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## **ABSTRACT**

### **COMPARING THE WRITING ABILITY OF TRANSFER AND NON-TRANSFER STUDENTS ENROLLED IN A TECHNICAL WRITING COURSE AT NEW JERSEY INSTITUTE OF TECHNOLOGY: A CASE STUDY**

by  
**Lisa S. Young**

The mission statement of New Jersey Institute of Technology (NJIT) calls for the preparation of “leaders in the technology-dependent economy of the 21st century” (<http://www.njit.edu/about/overview/index.php>). NJIT’s students, therefore, need to have established prior to graduation communication skills at a level of performance that allows at least this aspect of NJIT’s mission to be met. But with no assessment of community college writing education other than the incoming transcripts of the transfer students, the quality of academic preparedness that transfer students bring to their degree programs at NJIT is difficult to determine.

A case study was performed in January 2003 to address the hypothesis that junior-level transfer students to NJIT as a group do not write as well as students who have progressed to the junior level from the freshman level exclusively at NJIT. To test the hypothesis, junior-level students enrolled in the English 352 (ENG 352) technical writing course at NJIT, were compared regarding transfer/non-transfer status in four areas: grade point average, a self-reporting background survey, the New Jersey Basic Skills Placement Test “Sentence Sense,” and a brief, timed, written essay on a predetermined subject. Selected findings include comparisons to a similar, but more comprehensive, 1994 study, with the results of this study confirming the findings of the earlier study.

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OF TRANSFER AND NON-TRANSFER STUDENTS  
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NEW JERSEY INSTITUTE OF TECHNOLOGY: A CASE STUDY**

by  
**Lisa S. Young**

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A CASE STUDY**

**Lisa Stubbins Young**

---

Dr. Norbert Elliot, Thesis Advisor  
Professor of English

Date

---

Dr. Jerome Paris, Co-Advisor  
Director, English as a Second Language Program, NJIT

Date

---

Dr. Robert Lynch, Co-Advisor  
Professor of English

Date

## **BIOGRAPHICAL SKETCH**

**Author:** Lisa S. Young  
**Degree:** Master of Science in Professional and Technical Communications  
**Date:** May 2004

### **Undergraduate and Graduate Education:**

- Master of Science in Professional and Technical Communications  
The New Jersey Institute of Technology, Newark, NJ, 2004
- Master of Arts in Liberal Studies,  
Rutgers, The State University of New Jersey, Newark, 1995
- Bachelor of Arts in English/Journalism and Political Science,  
Rutgers, The State University of New Jersey, Newark, 1991

**Major:** Professional and Technical Communications

*Affectionately dedicated to all assistants — GAs, RAs, and TAs — at NJIT*

Thought is surrounded by a halo.

— Wittgenstein, *Philosophical Investigations*, I ¶ 97

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# **CHAPTER 1**

## **INTRODUCTION**

### **1.1 Objective**

Discussions among NJIT's educators and administrators about educational quality frequently lead to questions about the level of writing ability of the students. A common assumption by the educators and administrators is that the level of writing ability may not be strongest among those students who transfer into NJIT at the junior level, that is, after two years of education at other institutions. They assume that students who began their undergraduate education at NJIT have writing skills that are better developed than the writing skills of the transfer students. Regardless of student status, transfer or non-transfer, however, is the direct need for NJIT to award degrees to students who not only are competent in their technical or engineering fields, but are also effective communicators.

While this thesis cannot determine the efficacy of individual writing programs at NJIT, it does compare the differences in communication skills of transfer and non-transfer students of NJIT's junior-level students.

### **1.2 Background Information**

As a technological public university, NJIT plays a vital role in the transfer of technology to society, both nationally and internationally. The majority of courses that make up the engineering and technology curricula require high quantitative and technical skills in the engineering and technology curricula. These curricula make demands specific to their

course content, creating a situation in which many of the students enrolled in these technical majors need additional help to improve their writing skills.

Writing skills and communication ability are critical to the engineering and technology students who dominate the population of the students at NJIT. ABET (Accreditation Board for Engineering and Technology) monitors, evaluates, and certifies engineering and technology programs in the U.S. to ensure that graduates are ready for the practice of engineering at a professional level. According to Coppola, “ABET 2000 specifies an outcomes approach in which each engineering program defines both educational objectives relevant to its mission and a process for measuring these goals with documented results” (ABET 2000 criteria are available at [http://www.abet.org/eac/EAC\\_99-00\\_Criteria.htm](http://www.abet.org/eac/EAC_99-00_Criteria.htm)). An explicit outcome of ABET 2000 criteria is that engineering programs demonstrate that their graduates have an ability to communicate effectively (251).

