

**University of California, Irvine**

**2008 Pilot Assessment of  
Upper Division Writing at UCI**

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## **Introduction**

The purpose of this report is to present findings from the pilot assessment of Upper Division Writing at UCI. During the 2007-2008 academic year, a random selection of papers from Social Ecology 194W, Naturalistic Field Research, and Writing 139, Advanced Expository Writing, were collected and assessed to determine the quality of student writing achieved through completion of the upper division writing requirement at UCI.

## **Key Findings**

The analysis of upper-division student writing products found the quality of student writing to be lower than what had been expected. Students appear to be strongest in their writing skills related to the use of evidence and weakest in their ability to demonstrate their critical thinking and analysis skills through their writing as well as their ability to organize and structure their writing. In addition, there are significant differences in writing quality observed between upper-division courses, as well as within courses as a function of course section or quarter when students produced their writing. While some of these differences suggest the need for greater clarity among instructors on the goals of upper-division writing and how writing assignments can help students both achieve and demonstrate their achievement of those goals, they also point to differences in writing skills among students as a function of their language and enrollment status. Papers produced by non-native English speakers were found to be of lower-quality than those produced by native English speakers. Significant differences were found in the quality of writing produced by students as a function of their enrollment status, with those who enrolled at UCI directly from high school demonstrated a higher quality of writing than their transfer student counterparts. The Upper Division Writing Rubric developed for this pilot assessment, though its validity and reliability in future assessment efforts would likely benefit from revisions in its descriptions of quality scores, proved to be a useful tool for exploring the quality of student writing produced in upper-division writing courses. Overall, this pilot assessment project underlined the need for greater clarity and agreement among upper-division writing instructors on the shared writing skills and techniques all students should be able to demonstrate and the ways in which the course writing assignments can be developed to enhance students' ability to both practice and excel in these writing skills and techniques.

## **Assessment Design**

Beginning in Winter 2008, the Campus Writing Coordinator convened a group of writing instructors at UCI to discuss the development of a pilot assessment of student writing produced in upper-division writing courses at UCI. The three goals for this pilot assessment project were to develop a scoring rubric that could be used to assess writing skills and techniques across academic disciplines, to assess the quality of student writing produced in upper-division writing courses, and to determine whether such student characteristics as first language and transfer vs. high school status impact the quality of student writing. With these goals in mind, this pilot assessment sought to address the following questions:

- **Writing Rubric:** What are the shared writing skills and techniques across academic disciplines? To what extent is it possible to develop a useful scoring rubric for upper-division writing that reflects these shared writing skills and techniques and is reliable and valid?
- **Student Writing Skills:** What is the quality of student writing produced in upper-division courses? Are there differences in the observed quality of student writing as a function of their upper-division writing course?
- **Student Background and Writing:** To what extent does the quality of student writing vary as a result of the student's language status and whether they transferred to UCI or came here directly from high school?

### **The Upper-Division Writing Assessment Rubric**

As the upper-division writing requirement can be fulfilled through a wide array of courses, most of which are designed and offered by individual academic schools, reflecting distinctive disciplinary approaches to writing, the rubric developed for this pilot assessment needed to be broad enough in scope to capture writing skills and techniques that exist across disciplines. Discussions to determine the shared writing skills and techniques that exist across academic disciplines were driven by a review of both the different types of writing produced in upper-division courses at UCI and writing rubrics used at UCI and at other institutions. Through this review process, six writing elements emerged as relevant to writing across disciplines; they are: (1) mechanics (grammar, punctuation, etc.), (2) source usage mechanics, (3) organization and structure, (4) audience, (5) familiarity with disciplinary discourse, and (6) critical thinking/analysis.

Following the recognition of these six writing components, the groundwork for the development of this writing rubric was furthered through discussions about the merits of holistic rubrics, which assign a single score to a writing product, versus analytic rubrics, which assign a score to each writing trait or element. Because there are merits and drawbacks to both approaches -- Holistic rubrics are designed to provide limited information about specific features of writing that are either especially strong or weak in recognition of the fact that the writing whole is greater than the sum of its parts. Conversely, analytic rubrics provide information about the quality of specific writing elements and tend to assign the same importance to each element in the overall writing product -- the writing rubric developed for this pilot assessment attempted to capture the strengths of both the holistic and analytic approaches. The six writing elements that emerged through the review process appear as four categories within the Upper-Division Writing Assessment Rubric: critical thinking and analysis, use of evidence/research, development and structure, and generic and disciplinary conventions.<sup>1</sup> Four levels of quality, (0) little or no evidence, (1) some evidence, (2) good, and (3) mastery, were defined for each of the writing rubric's writing categories and are presented in Table 1.

