Written Communication

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Writing Into the 21st Century

An Overview of Research on Writing, 1999 to 2004

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This study charts the terrain of research on writing during the 6-year period from 1999 to 2004, asking "What are current trends and foci in research on writing?" In examining a cross-section of writing research, the authors focus on four issues: (a) What are the general problems being investigated by contemporary writing researchers? Which of the various problems dominate recent writing research, and which are not as prominent? (b) What population age groups are prominent in recent writing research? (c) What is the relationship between population age groups and problems under investigation? and (d) What methodologies are being used in research on writing? Based on a body of refereed journal articles ($n = 1,502$) reporting studies about writing and composition instruction that were located using three databases, the authors characterize various lines of inquiry currently undertaken. Social context and writing practices, bi- or multilingualism and writing, and writing instruction are the most actively studied problems during this period, whereas writing and technologies, writing assessment and evaluation, and relationships among literacy modalities are the least studied problems. Undergraduate, adult, and other postsecondary populations are the most prominently studied population age group, whereas preschool-aged children and middle and high school students are least studied. Research on instruction within the preschool through 12th grade (P-12) age group is prominent, whereas research on genre, assessment, and bi- or multilingualism is scarce within this population. The majority of articles employ interpretive methods. This indicator of current writing research should be useful to researchers, policymakers, and funding agencies, as well as to writing teachers and teacher educators.

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Introduction

Writing and writing education occur in numerous contexts from K-12 classrooms to workplaces at the "heart of the knowledge economy" (Brandt, 2005, p. 166). Demand for written communication has never been higher. In a global information economy that continually raises the bar for what counts as literacy (Brandt, 2001), writing is becoming an economic imperative (Brandt, 2004; National Commission on Writing in America's Schools and Colleges, 2003). Because the practices and uses of writing are dynamic, such forces as economy, policy, and technology can shape and reshape practices, purposes, and modes of writing. For example, in recent years, the rapid development of digital technologies has dramatically impacted writing in homes, in schools, in colleges, and in workplaces (DeVoss, Cushman, & Grabill, 2005; Haas, 1996).

Writing researchers have responded to changes in the broader contexts of writing and writing education. Recent handbooks attest to the development and expansion of writing research in a multiplicity of directions, in such diverse fields as educational psychology, English, business and technical communication, and the neurosciences (Bazerman, forthcoming; MacArthur, Graham, & Fitzgerald, 2006; Smagorinsky, 2006). Although Durst (1990) conducted an overview of writing research published in the mid-1980s, no systematic look across the broadening contexts and discourses of writing research has been conducted recently.

Such a broad look at the research is needed once again to comprehend the scope of recent research on writing and to take stock of the field(s) in which writing research is presently occurring. Three particular dimensions of writing research stand out as particularly worthy of a closer look: problems studied, population age groups studied, and methods used.

To what extent has the varied terrain of writing research changed its focus, since the time of Durst's study? Are the problems being studied by writing researchers still those that were prominent in the 1980s? Given changes in technologies and workplaces and given changes in intellectual, political, and educational currents, we would expect significant changes in the landscape of the research since the 1980s. For example, Durst (1990) noted the growing diversity of students in schools and colleges, a trend that has continued in the past 15 years. We might thus expect an increase in research on bilingual, bidialectal, and multilingual writers. This attention to the diversity of writers dovetails with a turn to the social in the social sciences, leading us to wonder if there are significantly more studies of writing in context than Durst found in his synthesis of the research. An implication Durst drew from his overview was that more studies of writing in context were needed. And finally, we wonder if there are now areas of writing research that Durst simply did not include in his overview of the field. Thus, we ask our first research question: *What are the general problems being investigated by contemporary writing researchers? Which of the various problems dominate recent writing research, and which are not as prominent?* (Research Question 1).

Also in need of an update are population age groups studied by writing researchers. Therefore, our second research question asks *What population age groups are prominent in recent writing research?* (Research Question 2). For example, does writing research in the middle and secondary grades continue to be neglected (as Durst found to be true in the 1980s)? This question seems especially relevant given the recent argument by the National Commission on Writing in America's Schools and Colleges (2003) that writing education is being neglected in the schools; as teachers and teacher educators, we know well that writing assessment is certainly not being neglected and particularly in these middle and secondary years. Analyzing problems and ages further permits study of the interaction between problems and age groups studied. This interaction, particularly when viewed as a P-12 and postsecondary-adult comparison, is relevant because of the historic and continuing divide between the schools and the colleges, especially in the area of English teaching (e.g., Applebee, 1974; Ohmann, 1996). This distinction permits exploration of whether the P-12 research terrain (e.g., schools) is considerably different from that of postsecondary and adults (i.e., colleges

and beyond). Thus, we also ask a third research question: *What is the relationship between population age groups and problems under investigation?* (Research Question 3).

Methodology of research and scholarship is another area that needs an indicator of the current landscape. In advocating the growth of scholarship on writing, Haswell (2005) reviewed research conducted on college writing instruction during a 60-year period. He developed the criteria of research that is replicable, aggregate, and data-supported (RAD research) to focus his review. Directing his argument toward the field of college composition (and specifically focused on two flagship houses of postsecondary writing teachers: the National Council of Teachers of English [NCTE] and the Conference on College Composition and Communication [CCCC]), Haswell insists that RAD research is necessary for this field to grow. Haswell shows that, indeed, RAD scholarship increased rather steeply in the 1980s and 1990s (although not through the sponsorship of NCTE and CCCC). Because it includes a wide range of methodologies (so long as they are RAD), Haswell's criterion of RAD research offers some guidance for considering empirical research on writing. Haswell's argument does not, however, provide a sense of which methodologies are more prevalent among writing researchers than others (nor, for that matter, which methodologies are more likely to be coded as RAD). If there has been a steep increase in RAD research, we posit a fourth and final research question: *What methodologies are being employed in research on writing?* (Research Question 4). Issues of research methodology are particularly pressing given current debates in education as well as in scientific and policy circles, about what gets defined and recognized as scientific research.