According to the ABET criteria for accrediting engineering programs, institutions must have and enforce policies for the acceptance of transfer students and for the validation of courses taken for credit elsewhere. Many NJIT students transfer at the two-year completion point from New Jersey community colleges. These students entering NJIT are placed as juniors with credit for required freshman- and sophomore-level writing-intensive courses. Thus, the perception that these transfer students are performing at a lower level of writing ability is a worrying prospect. NJIT’s mission statement calls for the preparation of “leaders in the technology-dependent economy of the 21st century” (<http://www.njit.edu/about/overview/index.php>). NJIT’s students, therefore, need to have established prior to graduation communication skills at a level of performance that allows

at least this aspect of NJIT's mission to be met. But with no assessment of community college writing courses, the transfer students are perceived as slipping through NJIT's rigorous requirements lacking an appropriate level in communication skills.

According to Coppola, accountability is a major concern in higher education, especially for writing programs: "Administration often looks to writing programs for outcomes because of their high visibility (on some campuses, writing courses are the only courses all students must take) and because of their connection to campus-wide initiatives (general education reform, writing across the curriculum)." Coppola goes further: "teachers view evaluation as vital because they gain information on how to improve their courses and teaching. Researchers and theorists find that assessment can lead to the production of new knowledge and theories. And students can benefit when assessment informs the process that becomes part of learning" (250).

NJIT has an already-established model for the assessment of technical writing ability (Elliot, Kilduff, and Lynch, 20-21), as well as a medium for the basis of assessment: the student portfolio. In 1988-89, Elliot et al. created a modified portfolio model to serve as an assessment tool for the design and evaluation of technical writing courses, and the model continues to be used to evaluate the writing skill of not only of transfer students at the junior-level, but of all students enrolled in technical writing courses. The model was specifically employed to track the writing skills of students who had completed the technical writing course and to assess the summative abilities of the students. This model, over the course of three years, took clusters of writing samples from student portfolios and evaluated the relationship between the cluster and the course grade the student had received and the students' grade point averages (GPAs) after

completing the course (26). Results from the overall sampling indicated that students within the study population were performing at a competent level (30).

Of special interest to this study was a particular question asked by Elliot et al.: How did students perform in selected academic majors? (30) Elliot selected two groups of student majors for study, the BSE (Engineering) and the BSET (Engineering Technology). The BSET program was populated with transfer students who had taken their writing courses at community colleges. The BSE program was primarily populated with students who had entered NJIT as freshmen and had taken writing courses adhering to NJIT standards. Elliot et al. found that while the BSET students had slightly lower scores, both groups were performing at a competent level, with mean scores of 4.57 and 5.18, respectively. These results established that there was no significant difference in the writing ability of transfer students, at that point in time, compared to the students who had entered NJIT as first-time, full-time freshmen (FTFTF). Elliot et al. performed their testing over the course of three years, from 1988–1991, and in the process designed a valid course for technical writing and established the portfolio model of assessment at NJIT.

By 2002, however, the difference between transfer student writing ability and FTFTF writing ability was perceived to have shifted toward under-preparedness on the part of the transfer students' ability. To test the validity of the hypothesis that transfer students were indeed performing less competently in the writing arena, a new assessment of writing ability was requested. Lacking the temporal parameters of the Elliot et al. formal writing assessment study, a decision was made by administrators of the Department of Humanities to test the writing abilities of students enrolled in a technical



writing course during the Spring 2003 semester. This thesis attempts to interpret the test results and compare the findings with the Elliot et al. study.

## CHAPTER 2

### WRITING ASSESSMENT

#### 2.1 Addressing Assessment

What does it mean to test writing proficiency within the transfer/non-transfer student population at NJIT? What is competency in writing skills? Could administrators be able to draw valid inferences from test results? Could decisions about future performance be made based on those inferences? In *Assessing Writing*, Sara Cushing Weigle writes that, before designing assessment tasks or scoring procedures, the following questions should be considered:

- 1) Who will score the tests, and what criteria or standards will be used? How can we ensure that raters apply the scoring standards consistently?
- 2) What is the interest in testing ability/competency?
- 3) Who will use the information that the test provides?
- 4) What are the constraints (of time, materials, money, and labor) that limit the amount and kind of information that can be collected?
- 5) What do we need to know about testing to make the test valid and reliable? (2)

The answers to these questions were greatly facilitated for this study because the person designated to manage the testing was Dr. Elliot, who in 1994 had published results of writing assessment at NJIT that demonstrated that evidence of validity is both qualitative and quantitative, and who had demonstrated reliability through cluster scoring (33.) Reliability among raters in the Elliot et al. study had been established in agreement with the definition provided by *Standards for Educational and Psychological Testing*, so confidence in the ability of two raters to arrive at a common judgment about a student's

ability in 2002 was facilitated by the 1994 study, which had provided an inter-reader agreement rate of 93%, and a reliability coefficient of at least .7 as measured by Pearson's product-moment correlation.

