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A Review of the Academic Needs of Native English-Speaking College Students in the United States

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Foreword

The TOEFL® Monograph Series features commissioned papers and reports for TOEFL 2000 and other Test of English as a Foreign Language program development efforts. As part of the foundation for the TOEFL 2000 project, a number of papers and reports were commissioned from experts within the fields of measurement and language teaching and testing. The resulting critical reviews and expert opinions were invited to inform TOEFL program development efforts with respect to test construct, test user needs, and test delivery. Opinions expressed in these papers are those of the authors and do not necessarily reflect the views or intentions of the TOEFL program.

These monographs are also of general scholarly interest, and the TOEFL program is pleased to make them available to colleagues in the fields of language teaching and testing and international student admissions in higher education.

The TOEFL 2000 project is a broad effort under which language testing at ETS will evolve into the 21st century. As a first step in the evolution of TOEFL language testing, the TOEFL program recently revised the Test of Spoken English (TSE®) test and announced plans to introduce a TOEFL computer-based test (TOEFL CBT) in 1998. The revised TSE, introduced in July 1995, is based on an underlying construct of communicative language ability and represents a process approach to test validation. The TOEFL CBT will take advantage of the new forms of assessments and improved services made possible by computer-based testing while also moving the program toward its longer-range goals, which include

- the development of a conceptual framework that takes into account models of communicative competence
- a research agenda that informs and supports this emerging framework
- a better understanding of the kinds of information test users need and want from the TOEFL test
- a better understanding of the technological capabilities for delivery of TOEFL tests into the next century

It is expected that the TOEFL 2000 efforts will continue to produce a set of improved language tests that recognize the dynamic, evolutionary nature of assessment practices and that promote responsiveness to test user needs. As future papers and projects are completed, monographs will continue to be released to the public in this new TOEFL research publication series.

TOEFL Program Office
Educational Testing Service

Abstract

This review was commissioned by the TOEFL 2000 Project as a preliminary step for a study examining the academic needs of entering undergraduate and graduate students in the United States. The review surveys literature concerning the academic needs of native English-speaking (L1) college students in the United States from several different perspectives. The literature reviewed can be divided into three categories: (1) literature that addresses student abilities either through an examination of their deficiencies or through categorizations of the writing tasks they must perform; (2) L1 "process" and Writing Across the Curriculum (WAC) literature that addresses the nature of academic writing tasks with respect to the larger theoretical and institutional contexts in which those tasks are performed; and (3) literature that addresses the student's perceptions of and attempts to accommodate the academic demands of higher education. Each of these literatures contributes to understanding student needs in the academy. The implications of the perspectives represented are then discussed with reference to TOEFL 2000, the development of a revised test of English as a foreign language. A major consideration involves the derivation of test tasks for a population of examinees who are not native speakers of English from the wealth of information that describes academic demands on beginning undergraduate and graduate students who are native speakers of English. The connection between a needs analysis and test design is the critical area of concern. The review concludes with questions about the identification of the appropriate testing domain, the appropriate level of specification of test tasks, the fairness of testing academic tasks, and authentic language use in testing.

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Introduction

The TOEFL® program has proposed using a needs analysis to help identify the characteristics of academic language proficiency in the North American setting. Motivation for this undertaking arises from the belief that if the features of academic "tasks" could be described, if the relative frequencies of student behaviors associated with the performance of academic tasks determined, and if the characteristics of instructors' evaluations of academic tasks documented, then taxonomies could be derived that could not only be used to inform test design but also provide a foundation for the validity of the new TOEFL test. In an attempt to help clarify the issues that might influence the efficient management and successful completion of a needs analysis, consultants associated with the project recommended that a review of the literature concerning the needs of native English-speaking students in academic settings be conducted.

The following review addresses these beliefs by examining a broad array of studies that directly and indirectly address native English-speaking students' academic needs. From the outset, it should be noted that the implicit or explicit motivation for the majority of the studies reviewed involving native English speakers (L1) has been to provide theoretical and pedagogical perspectives that could improve instruction. Because the focus is on instruction rather than on testing, and because instruction takes place over a time period of at least one academic quarter in university settings, insights that might be used to inform test design are limited. Indeed, this review may offer more insight into what TOEFL 2000 cannot be rather than what it should be or will be. Our hope is that by limiting the domain of inquiry, and by providing possible rationales for such limitation, the information gathered by the proposed needs analysis will be more useful than it might have been without this review. First, summaries of relevant L1 literature will be presented; then the implications for TOEFL 2000 will be discussed.

Student Abilities: Writing and Reading

The majority of the literature concerning the needs of native English-speaking students in college is found in professional English, composition, and communication journals as well as in books published by professionals in these fields. This literature focuses almost exclusively on writing and, to a lesser extent, on reading — a focus that is natural, given that literacy skills are traditionally taught in schools and given that writing, unlike reading, listening, or speaking, produces a physical artifact that can be evaluated with relative ease. Furthermore, when native English-speaking students arrive at college, their ability to speak English and to understand spoken English is, under normal circumstances, granted. While writing ability is clearly the main concern of "the academy," the dominant position of writing as the object of inquiry in both L1 and second language (L2) research has not led to the emergence of a dominant model of student writing. Competing models emphasize the importance of cognitive, sociopolitical, or discipline-specific criteria in definitions of academic writing proficiency.

The literature used for our purposes can be divided into three categories: (1) literature that addresses student abilities through an examination of their deficiencies and through categorizations of the writing tasks they must perform; (2) L1 "process" and Writing Across the Curriculum (WAC) literature that addresses the nature of academic writing tasks with respect to the larger theoretical and institutional contexts in which those tasks are performed; and (3) literature that addresses the student's perceptions of and attempts to accommodate the academic demands of higher education. Each of these literatures contributes to understanding student needs in the academy.

Additional areas of inquiry that may prove to be fruitful for investigating student needs in the academic setting include speech communication as well as experimental reading literature. Each of these will be touched on only briefly here, as they were not intended to be central to this review.

The speech communication literature reflects perennial theoretical issues in first and second language acquisition (SLA) research: "communicative competence" becomes "communication competence," and competing theoretical stances contrast the Chomskian notion of competence as an inherent trait against the Hymesian notion of an ability formed and transformed by situational and interactional influences. In speech communication, these basic theoretical issues are just beginning to be sorted out (Rubin, Grahm, & Mignerey, 1990). With respect to speech communication pedagogy, investigations of undergraduate oral communication abilities and explicit instruction of oral communication in university settings may soon become more common. While this line of research may provide insights into undergraduate students' needs, it was not explored in this review.

Another potential area of inquiry is experimental reading literature. Studies concerning the effects of experimental manipulation of text on subjects' discourse processing strategies exist in volumes. Common manipulations involve presentation of contextual information, presentation of given and new information, recognition of anaphoric relations, and phonemic awareness. Some of these studies may provide useful information about variables affecting performance on particular types of test items. These studies may inform test development, but they were not included in this review of students' academic needs.

Student Deficiencies

What skills does a student need in order to succeed in the first year of college in the United States? In the late seventies and early eighties, the research that examined this question focused on student deficiencies (Sherwood, 1977; see also Behrens, 1978; Daniels, 1983; Darrell, 1980). While the validity of the "deficiency" perspective was challenged early in its development (Ohmann, 1976), such challenges did little to change a perception that would later become the now familiar idea of an entire educational system in crisis. The strength of the negative perceptions fully surfaced with the publication of *A Nation at Risk* in 1983 (National Commission on Excellence in Education), and the idea of the systemic inadequacy of American education remains a popular explanation for societal ills (Linden & Whitley, 1990).

The deficiency perspective was, in part, a response to a decline in national test scores that began in 1966. The decline in scores, however, has been argued to be a logical consequence of changing student demographics. Scores dropped as the composition of the student population underwent change, encompassing a much broader population with a wider range of abilities than ever before (Coe, 1986; Russell, 1991). The longevity of this perspective may be an indication of American society's continued difficulty in coming to grips with the ever-increasing diversity of the student body. Be that as it may, at the time when arguments for the decline of student abilities were most popular, examinations of the effects of changing student body demographics were subordinated to faculty and public perceptions of the inadequacies of students.

