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ABSTRACT

ASSESSMENT AND CHANGE: USING VERBAL ANALYSIS TO UPDATE CRITERIA IN THE TECHNICAL COMMUNICATION SERVICE COURSE

by Michele-Andrea Fields

Assessment is the discussion, research, and analysis of information, concluding with a value of the information discussed. This project is a qualitative analysis of a Technical Communication service course assessment calibration session held in May 2005, which was recorded. After transcribing the discussion, I am using NVivo, a data coding and modeling program, to analyze the terms, categories, concepts, processes, and abstract ideas. In addition, the paper looks at how the current paradigm for technical service courses is shifting toward electronic writing and document design. The conclusion applies the results to the ongoing curriculum and criteria assessment in English 352.

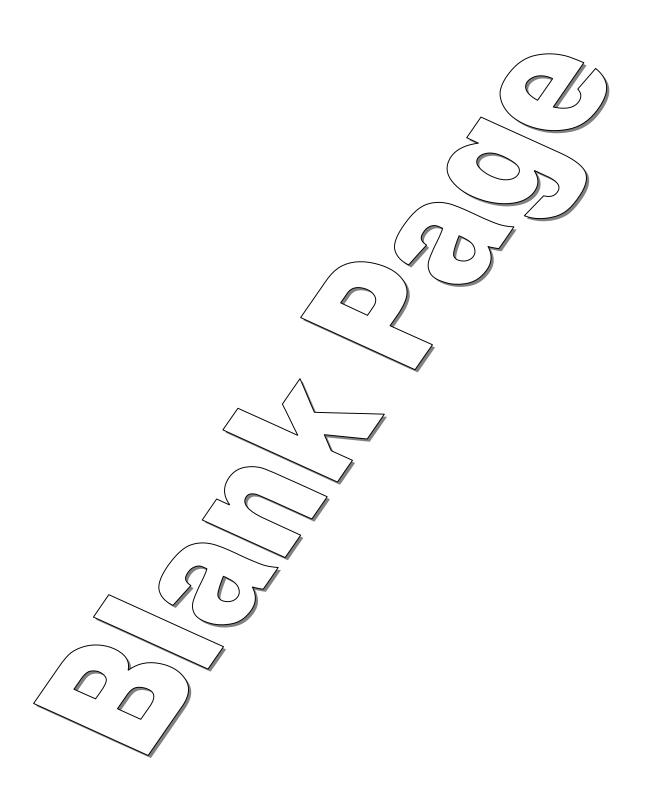
ASSESSMENT AND CHANGE: USING VERBAL ANALYSIS TO UPDATE CRITERIA IN THE TECHNICAL COMMUNICATION SERVICE COURSE

by Michele-Andrea Fields

A Thesis
Submitted to the Faculty of
New Jersey Institute of Technology
in Partial Fulfillment of the Requirements for the Degree of
Master of Science in Professional and Technical Communication

Department of Humanities

January 2006



APPROVAL PAGE

ASSESSMENT AND CHANGE: USING VERBAL ANALYSIS TO UPDATE CRITERIA IN THE TECHNICAL COMMUNICATION SERVICE COURSE

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"Upgrading and Maintaining Oracle Process Manufacturing, Proceedings of the 2001 Oracle Applications World Conference, New Orleans, Louisiana, February 2001. To my parents for their unconditional love and support.

To my sister, Susan, for listening when I complained that this was sometimes too much.

To Jeff, for being my rock when I could barely hold myself up.

To Meg, for always being there with a witty comment or a surprising insight.

ACKNOWLEDGMENT

I would like to thank Dr. Carol Siri Johnson, who served as my thesis advisor, providing insight, information, and intuition, as well as support, encouragement, and reassurance. Special thanks are given to Dr. Norbert Elliot and Dr. Robert Lynch for actively participating in my committee. Also, thanks to Dr. Burt Kimmelman for pushing me to understand electronic writing.