A systematic examination of problems, population age group, problem and population interaction, and methodologies has potential to "serve as a kind of indicator of the state of the field[s]" (Durst, 1990, p. 394) at the present time. A variety of constituencies—including researchers, policy makers, funding agencies, professional organizations, educators, and teacher educators—may find such an indicator useful. Writing researchers and researchers in-training may use this information as a point of departure in assessing and developing research agendas. Such an indicator can further become a data point in preparing proposals for funding to outside agencies and in crafting arguments requesting administrators to support research efforts. Our effort can also document one small part of the history of the field(s) of writing research. For policymakers and professional organizations, viewing a slice of the field(s) at a given point in time can provide rough indication of possible areas where sponsorship may be needed. For educators and teacher educators, answering these questions can suggest possible agendas for teacher research, reflection, and inquiry.

Based on this rationale, the present analysis undertakes a survey of writing research. We focus the study with a broad question: What are current trends and foci in research on writing? In particular, we explore the four subquestions introduced earlier with a focus on problem areas, population, and methodological approaches. We begin with a review in the following section that situates our analysis and provides a relevant background for introducing the study design. We then present our four focal findings, in addition to two further trends in the research. We discuss these findings, making comparisons to Durst (1990) and connecting the findings to related research and policy issues. We conclude with a brief discussion of some implications and possible uses of these findings.

An Overview of Recent Reviews of Writing Research

A survey of the sort we undertake was conducted by Durst (1990), who provided an overview of writing research at the end of the 1980s. Durst's survey reviewed studies on composition that were included in 10 *Research in the Teaching of English* bibliographies published between December 1984 and May 1989, a 5-year time period. Although inclusion criteria were not specified in detail, Durst (1990) reports that "the process involves going through over 75 journals, the ERIC Clearinghouse, and *Dissertation Abstracts International*" (p. 394). His analysis includes 969 studies of composition during the 5-year period. Among other interesting findings, Durst (1990) found that writing process research dominated composition studies in the mid-1980s, that research on college-aged students dominated research (with research on elementary-aged children close behind), and that, although promising, contextual studies of writing were relatively scarce. Fifteen years later, our study assesses the current state of writing research, considering a comparable time period to Durst, and similarly considering problems studied, ages studied, and the relations between the two. As we will discuss further on, however, the scope of the present study is considerably broader than Durst's.

A seminal meta-analysis of research on composition instruction was published during the time period covered in Durst's study (Hillocks, 1984) and was discussed by Durst. The study asked the broad question "What works in teaching composition?" In this work, Hillocks (1984) considered experimental research on writing conducted between 1963 and 1982, a 19-year span of time that saw the emergence of a field of composition studies (Nystrand, 2006). Hillocks (1984) analyzed studies across ages and instructional contexts (i.e., kindergarten through postsecondary) that met rigorous criteria for experimental research. Four approaches to writing instruction structured

Hillocks's meta-analysis: presentational, individualized instruction, natural process, and environmental mode. The meta-analysis showed that the effects of environmental approaches to writing instruction produced greater effect sizes than those of the other three approaches. With that effort, Hillocks analyzed and conceptualized research on writing instruction for a maturing field of composition research.

Since the mid-1980s, the time period covered in Durst's survey, the field of composition studies has seen a further growth of research on writing instruction (Nystrand, 2006). Composition research also includes basic research on written communication, which has importantly influenced instruction. As well, more conceptualizations and approaches to writing and writing education have been introduced and researched (MacArthur et al., 2006; Smagorinsky, 2006). Our current study, then, enters into a broad landscape of writing research as represented in several recent reviews and analyses of the state of composition research (e.g., Dyson & Freedman, 2003; Graham, 2005; Nystrand, 2006; Singer & Bashir, 2004; Sperling & Freedman, 2001; Wong & Berninger, 2004), each of which has contributed an in-depth treatment of a particular area of writing. These studies have been published in handbooks, and each work synthesizes, overviews, or meta-analyzes recent trends in a particular area of writing research and writing instruction.

Nystrand's (2006) review provides a chronology of the social contexts of the emerging field of writing instruction. In that review, we read the narrative of composition studies as an emergence of empirical research on writing in the late 1960s and 1970s, which amounted to a cognitive revolution in writing research. As Nystrand explains, this attention to the cognitive processes of individual writers was displaced in the late 1980s and 1990s by a counter-revolutionary turn to the social. This movement is well represented in the reviews by Dyson and Freedman (2003) and Sperling and Freedman (2001). Rather than asking totalizing questions such as "What works in teaching composition?" these sociocultural reviews focus on three interrelated issues: (a) how literacy functions in varied communities, (b) the composing process, and (c) writing development.

These sociocultural reviews reveal a concern to apply current research in language (e.g., sociolinguistics, psycholinguistics, and linguistic anthropology) to writing research (Dyson, 2004). This work also addresses the particular writing difficulties faced by English language learners and cultural and linguistic minorities. As all three of these reviews underline, research on composing and instruction cannot provide prescriptions of proven techniques that work for all learners; rather, "one can fully understand neither

an instructional philosophy nor a method apart from the ways particular teachers work in particular instructional contexts" (Sperling & Freedman, 2001, p. 371). These reviews understand writing and writing instruction as situated practices and activities that occur within a range of contexts, involve a range of student and teacher populations and thus are (and cannot be otherwise) variable in consideration of such differences.