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<sup>1</sup> The six writing elements that emerged as relevant to writing across disciplines (1) mechanics (grammar, punctuation, etc.), (2) source usage mechanics, (3) organization and structure, (4) audience, (5) familiarity with disciplinary discourse, and (6) critical thinking/analysis were collapsed into the four writing categories of the Upper-Division Writing Assessment Rubric as follows: Category 1: "Critical Thinking and Analysis" addresses writing elements #4, #5, and #6; Category 2: "Use of Evidence/Research" addresses writing elements #2, #4, and #5; Category 3: "Development and Structure" addresses writing elements #1 and #3; Category #4: "Generic and Disciplinary Conventions" addressed writing elements #1, #2, #3, and #4.

Table 1: Upper Division Writing Assessment Rubric

Category 1: Critical Thinking & Analysis	Category 2: Use of Evidence/Research
<p><b>3: Mastery:</b> The approach to the assigned topic of study is insightful, and/or creative, persuasive, unique, and worth developing; the level of thinking/analysis is sophisticated; the ideas are clearly communicated with focus and specificity; the topic is considered/discussed from several facets or perspectives, where appropriate; the writer understands discipline-specific methods for producing knowledge; the content seems expertly tailored to the disciplinary audience</p> <p><b>2: Good:</b> The approach is reasonable, thoughtful; the level of thinking/analysis is appropriate; the ideas offered are usually specific and focused, some are insightful, usually communicated clearly; the writer shows an awareness of other facets or perspectives; the writer seems to understand the disciplinary discourse and has taken some care with including content that is appropriate to the disciplinary audience</p> <p><b>1: Some Evidence:</b> The approach is adequate; some evidence of thinking/analysis, or an attempt at analysis, is evident; some of the ideas offered are clearly delineated, thought-through, and appropriate to the task; the writer attempts to show awareness of at least one other fact or perspective; the writer seems aware of the disciplinary discourse and has included content that is relevant to the disciplinary audience</p> <p><b>0: Little or No Evidence:</b> The approach is inadequate or indeterminable; very little evidence of critical thinking and analysis are evident; although some of the ideas may be worthwhile, the level of insight and clarity of presentation are lacking; the writer does not take into account other facets or perspectives, or does so in an inappropriate or simplistic manner; the thinking lacks focus and clarity, but may illustrate misconceptions; little or no evidence of awareness of disciplinary audience.</p>	<p><b>3: Mastery:</b> Uses evidence/sources appropriately and effectively, with clear understanding of the disciplinary audience's expectations; considers (if appropriate) the previous knowledge generated within the discipline (e.g., literature review); evidence/sources used help develop and exemplify the overall argument/purpose of the writer; evidence/sources are clearly and correctly represented and smoothly integrated into writer's argument/purpose; citation methods used are correct and appropriate for the disciplinary genre</p> <p><b>2: Good:</b> Uses evidence/sources appropriately and sometimes effectively, with understanding of the disciplinary audience's expectations; shows awareness (if appropriate) the previous knowledge generated within the discipline (e.g., literature review); evidence/sources used generally contribute to the overall argument/purpose of the writer; evidence/sources are usually represented with clarity and with no misreading; evidence/sources are integrated into writer's argument/purpose (i.e., writer controls the ideas, the sources do not); demonstrates correct and appropriate use of citation methods for the disciplinary genre.</p> <p><b>1: Some Evidence:</b> Some evidence/sources have been used appropriately, in a way that furthers the writer's purpose/argument; some evidence of disciplinary expectations for sources/research are evident; evidence/sources are presented with some degree of clarity, although some misreading or simplistic reading may be evident; the evidence/sources may overwhelm the writer's own voice and purpose; evidence/sources are usually integrated into the prose; some awareness of the disciplinary genre's expectations for citation and quotation are evident.</p> <p><b>0: Little or No Evidence:</b> Evidence/sources, if present at all, are often used inappropriately, simplistically, or misreading is evident; the writing shows little or no evidence of the student's understanding of the discipline's expectations for presenting evidence and using sources; evidence/sources are mismatched with the writer's purpose within the prose; little or no awareness or presence of citation and documentation standards for the discipline.</p>

Table 1: Upper Division Writing Assessment Rubric (continued)