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CHAPTER 1

INTRODUCTION

1.1 Objectives

The objective of my thesis is to perform coding on several assessment discussions held by Technical Communication faculty during calibration sessions prior to reading online portfolios. Using a standard coding model based on a list of predictor variables, I entered information into a standard statistical package, NVivo, to determine information about the variables, or criteria, that are deemed to be important in English 352. This analysis provides valuable information about the validity of the assessment criteria.

The professors scored online portfolios for eleven separate variables (or criteria). These variables were not the same as the previous rubric used in the holistic scoring held each semester in the past – instead they were created by a modified online Delphi by experts in the field. The modified Delphi took place via email and the result was a new set of criteria (the 11 items), which were used in December 2004 and May 2005. These criteria are still being developed, and this thesis contributes to their development.

Ultimately, the goal of both my thesis and the assessments is to gain a better understanding what to teach, how to teach, and how to learn in a technical writing service course. This goal cannot be reached without the constant reevaluation of the students and their portfolios, the professors and their educational materials, and the knowledge transfer that goes on in the class. Allowing students to learn through iteration and constant feedback is the primary requirement for a class to be successful.

1.2 Background

Historically, students have been assessed through the use of standardized testing that takes place several times during their life cycle, such as the SAT, TOEFL®, GMAT®, and GRE[®]. All these tests, and others, are used to help colleges and universities determine admissions and placement. Many institutions also give tests throughout the college experience as a gatekeeper or an assessment of the work being done. This form of individual student assessment, necessary though it may be, is limited in scope. There is another form of assessment called program assessment. In my thesis I am looking at this broader form of assessment, which seeks detailed information about the successes and failures in social constructs (rather than individual students). Program assessment can be useful in many ways. Not only can it provide a continuous loop of improvement for programs and courses, it can justify the outcomes in an academic setting. According to Nancy Coppola in "Setting the Discourse Community: Tasks and Assessment for the New Technical Communication Service Course", "establishing skill standards through assessment is important to technical communication program administrators who may need to justify levels of competency in their program graduates" (250). This form of assessment can be used in many situations to focus and guide an institution's progress. Looking at the work that is being done by the students in the context of writing assessment lets program leaders understand where students' strengths and weaknesses lie, and where the focus of the class needs to be in order for everyone to learn valuable tools.

In my thesis I am looking for how the writing, look, feel, and sound of the work are now equally important to making the work high quality. The look and feel aspect does not remove the need for excellent writing. But the online portfolios written in

English 352 are assessed online and therefore the electronic quality – hyperlinks, color, white space - is very important. The clarity of the writing is what a writing class should assess. But now the design of the document is calling attention to the bad writing. As a technical writer by profession, both paper and paperless writing every day surrounds me. With my business work and my class work done concurrently; I believe my perspective on online assessment is quite valuable.

For the past several years, assessment of the English 352 Technical Writing course has looked at how students learn and the direction the classes need to move in. Dr. Norbert Elliot, who has written a history of writing assessment, and Dr. Carol Siri Johnson have taken the initiative to complete thorough assessments of these programs to determine the validity of past student work based on student portfolios. With the English 352 class, both Dr. Elliot and Dr. Johnson have taken a forward-thinking approach to assessment. At the end of each semester, the professors are brought together to assess a sampling of the portfolios. To this group they often add an outside educator to incorporate additional insight. I attend these sessions each semester, working with Dr. Elliot and Dr. Johnson to records, monitor, and collate information.

Increasingly, self-assessment is important to institutions of higher learning. Douglas M. Trank and Joe M. Steele in "Measurable Effects of a Communication Skills Course: An Initial Study" state that "public criticism of educational institutions, although certainly not new, has intensified in the area of communication skills the past several years" (227). Colleges need to understand if they are meeting goals and can prove that with assessements.

