tutors should also be prepared to draw connections between speaking and writing because of the lack of EFL

emphasis on speaking. They should expect that international students will want to practice their speaking as well as their writing in the learning center.

Finally, EFL and ESL students should be consulted before, during, and after classroom instruction or learning and writing center tutoring about their linguistic and rhetorical needs and which methods and curricula they find most effective. Good models are Muriel Harris's (1997) and Michael Pemberton's (1999) survey results on the needs and preferences of their writing centers' ESL students. Such consultation can be both informal—in teachers' conferences and tutoring sessions—and formal—in course evaluations and surveys such as this one.

Future surveys and interview projects could target specific issues such as international students' preparedness to argue and critique or their perceptions of the relationship between their first-language and second-language writing. Future surveys conducted in learning centers could include questions asking explicitly for feedback on tutoring practices to replace the more ambiguous questions on this survey designed to save face for tutors and students in an enrollment program in which students study with the same tutor all semester. The educational backgrounds of specific national and disciplinary groups such as Chinese, Japanese, and Korean, and humanities, social, and natural sciences could be investigated; the present survey did not have a sufficient sample of students from any one nationality or discipline. Teachers, tutors, and administrators can then use the results of these consultations and surveys to inform and improve tutoring, curricula, and instruction.

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Supplemental Instruction and Noncognitive Factors: Self-Efficacy, Outcome Expectations, and Effort Regulation

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Abstract

The positive relationship between Supplemental Instruction (SI), GPA, and reenrollment has been well established in SI literature. However, research illuminating the relationship between SI and noncognitive factors is significantly less well developed even though emotional intelligence may be equally important to academic success. The current study examined the relationship between SI and noncognitive factors, specifically self-efficacy, effort regulation, and outcome expectations. This study included TRIO students who participated in SI for 2 semesters, those who participated in SI for 1 semester, and those who did not participate in SI. All were surveyed 3 times during their first year in college.

Along with the incapacity to graduate students in a timely manner, the inability to retain students has been a costly problem for institutions of higher education (Congos & Schoeps, 1997). Dropout rates have resulted in lost income for institutions, whereas extended time taken to complete degrees has resulted in increased educational cost to students, and to the state in the case of public institutions (Congos & Schoeps). In efforts to maximize cost-efficiency, institutions of higher education have worked to develop and adapt programs that increase retention and decrease time for degree completion (Congos & Schoeps). From these efforts was born Supplemental Instruction (SI), developed in 1973 by Deanna Martin at the University of Missouri, Kansas City. SI is a content-based study skills course designed to increase student mastery of course content and competency in reading, reasoning, and critical analysis (Blanc, Debuhr, & Martin, 1983). Research has demonstrated the relationship between SI and higher final course grades, reenrollment, and graduation rates (Arendale & Narayanan, 1999). Yet, there is little research exploring the noncognitive benefits of SI.

Noncognitve factors may be key elements in higher reenrollment and graduation rates. For instance, Myers (2004) described the emotionally

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intelligent as those who are self-aware, who can handle their emotions rather than being swept away by them, and those who can postpone immediate gratification to reach long-term goals. Graduation from college can be considered a long term goal, and the ability to delay immediately reinforcing activities to achieve this goal certainly seems connected with one's prospect of graduating. Facets of emotional intelligence also seem prevalent in students' decisions to reenroll and persist. In sum, successfully navigating and graduating from college requires not only academic intelligence or "book smarts", but it is reasonable to assume that noncognitive factors also play a role.

The study described in this article attempted to discern the relationship between SI and three noncognitive variables, specifically self-efficacy, students' outcome expectations, and their effort regulation using the Motivated Strategies for Learning Questionnaire (MSLQ) by Pintrich, Smith, Garcia, and McKeachie (1991). TRIO Student Support Services (SSS) students beginning their first year in college were tested during small group preregistration meetings in the summer, fall, and spring of the 2000-2001 academic year. I compared the self-ratings of efficacy, outcome expectations, and effort regulation for those who participated in SI with those who did not. The pretest occurred in June and July of 2000 before students' first semester at the university. The post-tests occurred near the end of students' first and second semesters at the university.

The aim of this research study was to examine the benefits of SI with respect to noncognitive factors. As aforementioned, the SI literature has focused on SI with respect to course grades, grade point averages, and reenrollment rates (Arendale & Narayanan, 1999). However, there has been considerably less attention given to exploring the relationship between SI and various noncognitive factors, though these factors may be important to academic performance: ". . .self-referent thought . . . mediates the relationship between knowledge and action" (Bandura, 1982, p.122). Bandura's research demonstrated the importance of self-efficacy, outcome expectations, and effort regulation for performance. In an effort to build on Bandura's work, I posited that these three concepts might also be mediated by educational experiences such as SI.

> People can give up trying because they seriously doubt that they can do what is required. Or they may be assured of their capabilities, but give up trying because they expect their efforts to produce no results due to the unresponsiveness . . . of the environment. (Bandura, 1982 p.140).

The responsive and unresponsive environments described by Bandura can be likened to more active or student-centered approaches to teaching and learning such as SI, and more typical, lecture-centered college and university learning environments, respectively. Differences in these learning

environments seem to represent shifting paradigms of teaching and learning in higher education (Smith & Waller, 1997). SI is an embodiment of the active learning developmental style, for which the learning environment is designed to involve students and be responsive to their needs.

When SI is added to traditionally difficult courses, research supports improved course grades, grade point averages (GPAs), and reenrollment rates (Arendale & Narayanan, 1999). Still, the quasi-experimental nature of the research that links SI to such gains is fraught with threats to internal validity such as selection bias and selection-by-treatment interactions. Therefore, in an effort to help isolate the benefits of SI, the current study attempted to address constraints of prior research by using a repeated measures design and covariates to statistically control for pre-existing differences between groups. Examining SI's noncognitive benefits is an important way to extend the general pool of knowledge and to help better understand how SI impacts student development beyond commonly reported outcomes.