Category 3: Development & Structure	Category 4: Generic & Disciplinary Conventions
<p><b>3: Mastery:</b> The prose exhibits a clear articulation of the genre/discipline's methods of organizing written discourse; the organization is apparent, coherent, and contributes to the overall goals; the insightful, specific, focused development of the main purpose/thesis is effectively organized in paragraphs or sections (as appropriate to the genre/discipline); sophisticated transitional devices often develop one idea from the previous one or identify their logical relations; the reader is effortlessly guided through the chain or reasoning or progression of ideas</p> <p><b>2: Good:</b> The prose illustrates the writer's understanding of the genre/discipline's methods of organizing written discourse; the organization is usually apparent, coherent, and contributes to the overall goals; the development of ideas is sometimes insightful, usually specific and focused, following a logical progression; appropriate transitions connect the ideas and show relations between them; the reader is guided through the chain of reasoning or progression of ideas</p> <p><b>1: Some Evidence:</b> The prose sometimes illustrates the writer's understanding of the genre/discipline's methods of organizing written discourse; the organization is apparent, usually coherent, and in some cases, contributes to the overall goals; the development of ideas is sometimes insightful, specific, focused, and logical; some transitional devices are employed to connect the ideas; the reader can follow the chain of reasoning or progression of ideas</p> <p><b>0: Little or No Evidence:</b> The prose does not clearly illustrate the writer's understanding of the genre/discipline's methods of organizing written discourse; organization is random, simplistic or inappropriately sequential, and rarely (if ever) contributes to the overall goals; some development of ideas is evident, but there is little insight, focus or logic; the writing lacks internal coherence, using few or inappropriate transitional devices; the reader has difficulty following the progression of the reasoning or ideas</p>	<p><b>3: Mastery:</b> The writing is styled and eloquent, with an easy flow, rhythm, and cadence; sentences have clear purpose and varied structure; sentences and paragraphing are complex enough to show skill with a wide range of rhetorical, disciplinary, or generic conventions; the writer chooses words for their precise meanings and uses an appropriate level of specificity, illustrating his/her facility with the discipline's discourse; mechanics (spelling, punctuation, grammar, usage, and paragraphing) enhance overall readability and purpose; almost entirely free of errors, evidence of careful editing and proofreading</p> <p><b>2: Good:</b> The writing is appropriately styled and has an easy flow, rhythm, and cadence; sentences are purposeful and varied in structure; sentences and paragraphing show an appropriate use of rhetorical, disciplinary, or generic conventions; the writer usually chooses words for their precise meanings and uses an appropriate level of specificity, illustrating his/her understanding of the discipline's discourse; mechanics (spelling, punctuation, grammar, usage, and paragraphing) contribute to overall purpose; almost free of errors, evidence of editing and proofreading; when errors do occur, they do not detract from readability</p> <p><b>1: Some Evidence:</b> The writing illustrates some aspects of polished style and rhythm appropriate to the discipline/genre; sentences are varied in structure and sometimes show the writer's understanding of how to use rhetorical, disciplinary, or generic conventions; the writer sometimes chooses words for their precise meanings and some level of specificity is evident; mechanics (spelling, punctuation, grammar, usage, and paragraphing) contribute to overall purpose; errors may occur, but they usually do not detract from readability</p> <p><b>0: Little or No Evidence:</b> The writing illustrates no (or very little) ability to use polished style and rhythm; sentences often lack purpose, with little variety in structure; sentences and paragraphing show a lack of understanding of how to use rhetorical, disciplinary, or generic conventions; word choice is often inappropriate and generalized, showing little understanding of disciplinary discourse; mechanics (spelling, punctuation, grammar, usage, and paragraphing) detract (or rarely contribute to) overall purpose; errors occur throughout, illustrating an inability to control language or a severe lack of editing and proofreading</p>

A random selection of papers from Social Ecology 194W, Naturalistic Field Research, and Writing 139, Advanced Expository Writing were collected for use in the Upper Division Writing Assessment Pilot Study. The Social Ecology 194W, Naturalistic Field Research, papers were randomly selected from the Winter 2008, Spring 2008, and Summer 2008 Session 1 courses. The papers from Writing 139, Advanced Expository Writing, were collected from the four sections taught during the Spring 2008 Quarter.

Six readers, all with extensive writing instruction experience, were hired to assess the quality of the writing products from Social Ecology 194W and Writing 139. Four of the readers, Margaret Hesketh, Kathryn Eason, Susan Cross, and Brooke Haley, serve as instructors for lower-division writing courses at UCI. A fifth reader, Michelle Walker, a graduate student in Social Ecology with extensive Social Ecology 194W TA experience, was recommended to serve as a reader for this project by one of the Social Ecology 194W instructors. An expert in writing external to UCI, Jacqueline Rhodes, Associate Professor of English and former Upper-Division Writing Director at CSU San Bernadino, was hired as the sixth reader for this project.

In preparation for the pilot assessment of Upper Division Writing on August 13 and 14, 2008, all six readers were sent the Upper-Division Writing Assessment Rubric along with 5 sample papers identified by Jonathan Alexander, Campus Writing Coordinator, and Lynda Haas, Course Director for Writing 39B, as reflecting a range of writing quality based on the rubric's four categories. The readers were asked to review the papers and assign scores to each of these. The first morning of the pilot assessment was devoted to a review of the goals of the project, the assessment rubric, and the 5 sample papers. Because this study is grounded in the view that student writing produced in upper-division writing courses should rhetorically situate itself, that it should be able to stand on its own, in that it addresses the aims, goals, and contexts for the writing, the actual assignment prompts were not provided to the readers as part of the review of upper-division writing products.

After the initial training session on the morning of August 13, 2008, each reader proceeded to read papers and assign quality scores to the four-agreed upon writing categories. In order to maximize inter-rater reliability, all papers were read by two readers and the results from those readings were then tabulated. For any paper where the difference between the overall score assigned by two readers was greater than 2, the paper was assigned to a third reader. In all case, including those papers read by three readers, scores were averaged to produce a final score. In addition, four of the papers assessed during the first day that required a third reading were used for training on the morning of August 14<sup>th</sup> to further discussions among readers on the assignment of quality scores and increase the level of agreement on the assignment of these scores.