Both quantitative research and qualitative research is valuable. Researchers work with qualitative analysis because much of the data we collect is in long-form text. A quantitative analysis is numbers-based and may not give a real-world feel for the study that is taking place. Coding a transcript gives researchers an opportunity to draw conclusions and prove hypotheses based on large amounts of text. In "A Decade of Change: Assessing Online Portfolios in the Technical Communication Classroom," Dr. Johnson completes a quantitative analysis of the English 352 class and concludes that the assessment has caused a change in the way the class is being taught. For the qualitative look at the English 352 class, I am using the discussions from the meeting at which Dr. Johnson gathered her scoring sheets.

Dr. Elliot moderates the assessment meeting. During this time, he has the group score sample portfolios and then discuss the scores to come up with a baseline idea of what the assessment is looking for. Prior to this task, everyone had a discussion about three sample portfolios. This discussion garnered information for the transcripts that I used to do my qualitative research. After the discussion, the portfolios are reviewed by two independent readers. Once each reader scored the online portfolio, I reviewed this information to determine if a third reader was required. The third reader is required if there was more than a two-point difference between answers on the six-point scale.

Continual programmatic assessment of writing is necessary because our ways of reading are changing radically. In years past, a book or a journal article was the way we communicated new ideas. Now, the majority of those ideas are communicated electronically, through web sites and electronic literature. Therefore, things learned in a program assessment from ten years ago are not valid for the way technical services

courses are moving today. Choosing the right type of white paper, and the best font on the page is a fairly outdated concept. Now, assessment looks for the best use of the electronic technology to ensure that the students use the latest web technology and incorporate sound, graphics, and good document design.

How we read a document is changing as well. Sitting down to a "good book" can never be replaced, feeling the weight of the paper, and tight stitching of the binding is something that a reader is still going to want to enjoy. I love to sit down and read a book, getting lost in the story and characters. But, people are changing their methods when it comes to online reading. We scan the titles on the page and take in the pop-up ads that might tempt us to click to see what is beyond the graphics. For example, when I read the news now, it is online. I quickly view a series of titles and summaries, deciding when I want to read, rather than having the entire story in front of me as I turn pages.

In a business sense, content and record management, as well as single sourcing of information, has become important to large businesses for both efficiency and auditability. The idea of the Iron Mountain, where companies stored their paper documents is not popular. Now, companies either scan their work into the computer or all work is written on the computer. Online documents, indexed and stored in a database, are what companies now turn to for document management.

CHAPTER 2

A DISCUSSION OF WRITING AND ASSESSMENT

2.1 Writing Assessment

Writing assessment is the discussion, research, and eventual theoretic outcome regarding writing in a specific contextual setting (usually educational). According to Jo Allen in "The Impact of Student Learning Outcomes Assessment on Technical and Professional Communication Programs" "although sometimes resisted, assessment has also proven to be powerfully effective for planning, designing, and promoting distinctive programs" (93). Assessment helps schools show a consistent, well-rounded, and technologically advanced program that is consistent year after year.

In (Re)Articulating Writing Assessment for Teaching and Learning, Brian Huot states that "assessment can and should be not only an important component of a healthy research and administrative agenda but also an integral, important and vital part of the effective teaching of writing" (11). He shows how the concept of testing needs to move from the standardized version of assessing individual students to a mode in which student writing is assessed in order to gain benefits for the curriculum and program as well. The benefit is that the entire program can be assessed to determine the natural progression of the program, with the students, the professors, the context of the class, and how the class is changing and shifting with the latest ideas and technology.

Today, assessment has moved from the corporate quality assurance departments into the educational arena, showing the criticality that what is being taught is helpful and accurate. "Assessment has become a public and educational issue, not solely a technical one." Broad states, "We no longer seem to be content to be told that assessments meet

certain psychometric and statistical requirements. We want to know whether they help or hurt teaching and learning" (9). In addition, having the professors of a program performing the assessment helps them learn if they are conveying the desired knowledge and skills, and if their students are learning.