Review of Literature

The study that brought national acclaim to Supplemental Instruction (SI) was a correlational analysis examining the relationship between SI, attrition, and GPA (Blanc, DeBuhr, and Martin, 1983). Blanc and colleagues pooled 746 students from several entry-level arts and sciences courses. All students had the opportunity to participate in SI, but attendance was voluntary. The authors divided the students into the following three groups: (a) a motivational control group of 132 students who indicated high interest in attending SI via Likert-type scale scores, but were prevented from participating in SI due to a scheduling conflict, (b) an SI group of 261 students, and (c) a non-SI group made up of 353 students.

The groups were measured on prior academic achievement using high school rank and college entrance examination scores. The groups' college achievement was measured using course grades, semester GPAs, and the percentage of Ds, Fs, and withdrawals. Data were analyzed using t-tests and chi-squares. Results indicated significantly higher semester GPAs and course grades for the SI group ($p < .01$). In turn, the SI group also had significantly fewer Ds, Fs, and withdrawals ($p < .05$), and reenrolled at higher rates than the non-SI students over the next two semesters ($p < .01$). Additionally, when conducting a 5-year longitudinal analysis, the authors (Blanc et al., 1983) found that D, F, and withdrawal grades significantly decreased ($p < .0001$) after SI services were introduced at the institution, and this reduction was proportional to the level of SI participation.

However, the results of this study should be viewed with caution because of the study's limitations. Although the authors (Blanc et al., 1983) included a motivational control group, assignment to the experimental groups was not random. In turn, self-selection bias and subject-treatment interactions should be considered. There may have been systematic differences

beyond motivation interacting with the SI variable between students who self-selected into the treatment and those who did not. For instance, a selection-maturation interaction might have occurred where the maturity of students systematically differed across groups.

To the authors' (Blanc et al., 1983) credit, attempts to account for some of the differences beyond motivation were included in this study by addressing differences between SI and non-SI groups using college entrance exam scores. Blanc and associates analyzed the course grade and reenrollment status of students in the top and bottom quartiles of the college entrance exam. Results showed that a comparable proportion of students from both quartiles used Supplemental Instruction, and when compared with their non-SI counterparts obtained higher course grades and reenrolled at higher rates (Blanc et al.). Although noncognitive factors such as maturation may have created systematic group differences in this study, the focus was on cognitive variables.

Studies of SI and Noncognitive Factors

Two studies examining SI with respect to noncognitive variables include those of Ramirez (1997) and Visor, Johnson, and Cole (1992). Ramirez followed a stratified random sample of 1193 SI and non-SI students for eight semesters. There were four principal groups. One group, labeled Traditional SI students (n = 161), was made up of students from mainstream socioeconomic backgrounds who were academically prepared to meet college entry requirements and who participated in SI. A second group labeled Traditional non-SI students (n = 316) was made up of students from mainstream socioeconomic backgrounds who were academically prepared to meet college entry requirements and did not participate in SI. A third group called Program SI students (n = 337) was composed of students from socioeconomically disadvantaged backgrounds who were underprepared at college entry or had special academic needs and who participated in SI. Finally, Program non-SI students (n = 379) were from the same background as Program SI students, but did not participate in SI. In this study, SI was a one-credit pre-baccalaureate course, and attendance was required. Independent measures included SAT scores, admission status, ethnicity, class standing, prior units completed, prior GPA, whether students participated in SI, and whether students were program students. Dependent measures included performance in target courses, semester GPA after the first semester of the study in fall 1991, GPA and SI experience in subsequent semesters, cumulative GPA, and academic status after spring 1995. Results indicated that SI students' course grades were significantly higher than their non-SI peers. Ramirez (1997) also found significant ($p < .01$) correlations between SI and academic persistence over a 4-year period, where those who benefited most were the program or special needs students.

Other findings asserted by Ramirez (1997) report that "in both the SI and the non-SI groups, those with the highest SAT scores often did poorly, whereas those predicted to fail earned higher grades" (Ramirez, 1997, p.4). Ramirez attributed this phenomenon to student motivation. However, statistical regression is an alternate explanation. Statistical regression is especially relevant in Ramirez's comparison of students in opposite extreme groups. Moreover, the ceiling effect may have been operating in this study, where those in the highest group had less room for improvement than those in the lowest group.

Perhaps one of the most comprehensive studies examining the noncognitive differences between students who choose to attend SI and those who do not is that of Visor, Johnson, and Cole (1992). These authors examined SI with respect to locus of control, self-efficacy, and self-esteem. The authors began with a sample of 300 students at various levels of their academic careers who enrolled in an introductory psychology course. SI was available for all students, and the authors used a pre- and posttest design to measure students' locus of control, self-efficacy, and self-esteem during the first and the last week of class (Visor et al.). The study consisted of three groups of students: (a) regular SI participants (i.e., those who attended four or more times), (b) occasional SI participants (i.e., those who attended three or fewer times), and (c) nonparticipants (i.e., those who never attended SI). Data were analyzed using an analysis of covariance (ANCOVA) and post-hoc pairwise comparisons. Results indicated significance for self-efficacy and self-esteem, where occasional SI participants had lower self-efficacy than regular participants and lower self-esteem than both regular and non-SI participants. However, attrition rates should be taken into account when viewing this data. Visor and her colleagues noted that due to attrition and error in completing instruments, a sizable number of non-SI participants were dropped. Thus, missing data may have been a potential source of bias in this study. Although the authors assert that the missing data are inconsequential because of the sizable nature of the non-SI group and the absence of significant differences between groups on the pretests, missing data can be problematic especially when it makes up a large proportion of only one group. Hence, unless the data were missing at random, which is unlikely because missing observations were not comparable across groups, these omissions are a threat to internal validity and could have introduced a source of systematic bias.