To these questions could be added what might be the most important consideration: What constitutes "good" technical writing? Again, the 1994 study of Elliot et al. provided a definition that was useful for the purposes of the 2002 assessment. During their study, a valid course was designed, through interviews with former and present technical writing instructors and discussions took place about the aims and forms of technical writing (25). In the process of establishing the valid course, Elliot et al. defined technical writing "as a form of communication in which writers explain technology to various technical, organizational, and societal audiences" (24). They also noted that technical writing implied a higher level of communication ability, or, what they called "an advanced level of literacy." (24)

It is important to note that the Elliot et al. study comments extensively on the pedagogical history of writing assessment, and methods for writing assessment were delimited at the time by the portfolio method. Equally important as an ethical consideration was the assertion that the study could not to assess the value of the designed course without analyzing the cultural and social context of the course, institutional context, program structure, administration, content, and quality of instruction (33). In the proposed assessment of the writing ability of junior-level students at NJIT in 2002, the same principles were applied, or, as was noted by the authors of the 1994 study whereas "gatekeeper tests are put in place on far less evidence . . . we are ethically bound to argue that instructors should refrain from using a cluster score as an exit test" (34).

While the 2002 assessment would not incorporate cluster scores or exit tests, the sensibilities of the administrators (in realizing that the assessment could have only limited value without the considerations designed for the 1994 study) ensured that the information collected would be used only as a snapshot of writing ability differences between transfer and non-transfer students.

## 2.2 Establishing Competence

A study in 2003 by the National Commission on Writing calls for a “revolution in writing” for college students, and warns that “America will never realize its potential as an engine of opportunity and economic growth until a writing revolution puts the powers of language and communication in their proper place in the classroom” (17). The Commission calls into question the commitment of colleges and universities to better writing instruction, and reports that more than 50% of first year college students are unable to compose a paper relatively free of errors, much less analyze a topic (17).

According to Bartlett, administrators at colleges and universities have noted an increase in the number of complaints from professors. "We've been hearing from faculty members that students are having trouble with their writing," says Paul B. Armstrong at Brown (A39). Complaints about student writing usually focus on the students' inability to construct the sort of lengthy, sophisticated research papers required in upper-division courses. Students arrive at universities “well-trained,” according to Bartlett, in skills needed to gather research in a library, but “almost none” are capable of turning research into a paper with a thesis and an argument (A39).

What constitutes competence in communication? Writing specialists look for the following when determining writing skill:

- Fluency or the amount written
- Quality and quantity of detail
- Complexity of ideas
- Organization
- Correctness (White 187-200)

In the past 30 years, writing specialists such as Toby Fowler and Janet Emig have pointed to another aspect of writing skill that is somewhat codified by Prior et al.:

- Writing is part of a complex literate activity that also involves reading, talk, observation, and action
- Writing is a tool in making, unmaking, and negotiation knowledge within disciplines
- Writing conventions and values are diverse, shaped by fields of specialization
- Writing should be an object and mode on instruction, not a constant test
- Writing should help students improve their writing, learn content, and generate meaning; it should contribute positively to their overall development as students (as quoted in Gruber et al. 421).

Weigle defines writing as a social and a cultural activity, in that acts of writing cannot be looked at in isolation but must be seen in their social and cultural contexts (22). Various models proposed over the past 24 years include descriptions of writing in terms of a task environment, such as Hayes and Flower proposed, and as knowledge telling, posited by Bereiter and Scardamalia (31).

As an additional consideration, the student population at NJIT includes a large number for whom English is a second language. Within NJIT, there have been periodic discussions between the engineering instructors and the writing instructors in attempts to

establish common standards. With a plethora of knowledge, in fact, of what competence should be, there was little recourse, given the time constraints for the 2003 study, for defining competence other than to rely on the already established core values of the Humanities Department. For the portion of this assessment that would include a timed, written essay, Elliot designed a rubric, with input from the director of the English as a Second Language Department, and from a long-time NJIT professor of writing. This rubric will be discussed further in Chapter 4.

### **2.3 Addressing Test Usefulness**

While Weigle notes six qualities of test usefulness (reliability, construct validity, authenticity, interactiveness, impact, and practicality [50-53], she emphasizes that it is virtually impossible to maximize all of them (48). For the 2003 assessment, all six qualities were considered. For example, given the time constraints, administrators chose to use a timed impromptu essay as one of the components of the evaluation. While a timed impromptu essay contains inherent issues with authenticity (52), in the case of the 2003 assessment, the essay would be used only as a limited instrument and would not serve a gatekeeper function. Reliability was deemed more important than authenticity for the writing test.

Construct validity was established with the precise understanding of what the results would be used for: a determination of any difference in the writing ability between the two groups of students, transfer and non-transfer. Reliability was addressed through the rubric established for the writing test, and through inter-rater agreement. Impact ran the gamut from low to possibly quite high; low, because the assessment had not been

officially mandated, nor would it be collated into an internally circulated document, but high, because decisions about courses added or subtracted from the curriculum could possibly be inferred from the resulting data. Practicality was easy to address, as budget concerns made it necessary for instructors to serve as raters. Practicality was also established through setting boundaries for the assessment: only one course with multiple sections was chosen as a population to study, because of the impracticality of obtaining a large sample. The sample needed to remain small in order to have the time to evaluate and score results, given the stretched resources of the Humanities Department for designing, administering, and evaluation. Nevertheless, overall, administrators strove to consider carefully all qualities of test usefulness.