Faculty Surveys

The most popular methodology employed by the proponents of the deficiency perspective is the faculty survey in which faculty members are asked identify the most pressing needs of students. These surveys focus on three areas: (1) importance of reading and writing subskills, (2) faculty perceptions of students' abilities to perform the identified subskills, and (3) frequency of writing and reading tasks. This approach was adopted by Sherwood (1977), who surveyed 981 faculty members at the University of Wisconsin at Milwaukee. Of the 981 faculty members surveyed, 185 responded, resulting in a 19% response rate. Faculty members were asked to rate from "extremely important" to "least important" reading and writing subskills. They were then asked to classify from "excellent" to "poor" students' abilities to perform the identified subskills. Finally, they were asked to indicate the types of reading and/or writing students were required to do in the university.

Results from the survey indicated that there is a serious problem with respect to the methodology employed. The level of analysis was very general and, as a result, when faculty members were asked to identify which skills were most important, they had a hard time making distinctions. For example, when considering reading skills, they identified four of the five subskills ("understanding the main idea," "ability to reach valid conclusions," "ability to make critical evaluations of content," and "comprehension of significant detail") as being extremely important. These results offer little assistance in diagnosis or remediation, since all of the categories were perceived as extremely important and were not examined further. While it may actually be the case that all of these skills are extremely important, the interactions among these skills — that is, how difficulty with one area may influence or lead to difficulties in other areas — is never addressed.

However, the fifth reading subskill, "the ability to detect inferences between the lines," was identified as important only by a small percentage of the respondents. Interestingly, faculty respondents appeared primarily concerned with students' abilities to understand explicitly stated information rather than with their ability to infer information from assigned texts. As for the faculty perception of students' abilities to perform the reading subskills identified, students' skills were thought only "adequate" at best.

As with reading subskills, little discrimination was provided by the survey instrument with respect to writing skills. All writing subskills (organization, summarization, sentence structure, vocabulary, usage, and research skills) were identified as extremely important by more than half of the respondents. In addition, their perception of writing ability was more negative than it was of reading ability. Approximately 70% of the respondents characterized writing skills as less than adequate or poor, mentioning organization and sentence structure as students' greatest writing weaknesses.

Finally, respondents indicated that reports, research papers, and critical reviews were the most common types of student assignments. In addition, faculty noted that short essays and objective tests were the most common types of exams.

A study using Sherwood's instrument was conducted at Kentucky Wesleyan by Darrell (1980), who sent the instrument to the university's 45 full-time faculty members and received 34 valid responses

(81%). The results, in this case, are nearly identical to those of Sherwood. Darrell emphasized the idea that the faculty considered all of the reading subskills, again with the exception of inferencing ability, as "extremely important," yet four out of five faculty members considered these abilities on the part of the students "less than adequate" or "poor." Although both researchers concede that the faculty had little direct evidence of students' reading ability, their conclusions were not tempered by the observation.

Where writing is concerned, the majority of the faculty at Kentucky Wesleyan agreed that all of the writing subskills (organization, summarization, research skills, sentence structure, usage, vocabulary, economy, and clarity) were either "extremely important" or "important," and, once again, students' abilities were considered "adequate" at best. Two-thirds of the respondents considered students' writing skills less than adequate.

With respect to the relative frequencies of reading and writing tasks in the university, it is clear that students have to read a great deal: over 65% of the respondents in both studies reported assigning entire textbooks over the course of a semester. In both cases 65% of the respondents reported assigning articles from periodicals as well, and at least 40% of both faculties reported assigning additional reading from supplementary texts. The in-class writing task of choice was answering essay questions on hour-long or final exams; however, this information was available only in the Sherwood study. Darrell limited his queries about writing assignment type to out-of-class writing exclusively, and the relative frequency of this assignment type parallels Sherwood's results. The preferred type of out-of-class writing assignment was the report, then the research paper, followed by the critical review. The author did not provide definitions or categorizations of these assignments, and faculty members, as well as the students, might have had very different perceptions about what the successful completion of any of these assignments entailed.

A researcher trying to arrive at an understanding of student needs with respect to reading or writing will be frustrated by these studies. The main points include: (1) every reading and writing subskill is important, (2) students are expected to be able to read a minimum of one book of indeterminate length per class, (3) students must write at least one report per class per semester and must commonly respond to essay questions on midterm and final exams, and (4) students' abilities to perform these skills are perceived by faculty as adequate at best, but more frequently as inadequate. Again, identification of problems with writing subskills (understanding the main idea, summarization, and organization) provides little insight into where and when student problems with these areas occur and how diagnosis or remediation might be undertaken. Concomitant to the absence of suggestions about diagnosis and remediation is the fact that these studies assume unified conceptualizations of "good" — as opposed to "poor" — organization, summarization, and usage skills.

Discourse-level versus Sentence-level Skills

A slightly more critical and informative survey was conducted by Behrens (1978) at the American University in Washington, D. C. Behrens' survey was distributed to all 400 faculty members, and 128 (32%) responded. Although Behrens conducted this study in response to perceptions of student deficiencies, he immediately points out a problem with the deficiency perspective with his observation, "Whether students really are less literate now than they were fifteen years ago is difficult to know, since the question presumes the existence of valid and consistent criteria by which to measure literacy and the decline thereof" (p. 54). The absence of consistent criteria plagues investigations of student needs and continues to be a problem today. Behrens attempts to disentangle some of the issues involved, however.

Behrens quickly establishes the strength of the faculty's perception of the decline of students' reading and writing skills, even quoting the forceful view of one sociology professor who remarks, "It was always very bad; it is now appalling!" (p. 55). Negative evaluations of writing are a dismal litany of weaknesses, citing "poor quality," "vagueness," "insufficient evidence," "disorganization," "incorrect diction," "poor quality of thought," "dullness," "incoherence," and "incorrect format." But these were the less frequently cited problems: far and away, the greatest problem areas identified by the faculty were "usage," "punctuation," and "spelling."

At this point, Behrens captures the ever-present ambivalence of faculty with respect to native English-speaking students' ability to construct grammatical, correctly punctuated, well-formed sentences. While the American University faculty emphasized these problems areas, they downgraded less for these flaws — 51% of the respondents claimed to significantly downgrade for problems of organization but only 31% said they significantly downgraded for problems of syntax and usage" (p. 55).

Faculty appear genuinely perplexed by problems with standard or academic usage and what to do about them: a sociology professor remarks, "I ask them to note [usage errors] but doubt they do. I have not used coercion — i.e., flunking, or even lowering grades for illiteracy because they have been victimized by the schools they attended. I will not ignore it, won't flunk them, don't know what to do but correct and stress it" (p. 56). It is important to note, that even when faculty members do not downgrade, they do note surface errors and find their presence problematic — as is indicated by the quote above. More interesting is the bias revealed in the sociology professor's comments: most instructors today would not associate problematic usage with illiteracy and might instead note a mismatch between a student's use of language and standard usage within academic discourse communities. Furthermore, in spite of the greater importance attributed to difficulty with the organization of written assignments, at least 30% of the faculty in humanities, social sciences, and professional disciplines significantly downgraded for problems with grammar and usage — only the science faculty (72%) reported they did not.

Differences between composition instructors with respect to the relative importance of surface form versus content has been attributed to two general ideological dispositions — the interventionist and the maturationist (Kroll, 1980). The interventionist is concerned primarily with standard usage, sentence and paragraph structure, and employs the conventions of prescriptive grammars in evaluation. The

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maturationist, on the other hand, is concerned with growth and focuses on development, the context and purpose of the assignment in question, and the effort a writer makes in the completion of the task. These different perspectives suggest different evaluation contexts for writing tasks: the interventionist perspective appears better suited to the evaluation of final finished products while the maturationist perspective, emphasizing development and growth, suggests a process of evaluation that takes place over time. The role that the instructor plays in each case must also differ: the interventionist suggests that the instructor's role is that of evaluator while the maturationist suggests that the role of the instructor is a guide, a *writing* instructor. Whether individual instructors adopt these roles in noncomposition courses surely depends on the instructor's perception of his or her function, and the extent to which noncomposition faculty consider it their responsibility to teach writing skills remains open to question.

Descriptions of Writing and Reading Tasks

In Behrens' study, the in-class essay exam was identified by 85% of the respondents as the most frequent generator of student writing, and most of these assignments required short written responses to two or three questions in an hour. Only 14% of the respondents indicated that they required a single written response in an hour. A small percentage of the faculty, categorized by discipline (21% of the humanities faculty, 0% of the sciences faculty, 16% of the social sciences faculty, and 9% of the professional faculty), indicated that they also assigned take-home exams. Under take-home conditions, faculty tended to be less tolerant of surface errors, indicating that they downgraded more often when students were given additional out-of-class time to complete their exams.