A Study of SI and Self-Esteem

The final study presented here examined self-efficacy, academic performance, and perceived career options (Lent, Brown, & Larkin, 1986). Lent and associates focused on using self-efficacy to predict academic performance and career indecision. These authors used a quasi-experimental pre- and posttest design with 75 male and 35 female college students enrolled in two sections of a career and educational planning course for undergraduates considering science and engineering majors and careers. Subjects were primarily freshmen and sophomores. Two indices of self-efficacy were used to measure strength and level of efficacy. One instrument was used to measure career indecision. Lent and colleagues also included a measure of global self-esteem. Data were first analyzed

using a three-way (gender by course section by pre- and posttest) analysis of variance. There were no significant main effects or interactions, so the authors collapsed the self-efficacy scores across gender and course section. This analysis revealed significant mean differences between high and low self-efficacy groups on GPA in science and technical coursework and the number of quarters completed in the college of technology over the following year. In a hierarchical regression analysis using traditional predictors of academic success such as high school rank and math PSAT score, the two efficacy measures accounted for a significant portion of the variance where both measures added distinctive and proportional predictive power to the equation. Correlations between self-efficacy, career indecision, and self-esteem were not significant (Lent et al.). The authors noted that the generalizability of these results might be limited to high achieving students in the science and technology fields. Still, the implications of these findings warrant the inclusion of self-efficacy in research on academic success and attrition. Obviously, because of the correlational nature of the Lent study, no causation can be inferred, but the importance of noncognitive variables, particularly self-efficacy, is underscored. Thus, the current research aimed to examine the relationship between SI and self-efficacy including the components of outcome expectations and effort regulation.

Methodology

The current study used a quasi-experimental repeated measures design in which students self-selected into one of four groups: (a) students who enrolled in SI for fall semester only, (b) students who enrolled in SI for spring semester only, (c) students who enrolled in SI for both fall and spring semesters, and (d) students who did not enroll in SI.

Sample

The current sample consisted of TRIO Student Support Services students. TRIO is a federally-funded program designed to help first-generation, low-income, and other nontraditional students persist in college and earn baccalaureate degrees. Participants in SSS receive tutoring, counseling, and instruction. The SSS students who participated in this research attended University of Minnesota, and were admitted to the General College (GC), designed to admit and prepare underprepared students for transfer to degree-granting colleges within the university.

Originally the sample was composed of 88 SSS students in their first year of college. SSS students represent a unique subset of the student population admitted to GC at the University of Minnesota. Although all students in this college can be considered underprepared, for SSS students the mean high school GPA was 2.2, the mean high school rank (HSR) was the 37th percentile, and the mean composite ACT score was 17.29 (B. Schelske, personal communication, February, 17, 1997). However, for the average student admitted to this unit, the mean high school GPA, HSR, and composite ACT score were 2.56, 44.85, and 20.55, respectively (M. Cowmeadow, personal communication, February 12, 1999).

Noting the differences between the population of students housed within the General College and other undergraduate students is also important. Therefore, another point of comparison is helpful. The mean HSR and composite ACT score for students matriculated in the College of Liberal Arts and Sciences were 80 and 25, respectively (L. Reigener, personal communication, December 16, 1999).

For the analysis in this study, I used only data from participants who completed all surveys administered in the summer, fall, and spring. Of the 88 students who completed the first survey in the summer, 43 met this criterion. The pre-college statistics for this group of 43 students are as follows: The mean HSR for this sample was 42.98 with a standard deviation of 19.24. The mean ACT score was 17.59 with a standard deviation of 3.15. The racial and gender composition comprised 11 African Americans—7 females and 4 males; 15 Asian Americans—7 females and 8 males; 1 Hispanic male; and 16 Whites—10 females and 6 males. Consequently, the sample was 26% African American, 35% Asian American, 2% Hispanic, and 37% White, with a gender ratio of 56% female to 44% male. All students participating in this study were beginning their first year at the university.

Variables

The independent variable in this study was SI. SI is defined here as a one-credit baccalaureate course designed to promote learning strategies that assist students in content integration and higher order thinking in traditionally difficult science and social science courses. The SI courses in this study were typically connected to nonresidential learning communities where a group of up to 18 SSS students jointly enrolled in several courses.

Dependent measures included self-efficacy, outcome expectations, and effort regulation operationalized by scales from the MSLQ (Pintrich et al., 1991). Self-efficacy was measured using the Expectancy Component: Self-Efficacy for Learning and Performance scale (Pintrich et al.). Outcome expectations were measured using the Expectancy Component: Control of Learning Beliefs scale (Pintrich, et al.). Effort regulation was measured using the Resource Management Strategies: Effort Regulation scale (Pintrich et al.).

Instrument

The MSLQ (Pintrich et al., 1991) was normed on 380 college students. Demographic data for 89 of these students were missing. The gender make-up of this group was 26.3% male, 50.5% female, and 23.2% missing. The ethnic background was 3.7% African American, 2.4% Asian American, 66.3% Caucasian, 1.1% Hispanic or Spanish speaking, 2.4% other, and 24.2% missing. The composition of students' academic status in the norm group was 5.3% freshmen, 10% sophomores, 23.7% juniors, 35% seniors, 1.8% graduate, and 24.2% other.