In order to determine the rubric's reliability, data was collected about the level of agreement among readers on the writing quality of the upper-division writing papers. The results of that data, presented in Table 2, suggest that the reliability of the rubric is moderate. While the majority of papers assessed required only two reads, the number of papers requiring three reads was higher than originally anticipated. Further, the results suggest that the reliability of the rubric, based on the percentage of papers requiring only two reads, was greater among Social Ecology 194W papers than Writing 139 papers.

Table 2: Assessment Rater Agreement as a Function of Reads

	Number of Papers Read Twice		Number of Papers Read Three Times	
	N	%	N	%
Writing 139 (n=28)	15	54%	13	46%
Social Ecology 194W (n=30)	19	63%	11	37%
ALL PAPERS (n=58)	34	59%	24	41%

In order to determine the validity of the pilot assessment results, instructor grades were collected for each of the papers used in this study and compared to the assessment scores. A correlation was then performed to determine if there exists a relationship between the grades students received on their upper-division writing papers and the scores assigned through the use of the Upper-Division Writing Assessment Rubric. The level of significance selected for this analysis was  $p < .05$ . The results, presented in Table 3, suggest that there is a positive and significant relationship between

grades received and the assessment results for all upper-division writing papers though the strength of the relationship is moderate. Further, the results show that the strength of the relationship between grades and assessment scores is greatest for the Writing 139 papers.

Table 3: Paper Grades and Assessment Scores

	Grades	Assessment Scores	Pearson's R Value
Writing 139 (n=28)**	83.43	5.32	.634
Social Ecology 194W (n=30)*	86	6.89	.400
ALL PAPERS (n=58)**	86.26	5.99	.589