Behrens also provides a basic taxonomy of undergraduate out-of-class writing. For this research, Behrens asked faculty to classify papers into at least three types: (1) reports — defined as papers of limited scope providing factual discussion of the results of a piece of research; (2) themes or essays — defined as papers offering conclusions or opinions based on experience and/or research; and (3) research papers — defined as papers based on extensive research of written material on a subject (p. 57). The preferred out-of-class assignment on the part of humanities (56%) and social science (42%) faculty was the essay, but essays were *never* given as assignments in the sciences. It seems safe to assume that in science courses personal experiences and opinions are less important than the mastery of factual content. That significant downgrading for surface errors was reported by only 11% of the science faculty may also be related to the nature of the assignments involved. The overwhelming choice on the part of science faculty (93%) was the report, and surface form may become less problematical for students in general — and for English as a Second Language (ESL) students in particular — when assignments involve highly constrained types of writing, especially when reports are defined as "papers of limited scope providing factual discussion of the results of a piece of research." In the professional disciplines, each of the three types of writing assignments were represented with roughly equivalent frequencies.

In a study in which the stated purpose is to define the academic writing skills required of beginning native and nonnative undergraduate and graduate students, Bridgeman and Carlson (1983) examined the academic writing tasks required in university settings in the United States. Of the 231 questionnaires sent to 36 schools, 190 usable responses (82%), representing 7 disciplines from 34 institutions, were returned.

In the Bridgeman and Carlson study, faculty members were asked to "indicate the number of times per semester that each of a variety of tasks would be assigned to first-year students in all of their courses" (p. 21), along with the relative importance of these tasks. Across disciplines, faculty indicated a considerable amount of diversity with respect to the relative frequency of writing tasks. These tasks included description of an object or apparatus, description of a procedure, argument, argument based on several sources, summary, analysis/criticism, and creative self-expression. "Descriptive" writing tasks were considered important for engineering, computer science, and psychology, while "argument" was identified as very important for undergraduates in general, MBA students, and psychology and graduate levels" (p. 24), but the characteristics of in-class writing are never explored majors. The researchers note that "exams with essay questions appear to be fairly common on both the undergraduate.

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In another attempt to describe faculty views of writing specifically with respect to the frequency of types of writing tasks across disciplines, Eblen (1983) surveyed the 471 full-time faculty members at the University of Northern Iowa and 266 (56.6%) of the surveys were returned. As in the other studies cited, Eblen reports that undergraduate students have considerable difficulty writing, and, once again, distinction are drawn between "problems associated with communicative maturation" (e.g., organization, development, clarity, and coherence) and "problems associated with standards of edited American English" (e.g., grammar, spelling, punctuation, sentence structure, and diction). In response to an open-ended question, difficulties with "communicative maturation" were identified by 57% of the respondents while difficulties with "edited American English" were identified by 43% of the respondents.

While Eblen found a wide range of writing tasks across disciplines, including analytical papers, abstracts, essays, teaching materials, lab reports, case reports, technical reports, and book reports, she found that the most frequently assigned form of writing was, by far, the essay test. She notes that, for the majority of the respondents who assigned writing, the associated purpose of writing was primarily transactional — writing intended to display mastery of content.

An examination of both in-class and out-of-class writing is included in a recently completed study of writing tasks assigned in academic degree programs conducted by Hale, Taylor, Bridgeman, Carson, Kroll, and Kantor (1996). In this study, the focus is placed directly on the specification and categorization of writing tasks through the examination of assignments and course syllabi from 110 instructors representing seven public and private institutions in the United States and one in Canada. After several examinations of the materials were conducted, a classification scheme was established. Their taxonomy includes "locus of writing" (in-class, out-of-class, indeterminate), "length of product" (less than 1/2 page, 1/2-1 page, 1-5 pages, 6-10 pages, and more than 10 pages), "genre" (based on the appearance of the task, e.g., essay versus report of an experiment), "cognitive demands" (a focus on what the writer must do to accomplish the task), and "rhetorical specification" (narration, description, exposition, etc.).

Of all of the studies examined, the Hale et al. (1996) study was one of the few studies in which locus, that is, in-class or out-of-class, and expected length of the written product (p. 64) were explicitly identified as variables critical to adequate description of writing tasks; others note these distinctions but emphasize out-of-class tasks. Hale et al. (1996) note important, if obvious, differences. First, in-class and out-of-class assignments differ in the amount of rewriting possible. Given that in-class writing involves an obvious time constraint, the opportunities for revision are limited. With respect to the length of in-class writing, short pieces of 1/2 page or less are viewed as qualitatively different from pieces of 1/2 to 1 page, in which limited exposition and development are possible. Written in-class assignments of 1 to 5 pages in length are thought to offer much greater opportunity for development than do the shorter assignments.

The relative frequencies of these types of assignments was determined by an examination of the assigned tasks and syllabi for the courses taught by participating instructors. The courses represented

were categorized into two groups: (1) physical/mathematical sciences and engineering (chemistry, civil engineering, and computer science courses), and (2) social sciences and humanities (business, economics, history, and psychology courses). English was also included at the undergraduate level. An examination of the materials provided indicated that short in-class tasks appeared more common in physical/mathematical sciences and engineering than in social sciences and humanities. The reverse was true with respect to 1/2-1 page essays — this task was more frequent in social sciences than in physical and mathematical sciences and engineering. The 1-5 page essay never occurred in physical/mathematical sciences and engineering but occurred as frequently in social sciences/humanities as did the other length tasks. The only clear preference for the 1-5 page in-class essay was indicated by the assignments made in English classes.

In a study conducted by Carson, Chase, Gibson, and Hargrove (1992), the literacy requirements of an undergraduate history course at a large urban university were examined. The methodology used in the study was adapted from a model of literacy analysis employed in the development of many workplace literacy programs. In workplace literacy studies, analyses of observations, interviews with all related personnel, and all printed material help identify skills needed for effective performance.

An important feature of the Carson et al. (1992) study is that it is one of the few that does not adopt a somewhat apologetic stance toward in-class exam writing. They report that types of exams varied with instructors, but, as in the other studies, the most common were essay exams, short-answer exams, and objective tests. In essay exams, the student typically had to use the rhetorical forms, compare and contrast, analysis, and/or cause and effect. Short-answer questions required the display of factual information. Other exams included multiple-choice and matching items.

It is interesting to note that while all of the studies cited comment on the high frequency of in-class exam writing, few of the authors suggest developing instructional strategies that might improve in-class writing. In each, much greater emphasis is placed on categorizations of out-of-class writing tasks. Bucking this trend, Carson et al. (1992) state, "Writing instruction should go beyond traditional essays to include instruction in writing essay exams, short answer questions, summaries, critiques, and notes. Instruction in writing a standard essay does not ensure that students will be able to generalize the instruction to other types of writing demands" (p. 38). Carson et al. (1992) found that the introduction of fundamental terminology and basic concepts was a central component of the first-year introductory history course they examined (and probably is a central component of all core courses). That instructors would test this level of knowledge by asking students to display it in short answers or essays seems reasonable.

Why does in-class writing receive so little attention? One problem is the facile association between in-class writing and the "transactional" or "display" characteristics of the task. In an influential study of writing across the curriculum programs in British secondary schools, researchers characterized "school-sponsored writing . . . [as] overwhelmingly transactional — intended to convey information in a pragmatic way — and directed predominantly to the teacher in the role of an examiner" (Britton,

Burgess, Martin, McLeod, & Rosen, 1975, as cited in Anson, 1988, p. 10). The transactional nature of the majority of the assignments was seen as a serious problem, and it may be in some contexts, but introductory core courses in American universities probably is not one of them.

The primary function of in-class writing as providing an opportunity for teachers to evaluate and for students to display knowledge is accepted without question by Behrens (1978), Darrell (1980), Eblen (1983), and Sherwood (1977); however, the negative connotation that in-class writing has developed should not be accepted without critique. Often the understanding of fundamental terminology, or basic vocabulary, in a class involves understanding abstract concepts and relationships that cannot be merely "transactional." Emphasis on out-of-class writing may reflect a decidedly composition-instructor-type bias — a bias that may not be shared by noncomposition undergraduate faculty.