The self-efficacy scale from the MSLQ (Pintrich et al., 1991) consisted of eight Likert-type scale items with an alpha coefficient of .93. The items included in this scale were written to assess self-efficacy as well as expectations for success:

> expectancy for success refers to performance expectations, and relates specifically to task performance, [while] self-efficacy is a self-appraisal of one's ability to master a task. Self-efficacy included judgments about one's ability to accomplish a task as well as one's confidence in one's skills to perform that task. (Pintrich et al., p. 13)

The scale for outcome expectations consisted of four Likert-type scale items with an alpha coefficient of .68. This scale correlated .13 with students' final grade. The items on this scale were written to assess students' faith that their endeavors to learn would lead to positive outcomes:

> It concerns the belief that outcomes are contingent on one's own effort, in contrast to external factors such as the teacher . . . [i]f a student feels that she can control her academic performance, she is more likely to put forth what is needed strategically to effect the desired changes. (Pintrich et. al, 1991, p. 12)

Finally, the effort regulation scale consisted of four Likert-type scale items, two of which were reverse-scored. The alpha coefficient for this scale was .69, and the correlation of this scale with final grade was .32. The effort regulation scale was written to assess students' ability to persevere when faced with distractions and uninteresting projects:

> Effort management is self-management, and reflects a commitment to completing one's study goals, even when there are difficulties or distractions. Effort management is important to academic success because it not only signifies goal commitment, but also regulates the continued use of learning strategies. (Pintrich et al., 1991, p. 27)

These three scales were compiled to create the Attitudes and Behaviors Survey used in the current research. The Attitudes and Behaviors Survey was composed of 16 Likert-type scale items taken from the MSLQ. There was a moderate intercorrelation between these scales. The self-efficacy scale correlated .44 with both the Outcome Expectations scale and the Effort Regulation scale (Pintrich et al., 1991). The correlation between the Outcome Expectations scale and Effort Regulation scale was .07 (Pintrich et al., 1991).

Procedures

The Attitudes and Behavior Survey was distributed three times during the 2000-2001 academic year. First, students completed the survey during freshman orientation, which occurred over the summer months before their first semester at the university. Next, students completed the survey during spring preregistration group meetings, which occurred near the end of their first semester at the university. Finally, students completed the survey a third time during "Tools for Transfer" meetings, which occurred near the end of their second semester at the university. Surveys were labeled and color-coded according to the semester they were distributed. Only data for students who completed all three surveys were included in the analysis.

Results

Data were analyzed using a Multivariate Analysis of Covariance (MANCOVA). The covariates ACT and HSR were used along with the summer Attitudes and Behavior Survey (the pretest) to help account for pre-existing differences between groups that could not be controlled by random assignment. A MANCOVA was chosen to analyze the data because of its sensitivity to changes over time or repeated measures designs and because of the inclusion of multiple dependent variables. The statistical or null hypotheses were supported. Results indicated no significant differences on measures of self-efficacy, outcome expectations, or effort regulation across groups of students who participated in SI for fall semester only, spring semester only, both fall and spring semester, and those who did not participate in SI at all.

Discussion

A major consideration in examining the results of this study includes the issue of attrition. Of the original sample of 88 students, 43 completed the study and 45 did not. Significant differences between those who completed the study and those who did not could make interpretation of the data difficult and be indicative of bias.

In addition, questioning the validity or applicability of the MSLQ is important. As previously discussed, the MSLQ was normed on 380 college students. Of the demographic information reported, Caucasians made up an overwhelming majority of the normative sample or 66%, while African Americans trailed at a mere 3.7%, and Asian Americans made up only 2.4%. Given that for 24.2% of the sample racial identifying data were "missing", these percentages may in fact under-estimate the lack of diversity within the norm group. Thus, the demographic statistics for the racial composition of the normative group differed significantly from the 43 students included in this study, where Whites represented only 37% of the sample, and Asian Americans and African Americans trailed closely at 35% and 26% respectively.

Additionally, the standardization group for the MSLQ differed from the current sample of students with respect to academic status. Students in the current study were all freshmen. The normative sample for the MSLQ comprised only 5.3% freshmen and 94.7% other students.

One demographic statistic in this study seemingly comparable to that of the normative sample of the MSLQ is the percentage of Hispanics. This group made up 1.1% of the normative sample and 2% of the current sample. However, missing data from the normative sample makes the reported percentages difficult to interpret and extrapolate. For instance, on the surface the percentage of female subjects also seems comparable across samples. The normative sample for the MSLQ reports 50.5% female subjects, and the current study is made up of 56% female subjects. However, with a report of only 26.3% male subjects, information on gender is missing for 23.2% of the students included in the MSLQ sample. This high percentage of missing data makes the actual gender composition for the normative sample unclear.

In sum, though the MSLQ was chosen for its face validity and empirically sound nature, questioning the validity of the results obtained from this instrument's self-efficacy, outcome expectations, and effort regulation scales is important in the current research. Perhaps the sensitivity of this instrument is inadequate for more diverse populations, and cross validation is needed. In addition, more instruments using ethnically diverse normative samples are needed.

With respect to external validity, attrition is again an issue. The similarities or differences between the 43 students who completed the study and the 45 who did not may certainly have implications for the generalizability of these results. For example, if there are no significant differences between these two groups, one might logically conclude that the results of this study, which are based on the group of 43 students, are representative of the intended population of SSS students. However, if the 45 students who did not complete the study are significantly different from those who did, the generalizability of these results becomes less clear, and the external validity threatened.

New Questions

The possible insensitivity of the MSLQ with respect to the current sample and attrition are two plausible explanations for the results of this study. However, there is another alternative. It is possible that first year TRIO students' participation in SI had no impact on their overall effort regulation, outcome expectations, and self-efficacy. Considering that SI is only a one-credit baccalaureate course within the often complex lives of SSS students, it is possible that the impact of SI courses on overall student development was minimal. In fact, it is possible that some of the beneficial effects of SI do not extend much beyond the target course for which it is intended. These alternative suggestions present new questions. For example, given that SI is part of the developmental paradigm of education, how much do SI courses impact overall student development? Until the studies examining SI begin more fully exploring the limitations as well as the benefits of this educational program, this question will be difficult to answer.

However, developing this line of research may provide insight into the possible long-term benefits of SI as well as answers to questions such as

how far can the positive effects of SI extend beyond the target course and whether these benefits impart transferable developmental skills in areas such as student regulatory behaviors or increased metacognition. Studies by Blanc, DeBuhr, and Martin (1983) and Ramirez (1997) respectively suggest that higher reenrollment rates (for up to two semesters) and stronger academic persistence (for up to four years) are correlated with participation in SI. Meanwhile, Lent, Brown, and Larkin (1986) have authored one of the first studies to connect cognitive (i.e., GPA) and noncognitve (i.e., self-efficacy) benefits of SI. Still, more needs to be done.