## CHAPTER 3

### POPULATION

#### 3.1 Diversity

Writing is a process through which the communications of ideas can take place. Ideas can be challenging to communicate, whether the writer is using in a native language or a second language. However, because NJIT has such a large population of students for whom English is a second language, the needs of these students have to be particularly considered in the challenge to write more effectively. There are several sources of information that explore the problems associated with academic performance of English learners, and strong consensus among researchers and educators that more research is needed.

NJIT's students are primarily seeking math, science, and engineering degrees. In *Language Diversity and Science*, the authors focus on those problems that science teachers can face: "The fact that limited English proficiency students face special problems is important for all teachers, but especially for science teachers" (Bernhardt et al. 25).

NJIT's Office of Institutional Research and Planning compiled statistics by surveying enrolling students of Fall 2002, with the following results:

- Non-resident Alien: 0.63%
- Black/Non-Hispanic: 9.59%
- American Indian/Alaska Native: 0.16%
- Asian/Pacific Islander: 21.54%
- Hispanic: 11.01%
- White non-Hispanic: 46.23



- Other: 10.22
- No Response: 0.62%

Issues that are specific to second-language writing at NJIT are fairly common to all diverse universities in the US. Weigle points out, as do many other educators, that second-language proficiency and expertise in writing, while not the same, do share common difficulties (35). In the assessment of writing proficiency among foreign-language learners, a timed essay may be especially problematic. Second-language writers suffer more often than first-language writers with writing apprehension (37), may possibly be disadvantaged by social and cultural factors, and may lack motivation to excel at writing. Engineering or technology students, for example, may want to obtain their degree and then go back to a home country, and thus perhaps be less committed to master the second language.

### 3.2 Available Data

The population for this study was drawn from students enrolled in NJIT's ENG 352 class, a junior-level technical writing course. Of 152 students who participated in the study, *only 34 identified themselves on a self-reporting survey as ESL students*. This number is not in agreement with the observations of the Director of the ESL Program. (The efficacy of the self-reporting survey will be further discussed in Chapter 4). Table 1 shows the degree programs in which the participating students were enrolled.

**Table 3.1** Participating Students' Degree Programs

Degree Program	Number of Students
Computer Engineering	6
Computer Engineering Technology	6
Computer Science	56
Construction Engineering Technology	4
Construction Management	1
Electrical Engineering	3
Engineering Technology	13
Human Computer Interaction	1
Information Science	17
Information Technology	11
Management	9
Manufacturing Engineering Technology	3
Mechanical Engineering	12
Mechanical Engineering Technology	5
Telecommunications Management Technology	5

Of the ninety-three participating students identified as transfer students, seventy-four reported coming from two-year colleges and four reported coming from four-year colleges. The remaining students failed to respond to this question.

Sixty-nine students responded that English as well as another language was spoken in the home, and sixteen students responded that a language other than English

was spoken exclusively at home. Fifty-six students responded that only English was spoken in the home, while only three reported that while another language was spoken at home, they spoke only English. The remaining students (eight) did not respond to the question.

The discrepancy between these numbers and the number of students reporting themselves as ESL (thirty-four total) lends credence to the observation by the Director of the ESL Program that there were more ESL students participating in the study than are reported here. Performing a recount through an additional survey, however, is beyond the scope of this document.

## CHAPTER 4

### METHODOLOGY

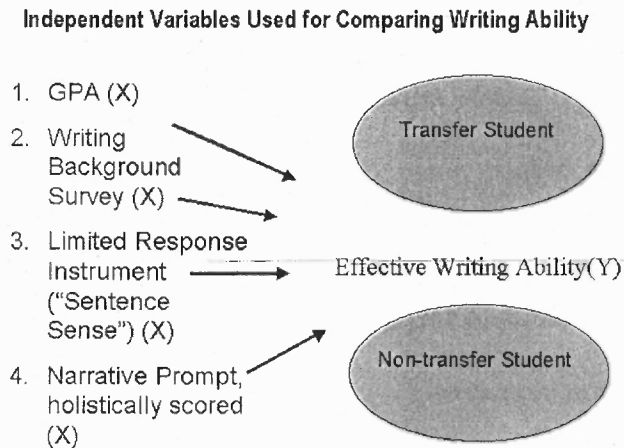
#### 4.1 Creating a Model

To investigate differences in writing ability between transfer students (n=93) and non-transfer students (n=59), a model was constructed in which four independent variables were used to assess the effective writing ability of students entering at the junior level.