Huot also looks at the need for writing assessment to meet the same requirements that a normal standardized test has to meet. If the requirements are not clearly defined, then the resulting data will vary from year to year. People assess writing should go through procedures of evaluating test papers to ensure that their ability to score is calibrated accurately. "Through the use of various scoring guidelines," Huot notes, "we can decide what is of value within a student text and can base our judgments of a student's writing upon differing approaches to the text" (88). Here is where the descriptor variable becomes important. All professors who score the exam must use the same list of variable standards to achieve consistency in the outcome. Huot also writes "Because assessment is the site where we marshal evidence about what we will value globally as a society and more locally as teachers, researchers and administrators, we can, by changing assessment, change what we will ultimately value" (8).

In What We Really Value: Beyond Rubrics in Teaching and Assessing Writing, Bob Broad has applied a methodology of textual analysis to the field of composition. His analysis is a qualitative and quantitative search for the variables, or criteria, most important to the instructors in his program. In his introduction, Broad writes that "traditional rubrics and scoring guides prevent us from telling the truth about what we believe, what we teach, and what we value in composition courses and programs" (2).

Thus, he came up with an assessment procedure using NVivo called Dynamic Criteria Mapping.

Broad used "transcripts and documents to identify, define, and develop all criteria for evaluation mentioned by my participants" (28). He used notes from tape recordings, memories of events, interviews, resulting in about 700 pages of single-spaced pages. After he collected this information, he decided to conduct a qualitative inquiry in which he analyzed each mention of individual criteria and how the criteria relate to each other, resulting in a Dynamic Criteria Map.

In past assessments, NJIT scored technical communication portfolios holistically with a standardized rubric. The rubric was written for traditional humanities research papers and the variables include thesis, arguments, evidence, and appropriate textual citation. By its very nature Technical Communication is different from more traditional academic research paper; it often requires instructions, visuals and other methods of direct connection with the reader, with temporal immediacy, that are not used in expository or analytic writing. Thus, like Broad, it was important for us to find out what we truly value.

The English professors in the Humanities Department conduct the assessments that take place at NJIT. This helps to maintain local standards. Many times, people look to the outside for help with assessments, which can cause confusion as standards change from area to area. Huot states, "These site-based, locally-driven procedures for evaluating student writing have their roots in the methods and beliefs held by the teachers who teach the courses that students are entering or exiting, or in the program under review. In this light, there is a much clearer connection between the way writing is

taught and the way it is evaluated" (104). This opportunity for the school to assess itself is tantamount to creating an evolutionary cycle that helps the program live and grow. Also, an assessment-driven approach to technical writing instruction helps to reinforce the qualities of the technical service course. The basic premise of the technical writing service course can serve a much broader communication lesson for everyone involved. How the students work with each other to advance projects, how the professors exchange ideas with the students, and how the types of computerized environments all contribute to this goal.

The theory and practice of assessment are constantly growing and changing based on the evolving needs of the faculty and students. Each time the process is completed, both the work being assessed and the outcome should show a shift from previous assessments. In Figure 2.1, Huot shows this as a necessary growing process, using a detailed list of principles for creating new theories on writing assessment.

Principles For a New Theory and Practice of Writing Assessment

Site-Based

An assessment for writing is developed in response to a specific need that occurs at a specific site. Procedures are based upon thhe resources and concerns of an institution, department, program or agency and its administrators, faculty, students or other constituents.

Locally-Controlled

The individual institution or agency responsible for managing, revising, updating and validating the assessment procedures, which should in turn be carefully reviewed according to clearly outlined goals and guidelines on a regular basis to safeguard the concerns of all those affected by the assessment process.

Context-Sensitive

The procedures should honor the instructional goals and objectives as well as the cultural and social environment of the institution or agency and its students, teachers and other stakeholders. It is important to establish and maintain the contextual integrity necessary for the authentic reading and and writing of textual communication.