I believe that, especially for traditionally-underrepresented and first generation college students with few social scripts for engaging the college environment, there can be a strong connection between the cognitive and noncognitive benefits of SI. For these particular students, SI may serve as a useful tool to facilitate socialization to college through the inclusion of college survival skills. These may include activities that encourage students to actively monitor their progress in courses, communicate regularly with their instructors, rely on peers for academic support networks, delay gratification, and learn how to break down long-term goals into manageable objectives.

Pursuing the line of research regarding how SI courses develop students may also raise philosophical questions such as how fully *should* SI attempt to develop students. I propose that within the constraints of the one-credit classroom model, SI should attempt to develop students for college success. This includes not only attending to intelligence (IQ) or course content-based knowledge developments, but also attending to emotional intelligence (EQ) or effective personal management skill developments, which are just as important for academic success and persistence in college settings.

Recommendations

One recommendation is to extend research on SI and noncognitive factors with emphases on the new questions presented here, including the examination of the impact of SI in its current form on EQ as well as IQ. Additionally, it may be time to look at more philosophical questions, specifically the one presented here: Given its developmental nature, how fully should SI attempt to develop students for college success?

Lastly, considering the noncognitive variables—efficacy, outcome expectations, and effort regulation—included in this study, I recommend replication and extension. First, using an instrument for which the normative and sample groups are more comparable may be important. Representative normative samples are critical for internal validity considerations. However, caution is urged because such focus on internal validity can be problematic for research on diverse populations due to the need for more rigorously cross-validated assessment tools (Sue, 1999). Still, cross-validating empirically sound assessment tools such as the MSLQ on diverse populations is also imperative for future research. Second, choosing measures specifically

designed to detect changes in student development over time can also strengthen subsequent research. Third, expanding the breadth and number of noncognitive factors may be important. According to Bandura (1982), outcome expectations and effort regulation are both components of self-efficacy. Thus, it may be useful to conceptually and numerically expand the noncognitive variables identified for research in this study. Suggestions include the examination of variables related to metacognition, emotional intelligence, academic autonomy, and help-seeking behavior in addition to self-efficacy, outcome expectations, and effort regulation.

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Effect of Relational Communication Training for Tutors on Tutee Course Grades

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Abstract

Tutor-tutee communication matters and can have an effect on academic performance. In this study, college student tutors were assigned to one of three training conditions: no training, learning styles training, and learning styles and relational communication training. Their tutees' grades were analyzed, showing a significant difference in academic performance between the no training and relational communication training conditions. Through focus groups and individual interviews, tutees' observations of their tutors' relational communication behaviors were analyzed. Substantial differences in dominance, trust, and composure were observed.

Communication rapport in the teacher-learner relationship helps achieve desired types and levels of academic performance (McKeachie, 1999; Pascarella & Terenzini, 1991). Rapport, or the teacher-learner relationship, is often the most important characteristic to students when describing what constitutes an ideal teacher (Cohen, 1981; Feldman, 1988). At nearly all colleges, student tutoring services are available, extending the students' learning interactions beyond the traditional teacher-student relationship. Yet little research has focused on the effects of tutor-tutee interactions or tutor training upon students' academic performance, traditionally operationally defined as grades earned (Brower, 1994; Thombs, 1995). In this study we demonstrate that tutor training does improve tutees' grades.

Review of Related Literature

Experts in tutoring recognize the importance of the tutor-tutee relationship. Chory and McCroskey (1999) found that teachers' student-centered communication is positively correlated with student affective learning.

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Ellis (2000) demonstrated that how a teacher communicates to students contributes to their affective and cognitive learning.

Research investigating tutor-tutee communication shows that tutees are cognizant of the communicative dynamics in their tutor-tutee interactions. Thonus (1999) investigated tutors' communicative practices, finding that the institutional culture within which tutoring occurs is of more importance than tutors' or tutees' gender or language proficiency. Gier (1996) argued that a two-way relationship is necessary for successful tutoring sessions, and that tutors must play multiple roles in the relationship as they interact with and adapt to the needs of their tutees. Ho and Mitchell (1982) found that tutees respond in kind to their tutor's nonverbal messages. These studies are important in that they show that students differentiate tutors' communicative practices and that those practices matter to the tutees.

Relational communication is a framework used to assess and enhance interactions between learners and teachers. Relational communication is "those verbal and nonverbal expressions that indicate how two or more people regard each other, regard their relationship, or regard themselves within the context of the relationship" (Burgoon & Hale, 1984, p. 193). Burgoon and Hale (1987) operationalized eight dimensions of relational communication: (a) immediacy/affection (i.e., perceptions of closeness and attraction); (b) similarity/depth (i.e., similarities between conversants and their depth of conversations); (c) receptivity/trust (i.e., openness, listening, honesty, and trust); (d) composure (i.e., speaker's degree of calm, comfort, and nervousness); (e) formality (i.e., extent to which the conversation is formal); (f) dominance (i.e., extent to which one person attempts to control the conversation); (g) equality (i.e., perception of equality and cooperation in the conversation); and (h) task orientation (i.e., degree to which messages are task-oriented).

Immediacy, a communicative behavior that "enhance[s] closeness to and nonverbal interaction with another" (Mehrabian, 1969, p. 203), is known to be strongly related to positive affective and cognitive learning outcomes (Gorham, 1988; Sanders & Wiseman, 1990). Conceptually, in a learning environment relational communication recognizes the importance of teacher immediacy, but adds to that one-sided behavior by focusing on the verbal and nonverbal messages that affect the relationship between teacher and student, tutor and tutee. Nadler and Nadler (2000) found that the likelihood that students will open up to their teachers is positively correlated with the students' perceptions of their teachers' use of relational communication.