Those variables consisted of the following:

1. Most current GPA (through January 2003)
2. A self-reporting writing background survey
3. A limited response instrument
4. A narrative prompt, holistically scored

Figure 4.1 illustrates the criteria desired:



**Figure 4.1** Variable construction for assessment model.

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## Variable Construction

The following independent variables were used to construct the model:

- **Grade Point Averages (GPAs):** The most current GPAs of the sample population would be obtained using NJIT's record-keeping database SSI.
- **Self-Reporting Writing Assessment:** The sample population would be asked various questions relating to degree program, college transferred from, etc., as per the document in Appendix A.
- **Limited Response Instrument:** The sample population would take the widely used New Jersey Basic Skills Assessment Test "Sentence Sense" under timed conditions.
- **Narrative Prompt:** The sample population would write an essay with an assigned topic under timed conditions.

**GPAs**—These figures were obtained by accessing NJIT's SIS system (a record-keeping software/database) and were entered into a Microsoft Excel database. Transfer students did not have statistically significant GPAs than FTFTF ( $t= 0.269, p=0.789$ ). The mean for transfer students was 2.709, while the mean GPA for FTFTF students was 2.754. This finding compared favorably with the Elliot et al., findings from 1994, in which GPAs were categorized as "remaining stable."

**Self-Reporting Writing Assessment**—The self-reporting writing assessment was created as a simple questionnaire (see Appendix) and was distributed by instructors to the sample population at class meetings. This variable was the least successful in terms of information-gathering, as fewer students felt obliged to participate, or perhaps misunderstood the nature of the questions, or the intent behind them. Instructors handing out the forms were perhaps unaware of the importance of the questionnaire. Regardless,

no class sections had a 100 % return of reporting previous writing course grades, or whether they had taken an ESL course, or whether English was the primary language spoken at home. Because of the poor response to this instrument and the limited time of instructors to redistribute the form to the sample population, this instrument was mostly unhelpful on the whole, but did provide a slight basis for analysis. The caveat to be kept in mind in analyzing the answers was that not all ESL students may have identified themselves as such, and that the majority of the students did not self-report previous grades received.

**Limited Response Instrument**—The limited response instrument (the “Sentence Sense” test) was successful as a variable. Eight sections of the course ENG 352 were tested during the respective class session over the course of a week, resulting in a total of 152 students for the sample population. (One section of ENG 352 consisting of 23 students was given a different test, the Comprehensive English Language Test [CELT]. Of these 23 students, 15 were transfers into NJIT at the junior level.) Of the 152 students who took the Sentence Sense test, 93 were transfer students.

A “pass” on the Sentence Sense test was a score of 27 or above. Transfer students had statistically significant scores on the Sentence Sense task ( $t=3.0, p=0.003$ ). Transfer students, with a mean score of 22.77, scored significantly lower than non-transfer students, with a mean of 27.40. This finding seems to give proof to the assertion that transfer students are less academically prepared than FTFTF students; however, the small size of this sample must be kept in mind.

**Narrative Prompt**—The narrative prompt was successful as a variable. Nine sections of ENG 352 were tested during the respective class session over the course of a week, The

narrative prompt was administered in the following manner: Tested students were given 30 minutes to write an essay on an assigned topic. Elliot, Paris, and Professor John Coakley, all experts in their fields, constructed a rubric and sampled the resulting essays for normative values. After norming, the essays were distributed to six experienced professional writing teachers in the HSS department. Each essay received two readings and two scores on a six-point scale, with a third reader employed if the two original scores differed by more than one point. The correlation between two readers was .8, a correlation in excess of the .6 usually required for reliability by holistic scoring methods. The highest score obtainable on the essay was 12 points, with a score of 0 being the lowest. A passing score was defined as 8 or above. Transfer status gave statistically significant scores on the Narrative task ( $t=1.9$ ,  $p=0.051$ ) Transfers students achieved a mean score of 5.92, while FTFTF mean was 7.88.

Thus, of the three variables checked at this point, transfer status revealed no significant difference in GPA, but significant difference on both the limited response instrument and the narrative prompt were documented. Table 4.1 summarizes the basic descriptive statistics for both groups.

**Table 4.1** Comparison of Tested Transfer and Non-Transfer Students

		Mean	Standard. Deviation	N
GPA	Transfer	2.75347	0.490676	93
	Non-transfer	2.70888	1.150611	59
Limited Response Instrument	Transfer	22.77	7.507	93
	Non-transfer	27.41	8.402	59
Narrative Prompt	Transfer	5.92	2.571	93
	Non-transfer	7.88	6.777	59



#### 4.2 Did Major Choice Affect Scores?

Concerning the degree programs at NJIT, a technology major designated with a “T” on the end, e.g., CST (Computer Science Technology), was considered by administrators as less academically challenging than others ending with S (Science) or E (Engineering), e.g., CS (Computer Science).

**Table 4.2** Between-Subjects Factors

	Major: Technology vs. Other	Mean	Standard Deviation
GPA	Technology Other	2.54692 2.83768	1.12219 .70400
Limited Response Instrument	Technology Other	23.64 26.97	7.76 6.28
Narrative Prompt	Technology Other	6.66 7.12	2.12 2.03

There were no significant differences of GPA, the Limited Response, or the Narrative Prompt according to major. While there were slight differences, as with the data in Table 4.1, the difference is marginal at best.