Research on writing in special education with a focus on cognitive strategies instruction has been comprehensively reviewed in Graham (2006), Singer and Bashir (2004), and Wong and Berninger (2004). Graham's (2006) meta-analysis emulates Hillocks's (1984) work insofar as the effect sizes in experimental studies of cognitive strategies instruction in composition are comprehensively compared and evaluated. Graham's study builds conceptually on Hayes's (1996) modeling of the composing processes of individual writers. The effect sizes for cognitive strategies instruction—which, for illustrative purposes, Graham compares with the effect sizes in Hillocks's (1984)—are impressively high. Graham's (2006) study of the effectiveness of writing strategy instruction limits its focus to cognitive strategy instruction with children in grades K-8 and on how this method of composition teaching influences composing processes of individual writers. Along these same conceptual lines, the research reviews by Singer and Bashir (2004) and Wong and Berninger (2004) complement the portrait of the field provided by Graham (2005). These reviews take particular account of students with learning disabilities and the research base on how teachers can support their learning. Wong and Berninger (2004) further provide explicit approaches needed for teachers to move theories of cognitive strategy instruction into the practice of teaching writing.

Together, these recent reviews and one meta-analysis indicate the range and coexistence of different epistemologies, problems, age levels, and methods considered important in contemporary research. We might even think of these diverse reviews as representing different discourses of writing research. Given this wide range of research activity, it becomes increasingly challenging to comprehend and compare writing research across disciplinary traditions, across contexts in which writing and writing instruction occurs, across age levels, and across geographical locations. With the present analysis, we have set out to provide this broader perspective. Although we focus on a relatively small slice of time, as Durst (1990) did, we chart the more recent terrain with a different methodology and expanded scope. Such an indicator, as mentioned earlier, holds potential to become a resource for various communities that seek to contextualize their work within a broad landscape of international research activity.

Method

Researchers and Data

Our research team included six members with diverse interests, including expertise in deaf education (Dimling and Wolbers); literacy assessment and professional development (Moxley and Shankland); multicultural education (Curcic); rhetoric, writing, and English Education (Juzwik); special education (Curcic, Wolbers, Dimling, and Shankland); and the use of computer technologies for data management including End Note (Wolbers) and SPSS (Wolbers and Shankland). Team members also contributed a range of experiences as literacy teachers. Our teaching experiences range from kindergarten through postsecondary classrooms, from regular education to special education classrooms, from urban to rural schools, from U.S. to non-U.S. teaching contexts.

Because our study was designed to survey contemporary research on writing by broadly describing current activity in the field, our research consists of writing research reported in journal articles during the 6-year time period between 1999 and 2004. This 6-year time span is comparable to the 5-year time period used in Durst's survey of composition research. We recognize that some researchers may wish for a greater span of time in this survey, because looking only at a short span of time can be subject to certain hot topics and trends. However, other reviews of a more longitudinal sort have been undertaken, most recently Smagorinsky's (2006) edited collection, which provides focused and in-depth reviews of various areas of writing research in the 20-year period since Hillocks's meta-analysis of composition research. Another important source—which usefully summarizes theories and models of writing, writing and development, instructional models and approaches, writing and special populations, and methodology and analytic tools—is the recent *Handbook of Writing Research* (MacArthur et al., 2006). Finally, Charles Bazerman is editing a third handbook on writing research: the expected publication date is 2007. These works indicate the diverse theoretical and methodological developments in writing research in the past 20 years through in-depth accounts of various discourses and fields of writing research activity. Our study looks across these discourses and quantifies the broad range of recent activity in writing research during a 6-year period of time to illuminate general trends. Because the present study aligns with Durst's (1990) survey along several dimensions (i.e., relatively short time period examined, comprehensive account of problems studied during that time period, comprehensive account of ages studied, account of

relations between problem and age, and indicator of methodologies used), we are able to provide an update on some of the trends observed by Durst.

Our initial search was extensive and was meant to capture the wide range of work currently being conducted. After preliminary searches using numerous search engines, we completed our search of the journal articles from 1999 to 2004 using three databases (ERIC, PsychINFO, Linguistics and Language Behavior Abstracts). After some deliberation, we concluded that these three data bases represented a broad range of journals without yielding inordinate overlap. Because we consider three different databases, our sample comprehends a considerably wider range of writing research activity than Durst's (1990) sample, which included 75 unspecified journals, the ERIC database, and *Dissertation Abstracts International*.[1]

After trying a variety of search terms, we determined that writing, composition, or written language as the search descriptors gave us the largest number of nonoverlapping articles on writing. Those articles, for instance, that were not located by the first search descriptor were picked up by the second or third descriptor. Adding additional search terms such as *written communication* did not provide us with any further benefit. To avoid synthesis and overview pieces, we used exclusionary keywords such as *not meta-analysis* and *not review*. We also used an additional exclusionary term, *not literary*, to exclude pieces that were not studies on writing or composition. We limited our search to articles published in English.[2]

The initial search amassed a total of 4,739 article citations and abstracts pertaining to writing, which were distributed among research team members.