Given the evidence that suggests the nature of tutor-tutee interaction affects learning, it would be beneficial to train tutors in relational communication. Boylan, Bliss, and Bonham (1997) found that training tutors is effective. Their work shows that tutees participating in a tutoring program in which tutors were trained were more likely to have higher first-term grade point averages (GPAs), higher cumulative GPAs, and stay to in school than

tutees with tutors who were not trained. Training significantly affects tutors' ability to respond appropriately to tutoring situations, particularly with respect to active listening and paraphrasing (Sheets, 1994).

Thus, research shows that tutor training positively affects tutees' academic performance. We know that teacher and student immediacy are relational in nature, as opposed to being content-oriented in nature, but have been studied in isolation (Gorham, 1988). Given these findings, it is appropriate to investigate tutees' perceptions of their tutors' relational communication and the connection between relational communication and academic performance. Studying relational communication responds to Waldeck, Kearney, and Plax's (2001) claim that "we know very little about how teacher-student interactions influence learning" (p. 224). Thus, we seek the answers to two questions. First, how do tutees perceive their tutors' relational communication across different tutor training conditions? Second, what is the relationship between relational communication training and tutee course grades?

Method

This study provided two types of training to tutors (i.e., learning styles training and learning styles combined with relational communication training), and then assessed the effects of that training on tutee's grades and perceptions of their tutors' relational communication. Tutors participating in the training were randomly assigned to one of the two training conditions. Tutees were unaware of the training and the study throughout their participation in tutoring sessions.

Participants

Across the 39 courses using tutors, there were 197 tutors employed through a Iowa State University's Academic Success Center's tutoring program. Given that program's structure, it was not possible to mandate tutor training. But 30 tutors volunteered for training and were provided pizza, soda, and one hour of paid compensation for participating in training. The participation rate during this study (15.2%) was equivalent to historical training participation rates.

For tutoring sessions tutors were matched with one to four tutees based on tutees' needs and schedules and tutors' areas of expertise, meeting up to two times per week for a semester. Because tutors were randomly put in different training conditions, and tutees were unaware of those conditions, effectively we randomized the distribution and demographics of tutees across the training conditions.

The focus of this study is on the effects of tutor training on their tutees' academic performance. Tutees in the study were enrolled in one of the 39 classes tutored by the tutors in this study. Seventy-nine tutees were taught by tutors who were in the learning styles only training condition. Fifty-six

tutees were taught by tutors who were in the combined learning styles and relational communication training condition. In order to compare those tutees against tutees whose tutors had no training, we identified 45 tutors who did not volunteer for training but who tutored in at least one of the 39 courses in which the trained tutors tutored. One hundred ninety-nine tutees taught by those tutors were included in this study. All tutees were asked for permission to obtain their course grades for the courses in which they were tutored and to have this data used anonymously for this research. Of the 334 tutees, 21 denied us access to their grades, leaving us 313 tutees for the grade comparison.

At the end of the semester, 25 tutees participated in one of three focus groups and an additional 14 tutees participated in e-mail interviews. Each were given a five-dollar voucher to the university bookstore and entered into a random drawing for a $75 voucher to the bookstore. One tutee was awarded that voucher. Of tutees participating in the focus groups and interviews, 60% were males and 40% were females, the same ratio as the student population at the university ($X^2(2, N = 334) = .237$, *n.s.*).

Procedure and Variables

A three-group posttest only design was used in this study. Of the 197 tutors at the university, 30 voluntarily attended training. Of those, 53% ($n = 16$) were randomly assigned to the learning styles training condition and 47% ($n = 14$) were assigned to the combined learning styles and relational communication training condition. All tutors in attendance received one hour of learning styles training that consisted of descriptions of Visual, Aural, Reading, and Kinetic (VARK) learning styles and relevant learning strategies for each (Fleming & Bonwell, 1998).

Tutors in the learning styles training condition then spent 30 minutes with case studies, identifying and discussing how they would apply learning styles theory in their tutoring sessions. For the 30 minutes of relational communication training condition, tutors learned about relational communication, participated in relational communication role-playing, and discussed how they might use relational messages with their tutees. Training was provided by the director of the university's Academic Success Center and a senior Communication Studies major who had prior coursework and experience in training and development. The first author of this article, a professor of Communication Studies, developed the relational communication training module. Further, he observed the training sessions, verifying that the content and processes used for tutor training and relational communication training remained the same across the different sessions.

Focus Groups and Interviews

To compare tutees' perceptions of trained and untrained tutors, we compiled a list of courses in which tutors receiving training tutored. We identified all tutors, regardless of training condition, who tutored in those

classes. Tutees ($n = 334$) of the tutors in those courses were invited to participate in one of three focus group discussions. Twenty-five tutees participated in the focus groups. Each focus group lasted for one hour. If tutees wanted to participate in the focus group discussions but had scheduling conflicts, they were interviewed via e-mail ($n = 14$). The same questions were used in the focus groups and interviews. The questions were designed to allow tutees to describe their tutors' relational communication, without the tutees having to know the specific relational communication dimensions (see Figure 1).

Figure 1. Focus group and interview questions.

Question number	Question
1	How does your tutor talk to you (e.g., word choice, style, tone, etc.) when tutoring you?
2	How does your tutor act (e.g., physical actions, location in the room, does he/she sit or stand, etc.) when tutoring you?
3	What is the atmosphere of the tutoring session? In other words, how does it feel while the tutoring session is going on?
4	Imagine you were observing you and your tutor through a one-way mirror, like in a police interrogation room. How would you answer this question, "What does the interaction sound like?"
5	Now, imagine you are still observing the interaction through that one-way mirror. How would you answer this question, "What does the interaction look like?"
6	What are the best things your tutor does or says that make you feel comfortable and help you learn?
7	What are the things your tutor does or says that make you uncomfortable or prevent you from learning?
8	Do you have confidence in your tutor's abilities to tutor you? Please explain.
9	In general, do you trust your tutor? If so, why? If not, why not?