Analysis of Task Subskills

The general level of analysis presented in most of the studies discussed above invites more thorough description and analysis of the task subskills involved. Analyses of this kind have focused on either the characteristics of the texts involved or on the interaction between text and the reader and the writer. Analyses of linguistic features of texts have included general patterns of discourse organization (Hoey, 1986), examinations of noun phrases in scientific discourse (Vande Kopple, 1992), thematic progressions and their effects on comprehension (Vande Kopple, 1991), and given and new information and associated structures (Vande Kopple, 1986).

Focusing on the interaction between text and reader, Currie (1993) presented a continuum in which conceptual abilities ranged from finding and recording information to speculating, moving the student from the concrete to the abstract.

Other studies have analyzed students' products in an effort to "demystify" the abilities underlying the products in different ways. In addition to the model of literacy analysis mentioned above, Sternglass (1986) used the Credition Model for analysis of the cognitive strategies involved in writing. Her study looked at three types of student essays: expository, argumentative, and speculative. The Credition Model was used to look at "how the types and levels of cognitive strategies shift within discourse types" (p. 163). Essays were analyzed at the sentence level, concentrating on the semantic role of each sentence as well as on the structural role of each sentence in the essays. Results from this study showed that most of the students used interpretive language such as explaining, assessing, inferring, and deducing when writing their essays. Not all students demonstrated the same types of writing on the same tasks, however. Thus Sternglass and Wilkinson et al. argue that it is important to provide a range of tasks for students to perform in order to call on their full range of cognitive abilities. One type of task may result in differing amounts of engagement by the student, and the task will elicit different types of writing depending on how it is viewed by the student.

A slightly different approach was taken by Greene (1993). He investigated how different writing tasks influenced students' thinking in reading and writing. As part of the course requirements, students performed one of two tasks: write a report or write a problem-solving paper. In addition, "think-alouds" were used to find out how students approached and carried out the tasks. Finally, students also took pre-tests and post-tests to find out the role of background knowledge and to discover how much learning occurred. Papers were analyzed for organization, origin of information, and appeals to authority. Greene also used a taxonomy developed by Newell and MacAdam (1987) to score the presence and organization of prior knowledge. Findings indicated that the tasks resulted in very different papers, although the final measure of learning did not indicate a difference. The task assigned prompted students to organize information in different manners. For example, those students who wrote the report and problem-solving essays used different organizational patterns, incorporated different origins of information, and appealed to authority in different ways.

Carson et al. (1992) also attempt to break down skills into meaningful subcomponents. Analysis of the data collected revealed that discourse skills (recognition, synthesis, retrieval of information,

recognizing organization of information, retention of facts, rapid recall of information, etc.) and vocabulary acquisition strategies (usage of dictionary skills, recognition of context clues) were necessary to do well in the course studied. Discourse skills are those skills "that allow students to recognize, synthesize, and retrieve information from their reading, both across texts and across textbook chapters" (p. 28). The ability to understand part/whole relationships along with the ability to recognize the importance of general background information and specific details were related to the students' abilities to retain facts and their significance. Vocabulary acquisition was also extremely important because much of the student's access to content was related to ability to understand many difficult vocabulary words.

Critical writing skills were identified as note taking and exam writing. Note taking was considered critical because notes provided occasion for the integration of course material; that is, what was recorded — what was considered noteworthy — was influenced by the student's out-of-class reading as well as by the student's comprehension of the lectures. Thus, literacy in this context implied the integration and synthesis of multiple sources of information.

Hale et al. (1996) attempt a analysis of writing tasks, using a complex scheme consisting of five levels, each with at least three subcomponents (see discussion above). While the most ambitious of the categorizations, the final level of analysis does not lend itself well to the specification of items and texts for use on the new TOEFL test. For test specifications to function properly, the critical variables identified must allow replication of particular textual features, resulting in comparable texts, for use on other test forms.

These studies suggest at least four approaches. (1) Texts can be categorized with respect to their linguistic features. In this case, combinations of particular discourse-level and sentence-level features become signatures of particular styles or genres. (2) Texts can be categorized with respect to the cognitive processes they engender in readers and writers. At this level of analysis, an important caveat seems to be that individual styles and strategies play a critical role in an individual's interaction with any text, and, ideally, the researcher would want to take such differences into account. (3) Texts can be categorized with respect to their importance in the completion of some other, superordinate, task. In this case, texts are purposefully used to achieve a particular goal; for example, notes are the occasion for the synthesis of information, which in turn contributes to a student's understanding of material and final grade. (4) The final approach attempts to incorporate features of all of the previous approaches and reveals that these approaches are not truly independent of one another. It is more accurate to say they differ only in emphasis, and, as a result, the possibilities for combination are virtually endless. Attempts to better understand both the cognitive processes engendered by texts and the specific textual features of written discourse have contributed significantly to the theoretical discussions associated with writing in the past 15 years.

The Influence of Process Approaches to Writing

The deficiency perspective was abandoned in the professional literature in the early eighties, when generic descriptions of ill-prepared students in need of remediation were replaced with considerations of the unique characteristics of individual students, groups of students, professors, classes, and disciplines. Psychological approaches to writing (Bereiter, 1980; Bereiter & Scardamalia, 1987; Flower & Hayes, 1980), and an awareness of the importance of discipline-specific knowledge (Bartholomae, 1985; McClosky, 1983; Steward & Smelstor, 1984; Witte & Faigley, 1983) emerged. These perspectives are accompanied by critical examinations of institutional roles and responsibilities (Berlin, 1988; Bizzell, 1987; Freedman, 1987; Perdue, 1984). These lines of research clearly mark a move away from faculty perceptions of student deficiencies to a focus on the student and the task while emphasizing the complexity of a writer's work by articulating the influences that contribute to or sabotage success. Thus, claims of deficiency forced attempts to define competence, either in terms of the stages that writers go through as they move toward a finished product or in terms of the acquisition of writing skills and knowledge engendered by particular educational settings — the idea being that evaluations of ability make little sense when unaccompanied by the identification of appropriate intrapersonal and interpersonal models.

Two dominant pedagogical approaches to writing developed as the zeitgeist moved away from student deficiencies toward identification of appropriate models for undergraduate student writing: the process approach and the Writing Across the Curriculum (WAC) approach. The former focuses on intrapersonal aspects of writing, while the latter focuses on the interpersonal aspects of writing in particular disciplines and the student's accommodation to specific academic styles or genres. Surely, an underlying motivation for the development of both the process approach and WAC programs is a reaction against the primarily evaluative stance embodied in the deficiency perspective. The influence of process approaches to the instruction of writing and the influence of WAC programs moved instructors away from the transactional mode and toward greater emphasis on out-of-class writing intended to foster intellectual development and overall writing abilities. What gets lost in the picture is in-class writing for evaluative purposes.

Accompanying the shift to out-of-class writing is the rise of the distinction between writing for evaluation and "real" writing. As Lloyd-Jones (1982) remarks, "A writing sample is not real writing" (p. 3), and this position, championed much earlier by Ballard (1939), becomes, right or wrong, a cornerstone of process theory. Ballard argues:

> When you and I write anything, rarely do we leave it as it first flowed from the pen. We set it aside and read it later; we score out superfluous words, change awkward phrases, rearrange the ideas, and sometimes, indeed, write the whole thing over again . . . To revise and remodel, to reflect upon what is written, and to reject even the good in favour of what is better — that is at least part of the secret of clear and vigorous prose. We do this ourselves, but we do not allow our pupils to do it. Often we expect them to write without preparation; always we expect them to write without revision. Second thoughts are discouraged. (p. 66)

This position, however, fails to recognize that undergraduate students do participate in "real" writing, not to the extent that they are given opportunity to plan and revise, but rather to the extent that they can be considered, or more importantly consider themselves, "real" writers. The assumption that undergraduate writers share the processes and goals of their instructors, who must publish or perish, or of other professional writers, is a presumption, not an assumption. Furthermore, ability to compose a coherent written product extemporaneously is an ability generally assumed within the capability of "real" writers. Process theory, in its emphasis on prewriting, planning, writing, and revision, tends either to ignore or to avoid these issues.

Santos (1992) identifies three perspectives within L1 writing process theory: the cognivist (Flower & Hayes, 1980; Flower, 1989), the expressivist (Elbow, 1981; Moffett, 1982), and the social constructionist (Bizzell, 1987; Bruffree, 1986). As Johns (1990) argues, these perspectives differ in their emphases on particular aspects of writing. Santos explains, "the cognivist view focuses on the intellectual and analytical processes involved in writing; the expressivist stresses the personal voice in writing; and the social constructionist sees writing as a social artifact with political as well as social implications" (p. 2).