Procedure and Coding

We collaboratively established criteria for inclusion in our study: that studies specify a sample, meaning that focal participant(s), texts, forms of discourse, or other data sources are specified within a research design. Thus, all articles we included were data-driven. By using those articles with a sample as our criterion, we did not limit our inclusion to studies that were experimental or quasi-experimental designs; rather, we operationalized Haswell's ideas of data-driven research (data sources are identified) and replicable research (boundaries of data sources are specified). Our inclusion criteria did not, however, incorporate Haswell's notion of aggregability because we did not analyze whether the studies had systematically and exhaustively reviewed prior research. In this way, we limited the study to

empirical research on writing. Consequently, no purely conceptual or opinion pieces on writing were included; no evaluations of clinical instruments for writing research or assessment were included; and instructional improvement pieces were only included if the earlier mentioned criteria of data-driven and replicable research were met. To focus more clearly on the research being conducted during the 6-year time period, rather than on syntheses of prior research, we further excluded meta-analysis or papers reviewing prior research. In addition, a focus on some dimension of writing was a requirement for inclusion. For instance, research on reading alone was excluded, but those studies examining the influence of reading on writing, or the relationship between reading and writing, were included.

Following these criteria, we examined all 4,739 citations and abstracts with the goal of determining inclusion or exclusion in the study. If needed information to determine inclusion in the study could not be extracted from the abstracts alone, the researchers consulted the full articles. To monitor the inclusion or exclusion process, one member of the team served as the reviewer of all discarded citations and abstracts. In this process, Wolbers worked in this capacity of reviewer, whereas the other five authors worked in the capacity of determining inclusion or exclusion on the 4,739 articles. Of the 3,283 citations the team sought to exclude, the reviewer agreed with 3,202 and discarded these studies. The remaining 81 were brought back to the team for group review. Although 61 were determined through consensus of at least two team members to meet the inclusion criteria, 20 of the 81 were eventually discarded. Therefore, the total number of excluded articles was 3,222. Inter-rater reliability on the exclusions was high at 97.5% based on a sample of 10% of the studies.

We located 1,502 articles that met our inclusion criteria (330 studies in 1999, 278 studies in 2000, 357 studies in 2001, 265 studies in 2002, and 287 studies in 2003 and 2004) in our 6-year sample. To overview the writing research (Question 1), we used an open coding procedure to define our categories for problem studied (Strauss & Corbin, 1998). The term *problem* refers to the focal questions or hypotheses driving the research and addressed within the article. After reading through a small sample of the study abstracts and collaboratively deliberating and debating how to categorize them, we reached a consensus in identifying and defining 10 coding categories for problems (Table 1). In this way, these categories were developed inductively, grounded in the article abstracts we examined.

Another research objective was to contextualize the research according to age (Question 2). Because of our own backgrounds and interests in

Table 1
Problem Category and Description

Problem Category	Description
Context and writing practices	Examines the uses of writing in various contexts both local (e.g., classroom, family, or peer groups) and global (e.g., historical or cultural aspects of writing practices)
Multilingualism, bilingualism, and writing	Focuses on first and second language writing, as well as bilingual and multilingual writing
Writing instruction	Addresses various pedagogical approaches, specific teaching strategies, and their effectiveness
Elements of writing	Focuses on specific elements of written composition, such as grammar
Individual writing processes	Addresses cognitive, rhetorical, and other processes of individual writers
Genre and writing	Examines writing through the lens of genre or focuses on particular written genres
Disability and writing	Studies writing in relation to disabilities, disorders, and difficulties; brain functioning; and medical conditions
Writing and technologies	Focuses on electronic technologies in relationship to writing
Writing assessment and evaluation	Addresses the assessment and evaluation of written composition
Relationships among literacy modalities	Examines the relationships and connections among multiple modalities comprising literacy (e.g., reading, writing, speaking, visual art)

school-based research on writing and writing education, we primarily delineated the age coding categories according to level of schooling, as Table 2 indicates. A portion of the studies received more than one code for problem or age by fitting into more than one category. For example, a study involving elementary, middle, and high school children was coded for all three. Or a study investigating the use of voice recognition technology by a student who has a learning disability was coded for writing and technologies and for disability or disorders and writing. We avoided liberal application of multiple codes. All 1,502 articles were coded for problem and age.

We also suspected that methodologies of the research might be of interest to writing researchers, and, therefore, team members also coded for method when specified in abstracts (see Table 3 for coding categories). Of the 1,502

Table 2
Age Category and Description

Age Category	Description
Prior to school	Birth to preschool
Elementary school	Grades K-5/6
Middle school[a]	Grades 6-8
High school	Grades 9-12
Undergraduate postsecondary	Undergraduate students (2 or 4-year college or university programs)
Adults	Graduate students, graduates, professionals, adult writers

a. In general, middle school was defined as sixth, seventh and eighth graders, although, in some cases, sixth grade was considered part of elementary education. For example, if research was conducted on grade levels 4 to 6, the study was coded *elementary* because sixth grade, in this situation, was conducted as upper elementary research.

Table 3
Methodology Category and Description

Methodology Category	Description
Experimental and quasi-experimental group research	Includes experimental research, causal-comparative research, factorial designs, comparison of groups
Single subject research	Includes single subject research
Correlational research	Includes correlation, regression, multiple regression, structural equation modeling, cluster analysis
Content analysis research	Includes latent semantic analysis and thematic analysis
Discourse analysis[a]	Includes corpus linguistic analysis; text, genre or register analysis; literary or rhetorical analysis
Other interpretive research	Includes interviews, focus groups, observation, case studies, ethnography
Historical research	Includes historical research

a. We acknowledge that discourse analysis is an interpretive research method; however, because of its preponderant use in our sampling, we included it as a separate category from other interpretive research methods.

total studies, we were able to code method for 1,394 studies, approximately 93% of the articles included in our analysis. In the remaining 7%, methods were not clearly specified in abstracts and we avoided speculation. Whether

studies were exploratory and longitudinal seemed relevant for other writing researchers, so all 1,502 studies were coded according to whether these designs were indicated in abstracts.