#### 4.3 Did ESL Status Affect GPA and Test Scores?

A large proportion of the NJIT student population does not have English as a first language. NJIT has an active and highly regarded ESL Program headed by Dr. Paris. The population of this sample is the number of students who answered this question (Appendix: Question 9). His curiosity about ESL status of the tested students led to the following data:

**Table 4.3** Self-Described ESL Student

	<b>Value Label</b>	<b>N</b>
English a Second Language? (1) (2)	Yes, ESL	34
	No, Non-ESL	118

- ESL students, with a mean GPA of 2.86, did not have significantly higher GPAs than the non-ESL students (mean of 2.71).
- ESL students, with a mean score of 20.12 on the Limited Response Instrument, had lower mean scores than those reporting non-ESL status (mean score of 26.82).
- ESL students, with a mean score of 5.19, scored significantly lower on the Narrative task than self-described non-ESL students (mean score of 7.27).

The ESL data are suspect, as the Director of the ESL Program has already noted.

With only 34 students self-identifying as ESL, the possibility that there were more ESL students is likely. In all cases, the differences in scores and GPAs between transfer students and non-transfer students were marginal, and this compares favorably with findings reported by Elliot et al.

## CHAPTER 5

### DRAWING CONCLUSIONS

#### 5.1 No Easy Answers

Clearly, while students are arriving at NJIT from other educational institutions with similar GPAs to first-time, full-time NJIT students, they also arrive with slightly less fluency in effective writing and communication skills. It is important to note that the non-transfer students do not perform at the level desired by their teachers, although their results are significantly better than the transfer students' scores. The following caveats need to be kept in mind when assessing the data.

- 1) This study was performed with a small sample of students, and therefore is subject to error in the estimation of its importance or lack of importance.
- 2) The results are similar to Elliot et al. in the sense that no firm conclusion regarding the ability of the students to perform successfully can be made. A larger sample, a more tightly controlled test environment, and a broader assessment of writing ability would be needed (33).
- 3) Neither group performs exceedingly well.

NJIT students should not be singled out as less well instructed in writing skills; the phenomenon of declining student-writing abilities is documented at many major universities. Princeton, Brown, Harvard, Penn State, Columbia, Duke, Cornell, and Bowdoin are all reported by Bartlett as having difficulties with the quality of student writing, which Bartlett calls "deficient" (A38). Nor is Bartlett alone in his assessment. The National Commission on Writing finds much the same lack of quality in college- and university-level writing. Bartlett's report, however, is of interest because it examines the ways in which universities with plenty of money and over-achieving students are trying to solve the problem.

Bartlett says that the decline in the student writing ability can spring from many factors, with a few factors that can be applied to college- and university-level writing instruction. Bartlett offers the following as reasons for poor student writing:

1. Writing instructors are afforded less respect than any other academicians, and writing programs are underfunded.
2. Writing courses are invariably required courses; something for students to “get through.”
3. Writing courses are overwhelmingly taught by inexperienced graduate students.
4. Failing a student is perceived as damaging not only to the student, but also possibly to the reputation of the Program in which the student is failing—why hasn’t it taught the student to write better? (A39)

Bartlett describes reformed writing programs at Princeton and Cornell, where administrators realized something was broken, scrapped old programs and ideas, and began again with a model based on Harvard University’s writing program. The most significant and expensive solution was also the first solution: the universities hired professional instructors who had already earned doctorates. Graduate students no longer taught writing courses.

The second remedy applied was the creation of dozens of topic-based courses, in which students would learn to write in content-defined courses (e.g., “Bandits in Myth and History” and “Dracula”) that were more interesting than the topics in a regular composition course (A38). And a third remedy was to make the writing course a requirement separate from a student’s degree requirements. Cornell encouraged faculty to participate in teaching the writing courses by “tying a department’s graduate student funds to the number of courses its professors teach” in writing instruction (A39). All of

these remedies remain untested, though, until Princeton and Cornell produce demonstratively superior students with better writing and analytical skills.

What can a public university like NJIT do to mediate the situation? Very few of the students participating in this study produced high GPAs, high Narrative scores, or high scores with the Limited Instrument. The scores were overwhelmingly mediocre in more than two-thirds of the students who were tested in the Fall 2002 semester ENG 352 courses. The situation needs mediation.