Rhetorically-Based

All writing assignments, scoring criteria, writing environments and reading procedures should addere to recognizable and supportable rhetorical principles integral to the thoughtful expression and reflective interpretation of text.

Accessible

All procedures and rationales for the creation of writing assignments, scoring criteria and reading procedures, as well as samples of the student work and rater judgment, should be available to those whose work is being evaluated.

Figure 2.1 Principles For a New Theory and Practice of Writing Assessment (Huot 105).

2.2 Grounded Theory

Grounded theory also helps to direct this research. According to H. Russell Bernard in Social Research Methods: Qualitative and Quantitative Approaches, "the heart of grounded theory is identifying themes in texts and coding the texts for the presence or absence of those themes" (444). In this study, the coding is trying to find the themes, such as writing and editing or problem solving, based on the descriptors identified.

In "The Creation of Theory: A Recent Application of the Grounded Theory Method," Naresh Pandit defines the three basic elements of grounded theory as concepts,

categories, and propositions. Concepts are the most basic element because a theory is based on the concept of data, not the data themselves. Categories are more abstract and contain concepts. For example, whereas reading, researching, and writing papers are all concepts, they fall under the category of studying for school. Finally, the propositions determine the relationships between the concepts and categories.

For this project, the concepts show us where the students gain the most educational benefit. With categories that range from Document Design to Writing and Editing, there is a wide range of information being channeled to the students, and the assessment practice lets us see where the most learning is being done.

Grounded theory is an important basis for qualitative theory because it is a sequential concept that covers the constructs of qualitative analysis. The phases of grounded theory – research design, data collection, data ordering, data analysis, and literature comparison in a transcript or conversation study – are a good path to complete a qualitative study (Pandit).

Collecting just the right amount of data for this project is important to the success of the assessment. With grounded theory, the data collected and the categories used interweave to form the basis of the theory being drawn. If too much information is collected, then the saturation of the categories can degrade the impact of the information. Often the desire to go back and search for more examples and more data can be strong if the gathered information either supports the theory or not. This extra information is not helpful to the process and can often create waste. And, in some cases, the superfluous data can change the theory outcome. Figure 2.2 depicts how the processes interrelate in order to build grounded theory.

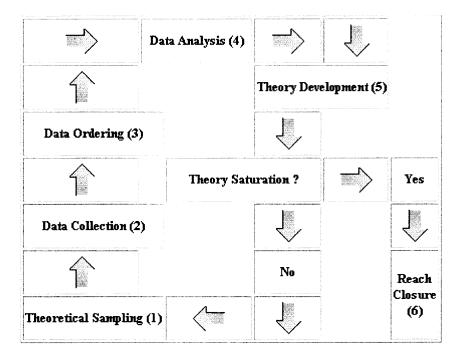


Figure 2.2 The Interrelated Processes of Data Collection, Data Ordering, and Data Analysis to Build Grounded Theory (Pandit)

For this project, while there are many students who take the ENG 352 Technical Writing class, the sample used was approximately 50 students. These students came from all sections of the class, covering seven different teachers.

2.3 Theoretical Model

Probably the most important step is creating the model to complete the assessment. The questions asked must be answerable and offer information about the subjects. The questions must be categorized as short, medium, and long term. This information by itself is not conclusive. Both Kathleen BlakeYancey and Brian Huot in <u>Assessing Writing Across the Curriculum</u> believe that the model does help "provide a context for what is occurring at a particular institution, especially when it is relativized in some way,

for example, to the number of such students in past years, or to the number of students per writing-intensive class, to the kinds of writing previously included and so on" (9).

The theory behind this project is that the art of writing is no longer the driving force behind writing classes today. Unfortunately, while it is important to write clearly and correctly, the reader of an online writing assignment is sooner to view the document design and graphics before noticing that the writing might not be clear and correct.