We then engaged in three systematic coding efforts: (a) the research area or problem being studied, (b) the age of the research participants, and (c) the method used in conducting the study. Although we were not aware of Durst's study (1990) at the time that we developed these codes, 6 of our 10 problem codes map onto his 8-part coding framework.[3]

Once assigned codes, the studies were entered into an SPSS database after review by one or two members, who evaluated the initial reader's coding. If there was disagreement with the initial coding, the study was reviewed by additional members of the research team until consensus was reached. A sample of 10% of the studies was taken for an exact inter-rater reliability on the coding of the studies that were included in our database. This reliability check determined that the initial coder and the reviewer agreed on 97.5% of the articles that were included in the study, on 96.0% of the age codes, and on 91.0% of the problem codes. By using a two-step analysis process, we obtained overall output for each category (i.e., exact counts of each age and problem for the 6-year span) and put different categories in relation to one another (e.g., what age groups are predominately researched within certain problem areas).

Findings

Finding 1: Problems Examined

By organizing research problems into 10 categories (Table 4), we captured and quantified the range of research conducted between 1999 and 2004. Context and writing practices; multilingualism, bilingualism, and writing; and writing instruction are the most actively studied problems in contemporary writing research. In response to the second part of Question 1 regarding categories that dominate the field of writing research, Table 4 summarizes the number of studies focused on each problem area. Overall, *context and writing practices* is the problem category most often studied during the last 6 years, representing 387 of the 1,502 articles coded (approximately 26% of the 1,502 articles). Articles address such issues as disciplinary writing, professional and workplace writing, social interaction and writing, collaborative writing, expert or novice writing, home-based literacy, literacy and power relations, social and historical influences on writing, discursive stability, intertextuality, character or alphabetic writing, historical writing and language studies,

Table 4
Problems Addressed in Writing Research Articles, 1999 to 2004

Problem	Number of Articles in Which Problem Is Addressed as Research Focus
Context and writing practices	387
Multilingualism, bilingualism, and writing	309
Writing instruction	285
Elements of writing	243
Individual writing processes	215
Genres and writing	211
Disabilities and writing	176
Writing and technologies	129
Writing assessment and evaluation	113
Relationships among literacy modalities	96

standardization of writing, and writing and script systems other than English. Also, 309 articles (nearly 21% of the total articles) focus on bilingualism, multilingualism, and writing. Included in this category are immersion programs; peer and teacher feedback; cooperative learning; beliefs about writers, readers, texts, contexts, and pedagogy in teaching and learning English as a second language; English as a foreign language; and English for academic purposes. Writing instruction was a focus of 285 articles (19% of the total articles examined). This category includes, for example, studies of writing to learn, teacher feedback, ability grouping, critical language awareness, guidance in writing, the influence of prewriting treatments such as brainstorming activities or reading paired with prewriting, the writing process, writing strategies, scaffolded support in writing instruction, and writing errors that inform instruction.

The least studied areas are writing and technologies (129 articles), writing assessment and evaluation (113 articles), and relationships among literacy modalities (96 articles). Less than 10% of the articles deal with these problem areas.

Finding 2: Population Age Group

The bulk of research across nearly all categories is focused on undergraduate, adult, and other postsecondary populations. Finding 2 addresses the second research question, what age groups are prominent in recent writing

Table 5
Population Age Groups in Writing Research Articles, 1999 to 2004

Age Group	Number of Articles in Which Age Group Is the Focal Population
Adult	580
Undergraduate and postsecondary	444
Elementary school	307
Middle school	156
High School	139
Prior to school	33

research? A summary of our findings about population age groups is presented in Table 5. Persons older than the age of 18 are overwhelmingly the most frequently researched age group in writing research from 1999 to 2004. Studies of adult writers and writing include graduate students, professionals (e.g., business writers, government writers, teachers, researchers, journalists), and others in institutional and community contexts (e.g., hospitals, prisons). Studies of adult writing also include those in which texts (e.g., linguistic corpora) are the focal data. Our analysis finds 580 articles focused on adults beyond the undergraduate level. Undergraduates are the second most frequently studied age group in writing research (444 articles). The least studied age group is children preschool aged and younger (33 articles). In P-12 writing research, high school (139 articles) and middle school youth (156 articles) are less studied than elementary school–aged children (307 articles).

Finding 3: The Problem and Age Relationship

Finding 3 addresses our third question about the relationship between age groups and problems. We focus on a range of age groups to determine proportions of problems studied within and across P-12 and postsecondary-adult populations. A complete summary, specifying the relationship between all problems and all age groups, is presented in Appendix A. Table 6, however, more generally compares research on writing conducted with P-12 populations and postsecondary-adult populations, a comparison that P-12 researchers are likely to find particularly illuminating.