The cognivist approach. Elaborations of the cognivist perspective have led to a number of research methodologies widely practiced by researchers from psychology, education, and composition who are concerned with how to model and explain the mental processes of writing (Grabe & Kaplan, in press). In such studies, researchers commonly ask students to track their progress in completing an assignment. Think-alouds (Flower, Stein, Ackerman, Kantz, McCormick, & Peck, 1990; Greene, 1993) and writing logs (Walvoord & McCarthy, 1990; Carson et al., 1992; Greene, 1993; Nelson, 1990) are often used to capture what transpires during the composing process. Interviews are also used as a window into the writing process. Subjects are asked to either retrospect on their performance or to rationalize why they chose to use particular writing features (Herrington, 1985). In addition, researchers have collected notes, drafts, and final papers from students so that the writing process can be reconstructed (Walvoord & McCarthy, 1990; Nelson, 1990). The information collected from using these techniques (think-alouds, logs, and/or the actual evaluated products) is then analyzed to see how students complete necessary writing tasks.

Bereiter and Scardamalia (1987) have contributed much to what is known about the composing process and have distinguished two types of writing: knowledge telling and knowledge transforming. Knowledge telling is characterized by beginning to write, telling what is known about a topic, and ending when the topic is exhausted. Knowledge transforming, in contrast, involves much revising (i.e., transforming) of the information. Thus, novice writers are knowledge tellers and expert writers are either knowledge transformers or knowledge tellers, depending on the writing task. Most often the out-of-class writing that is required in the university setting is composing, which calls on the writer's ability to transform knowledge. Yet all too often, beginning college students lack instruction and practice in composing, having primarily done knowledge telling in school (Grabe & Kaplan, in press).

The cognivist approach accepts "academic discourse" as a given and portrays it as much as a mastery of a way of thinking as a particular style. Flower et al. (1990) write, "The goals of self-directed critical inquiry, of writing to think through genuine problems and issues, and of writing to an imagined community of peers with a personal rhetorical purpose — these distinguish academic writing. . . ." (p. 28). She delineates a problem-solving approach in which integration and evaluation of information is emphasized. Using think-aloud protocols, Flower and Hayes (1980), Flower (1989), and Flower et al. (1990) indicate that students engage in writing tasks in different ways: some summarize and comment on the text itself, others write without referencing the text at all, and still others engage in interpreting the information from the texts for a purpose.

These results are supported by the work of Walvoord and McCarthy (1990), who studied 114 undergraduate students' thinking and writing in four different disciplines. They also found that the ways in which students engage in tasks vary according to students. Their designations of the student as a text processor, a layperson, and/or a professional-in-training parallel those of Flower and her colleagues. Text processors overuse the text in the task; laypersons underuse the information; and professionals-in-training use text, background knowledge, and interpretation to complete the task. Of these three groups of students, those who take on the role of professional-in-training are best adapted to meet the demands of the academic community. That is, these are the students who understand what it means to write for and be judged by members of the academy.

The expressivist approach. The idea that students should be concerned with membership in the academy is questioned by the expressivist approach — championed by Elbow (1981; 1991). Furthermore, Elbow challenges the idea of academic discourse as a unified phenomenon that manifests itself as a particular cognitive problem-solving style. Elbow recognizes that there are generic qualities of academic writing but also stresses the idea that such characteristics are representative of many nonacademic genres as well. Furthermore, he notes that academic discourse, like language in general, is constantly subject to change. While maintaining that writing courses do have a responsibility to at least introduce academic discourse, he believes that expressive, nonacademic writing also has a place in composition courses.

The social constructionist approach. The role and importance of academic discourse is also questioned by proponents of what Johns (1990) identified as the social constructionist school within process theory. These theorists argue not only that conceptualizations of academic discourse change but also that members of the academy and their students should become active agents of change. Underpinning many of these arguments is the identification of rationality as a Western bias. This group is represented by deconstructionists, who challenge "objective" perspectives and their manifestations in organized prose, and by feminists, who share the deconstructionist stance against linear, hierarchical, or deductive representations of knowledge. Of the more radical perspectives within the social constructionist camp consider Bizzell's (1990) description of the proper function of English composition instructors: "We must help our students, and our fellow citizens, to engage in a rhetorical process that can collectively generate trustworthy knowledge and beliefs to displace the repressive ideologies an

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unjust social order would inscribe in the skeptical void" (p. 671). As might be expected, theorists within the process approach differ widely with respect to what might constitute successful writing.

Writing Across the Curriculum

The initiation of the student into the stylized conventions of particular discourse communities becomes a central concern of WAC programs. Rather than focusing on the generic characteristics of academic discourse, proponents of WAC programs stress the importance of a student's familiarity with specific disciplinary styles, and there is indeed great intuitive appeal to the idea that the best teachers of disciplinary genres are the actual practitioners of those genres. Fulwiler and Young (1990) argue that WAC programs have been in operation since the seventies and that they developed ". . . as a response to a perceived deficiency in student writing and thinking abilities" (p. 1); however, these programs were not recognized as a WAC movement until the mid-eighties. In 1986, 35% of all colleges and universities reported having WAC programs (*ADE Bulletin*, Fall 1986), cited in Odell, Goswami, and Quick (1983) introduction. The move away from a general to a more situated perspective is reflected in Odell et. al (1983) as they argue for adoption of WAC programs. The authors emphasize the identification of strategies useful for writing in particular disciplines and the relationship between the characteristics of particular writing assignments and the overall schemes of particular courses in which they may be found. However, to describe these programs as an alternative to process approaches would be misleading: many actively disseminate process-based pedagogies (Dickerson, Fulwiler, & Steffan, 1990), while others adopt a text-based approach (Williams & Colomb, 1990).

A casualty of the WAC movement, along with serious disagreements within process theory and composition as to the nature of generic academic discourse, may be the difficulty of arriving at any consensus with respect to what undergraduate students' writing is or might be. Perceptions of deficiency once unified the field and forced researchers to develop process approaches and disciplinary models for student writing. A result has been what Farris (1993) has identified as "the paradox of writing across the curriculum claims." Her argument is that as WAC programs are institutionalized to a greater and greater extent, practitioners will be unable to deny the emergence of specialized forms of discourse that are hybrids of rhetoric, pedagogy, and disciplinary knowledge. These hybrids will force, once and for all, the abandonment of the "politically and economically convenient myth of a common unified academic discourse that the faculty believes can be taught as a pragmatic [and] neutral tool for the expression of ideas" (p. 1). The recognition of competing disciplinary models now requires researchers to position themselves with respect to these models — or at least to recognize their influence.

The extent to which undergraduate students in core courses are, or should be, interested in the mastery of particular disciplinary genres or in membership in the academy is questionable. Apparently, at the undergraduate level at least, students have little or no interest in membership.

In a naturalistic study of the academic discourse demands of undergraduate students, Chiseri-Strater (1991) studied two students' experiences in a Northeastern university. Her in-depth investigation, which examined the experiences of two students, Anna and Nick, indicated that undergraduate students are not interested in membership in the academy; they do only what is necessary to complete the requirements to get their degrees. She further extends this view to indicate that not only are undergraduates not members, but the only "true" members of the community are those who control it. Underscoring the importance of her findings, she states, "Instead of the university or its departments mentoring either of these students, it merely held them while they nourished themselves on their own. In fact, Anna and Nick can be considered literate in spite of, not because of, their contact with the academy" (p. 143).

This position is further supported by the work on genre done by Berkenkotter and Huckin (1993). Undergraduates differ from graduates in that graduates need to develop mastery of discipline-specific genres, while undergraduates are exposed to institutional genres. These students get, in effect, a sampling of discipline-specific genre but are not fully inculcated into the discipline, in part by their desire not to be (Nelson, 1990) and in part because they may not have reached "expertise" status (Geisler, 1994). Leki and Carson (1994) reiterate this notion:

> Despite concerns expressed to the contrary in both L1 and L2 literature on initiating students into discourse writing, undergraduates are not expected to engage in or contribute to the ongoing professorial conversation of geographers, historians, or physicists. The "discourse community" of undergraduate writing, particularly in courses outside their majors, is peculiarly short-lived and is not reproduced elsewhere. It is an educational discourse community affording these students the opportunity to sample knowledge from different disciplines, most of which will never include these students as actual members or even as apprentices. (p. 96)

As was mentioned above, much of the written work that undergraduates are involved in is test-taking, reports, and summaries (Bartholomae, 1985). This kind of work "places them outside of the official discourse of the academic community, where they are expected to admire and report on what we do, rather than inside that discourse, where they can do its work and participate in a common enterprise" (Bartholomae, p. 144). Bartholomae continues his argument, claiming that students "try on" different discourses, much like the "sampling" mentioned by Leki and Carson (1994) above.