### **5.2 One Possibility: A Intensive Writing Course**

Through consultation with the Director of NJIT's English as a Second Language (ESL) Program, a pilot course is proposed in which one section of ENG 352 would be extended from its current three-hour format to a four-hour format. According to Paris, the remedy for not writing well is to write more frequently, and he suggests that ENG 352 students would profit from an additional hour of writing in this class. The pilot ENG 352 would function in the following manner:

1. The first class meeting would offer instruction and guidelines for the qualifying essay to be taken at the second class meeting. All students would write a qualifying essay at the second class meeting.
2. Students who achieved a passing score on the qualifying essay would continue in the regular ENG 352, meeting at the regularly scheduled time.
3. Students who failed to achieve the qualifying essay passing score would be required to meet either an hour earlier or later than the regularly scheduled class time, and that additional hour would be spent in a concentrated writing lab with a trained writing instructor.

Currently, there is no course/workshop offering at NJIT in which students write intensively session after session. Paris' previous 20 years of experience working with transfer and ESL students has shown the efficacy of intensive writing.

The pilot-project would have dual objectives:

1. To enable 30 junior-level students at NJIT to improve performance in their writing ability through the vehicle of the course ENG 352.
2. To prepare 30 junior-level students at NJIT to succeed in the courses of their majors with advanced language demands by developing an additional course-hour for ENG 352 that consists of instructor-led intensive writing.

In this case, the principal goals of a pilot project in improving writing ability are to answer two questions after the fact: Did the pilot-course help 30 students write better? And if so, how much growth equals measurable success? The answer to the first will be obtained by a means of a pre-test upon entrance to the pilot-class, while the second question will be answered through a post-test administered at the conclusion of the pilot-course. Improved scores between pre- and post-tests are expected to show an observable gain in writing ability by the student.

How a student wrote at the beginning of a semester can be compared with how well he or she writes after a course of study in intense writing. Although many improvements in a student's writing process take place in the mind, what changes are inferred from them and reflected in the student's improved writing becomes the value added to the individual from the course (White 187).

Anticipated advantages include the following:

- Increased ability in writing skills of the junior-level students in ENG 352
- Increased ability in writing skills of the junior-level students in other coursework.
- Increased value of NJIT graduates in the workforce.

Anticipated problems include the following:

- At the other end of the pilot writing course, the work must be evaluated.

- How can we maintain accurate student records on progress, and who would “own” the records?
- How will resources be found to fund the extra work required on the part of evaluators?

Possible solutions to the anticipated problems are as follow:

- Experienced writing instructors are on staff and can evaluate the essays within a five-hour time frame. Inter-reader reliability and agreement has already been shown to be achievable.
- A model (Elliot’s portfolio model) is in place for assessing the students’ coursework.
- A GA or RA could maintain records through the SIS System through a requested additional data-line for this project within the SIS database of student records. The HSS Department would own the records.

NJIT already has established a model for the assessment of technical writing ability (Elliot et al. 19-36), as well as a medium for the basis of assessment: the student portfolio. Elliot et al. created the modified portfolio model for the design and evaluation of technical writing courses in 1994. Additionally, another model is already in place in the form of Coppola’s chart for guidelines for assessing the content of technical writing courses (260). Coppola’s model calls for the following benchmarks, and this model will be applied to the pilot ENG 352 course.

1. Define levels of literacy
2. Design a course based on social construction
3. Design assessment scale based on levels of literacy and social construction
4. Build tasks based on social construction
5. Use assessment to inform students, instructors, administrators, and researchers about progress of the writing community in the course
6. Administer assessment
7. Analyze assessment results

As noted previously, Elliot et al. argue that technical writing courses are the very courses that should most be able to demonstrate the proficiency of the student-writers. To that end, the pilot-course of ENG 352 would be structured so as to follow the assessment model provided by Elliot et al. The content would be designed to conform to Coppola's model (263), which includes the following components:

1. Collaboration between and among students and teachers
2. Student as active participant in the learning
3. Meaning dependent on social and cultural contexts
4. Feedback and iteration
5. Workshop environment

For actual course content design, meetings with former and present technical writing instructors would be scheduled to discuss both the aims and forms of technical writing as they are currently understood in the field. To remain constant to the requirements of the models, the pilot ENG 352 writing context would be required to have purpose and employ rhetorical forms. In this manner, the assessment model would inform the course content and the writing ability sought to define an advanced level of literacy. Or, as Coppola notes, “. . . we may say that the construct validity of the course set the stage for an examination of the construct validity of the assessment” (261).

Before the semester begins, a series of writing tasks would be incorporated into the pilot-course ENG 352 that are informed by Coppola, Paris, and Elliot's experience in writing assessment. Coppola's research suggests that the scholarship on designing tasks for the assessment of writing indicates that a full rhetorical context—information about the speaker, subject, audience, and purpose—is the most strongly established principle in



the canons of practice. Therefore, a task-oriented pedagogy would include background; setting the context for the task; the writing task; strategies students have used to complete the assignment successfully; review criteria, which give students the standards by which their work will be judged; additional materials such as sample documents, additional readings, figures; and a reference list for further reading in the communication research area (Coppola 262).