The only research problem area in which P-12 populations are more studied than postsecondary and adult populations is *instruction* (51.4%), the third most studied problem in the 1,502 articles. Within P-12 research

Table 6
Percentage of Articles Addressing Age Ranges
Within Each Problem Category

Problem Studied	P-12 Age Range	Postsecondary to Adult Age Range
Writing instruction	51.4	48.6
Disabilities and writing	45.2	54.8
Relationships among literacy modalities	44.3	55.7
Individual writing processes	41.2	58.8
Elements of writing	39.5	60.5
Writing assessment	37.5	62.5
Writing and technologies	35.1	64.9
Context and writing practices	34.2	65.8
Multilingualism and writing	22.6	77.4
Genres and writing	19.1	80.9

on instruction, we find more research on elementary instruction ($n = 77$, 25.9%) and less research on pre-Kindergarden ($n = 6$, 2.0%), high school ($n = 31$, 10.4%), and middle school ($n = 39$, 13.1%) instruction (see Appendix A). This is consistent with the overall pattern reported in Finding 2. The percentage of P-12 articles on instruction (51.4), however, is only 2.8 percentage points more than postsecondary and adult articles on instruction (48.6%), making these two age categories fairly even.

The problem area of genre and writing represents a greater disparity across these two age categories, with 80.9% of the articles about this problem focused on postsecondary students and adults. Only 19.1% of the articles about genre consider P-12 populations. The findings about assessment and bilingual and multilingual research are also worth highlighting. Although bilingual and multilingual writing is the second most studied problem in our sample, only 22.6% of the articles focused on this problem address P-12 populations. This problem is overwhelmingly studied with postsecondary and adult populations (accounting for 77.4% of the studies of this problem). Only 37.5% of the articles about writing assessment address it among school-aged children and youth.

Finding 4: Methodologies Employed

Our analysis also indicates methods currently used in writing research. The majority of articles coded for method employ interpretive methods

such as discourse analysis ($n = 350$, 25.1%); other interpretive methods ($n = 716$, 51.4%) including interviews, focus or discussion groups, observations, case studies, ethnographic research, and error analysis; and content analysis ($n = 54$, 3.8%) including latent semantic analysis and thematic analysis. Approximately 11% ($n = 151$, 10.8%) of studies utilize experimental or quasi-experimental group designs whereas an additional 8.8% ($n = 123$) use correlational designs such as factor analysis, cluster analysis, or regression analysis. A few studies employ historical research ($n = 29$, 2.1%) and single-subject design methodology ($n = 8$, 0.6%).

Other Trends

Our analysis finds 5.2% ($n = 78$) of the articles to fall within the category of longitudinal research, whereas 2.7% ($n = 41$) fall within the category of self-described exploratory or pilot studies.

Finally, an unexpected and somewhat surprising finding reveals that our 6-year sample of 1,502 articles includes articles published in 480 journals. A list of the 16 journals publishing the most articles in our sample ($n = 15+$) is included in Appendix B.

Discussion

Research focused on context and social practices of writing dominates writing research at the beginning of the 21st century. This finding confirms expectations that the more general turn to the social in the social sciences would lead to far more than the 100 studies of context and writing than were found by Durst (1990). Writing researchers do seem to have answered Durst's call for more research on writing in context. Likewise, research on bilingual and multilingual writing is the second most active area of research, a finding that initially seems similar to an answer to Durst's admonition that "we have got to do better than this" (p. 404) when it comes to the writing of language minorities. Little of this research on language diversity and writing, however, is occurring at P-12 levels—crucial years for language acquisition, literacy development, and identity formation. Especially scarce are studies of multilingual and bilingual writing in the pre-Kindergarden years and at the middle school level. Given the political currency of the issues surrounding P-12 bilingual education in the United States and elsewhere, we find the scarcity of multilingual research across the P-12 years somewhat surprising. We can only conclude that a deeper

look at this body of research on P-12 multilingual and bilingual writers is needed to chart future directions for research, theory, and practice (Fitzgerald, 2006). For example, the distinction between circumstantial and elective bilingual writers (Valdes, 1992) would seem critically important in contemplating research about the situations and educational needs of linguistically and culturally complex P-12 students.

Writing instruction is also a well-studied area of research during this period. It is the only area in which we find more research in P-12 settings than in college and adult settings, although the difference between the two categories is slight (< 3%). However, there does seem to be a mismatch between the content of instruction across the two age categories. For post-secondary students and adults, there is considerable focus on genre. At the P-12 levels, however, we find scant attention to this construct, whereas more attention is paid to elements of writing and to individual writing processes. The importance of genre in relation to everyday life beyond school (in childhood, youth, and adulthood) would alone seem to warrant more attention to genre across P-12 (Cope & Kalantzis, 1993; New London Group, 1996), if the narrow genre specifications in curricula and standardized tests are not further reason (Hillocks, 2002).

Related to these findings about instruction is the problem area of writing assessment. Our findings in this area are consistent with Durst's survey: Whereas he found that assessment accounted for 8% of the research on writing, we found that this problem accounted for approximately 7.5% of the 1,502 articles in our study. This finding surprises us, however, because there have been significant changes in policies and public discourse surrounding writing assessment during the past 15 years. New writing sections have been introduced on the ACT, SAT, and GRE tests. As a result of national accountability policies in the United States, such as No Child Left Behind, state-level writing tests have become pervasive, with student test scores becoming increasingly consequential for teachers, schools, and communities. Such accountability demands are beginning to make their way into higher education as well. Given this situation, we might reasonably expect more research now than there was 15 years ago in the area of assessment; if we consider the proportions, however, there is slightly less. Although it may be the case that all national contexts do not all share the high stakes assessment climate that prevails in the United States (and international variability is well represented in our sampled articles), it is also the case that research on literacy assessment (particularly standardized high-stakes tests) is notoriously difficult. For example, many testing agencies hire in-house researchers and do not make tests or data available for other

researchers to examine (see Hill & Larson, 2001, for discussion of the difficulties with research on reading assessment).