In a study conducted by McCarthy (1987), Dave, an undergraduate student, is the center of attention. His progress through three classes, Freshman Composition, Introduction to Poetry, and Cell Biology, was examined over a two-year period. McCarthy based her conclusions on (1) classroom observations; (2) interviews with the subject, with two of his friends enrolled in the same classes, and with his three

professors; (3) composing and think-aloud protocols; and (4) analysis of those protocols. McCarthy argues that the key to an undergraduate's success lies in the ability to adapt to the different demands of classrooms and professors:

> Successful students are those who can, in their interactions with teachers during the semester, determine what constitutes appropriate texts in each classroom: the content, structures, language, ways of thinking, and types of evidence required in that discipline by the professor. (p. 233)

As Dave comments, "First, you got to figure out what your teachers want. And you've got to give it to them if you're gonna get the grade" (p. 233). Over the 21 months that he participated in the study, Dave's notion of purpose changed very little: he always understood his purpose as being primarily to satisfy a teacher-examiner's requirements.

Additional evidence of undergraduates' concern with grades is provided by Nelson (1990). She looked at students' perceptions of tasks versus professors' perceptions of tasks, and demonstrated convincingly that the two do not always match. In the students' eyes, papers and exams are done in exchange for grades; this fact alone served to motivate the vast majority of students. Nelson found that often a professor's belief that a particular assignment requires the student to engage in a particular type of cognitive behavior is not supported. Actual student behaviors and strategies may be very different from those imagined by instructors. Students have at their disposal many ways to circumvent academic demands and still complete the tasks required to pass the course.

As might be expected, the instructors' view of the process matched that of the students only partially. From the instructors' point of view, the role of implicit teaching is highlighted. In McCarthy's study, all three professors viewed the role of reading and writing in a similar way. A biology professor remarks, "I want students to be at ease with the vocabulary of cell biology and how experiments are being done. . . . Students need *to get a feeling* for the journals, the questions people are asking, the answers they're getting, and the procedures they're using. . . ." (p. 244). This style of teaching and learning places the burden on the student: they have to figure "it" out — whatever "it" is.

Finally, Anderson, Best, Black, Hurst, Miller, and Miller (1990) lend further support to the substantial role that grades play for undergraduate students. In this study, five students, who were enrolled in an honors section of College Writing and Rhetoric, recorded their observations of language use in all of their classes. The observations included comments on writing assignments and exams, teacher evaluation procedures, and teacher and student in-class behaviors. The students' comments and observations reveal, "their already firm understanding that they are competing against transcript averaging for future rewards. . . . [They] were not, with the exception of Brandt, planning schedules around related intellectual interests, but cooperating with the institution's provision of paths toward degrees" (p. 16). These students also comment, ". . . we were evaluated only by the *products* of independent work, not by our participation or our self-consciousness about language as we were in our

writing course. Teachers across the curriculum did not define knowledge-making as an interactive process, with the notable exceptions in English, Law, Acting, and Math" (p. 17).

Anderson et al. (1990) observe that a great part of the learning process occurs independently, outside of the classroom, and in collaboration with other students:

> Because so much learning is done *independently* (as it is in taking notes, studying alone, and seeking individual help from teachers and peers), students often needed to discover on their own how to organize and remember information, and to find out how to write tests or papers by directly questioning teachers and each other, usually outside class meetings. The students in our courses needed to know that most learning did not occur in a class itself and that teachers do not always talk about *how* to organize information to remember or interpret it. Students in science and math courses of whatever size used the classroom as a place to learn from each other before and after class more often than students in other courses. But students may discuss material more often in any course directly related to their majors. . . . (p. 23)

These students place great value on their own compensatory strategies: "Outside of class I work very hard to keep caught up and understand what is going on" (p. 25). Professors appear, somehow, incidental to student efforts and success. One student explains, "I rarely focus on instructors as actual people but tend to view them as impersonal presences. I do not think teachers 'teach' material. They instead 'influence' you by explaining what they think is important to the class. They state facts or opinions that you are 'expected to know' to get a good grade" (p. 26).

As in the McCarthy study, being able to anticipate the often implicit requirements and expectations was a central component of success. One student comments, "Becoming aware of teacher expectations is critical to good studying efforts" (p. 23). Another remarks, ". . . the crucial part of learning in any classroom is digging up what the teacher expects" (p. 25). One student actively seeks professors' explicit explanations of class requirements by visiting professors during office hours, but the others did not. Another displays a canny ability to determine what is important to a professor: "In my anthropology class, the teacher didn't care how we pronounced 'meiosis', so I knew that she did not place particularly high value on language rules. In writing the extra-credit paper for her class, I did not take much time with my style, but I was careful to make sure the facts were right" (p. 24).

The role of students' compensatory strategies as manifested by successful students' ability to understand and act on implicitly stated information cannot be underestimated. Behrens (1978) asked faculty about the amount of elaboration provided for students when assignments were made. There were obvious differences with respect to the amount of specification that might aid students in their completion of assignments provided by instructors. For example, 21% of the respondents from science disciplines indicated that they provided no specification, while 37% of the faculty respondents from those same disciplines indicated that they specified procedures at length. The greatest percentage of

faculty respondents (70%) who indicated provision of only partial specification were respondents from the humanities. While the perception of student reading and writing deficiencies on the part of the faculty was universal, the degree to which instructors were willing or able to specify procedures for the successful completion of writing assignments was not, and students enrolled in courses within the humanities (i.e., composition) appeared considerably less likely to receive detailed instructions.

This finding adds a confound with respect to any discussion of native English-speaking students' needs, and at least suggests that a student's success cannot be considered separately from an instructor's ability or willingness to clarify the demands of the assignment. Additional information about evaluation is provided by Bridgeman and Carlson (1983), who emphasize the criticality of a student's ability to understand the requirements of assignments. They report that the student's ability to "appropriately meet assignment requirements specified [or not] by the instructor" was considered highly important by all of the faculty across all of the disciplines in their study (p. 31). In fact, of the 12 assignment features rated by instructors, only "quality of content" was given equal weight. So rather than ascribing apparently mercenary strategies and motivations to undergraduate students in their comments about "getting grades," it is important to remember that instructors place high value on students' ability to meet expectations, even when those expectations are not clearly stated.

Furthermore, consider normal class loads and the very practical concerns that all undergraduates must have with time management. A normal course load of 15 hours is divided in three-hour time slots that usually represent five, often unrelated, classes. The different subject matter involved will elicit different study strategies, and these will vary across individual students. Anderson et al. (1990) reflect Nelson's (1990) characterization of undergraduate students' concern with getting maximum return for minimum effort:

> . . . there is no such thing as one universally beneficial studying technique, and no one
> correct way to approach language use in college. As economizers, excelling students
> will carefully consider the different combinations in which they may spend time, and
> choose an option that yields the greatest return. The good student psyches the course out
> to get more output for less input. (p. 24)

Carson et al. (1992) also identify students' management of time, whether in regard to in-class writing or to completing out-of-class reading, a critical factor in a student's success.

Students' comments make process theorists' concern with out-of-class "real" writing, competing definitions of academic discourse, and discussions of membership in the academy seem somewhat naive and unrealistic. Anderson et al. (1990) state:

> As observers and collaborators, we encountered many classroom cultures that defined
> both learning and "academic literacy" very differently than our writing course had. The
> "discourse community" defined in composition was rarely reproduced later because

students and teachers in other introductory-level courses operated in two very separate and often conflicting rhetorical worlds. These worlds diverged in their views of appropriate uses of language — including talk and listening as well as reading and writing — because students and teachers often imagined their roles, and each other, from opposing views of what counted as "teaching" or "learning." Students taught themselves how to fit their expectations to the values they encountered, while teachers remained distant from the learning process. (p. 11)

These observations might be used to criticize the presentation of material and its evaluation in introductory courses, as has been done in the past in criticisms of "transactional" and "display" functions of in-class writing; however, Anderson et al. (1990) resist this interpretation. The instructor who organized the study argues:

I was tempted, with support from the students' often cynical and always critical reactions, to interpret this isolation of my pedagogy by deciding that "no real learning" could go on in the settings they typically encountered. But there was too much evidence to the contrary, as their observations revealed. The students were learning, but in a different spirit, one with which they successfully cooperated. The temptation to dismiss their reports only as evidence of the superior pedagogy I have learned because my field represents a cutting edge of learning theory would, I recognized, too automatically overlook both the students' actual progress and the importance of the typical *situations* in which others teach. (p. 28)

These typical situations may emphasize transactional orientations toward learning and require display more often than evaluative or critical stances on the part of the undergraduate student. Given the daunting amount of introductory material that undergraduate students must become familiar with and given the "marginal" position of undergraduate students with respect to membership in the academy, the ability to read and comprehend texts in different, often unrelated, classes, to write exams efficiently under pressure, and to take advantage of opportunities for obtaining help from classmates, not instructors, will all have critical impact on undergraduate success.