Composition theory, as well as hypertext theory, also works into the idea of understanding writing. Composition theory studies writing to determine the best possible way to teach how to write. When studying how to write effectively, James Moffett states that the "emphasis shifts necessarily from the communication drama between first and second persons to the bare message or content; from the I-you relation to the I-it relation" (James Moffett). This is a linear way of looking at writing, seeing it as either one type of interaction or another. Then the shift begins to broaden into hypertext. Hypertext theory is the converging of literary theory and technology. Theodore Nelson states that hypertext is "non-sequential writing -- text that branches and allows choices to the reader, best read at an interactive screen. As popularly conceived, this is a series of text chunks connected by links which offer the reader different pathways" (Landow). This is where document design begins to emerge, how the information is shown to the user. Instead of being a book with sequential pages, broken up into chapters, hypertext information is strung together through links and pages and keywords.

While online material is a shift from the way class assignments were written and read in the past, it is not altogether a bad shift. Online writing today is quite different from writing in the past, and the difference needs to be taken into account in online

portfolio assessment. People tend to write in a more conversational way online than if the portfolio were on paper. But when trying to sell a product, having good document design is more persuasive than ensuring that the writing is clear and correct. In fact, if the spelling is accurate, then the writing can be more conversational, as people will read the online words in that conversational manner.

2.4 Shifting Paradigms

Before the advent of the computer-based classroom, students wrote papers and were graded based on their writing, clear use of ideas, and the ability to follow standards, such as the MLA Style Guide. Textbooks in a writing classroom often stressed grammar and diction. Today, that paradigm has shifted.

The concept of tone is increasingly important in writing today. One of the most popular classroom handbooks is <u>The Scott</u>, <u>Foresman Handbook for Writers</u>. The current version of this book now begins with early chapters on document design and style. The writing and grammar chapters are set behind these. In addition, tone has become an important part of how people are taught to write, and this is due to the online writing that is so prevalent today.

Today's composition textbooks teach the use of familiar language, word balancing, and limiting the use of dense, difficult words. The authors of <u>The Scott</u>, <u>Foresman Handbook for Writers</u> believe that "writers sometimes wrongly assume that they need to impress readers by choosing formal and highly complicated language. The result is more likely to seem stuffy and difficult to read than smart and sophisticated" (Hairston, et al. 240). The reason this is acceptable in the current word is that the writer

now has graphics and color and document design, whether on paper or on a web site, to clearly make a point. Therefore, the language can be informal, since many people are going to be drawn in by the colors and pictures, before the words.

The tone of the writing is also important. When readers begin to read in the world of the Internet, it is important that the words have a tone that is understandable to them right away. "When you want to build common ground with your readers and convince them to consider your ideas, try to come across as an open-minded person who doesn't feel she has all the answers. Treat your audience — even those whom you suspect might disagree with you — with respect" (Hairston 242). This is important when it comes to writing for the Internet, because if the readers are not hooked in from the beginning, then they are less likely to actively want to use hyperlinks to read more of the information being put forth.

As these paradigms shift, the assessment process should grow and shift as well. What is important to assess today might not be what we are interested in as the class evolves. The entire process is organic in nature, with the students and teachers feeding each other information and learning from each other.

2.5 The Era of Electronic Writing

As part of the paradigm shift, writers have taken to online space to write using advanced technology, such as electronic hypertext. Beginning in the early 1980s, people who had the opportunity to use the Internet were writing stories that included the Internet as part of the landscape, using terms such as net, gopher, and finger files. Eventually the stories became less about the Internet and more literature housed on the Internet. The next

generation of writers created online magazines and diaries that let people into the world of the author. In more recent years, electronic literature began to emerge. Now, online authors are using the high technology offered on the Internet to make their stories into robust, interactive pieces of literature. Whereas in the past a writing assessment would be on paper documents, my thesis looks at a writing assessment that is done online.