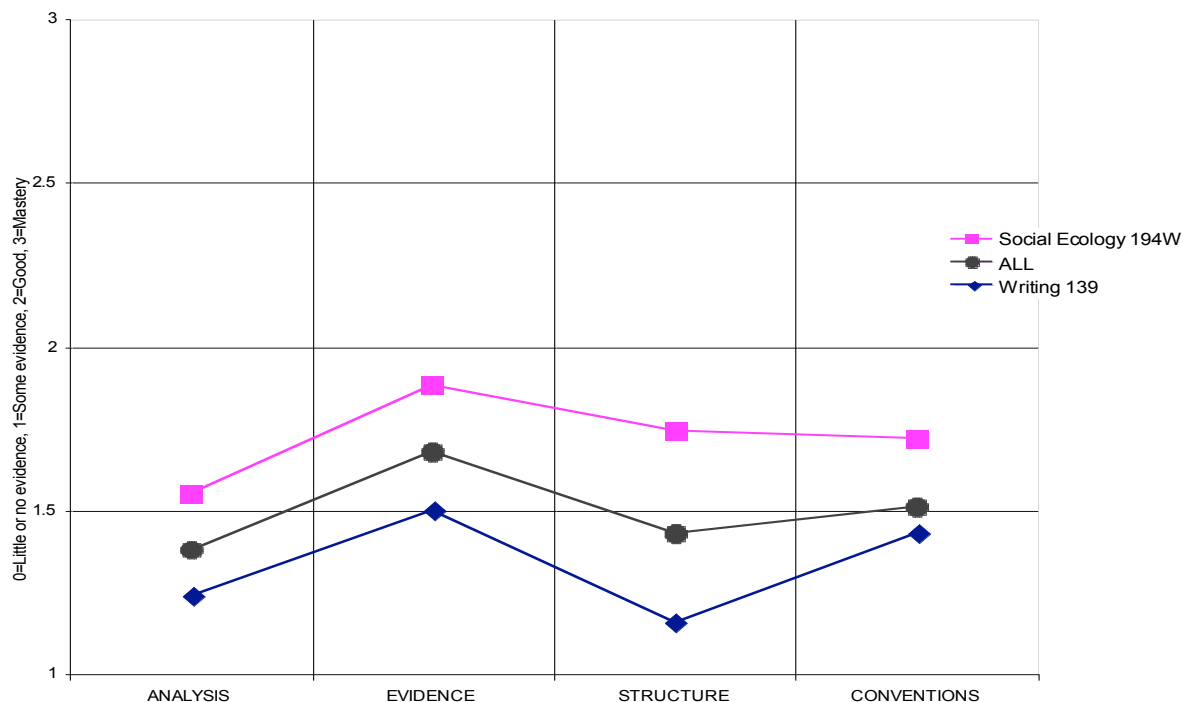
\*\*p<.01, \*p<.05

This analysis of results suggest that while the Upper-Division Writing Assessment Rubric is a more reliable instrument for Social Ecology 194W papers than for Writing 139 papers, when defined as number of reads, it is a more valid instrument for the Writing 139 papers than for the Social Ecology 194W papers, defined as the relationship between assessment scores and grades received. The inconsistency of these findings however suggests that there are differences between these courses in terms of their writing goals and modifications to the rubric may strengthen its reliability and validity across upper-division writing courses. The discussions that occurred upon completion of the assessment of upper-division writing papers confirmed these findings. The readers spoke at length about the differences in the writing products produced by each of these courses and the ways in which the assignments seemed to facilitate and/or hinder student's ability to demonstrate their writing skills and abilities. When the discussion turned to a review of the Upper-Division Writing Assessment Rubric, the readers suggested that modifications be made to the language describing the quality scores for the four writing categories, specifically that a greater delineation needed to be made between a "0" or "Little or No Evidence" quality score, and a "1" or "Some Evidence" quality score. By creating a clearer distinction between these two quality scores, it is likely that the reliability and validity of the Upper-Division Writing Assessment Rubric will be strengthened.

### **Student Writing Skills**

The upper-division writing quality results, as defined by the Upper-Division Writing Assessment Rubric, writing assessment rubric, are presented in Graph 1.

Graph 1: Upper-Division Writing Assessment Results



The assessment results found the Social Ecology 194W papers to be stronger than the Writing 139 papers in all four writing categories. Regardless of the upper-division writing course, all papers were found to be strongest in the “Use of Evidence/Research” category. The Social Ecology 194W papers were found to be weakest in the “Critical Thinking and Analysis” category while the Writing 139 papers were found to be weakest in the “Development and Structure” category. A t-test was performed to determine if the observed differences in writing quality between courses were significant. The level of significance selected for this analysis was  $p < .05$ . The results, presented in Table 4, suggest that there exist significant differences in the quality of student writing in two of the four writing categories which result in significant differences in the overall quality scores assigned to papers as a function of course. Social Ecology 194W papers are significantly better overall and specifically, were significantly better in the categories of “Use of Evidence/Research” and “Development and Structure”.

Table 4: Comparison of Mean Assessment Scores by Upper Division Writing Course

	Writing 139 (n=28)	Social Ecology 194W (n=30)
Critical Thinking and Analysis	1.24	1.55
Use of Evidence/Research *	1.49	1.88
Development and Structure **	1.16	1.74
Generic and Disciplinary Conventions	1.43	1.72
<b>OVERALL SCORE *</b>	<b>5.32</b>	<b>6.89</b>

\*\* $p < .01$ , \* $p < .05$

Overall, the quality of student writing demonstrated in these papers was lower than expected. As displayed in Table 5, while the majority of papers showed some evidence of achievement of the four writing categories, only 14% of the Writing 139 papers and 37% of the Social Ecology 194W papers demonstrating “good” quality on all four writing categories.