Our study has introduced four categories of problems not included in Durst's study: *genre*, *disabilities and writing*, *relationships among literacy modalities*, and *technology*. We were not surprised that *technology* emerged as a salient category in our survey of problems studied in the research. We were, however, mildly surprised at how few studies of technology appeared in the 1,502 articles. Given the rapid changes in digital technologies in recent years, we would expect technologies and writing to be high priority on the agendas of writing researchers. We recognize that the parameters of our search may have precluded some of the research in this area (for example, online publications or research published in communication arts and business and technical writing that were not captured in the three databases we searched). We predict this area of research will grow.

We found that postsecondary students and adults are overwhelmingly the focal population age groups in recent research on writing. Our study adds to Durst's study by separating *postsecondary and undergraduate populations* from *adults* (a category that was not discussed by Durst). We found both categories to be well represented in the research articles, with a greater focus on adults beyond the postsecondary and college level. Given that the majority of people's lives are spent beyond the P-12 years, some readers may believe this to be suitable. In fact, they might wish for more delineation within the *adult* category than we provided. An overview of population age groups that breaks down the *adult* category remains to be done.

The present study does, however, raise some concern that the early practices and acquisition of writing in childhood and youth—arguably, the most critical years of writing development that are undoubtedly consequential for postsecondary and adult writing—are relatively neglected by broader writing research communities**.** Research on *preschool-aged children* and *middle and high school youth* seems to be particularly neglected. Although Anne Haas Dyson's work has been seminal in early childhood writing studies, her research largely focuses on elementary-aged children in schools (e.g., Dyson, 1986, 1988, 1993, 1997, 2003). Our finding about the scarcity of research on pre-K writing and writers—particularly in the problem area of relationships among literacy modalities, where there is surprisingly no research at this age—suggest that renewed research on the beginnings of writing and writing development in the preschool-age years may deserve more attention.

Furthermore, it is worth noting that the parameters of our search (e.g., that ERIC was one of the databases used) likely weighed our findings toward discovering writing research focused on children and youth. Had we

cast an even broader net, we suspect that we would have found an even greater proportion of research on postsecondary students and adults and a smaller proportion of research on writers in the P-12 years.

Finally, this analysis indicates methodologies presently used in writing research. We provide quantification of the kinds of general methodological trends noticed by Durst (1990) and we elaborate the range of methodologies used in contemporary research that is replicable and data-driven (Haswell, 2005). Interpretive methods are overwhelmingly preferred and represented between 1999 and 2004. This may be partly explained by the prevalence of investigations focused on context and writing practices as well as disability and writing. The social and contextual particulars of language and literacy are well illuminated through fine-grained interpretive methods such as ethnography. Similarly, researchers investigating special populations, where insufficient numbers of participants are available to conduct large-scale group designs, often turn to interpretive methods. There may be an additional theoretical reason for this emphasis on interpretive method in writing research: If writing researchers examine and conceptualize writing as an activity involving meaning negotiation (e.g., among persons, texts, and contexts), then interpretation is essential to the work of writing research.

This indicator of method raises a further issue related to research on P-12 writing education: a dissonance between recent federal mandates (at least in the U.S. context in which we work) for research to be more scientifically based and the actual scientific practice of research. Whereas interpretive research can also have scientific rigor (Dyson, 2004), the U.S. Department of Education defines scientific research in the narrow terms of experimental research and has stressed the importance of random assignment and quasi-experimental designs or single-subject design (U.S. Department of Education, 2005). Funding is prioritized accordingly. The present study suggests that this definition of research and prioritization of funding does not align well with the kinds of research problems that writing researchers are, by and large, investigating. It is a commonplace assumption that methodologies should follow from problems under investigation, rather than determining the problems to be studied.

Interpreted in this light, our study may suggest that most writing scholars and researchers (unless they adopt more infrequently used methodologies for research on writing, such as experimental and quasi-experimental group designs, which in many cases would entail changing their research foci) are not likely to find ready sponsorship for their endeavors from the U.S. government. In the context of Nystrand's (2006) review, this narrowing of federal funding is another way in which the landscape surrounding writing research—at least in the U.S.—has significantly altered since the

time period covered in Durst's (1990) survey (the 1980s). Then, the U.S. government (specifically the National Institute on Education) was funding a wide range of scholarship and research on writing at such diverse places as Carnegie Mellon University and the University of California at Berkeley (Nystrand, 2006).

The number of represented journals ($n = 480$) in our study surpassed our initial impression of the diversity of the research on writing presently being conducted: There were many more journals than we expected to find publishing research on writing. The abbreviated display of our findings (Appendix B) speaks to Haswell's argument about the war on scholarship by NCTE and CCCC: Of those 16 journals, 4 are published under the auspices of NCTE or CCCC (*College Composition and Communication*, *Language Arts*, *Research on the Teaching of English*, and *Teaching English in the 2-Year College*). These four journals published a total of 64 articles in the larger sample of 1,502 articles (4.3%). The intriguing question of what organizations and agencies are sponsoring contemporary research on writing, although beyond the scope of the present study, deserves more attention.

Conclusion

Throughout this article, we have indicated some of the limitations of this research: It only includes peer-reviewed articles drawn from three data bases; it only examines 6 years, a relatively short time period; it excludes theoretical articles, syntheses or meta-analyses, and practitioner pieces; it does not categorize variability among adults; it does not offer in-depth readings of all or even some of the 1,502 articles in our sample. Yet we hope this study makes a modest contribution to writing research and especially to research concerned with writing and writing education in the P-12 years. By chronicling what we feel is a scarcity of attention to writing among children and youth (especially at the pre-K and secondary levels), we hope to have provided useful data to contextualize other research studies, to serve as data for funding efforts, and to challenge the boundaries of research fields—such as rhetoric and composition studies and applied linguistics—which tend to neglect school-age students as focal populations.