Graduate students, on the other hand, have a somewhat different academic experience than that of undergraduates. They seek approval of and admission into the academic discourse community. Unlike undergraduates, graduate students are exposed to the full range of discipline-specific genres. Although they are not taught these genres explicitly for the most part (but see Swales & Feak, 1994), students acquire them as "apprentices." Graduate students go through these stages as they learn how to be members of the community (Berkenkotter & Huckin, 1993).

Besides having more comprehensive exposure to a discipline-specific genre, graduate students have different requirements than those of undergraduates. It is expected that graduate students will do more reading (often in the particular discourse community's journals), participate in more discussions, and will

write more research papers. The cognitive skills involved in writing a thesis or dissertation include reading critically, synthesizing and evaluating information, and designing and carrying out a study intended to be an original contribution to the field. Additional membership activities include presenting at conferences considered important to the discourse community, assisting faculty in research projects as research assistants and often copublishing with faculty members, as well as assisting the department with teaching entry-level classes such as composition classes (freeing up faculty to teach upper-level courses).

All of these opportunities are available to the graduate student, but they are rarely part of the undergraduate student's academic experience. Second-language learners of English, while acquiring the same discourse rules as their native-speaking peers, lack the native language/culture educational experience that helps when trying to understand the educational system. Books such as *Academic Writing for Graduate Students* (Swales & Feak, 1994) are explicit efforts "to help graduate students with their *academic* writing" (p. 1). These authors mention in the introduction that they "have created this textbook for people who are not native speakers of English yet are studying for graduate degrees (at both masters and doctoral levels) through or partly through the medium of English" (p. 1).

This effort to assist nonnative graduate students with their academic writing is based on research in writing. However, despite differences in writing across disciplines, the authors claim that the general requirements of graduate writing can be covered as a broad area. Furthermore, the authors mention that there is a distinction between graduate writing and undergraduate writing demands in academia (Swales & Feak, 1994). Their efforts, focus on the graduate population, and the text assists them in everything from writing memos to developing summaries to composing a real research paper.

In summary, both undergraduate and graduate students have to read extensively, must take in-class exams, and must complete complex out-of-class assignments to receive passing grades. Graduate students, however, seek membership into the academic discourse community; their motivation to succeed is more complex and more dependent on their mastery of discipline-specific genres.

Implications for TOEFL 2000

This review of the L1 literature on the academic needs of students in the university setting has resulted in a wealth of information, yet only some of this information is useful for the purposes of TOEFL 2000.

One of the strongest motivations for undertaking a needs analysis has been the assumption that if the characteristics of "real" academic tasks could be described, the identity of TOEFL 2000 could be derived. Attempts to derive underlying competencies from real-world academic tasks have already been undertaken, and these attempts have met with only limited success.

The motivation for the Bridgeman and Carlson (1983) and the Hale et al. (1996) studies was very different from that of the Sherwood (1977), Behrens (1978), Darrell (1980), and Carson et al. (1992) studies. Sherwood, Behrens, and Darrell focused on student deficiencies in order to highlight student needs and to set the stage for remediation. Carson et al. examined literacy demands of an undergraduate history course in order to provide observations and recommendations that might lead to more effective developmental instruction. As mentioned above, the stated purpose of the Bridgeman and Carlson study was to define the academic writing skills required of beginning native and nonnative undergraduate and graduate students. A secondary purpose, but perhaps a more important one, was to provide information that could be used to design a test of English as a Second Language (ESL) writing abilities, now known as the Test of Written English (TWE®). The Hale et al. study can be considered an extension of this purpose. They state, "The research was expected to expand the understanding of the types of writing tasks that are required in undergraduate and graduate academic studies and thus assist in conceptualizing the way in which writing should be assessed on the new TOEFL" (p. 1). However, the derivation of underlying abilities from "real" tasks is fraught with difficulties, two of the most serious are outlined below.

Level of specification of tasks. The first difficulty involves levels of specification. Consider one often cited ability associated with writing, summarization. Logically, it appears that any attempt to decompose summarization, even at the most general discourse-level, would have to include descriptions of cognitive abilities (e.g., Currie, 1993) and processing strategies (e.g., Flower et al., 1990; Greene, 1993) while, at the same time, taking account of individual differences that influence a student's interaction with text (e.g., Sternglass, 1986). Discipline-specific characteristics of text may also change the nature of the task and should be taken into account when formulating test specifications for summary prompts and rubrics for scoring.

A possible solution to this problem might be to undertake a careful examination of evaluated products as part of the needs analysis, giving special attention to a single instructor's evaluation of work produced by both native and nonnative students. Through such an analysis, we might be able to identify critical variables that contribute to the success or failure of students' writing attempts. Findings from studies that have attempted to describe the evaluation of written products both within and across disciplines suggest a cautious approach. Miller (1987) asked 10 composition instructors, 20 instructors from other disciplines (from German to engineering), and 20 students representing a variety of majors to

evaluate a single freshman composition essay. Miller found, "What we mean when we call good academic writing good depends on *who* is responding to the writing and *how* they are responding to it" (p. 31). In and of itself, this is hardly a remarkable finding; however, the grades given by faculty to the essay ranged from A to F. While the majority of the faculty members gave grades of B or C, they did not agree about the writer's success with respect to the essay's rhetorical content (ability to abstract material, analyze critically, order ideas effectively, and provide convincing arguments). The students were uniform in their assessment of the essay — all assigned a C — and were much harsher in their criticisms than were the faculty.

In a study examining ESL writing instructors' evaluations of an intensive English institute's exit essays, Trademan (1994) collected three essays written over an 18-month period by 6 different students. Five instructors were asked to place the essays in the order that they believed corresponded to the actual sequence in which the essays were written, evaluate the essays, and then explain their evaluation procedures. None of the instructors agreed on the sequence in spite of the fact that all of the students' final essays had been used as evidence of exit-level ESL proficiency. Furthermore, none of the instructors emphasized the same aspects in their evaluations of the essays. For example, one focused on surface-level grammatical accuracy while another emphasized the students' willingness to take risks and attempt difficult forms, thereby producing more surface errors: both the positive and negative evaluations of these instructors were given for very different reasons. Variability rather than underlying commonality may be the most common feature of the evaluation procedures of professors both within and across disciplines.

The fairness of testing academic tasks. The second difficulty involves fairness. If we could establish test specifications for the development of summary items, which would allow us to place individuals on some scale of summary ability, the instruments for measuring people in this way must give equal opportunity for fair assessment of those with different language backgrounds and those who learn English under a variety of conditions, not to mention the thorny problem of the presence or absence of prior instruction of summarization abilities. We might want to argue that the influence of language background and prior instruction is unimportant because what matters is a student's ability to perform tasks that are characteristic of academic settings in the United States. However, if we accept faculty perceptions of native English-speaking students' reading or writing deficiencies, we must be very careful about including tests of such abilities on the new TOEFL test. While these skills certainly influence a native English-speaking student's success in college, it appears that these skills are not efficiently taught in American high schools, and many native English-speaking students require either instruction or remediation. It might be the case that in the 25 years that have passed since the publication of the studies described above, native English-speaking students have mastered the abilities in question. Then again, consider the introductory remarks of Carson et al. (1992):

> During the last 25 years, American colleges and universities have been the setting for a
> peaceful revolution, opening the doors of higher education to students who in past years
> would not have had access to college education. This opportunity also has given rise to a

number of problems, resulting from the fact that these students were often unprepared and ill-equipped for the rigorous demands of American colleges and universities. In an economy that demands a literate and highly skilled working population, it is not enough to provide access to education. Such a society must also face the dilemma of encouraging the greatest amount of educational success without compromising educational standards. (p. 25)

It is interesting to note that we do not hinder a native English-speaking student's entrance to college because of problems with particular types of writing, but we do expect students to develop these abilities while in college. For example, the purpose of the Carson et al. study was to describe the literacy demands of the undergraduate curriculum in order to improve developmental instruction, that is, to reduce failure by enhancing opportunities for success. It was not an attempt to set entry-level standards of performance.