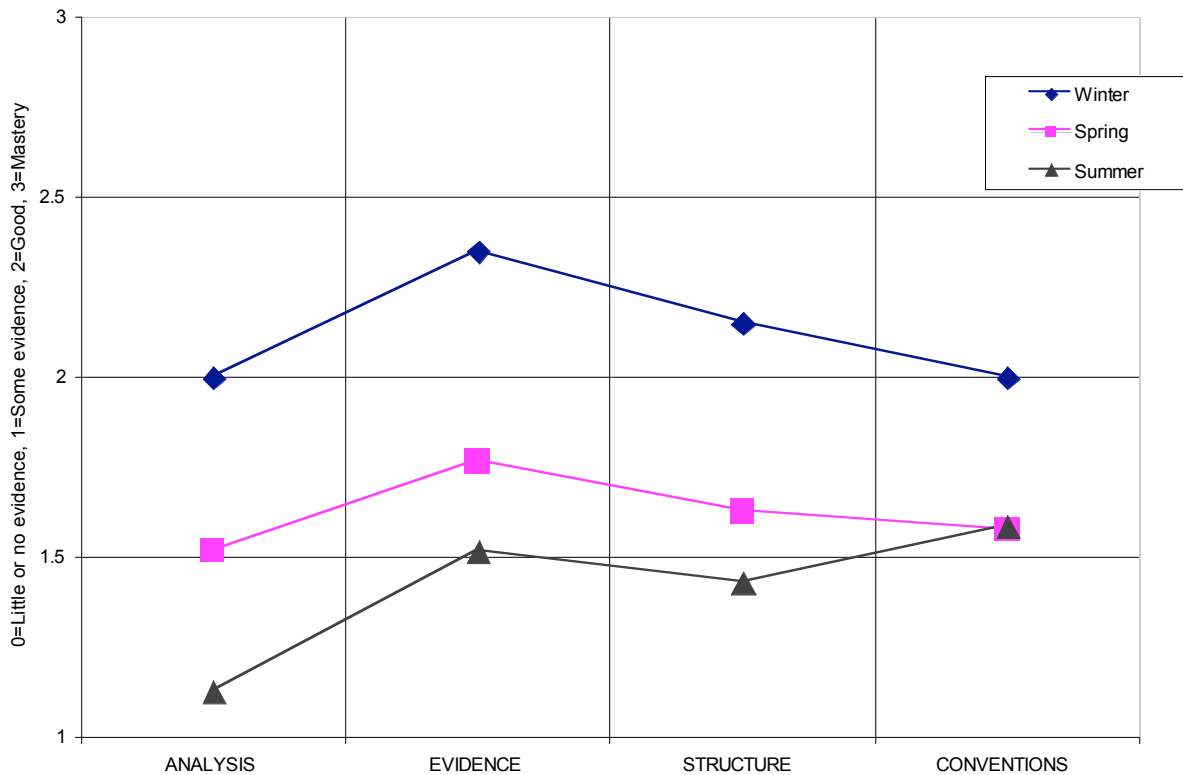
Table 5: Quality of Student Writing

Quality Scores by Category <sup>a</sup>	Writing 139 (n=28)					Social Ecology 194W (n=30)				
	1	2	3	4	Total	1	2	3	4	Total
Little or No Evidence (0-.99)	8 (29%)	4 (14%)	9 (32%)	5 (18%)	9 (32%)	5 (17%)	2 (7%)	2 (7%)	3 (10%)	3 (10%)
Some Evidence (1-1.99)	14 (50%)	16 (57%)	15 (54%)	18 (64%)	15 (54%)	14 (47%)	13 (43%)	14 (47%)	13 (43%)	15 (50%)
Good (2-2.99)	5 (18%)	6 (21%)	3 (11%)	2 (7%)	4 (14%)	10 (33%)	11 (37%)	12 (40%)	12 (40%)	11 (37%)
Mastery (3)	1 (4%)	2 (7%)	1 (4%)	3 (11%)	0 (0%)	1 (3%)	4 (13%)	2 (7%)	2 (7%)	1 (3%)

<sup>a</sup> Category 1 is "Critical Thinking and Analysis"; Category 2 is "Use of Evidence/Research"; Category 3 is "Development and Structure"; Category 4 is "Generic and Disciplinary Conventions".

In addition to the assessment results showing the writing quality produced in upper-division courses to be lower than expected, differences in the quality of student writing were observed within each of the upper-division courses as a function of either course section or quarter when the course was offered. The papers from Writing 139 were collected from the four sections taught during the Spring 2008 Quarter, while those from Social Ecology 194W were collected from the Winter 2008, Spring 2008, and Summer 2008 Session 1 courses. Graph 2 presents the quality of student writing in Social Ecology 194W as a function of when the course was offered.

Graph 2: Social Ecology 194W Results by Quarter Offered



The analysis of the assessment results for the Social Ecology 194W papers based on when the course was offered found the papers produced in the Winter 2008 course strongest in all four writing categories while those produced in the Summer Session 1 course weakest in three of the four writing categories. An analysis of variance was performed to determine if the observed differences in writing quality between courses were significant. The level of significance selected for this analysis was  $p < .05$ . The results, presented in Table 6, suggest that there exist significant differences in the quality of student writing as a function of the quarter when students completed Social Ecology 194W in all writing categories with the exception of “Generic and Disciplinary Conventions”. The fact that there exist no differences in writing quality for “Generic and Disciplinary Conventions” is likely a reflection of the uniformity between courses on the writing assignment and the emphasis on learning the conventions associated with presenting findings for field research.