We hope this analysis might influence policy makers and funding agencies that sponsor only a very small slice of writing research because of narrow definitions of what constitutes valid scientific research. Our indication of problems studied may provide one point of reference for teachers and teacher educators who wish to identify agendas for teacher research and reflection. That finding—alongside the finding about the problem and age

relationship—might also provide a point of departure for graduate students and early-career researchers, who are wondering where—in the vast landscape of possible research—they should seek to contribute to the field(s). Our documentation of the research terrain during a 6-year period in the history of writing studies may also be useful to those studying the histories of writing, rhetoric, and literacy education. And finally, because we indicate what journals are publishing a good deal of replicable and data-driven research on writing from 1999 to 2004 and because we indicate what research methodologies are being used during this time period, this analysis further contextualizes Haswell's (2005) argument in support of RAD research on writing.

Notes

1. We chose not to examine dissertation abstracts because dissertations are typically not read by the research community beyond an individual's committee and thus rarely make a significant impact on the broader communities of writing research until they are published as articles or books. Reviewers, have, however, suggested that our exclusion of other data bases (e.g., *Comm Abstracts* or *Social Sciences Citation Index*) may limit the scope of our study. We concur and acknowledge the limitations of using only three databases. By comparison to Durst (1990), the scope of our overview is significantly broader; nonetheless, we see a need for future research to cast an even wider net in capturing the full range of research on writing.

2. We chose to focus only on published articles, therefore excluding books. Because some researchers, particularly those working in humanistic traditions, may wish to see books included in our survey, we feel compelled to justify this choice. The diversity of our team prompted us to appreciate that articles, rather than books, are the primary mechanism of dissemination for a wide range of disciplines and traditions of inquiry on writing in the human and social sciences. We do realize that writing research in literary studies, rhetoric and composition, and other humanistic disciplines provides one important exception to this characterization. Writing research in these traditions is frequently published in book form (e.g., scholarly monographs and edited collections). However, we note that numerous journals do publish writing research and scholarship in the humanistic disciplines (e.g., *JAC: A Journal of Composition Theory*; *The Publication of the Modern Language Association, College Composition and Communication*; and *College English*). Although we do not discount the significance of monographs and books published about writing research, we note that articles are often published by authors while books are in process, before the book is published. Because of the shorter time scales involved in journal publishing, as opposed to book publishing, we believe it is reasonable to treat articles as indicating the cutting-edge research in writing, even in the humanistic disciplines where books are coin of the realm. Hillocks's (1984) article about his meta-analysis of composition instruction, previewing the lengthier book on this study (Hillocks, 1986), provides one example of this process in action.

3. Our category of *context and writing practices* maps onto Durst's category of *context*; our category of *writing instruction* maps onto his category of *instruction*; our category of *writing assessment and evaluation* maps onto his category of *assessment*; our category of *individual writing processes* roughly maps onto his category of *processes*; and our categories of *elements of writing* and *genre and writing* roughly map onto his category of *text analysis* (Durst, 1990).

Appendix A
Age Groups Studied in Relation to Problems

Age Groups

Problem Studied	Prior to School (n = 42)		Elementary School (n = 395)		Middle School (n = 207)		High School (n = 186)		Postsecondary (n = 656)		Adults (n = 800)	
	%	n	%	n	%	n	%	n	%	n	%	n
Context and writing practices (n = 424)	2.1	9	17.9	76	7.8	33	6.4	27	20.5	87	45.3	192
Multilingualism and writing (n = 316)	1.3	4	7.3	23	5.1	16	8.9	28	44.6	141	32.9	104
Writing instruction (n = 297)	2.0	6	25.9	77	13.1	39	10.4	31	25.6	76	22.9	68
Elements of writing (n = 258)	2.3	6	23.6	61	7.0	18	6.6	17	29.5	76	31.0	80
Individual writing processes (n = 228)	3.5	8	19.3	44	9.6	22	8.8	20	40.8	93	18.0	41
Genres and writing (n = 214)	0	0	6.5	14	6.1	13	6.5	14	29.9	64	50.9	109
Disabilities and writing (n = 188)	1.1	2	23.9	45	11.2	21	9.0	17	7.4	14	47.3	89
Writing and technologies (n = 134)	0	0	14.2	19	13.4	18	7.5	10	29.1	39	35.8	48
Writing assessment and evaluation (n = 128)	0.8	1	11.7	15	14.1	18	10.9	14	34.4	44	28.1	36
Relationships among literacy modalities (n = 99)	6.1	6	21	21	9.1	9	8.1	8	22.2	22	33.3	33

*This table represents the percentage of age studied within each individual problem. Percentage of age is calculated out of the total codings for each problem. The total n (first column) is larger than the total n for each problem in Table 4 because of our double coding procedure: It was necessary to inflate the number of problem codes and age codes to relate them to each other.

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Appendix B

Journal List

Journal Name	Number of Articles
Journal of Second Language Writing	37
English for Specific Purposes	31
Written Communication	24
Journal of Educational Psychology	23
Foreign Language Annals	18
Journal of Basic Writing	18
System	18
Aphasiology	17
College Composition and Communication	16
Computers and Composition	16
Journal of Technical Writing and Communication	16
Language and Education	16
Language Arts	16
Research in the Teaching of English	16
Teaching English in the 2-Year College	16
Business Communication Quarterly	15

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