Focus group notes were transcribed verbatim. Responses to e-mail interview questions were added to the transcripts. A data coder, unaware of the purpose of the study but trained in the meaning of the relational communication dimensions, and the non-note taking author, coded the focus group and e-mail transcripts. The two coders coding a random sample (15%) of the responses in common, achieved a reliability coefficient, accounting for chance agreement, of $pi = .77$. Intercoder reliabilities greater than 70% are considered to be reliable (Frey, Botan, & Kreps, 2000).

Findings

Our research question sought to determine the differences in tutees' perceptions of their tutors across the three training conditions and the effect of training focus on academic performance. For ease of reading in the following sections, tutees whose tutors were in the no training condition will be referred to as NT tutees. Tutees whose tutors were in the learning styles training will be referred to as LS tutees. Tutees whose tutors were in the learning styles and relational communication training will be referred to as RC tutees. Tutee comments quoted below are actual comments and are representative of other, similar comments within the training condition in which they appear.

Perceptions of Relational Communication Behaviors

The numbers of comments made by tutees across each relational communication category are shown in Table 1. Due to the small values in many categories, running inferential statistics would not be useful. Exacerbating this problem is that the valence of the comments is described in the paragraphs below, though not captured in the table. For example, the 15 "dominance" comments made by NT tutees were all of the "he or she was dominant in our interactions" variety, while the two of the seven LS tutee comments and all five of the RC tutee comments addressed the lack of dominance of their tutors.

Table 1
Frequency of Tutee Comments by Relational Communication Categories

	Tutor Types		
Relational Communication Category	NT ($n = 15$)	NT* LS ($n = 12$)	RC ($n = 12$)
Immediacy / Affection	6	5 6	4
Similarity / Depth	8	6 7	4
Receptivity / Trust	4	3 5	6
Composure	15	12 2	7
Formality	16	13 8	1
Dominance	15	12 7	5
Equality	6	5 9	6
Task Orientation	7	6 6	6

* The number of NT tutee comments were normalized for comparative purposes to LS and RC tutee comments.

Immediacy/affection. All tutees, regardless of their tutor's level and type of training, saw their tutors using nonverbal immediacy through where they sat ("next to each other at a table," "right next to me," and "so that we were at eye level") and stood ("leaning over students" and standing "to write on the board" when necessary). Tutees in all conditions claimed their tutors "cared" about them by "leaning in to hear better," making "sure students understand the problem," and asking for and accepting "input from his students."

Similarity/depth. All tutees saw their tutees talking "like a friend" and sharing "stories of class experience." However, the quantity of such comments was greatest from LS and RC tutees. Added to the general comments above were comments by LS and RC tutees such as noting that the tutors acted like "older students" as opposed to teachers, sharing that "she [tutor] survived [the course] and so can we" and the tutor acts "as a fellow student."

Receptivity/trust. For NT tutees, trust was identified as based on the degree of similarity between the tutor and tutee, as evidenced by the statement "[we talk] about other things besides school—it builds trust." Statements such as, "[my tutor is] confident about [his] knowledge" also shows the role of competence for perceptions of receptivity and trust. These tutees also mentioned tutors' punctuality: being on time mattered. LS tutees assessed tutor trust based on credentials such as faculty references and competence. In some cases competence led to trust, as evidenced by the statement, "my tutor was very knowledgeable in the course." Other times, it did not, as shown by the statement, "she needs to go through the book again and be more comfortable with some chapters." Trust seems based on different criteria for RC tutees. These tutees referred to their tutors' competence by saying, "he does know what he's talking about and that if he doesn't know the answer to a question he will admit it" and their approachability by saying, "she is much easier to approach than my professor."

Composure. Tutees across all conditions remarked on their tutors being "calm" and "patient" and using a "quiet" or similar tone of voice. However, NT tutees also described their tutors as being "nervous," and "impatient," and made comments like "makes no eye contact."

Formality. With respect to formality, NT tutees were split. Some tutees described their tutors as being "casual" and "casual, but on task." Others described formal interactions, such as tutors "reading [to us] the whole time" and tutors "talk like a TA or prof." LS and RC tutees saw a lack of formality, evidenced by comments such as "it's very informal," "the atmosphere is laid back," "it's comfortable," and the "tutor is willing to go back over information if you don't understand it, unlike professors."

Dominance. Dominance played a large role in NT tutee-tutor interactions and some LS interactions. Here, tutors "direct what we will do," and "limit interactions," engaged in "question and answer interrogation," and "sound like a teacher." Other LS tutors exhibited the lack of dominance, such as creating a learning environment in which the tutees were "not afraid to say

anything." All tutors of RC tutees were described as "interactive," "allowing students to "explain things to their fellow tutees." With these tutors, "the whole group is involved with the asking and answering" such that "information and knowledge is shared amongst all the group members."

Equality. All tutees made comments related to equality, claiming, to the positive, that they are "not looked down upon" but NT tutees made the fewest positive comments. LS tutees saw the "tutor and student on [the] same level," where the tutors "talk student-to-student, on the same level." The most common response of LS tutees was to the effect that their tutors "talked to me as an equal." Similarly, RC tutees described that the tutors do not "look at you like you're a moron for not knowing how to do the problems, even the simple ones."

Task orientation. Comments from tutees across all conditions were similar with respect to task orientation. They recognized when their tutors were being "task oriented," talking about the subject matter, and doing it in a "professional" manner. They also stated that some of the tutors would "chitchat," ask "about my day," and talk about personal things before and after the session as a way to transition into and out of the session.