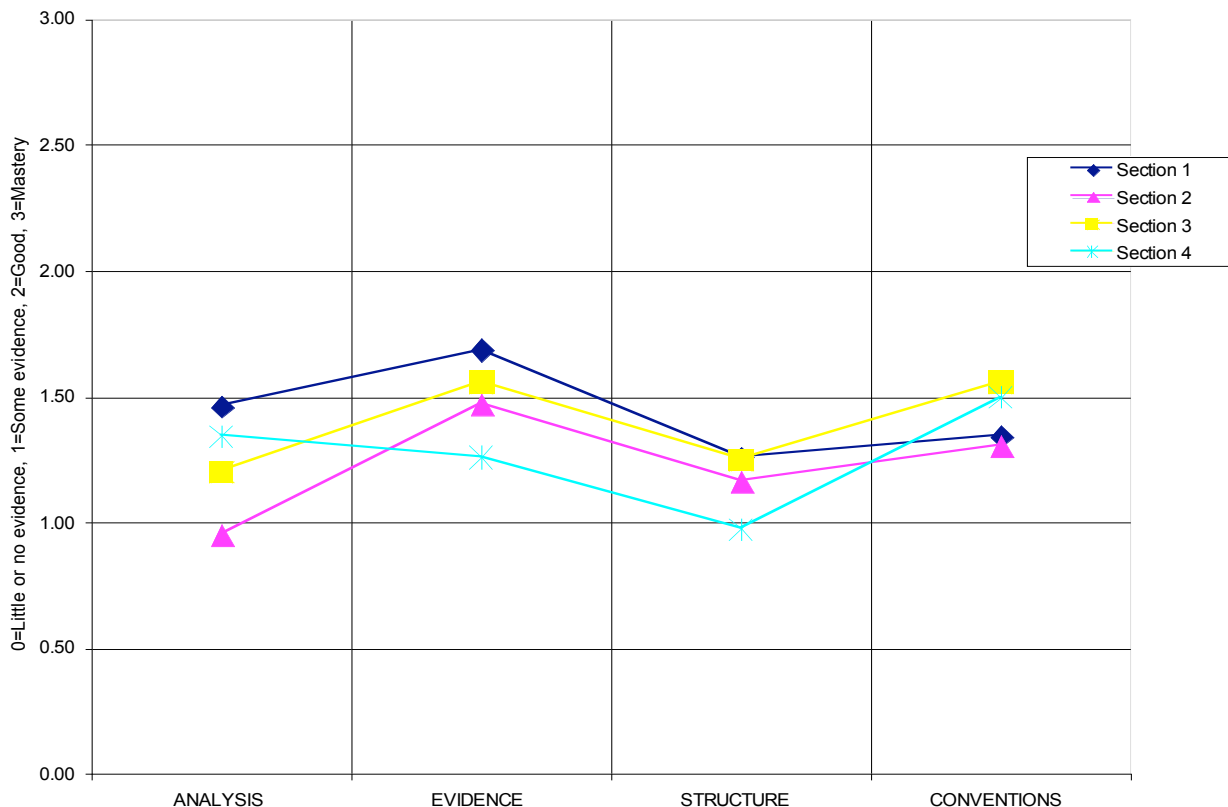
Table 6: Comparison of Mean Assessment Scores by Social Ecology 194W Course

	Winter		Spring		Summer
Critical Thinking and Analysis*	2		1.52		1.13
Use of Evidence/Research **	2.35		1.77		1.52
Development and Structure **	2.15		1.63		1.43
Generic & Disciplinary Conventions	2		1.58		1.59
OVERALL SCORE **	8.5		6.49		5.67

\*\* $p < .01$ , \* $p < .05$

Graph 3 presents the quality of student writing in Writing 139 as a function of the course section.

Graph 3: Writing 139 Results by Course Section



The analysis of the assessment results for the Writing 139 papers found that there exist significant differences in the quality of student writing in the writing category of “Development and Structure” as a function of their Writing 139 section. This difference is likely the result of the differences in themes that shaped the writing assignments in each Writing 139 section.

Table 7: Mean Assessment Scores by Writing 139 Course

	Section 1	Section 2	Section 3	Section 4
Critical Thinking and Analysis	1.46	0.95	1.20	1.34
Use of Evidence/Research	1.69	1.47	1.56	1.26
Development and Structure*	1.26	1.16	1.25	0.97
Generic & Disciplinary Conventions	1.34	1.31	1.56	1.50
OVERALL SCORE	5.75	4.89	5.57	5.08

\*\*p<.01, \*p<.05

Overall, the findings suggest that students are not able to demonstrate the level of quality in their writing that would be expected for an upper-division writing course. The majority of papers, regardless of the course, showed some evidence of the four writing categories, with only 28% showing achievement of all writing categories at a quality level of good or higher. All the upper-division writing papers were strongest in the area of evidence and research, and lowest either in the area of critical thinking and analysis or development and structure. In addition, there were significant differences observed in the quality of writing students produced, both as a function of which upper-division writing course they took, and the section or quarter they selected for the course. These differences not only point to the need for greater clarity about the aims of upper-division writing but also to the importance of the structure and scope of the writing assignments students are provided and the degree to which their assignments can allow them to both achieve and demonstrate the level of writing expected upon completion of the upper-division writing requirement. Equally important, the differences observed in writing quality as a function of course section or quarter suggest that there may be differences in who takes their upper-division writing course when and which course they select to complete this requirement.

### **Student Background and Writing**

In order to better understand the differences observed in writing quality in the sample of Writing 139 and Social Ecology 194W papers, data was collected both about students’ language status and enrollment status. As displayed in Table 8, the majority of Writing 139 and Social Ecology 194W students whose papers were read in this pilot assessment were transfer students, with transfer students producing over 80% of the sample papers assessed from Writing 139.

Table 8: Enrollment Status by Upper-Division Writing Course

Enrollment Status	Writing 139	Social Ecology 194W	All
High School	5 (18%)	13 (43%)	18 (31%)
Transfer	23 (82%)	17 (57%)	40 (69%)

Table 9 shows that the majority of students whose papers were assessed for this study were non-Native English speakers. Over 52% of the students whose papers were randomly collected for this pilot assessment grew up in households where either only another language was spoken or both English and another language were spoken.

Table 9: Language Status by Upper Division Writing Course

Enrollment Status	Writing 139	Social Ecology 194W	All
English Only	11 (48%)	11 (41%)	22 (44%)
English & Another Language/ Another Language Only	12 (52%)	16 (59%)	28 (56%)

Data about language status was not available for all students whose papers were assessed.