In addition, writers are making their interactive stories living objects. They tell a story, allow readers to move the way they want to, and then give them the opportunity to add to the storyline. As readers, we all read a story, often our own version of the story. In theory, this type of story probably has the most proficient touch on the pulse of the hypertext world.

Has electronic literature changed the way we read and the way we write? And can the way a person writes electronic literature change literature? In the World Wide Web (WWW) each piece of electronic literature uses hyperlinks, sound, and visual movement. But, even though the technology used is the same, aesthetics, themes, structure, technology, and interactivity of each are compared, and, based on the research, looked at to see which writing uses the technology to its full breadth helping to determine how the technology has changed the landscape of writing, offers readers the best experience and best chance of retention, and which writer has the most proficient grasp of the hypertextual, interactive art/literature world.

Printed and electronic literature shares one important aspect that will likely exist for a long time. Regardless of the type of writing, the reader still has to read the words before the text is considered complete. Whereas the reader of printed text can open a book to view the author's work, the reader of electronic literature goes to a web site to

read the word. But, in the electronic version, the reader is often more involved in how the words are read. Bolter says that, "the role of the reader in electronic fiction, therefore, lies halfway between the customary roles of author and reader in the medium of print" (173). This is a clear advancement of the way people read and absorb the information they are reading.

The concept of hypertext is fairly new and is constantly growing. But, according to N. Katherine Hayles in Writing Machines, "hypertext has at a minimum the three characteristics of multiple reading paths, chunked text, and some kind of linking" (26). Therefore, the underlying theory of hypertext is to remove the linear reading process, to force the reader to move through the story in a randomly controlled way. During a lecture about the new electronic literature environment, Rob Wittig suggests that "Now writers of all kinds have discretion over font, size, weight, and layout. These are tremendous tools. It's as though, until now, we had been given the power of speech, but denied the emotional music of intonation and forced to speak in a monotone" (3). This statement helps solidify the power of the hypertextual world. Previously, authors could write and people read those words. But now the writers are able to add the nuances, such as color and pictures, to enhance the story.

Printed books can be and have been changed into electronic literature. Often when this is done, the author takes advantage of the new technology and non-linear writing style and changes the book to accommodate the media. For example,

The hypertext version of Jay David Bolter's Writing Space is an introductory tour through some of the theoretical implications of the hypertext format. The opening comments are quite playful, offering the readers the possibility of doing whatever they wish with the

electronic hypertext. If you can convince someone to pay you for your own version of Writing Space, "take the money," urges Bolter. The permissiveness stops at the printed format however (Keep).

2.6 The Internet

Electronic literature is a technological advancement over textual writing. As technology advances, the opportunities for the writers of electronic literature grow and mature. Just as early books were written on papyrus, then codices were born, and finally the bound book and book volumes, electronic writing is constantly changing and getting better.

Has electronic writing changed the way we read and the way we write? And can the way a person creates electronic writing help to change literature today? The way we write has changed drastically since the advent of the Internet. People now write online, a vastly different manner of writing than putting pen to paper. Now, when we write, people are reading not only words, but pictures as well. We pick up clues and nuances of the writing by the other information the writer offers. Each piece of electronic writing uses things like hyperlinks, sound, and visual movement.

But it is not only the way we read that has changed. What we look for has changed as well. In the past, an assessment of a writing class would have a professor pick up a paper and immediately review the writing to ensure it is clear and correct. In essence, the professors are not only looking for what they have taught the class, but for what is known to be true and valuable about a piece of writing. As we have evolved as a society, our idea of what to look for has changed. Now, we are immediately taken in by the use of graphics, color, and white space. And all of this moves previous ideals from

the forefront of the mind. Unfortunately, whereas the writing may have problems, the writing is often eclipsed by a beautiful design, and an eye-catching graphic.

Hypertext is fairly new and is constantly growing. But, "hypertext has at a minimum the three characteristics of multiple reading paths, chunked text, and some kind of linking" (Hayles 26). Therefore, the underlying theory of hypertext is to remove the linear reading process, forcing the reader to move through the story in a more conscious way.