Furthermore, in discussions of academic discourse as well as academic genres (Swales, 1990), both native and nonnative speakers of English must adapt to the demands of the "academy" through a process of enculturation. Berkenkotter and Huckin (1993) explain:

[The view] that knowledge of academic discourse in its various permutations grows out of enculturation to the oral and written "forms of talk" of the academy brings us to our next point — that genre knowledge is a form of *situated cognition*, that is, knowledge that is indexical, inextricably a product of the activity and situations in which it is produced. (p. 485)

Similar questions about fairness have already been noted by Waters (1994). Waters explains that one of the major criticisms of Bridgeman and Carlson (1983) was their intended purpose — a description of first-year writing tasks that could be used to inform test design. Applied linguists perceived a mismatch between attained proficiency and the kind of proficiency that can only be developed within an academic environment. Waters states:

Raimes (1990) points out that the TWE is intended to be a measure of attained proficiency, yet it uses writing tasks of a type it is assumed that students will do in the future. The implication is that the research which underpinned the TWE was focused in a similar way. This was indeed the case, as the instructions Bridgeman and Carlson give to their questionnaire respondents show: "The main objective of this questionnaire is to obtain a valid description of the kinds of writing tasks that are required of students in your department doing 'typical' coursework". (p. 12)

These arguments suggest that we must carefully examine the extent to which we ultimately test "real" academic tasks.

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Identification of the testing domain. Thus, problems with appropriate levels of specifications of tasks for use in the development of new test items reveal a more fundamental concern for the needs analysis. That is, what exactly is the domain we want to test? What is the nature of the underlying competencies we wish to capture? A fundamental difference between native and nonnative students is that we can assume the ability to understand English as a default only with the native speakers. The difference seems clear, only one of the groups knows English. The extent to which nonnative speakers understand English should be the concern of the TOEFL test.

A related issue involves the much discussed impact of surface-level versus discourse-level difficulties of native and nonnative students. The much discussed emphasis of instructors on the evaluation of discourse-level rather than sentence-level features of written products might lead a reader to conclude that our emphasis in testing should be similar. However, when ESL students must comprehend exam prompts and respond to those prompts in relatively short periods of time, reading and writing fluency at word and sentence levels may be critical. The ability to comprehend and express meaning at the word and sentence levels is necessary before comprehension or expression of meaning at global levels (e.g. expressing and developing the main idea) can occur — breakdowns at word and sentence levels lead to breakdowns at global levels. So in the discussion with respect to ESL students, university instructors' tolerance of surface error may be less important than the effects that difficulty with surface forms may have on an ESL student's ability to produce coherent text under speeded conditions.

When instructors were asked about their evaluation procedures in the Bridgeman and Carlson (1983) study, but with reference to both native English-speaking and nonnative undergraduate and graduate students, an interesting relationship emerged. As in all other faculty surveys, the majority of the respondents indicated that discourse-level skills (i.e., content and organization) were more important in evaluating written products than were sentence-level skills (punctuation, sentence structure, and vocabulary). Only faculty from English departments indicated that sentence-level skills were as important as discourse-level skills in their evaluations.

Interestingly, the discourse-level skills of natives and nonnatives were perceived as being similar; that is, nonnative students were not identified as having greater difficulties in this area than native English-speaking students. But, not surprisingly, nonnative students were found to be less proficient in sentence-level features. Nevertheless, while most faculty reported less emphasis on sentence-level features, and while discourse-level skills of natives and nonnatives were thought to be similar, the overall writing ability of nonnative students was considered less than that of native students. Bridgeman and Carlson (1983) comment, "Hypothetically, the problems related to [sentence-level] features are detected but not used as ultimate criteria; however, the fact that these problems are emphasized in the context of the overall writing ability of nonnative speakers should be noted" (p. 39).

Furthermore, when in-class writing is considered, the effects of an ESL student's level of mastery of surface features may become critical rather than incidental (see Leki and Carson, 1994, for a discussion

of this point). Under speeded conditions, the difficulties an ESL student may have in finding appropriate forms for expression may directly affect production.

Authentic language use in testing. One of the most challenging aspects of the development of the new TOEFL test has been the attempt to create more authentic test tasks. In an effort to provide greater authenticity, it makes sense to examine actual assignments in university settings. However, the extent to which test tasks can be derived from out-of-class assignments is questionable. In-class exams or essays and language proficiency tests are qualitatively different from out-of-class assignments. Furthermore, there are very different demands and problems that writers face with respect to a one-page paper, a five-page paper, and a ten-page paper. Because in-class writing appears to be widespread in university settings, and because a correspondence between taking tests and writing exams can be made without extreme difficulty, concentration on this area for the needs analysis is suggested.

The problem is not with the concept of authenticity per se but rather with the sometimes implied, often explicitly stated, characterization of language in tests as inauthentic. As Bachman (1994) argues:

> . . . I reject the notion that test tasks and test performance are necessarily inauthentic, and that test performance necessarily presents a "distorted picture" of test takers' ability. We have the theoretical wherewithal, I believe, to incorporate into our test design, principles and procedures that will lead to the inclusion of test tasks that are both authentic (i.e., correspond, in demonstrable ways, to language use tasks beyond the test) and interactional (i.e., that engage the test taker's areas of language knowledge, metacognitive strategies and topical knowledge). I therefore believe that for us to continue saying that test performance is fundamentally different from language use, without employing the theoretical and empirical tools we have for investigating this, is simply a cop-out. (p. 23)

Clearly the unexamined use of authenticity or lack thereof to account for problems with the current TOEFL test as well as everything that will be represented in the new TOEFL test is no longer defensible.

A partial solution to this problem may lie in a critical examination of our conceptualizations of authenticity. As described above, concerns with "real" writing and the negative connotations that accompany the transactional uses of language that seem to characterize in-class writing have led composition theorists to place greater value on out-of-class writing assignments. This emphasis may be creating a situation in which the authenticity of language uses in testing and in-class situations becomes difficult to recognize. The comments of students as well as the arguments of Carson et al. (1992), however, should lead researchers to question this stance.

How will the needs analysis inform test design? Waters (1994) has indicated that there appear to be important practical reasons for a cautious approach with respect to the relationship between needs analyses and empirical foundations for test development and design. However, the problems implicit in

this approach may not become obvious until data analysis begins. Waters discusses the experience of Weir (1983), whose "purpose was to gather information in order to design a test" (Waters, p. 48). Although an a priori model (Munby, 1978) was identified for use with data analysis, the identified framework proved less than helpful in making connections that could be used to inform test development and design. Alderson explains:

> Despite considerable summarizing of the mass of resulting data, the end product was relatively unmanageable for the purposes of test construction. The test developers still faced the major problem, after all the needs analyses, of having to decide what to put into a test and what to leave out. They also faced the major problem of how to test what had to be tested: how, in other words, to operationalise the specifications. Moreover, the needs analysis provided no information on which such decisions could be based. . . .
> (Waters, 1994, p. 49)

Thus, it is critical that a plan guide the data collection. Going out into the universe of possible tasks, sampling those tasks, categorizing those tasks, and then deriving information that will inform test design from those tasks may be impossible in one lifetime; it seems more logical to determine the domain of interest using defensible rationale prior to the study, collect information according to a specific plan, and finally utilize that information collected as a means of validating the construct.

Critical to the guidance of these efforts, however, is the determination of the domain. Be it beginning academic tasks at the graduate or undergraduate level, or tasks encountered by the most advanced ESL students, a decision needs to be made, so that efforts to move ahead are no longer detoured.

Major decisions such as those mentioned above confront TOEFL 2000. This review has attempted to describe both the literature found in native-speaker academic studies as well as the implications from the L2 literature most relevant for our project. Toward this end, suggestions have been made based on the findings and our own experiences as students and teachers. We hope that these efforts will serve to inform TOEFL 2000 and move it forward toward the ultimate goal of creating an improved English language proficiency test for speakers of other languages.

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