### 5.3 Long-Term Outlook/Conclusion

Bartlett reports the following from Penn's Mr. Schneider: "Writing is the edifice on which the rest of education rests—if we don't do that well, you have to wonder what we do do well." (A39) This study provides administrators with a sketch of the writing ability of some junior-level students. The study is in agreement (but with a much smaller sample) with the findings by Elliot et al. in 1994: students can produce competent writing in a well-designed course.

The overriding concern, however, is that the competent writing, through administrative inertia, will continue to decline in the same ways that colleges and universities all over the United States are reporting. Princeton's solutions are not appropriate solutions for NJIT. A funded pilot program such as the one described in this thesis could be an attractive alternative to doing nothing at all, provided funding in the form of grants could be obtained.

This study looks only at a small sample population, as did Elliot et al., albeit over a longer time period. The students performed much the same in 2002 as they did in 1992. Any academic employed at NJIT would no doubt deplore the writing ability of the

students, but few are requiring their students to write intensively in their degree-discipline. With the arrival of the ABET Engineering Criteria of 2000, the focus on education has shifted to student learning outcomes. The ABET studies predict that student learning outcomes will become the norm in all disciplines and departments, not just among engineering programs.

If the quick study conducted in Fall 2002 shows anything, it shows a nearly homogeneous mix of poor but adequate writing skills in the ENG 352 course as it is currently presented to students. The difficulty lies in not accepting poor writing; poor writing can be remedied. The concern for NJIT in the coming years is whether “adequate” will be enough for graduates. NJIT’s mission statement soars, as does much of its instruction and technology. Raising the bar for a level of student writing that is something more than adequate will require creative solutions to teaching and to funding programs.

As a tool for writing assessment, this quick study, with its model, variables, rubric, quick evaluation-turnaround, and inter-reader reliability, introduces a method of checking writing progress/status that can work on a limited basis. While it cannot be used to assess an entire program (or the entire student population of NJIT), it is useful as a snapshot of where we stand at a moment of instruction during a semester. The fact that the results closely mirror Elliot et al. indicates that 1) the assessment method employed by Elliot et al. is useful and productive; and 2) the students are no better or worse than they were 10 or so years ago. The study may also serve as a call to action, since it is unlikely that instructors (or administrators) desire that students write no worse than they did 10 years ago. If NJIT is truly serious about the preparation of “leaders in the

technology-dependent economy of the 21st century,” this study can serve as a reminder that all of NJIT’s students need to be able to communicate and reason through writing in a more advanced manner than they currently do.

## APPENDIX

The self-reporting questionnaire reproduced here is a facsimile of the original survey, and was distributed in all sections of English 352 in January 2003.

Self-Reporting  
Testing Questionnaire  
February 2003

ENG 352 \_\_\_\_\_ (Give your section number)

1. Last Name \_\_\_\_\_ First Name \_\_\_\_\_ MI \_\_\_\_\_

2. SS# \_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_ Major: \_\_\_\_\_

3. Date Entered NJIT:      Fall    Spring    Summer      Year: \_\_\_\_\_

4. Transfer Student?    Yes    No

If a transfer student, which college(s) did you attend before NJIT?

5. Class Now (Circle One)              Freshman      Sophomore      Junior      Senior

6. How would you assess your writing ability? (Check one.)

- \_\_\_\_\_ (1) excellent  
\_\_\_\_\_ (2) very good  
\_\_\_\_\_ (3) good  
\_\_\_\_\_ (4) above average  
\_\_\_\_\_ (5) average  
\_\_\_\_\_ (6) poor

7. Language Spoken at Home (you can list more than one):

\_\_\_\_\_

8. Country of Origin \_\_\_\_\_

9. Have you ever taken an ESL course at NJIT and/or another college or university?

Yes              No

If so, where? NJIT: Yes No Other (fill in) \_\_\_\_\_

10. How long have you been in the United States? (Check one)

- (1) I was born in the United States
- (2) I was not born in the United States but have lived here for more than four (4) years.
- (3) I was not born in the United States, but have lived here for 3-4 years.
- (4) I was not born in the United States, but have lived here for 1-2 years
- (5) I was not born in the United States, but have lived here for less than one (1) year.

11. Which situation best describes language as spoken in your home? (Check one.)

- (1) We speak only English.
- (2) We speak English and another language.
- (3) We speak only another language, not English.
- (4) Another language is spoken, but I speak only English.

12. Answer A or B:

A: if you took English Composition at NJIT:

Which course did you take? (circle one) HSS 101 HSS 100 HSS 100s

What was your grade? A B+ B C+ C D F Don't recall

B. If you have transfer credit for English Composition:

From which college do you have English Composition transfer credit?

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In Composition I, the course for which you have transfer credit, what was your grade?

A+/A B+/B B-/C+ C/C- D+/D/D- F Don't recall

If you also had Composition II, what was your grade?

A+/A B+/B B-/C+ C/C- D+/D/D- F Don't recall'

13. Ethnicity (Circle one):

African-American    American-Indian    Hispanic    White

Asian Pacific Islander    Asian (non-Pacific Isl.)    African    Other

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