A 3-factor analysis of variance was performed to identify the effects of language status, enrollment status, and course on the four individual writing categories and the overall writing assessment scores. The level of significance selected for this analysis was  $p < .05$ . The results, presented in Table 10, confirm that there are significant differences both in overall writing quality and the four individual writing categories as a function of course. The writing students produced in Social Ecology 194W is of significantly higher quality than the writing produced in Writing 139. The results from the analysis of variance show that students who enroll at UCI directly from high school produced higher quality writing products than did their transfer student counterparts overall with significant differences in quality observed in the writing category “Generic and Disciplinary Conventions”. While native English speakers produced higher quality writing products than students who grew up in households where either only another language was spoken or both English and another language were spoken, there are no significant differences in writing quality as a function of language status.

Table 10: Mean Writing Assessment Values as a Function of Course, Student Enrollment Status and Language Status

Mean Writing Assessment Values as a Function of Course		
	Writing 139	Social Ecology 194W
Critical Thinking and Analysis *	1.24	1.55
Use of Evidence/ Research *	1.49	1.88
Development & Structure **	1.16	1.74
Generic & Disciplinary Conventions *	1.43	1.72
OVERALL SCORE **	5.32	6.89

Mean Writing Assessment Values as a Function of Enrollment Status		
	Transfers	High School
Critical Thinking and Analysis *	1.26	1.46
Use of Evidence/ Research	1.63	1.72
Development & Structure *	1.39	1.49
Generic & Disciplinary Conventions **	1.40	1.66
OVERALL SCORE *	5.67	6.34

Mean Writing Assessment Values as a Function of Language Status		
	English Only	English & Another / Another Language Only
Critical Thinking and Analysis	1.45	1.36
Use of Evidence/ Research	1.77	1.64
Development & Structure	1.47	1.47
Generic & Disciplinary Conventions	1.75	1.50
OVERALL SCORE	6.45	5.97

\*\* $p < .01$ , \* $p < .05$

## **Conclusions and Recommendations**

The pilot assessment of upper-division writing was designed with three goals in mind: (1) to develop a scoring rubric that could be used to assess writing skills and techniques across academic disciplines, (2) to assess the quality of student writing produced in upper-division writing courses, and (3) to determine whether such student characteristics as first language and transfer vs. high school status impact the quality of student writing. The Upper-Division Writing Assessment Rubric proved to be a useful tool for assessing the quality of writing produced in upper-division courses. While the rubric was found to be both a reliable and valid tool, improvements to the instrument will strengthen its ability to effectively capture the quality of student writing produced in upper-division writing courses. The review of student writing showed that the quality of student writing is lower than had been expected. While the papers were consistently strongest in the use of evidence and research, the majority of the papers only showed some evidence of achievement of all four writing categories. The papers were found to be weakest in either critical thinking and analysis or development and structure, the two primary categories by which a student demonstrates their ability to craft and persuade their audience of their paper's argument or position. In addition to the low quality of the papers, differences were observed in writing quality as a function of the upper-division writing course, suggesting that the goals for upper-division writing may not be consistent across courses. Finally, the differences observed in the writing quality produced in Social Ecology 194W and Writing 139 suggested that there may be differences among the students who take these courses and the time when they take these courses. The results from those analyses showed that the quality of writing produced by students was different as a result of their enrollment and language status, with significant differences being observed in writing quality between transfer students and those who enrolled at UCI directly from high school.

In light of these findings, the following recommendations emerge:

While there is great value in the distinctiveness of upper-division writing courses as a result of the given discipline's approach to writing, it is critical that agreement be reached on the goals of upper-division writing. The Upper-Division Writing Assessment Rubric reflects that need. In addition to making modifications to the quality definitions within the rubric so as to most accurately capture the quality of student writing, upper-division writing courses and assignments need to provide students with the opportunity to practice, achieve, and demonstrate the writing skills and abilities reflected by the rubric.

Differences in the quality of student writing as a function of when a course was offered emerged. This pilot assessment found that the quality of student writing produced in an upper-division writing course offered in the summer was significantly poorer than when that same course was offered in the academic year. It is recommended that further analysis be conducted on the differences in writing achievement based on whether a course is taken during the academic year or during a 5 week summer session.

There are some clear differences in the quality of writing produced by students as a result of their enrollment status. This pilot assessment study found that transfer students are more likely to produce lower quality writing products than their peers who enrolled at UCI directly from high school, with significant differences being observed in the area of "Generic and Disciplinary Conventions". It is recommended that both the reasons why these differences exist and strategies for minimizing these differences in writing skills be explored.

Though not statistically significant, differences were found in the quality of writing produced by native and non-native English speakers, with non-native English speakers producing poorer quality writing products. Because such a large proportion of UCI's students are non-native English speakers, it is critically important that the campus consider how to address and shrink this performance gap among our students.