Tutee Course Academic Performance

The notion that tutees' course grades would be different across the three tutor training conditions was partially supported. A Levene test for homogeneity of variance indicated a lack of homogeneity in the distributions, $F(2, 310) = 4.04$, $p = .019$. Therefore, a Welch F test was used because of that lack of homogeneity of variance. That test showed a significant main effect for training condition, $F(2, 143.474) = 3.981$, $p = .021$. A post hoc Tamhane's T2 was calculated, showing a significant difference in grades between tutees whose tutors received no training ($M = 1.88$, $SD = 1.13$) and tutees whose tutors received learning styles training with relational communication training ($M = 2.29$, $SD = .90$), $p = .024$, an increase of nearly half a letter grade (on a 4-point scale), providing an effect size correlation $r_{Y\lambda=}$ of .11, which is equivalent to a Cohen's $d = .22$; a small effect size (Cohen, 1988). Compared to those two groups, there were no significant differences for tutees whose tutors received only learning styles training ($M = 2.11$, $SD = .92$).

Discussion

The results of this study show that tutees whose tutors are provided learning styles and relational communication training earn, on average, nearly a half letter grade more in the courses in which they are tutored. Of interest with this result is the nature of the courses in which students were taught (e.g., biology, chemistry, computer science, economics, mathematics, physics, and zoology). Communication is not the main focus of any areas of study.

With respect to the relational communication used by the tutors, there were no differences across training conditions for task orientation or immediacy/affection. In both cases, that might be explained by the structure of the tutoring interactions: once a week for one hour, either individually or in groups. As with immediacy/affection, perceptions of similarity/depth were similar across conditions.

There were differences in quantity and quality of formality. It could be that training in learning styles and relational communication reduces formality, presumably because tutors are attempting to individualize instruction to tutees based on learning styles and because relational communication training provides tutors with a broader repertoire of behaviors by which they can adapt to their tutees. This interpretation also may explain why fewer NT tutees commented positively on their tutors' enactment of equality.

Differences in three relational communication dimensions may be explainable by the presence of relational communication training. The largest difference across the conditions occurred with dominance. We saw no evidence of dominance in RC tutors, some dominance displayed by LS tutors, and no absence of dominance across NT tutors. This shows a clear trend implying relational communication training can reduce dominance. Similarly, differences in trust appear due to relational communication training. Across the three conditions, tutees interpreted trust based on competence. But only in the RC condition did tutees link trust to approachability, possibly because RC tutors learned to be more approachable through their training. Finally, some NT tutors were seen as lacking composure, but neither LS nor RC tutors were perceived in that way. In this case, it might be that either type of training provided the LS and RC tutors the confidence, again through an increased repertoire of behaviors, to act in a composed and confident manner.

The results of this study also show that tutor training in relational communication matters with respect to tutee academic performance. Although the difference in grades was not statistically significant between the no training and the learning styles only training condition, we expect that longer or repeated training sessions on a variety of tutoring topics would have resulted in a larger, and significant, difference. With that expectation in mind, perhaps the most striking finding of this study is the significant difference achieved through only one hour of learning styles training and one half-hour of relational communication training. We believe the training used in this study is easily replicable and, if used, will achieve similar results as found in this study. This will result in significant increases in tutees' academic success, measured by grades, at little cost to colleges. Practitioners can therefore enhance course performance of tutees across a semester based on the relatively short amount of time needed to train tutors.

One limitation of this study is that the relatively small number of relational communication-related comments made by tutees during the focus groups and interviews was not sufficiently large to allow robust statistical inferences

to be drawn from the data. However, when combined with the qualitative value of the comments, we believe the number of comments to be sufficiently large to provide an important insight into how tutees perceive the behavior of their tutors.

Finally, we do not know with certainty why some tutors did not volunteer for training. Although the distribution of tutors across the training groups is equivalent for tutor attributes, there may be underlying differences in motivation. However, such a difference in motivation does not explain the difference in tutees' course grades when comparing LS and RC trained tutors. The difference in relational communication training content probably accounts for that difference.

Conclusion

It is evident from our results that relational communication training, and tutors' subsequent enactment of it, contributes to increasing tutees' course grades. This finding fits well with existing research literature showing that communication and teacher-student rapport are vitally important to students. This finding is a movement away from the deficit model of academic support, that is, that tutees (learners) are deficient in some ways and therefore need to be "fixed" (Ladner, 1987; Smith, 1995). Our findings suggest that attending to the tutor-tutee relationship can significantly, positively affect students' course grades, without specifically addressing any of the tutees' deficiencies, real or presumed. Future research should investigate ways to optimize the positive effects of tutor-tutee relational communication with respect to tutees' affective and cognitive learning.

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Join the Conversation
Dealing With Student Errors: A Postexamination Report on Student Learning

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Abstract

Error analysis, an alternative to "going over the test," is presented and discussed. It is a four-part learning tool that shifts posttest responsibility from the teacher to the student. It keeps students engaged after the test by guiding them to share their thinking. The error analysis of one college-preparatory mathematics student is examined. This descriptive and diagnostic exercise reveals individual error patterns and struggles within the affective domain. The details revealed by error analysis provide additional information upon which the teacher can base instructional decisions.

Selected titles of articles that appeared in a daily newspaper lead us to infer that mistakes are a normal part of everyday life—"Misprint causes city to miss budget deadline" (Lynch, 1999); "Did quiz show goof? You bet your life!" (1999); "FISHING LESSON Student, 10, catches a whale of mistake in school textbook" (1995); "Researchers admit error in study" (1993). In grasping the true value of our whole self, we grasp even our mistakes. But if left unattended and not monitored, we condemn ourselves for having made mistakes and we negate our self-worth. We put in harm's way the computational fluency that we need to be effective problem solvers in everyday life and in the workplace. Situations arise daily that require us to use a variety of strategies, note our progress and decide if further action is required. Hence, the ability to find, suspect, detect, correct, and cope with error is extremely important.

The improvisational nature of problem solving implies that students' mistakes are a fact of mathematical life. In light of this, certain kinds of student errors typically persist and specific correction is needed. Behr and Harel (1990) hypothesize that learning takes place only when some degree of cognitive conflict exists. They believe that this is not a negative aspect of

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