The Internet also helps to change the descriptors and the importance we put on them. Unfortunately, in the current assessment done for this research paper, the concepts of document design and audience awareness have moved into the forefront of what we are looking at, while writing and content have begun to take a lesser role. Much of this is due to the changing technology brought on by the Internet.

With all the changes that come with new technology, does the quality of the work suffer? The argument about quality is what is really important when assessing technical writing. "Quality issues can be divided into two categories. One category is productivity, which refers to the quantity of output that technical communicators product in a given time period, such as the number of published pages and screens per day. The other is effectiveness, which means 'Does the communication product do what it's supposed to do?'" (Carliner 85). For this research, the idea of effectiveness is the most critical. While it is still important that a student is able to produce a quantity of work that is comparable with the rest of the class, the idea of the work's effectiveness is weightier, and shows in the descriptors used and how the assessors respond to the work.

CHAPTER 3

RESEARCH DESIGN

3.1 Validity

An important aspect of this study is to assure construct validity for the criteria we have chosen to assess the teaching of technical communication. The process for ensuring the validity is first to tape-record a meeting in which the criteria to be assessed are discussed. After this meeting, the information was transcribed.

In the past, validity was often compromised for a reliable outcome. Critical at this point in assessment is that the test remains valid in order to gain valid reliability in the results. In this assessment, the validity of the research became clear in the sample taken. The sample of student work was taken from all sections of the English 352 class. Not only did we see a robust sample of students, but the different teaching styles of the professors were evenly distributed throughout the sample, which helped to keep the sample both valid and reliable within the context of the assessment.

3.2 Reliability

Reliability refers to measures conducted at different times. Often, professors come into an assessment with their own agenda of what they believe the work should look like and what they believe needs to be assessed. Each person can show high validity, but there can be no reliability in the process overall. Therefore, a clear set of criteria and descriptors for the assessment process is important. In addition, spending time early in

the process doing a litmus test with all the people involved to ensure that everyone has the same understanding of the descriptors can be necessary.

I used a tape recorder during this assessment, which is the form of reliability. The tape recorder is set up in such a way that everyone can be heard clearly on it.

Another form of reliability in this study is the assessment done by each reader. In our assessment, we used a six-point scale assessment sheet. As each reader completes the assessment form, it is then sent to another reader. Sometimes the ratings can be disparate between two readers. This can result from differing opinions of the work being assessed, or even technical problems with the computers. If there is a disparity of more than two places on the six-point scale, then a third reader is brought in to maintain a level of reliability. The third reader is not aware of the scoring of the first two readers, so that the third reader is not influenced.

3.3 The Process

Writing class. Each student creates a portfolio containing a variety of writing samples and presents the finished product electronically. The portfolios help to create a sense of community throughout the class with both professors and students. Through writing and reviewing every student has the chance to work on not only their own project, but help others in their endeavors as well. And the review process is not limited to the students working together, or the students and professors working together. "Equally important is the sense of community that develops between the portfolio readers who work in groups to establish criteria and to arrive at judgments of student' abilities" (Coppola 253). This

is true for the team of professors at NJIT. The process of assessment, which is still not matured, has given the professors the opportunity both to build and to then tune a set of criteria that lets them perform accurate assessments for the burgeoning technology the students show, but also creates a sense of teamwork when everyone spends the day talking and completing the assessment together.

The discussion that took place involved Professor A (coordinator of English 352 and developer of the overall English 352 assessment effort), several professors from the English department, professional technical communicators, an adjunct, and an English 352 ESL instructor. The first hour of discussion took place at a conference table and the second part in a computer lab.

After the meeting with the professors, I took the transcript of the meeting and ensured its accuracy. Then, I performed coding on it. The coding is a model that is based on the program needs. After entering the information into NVivo and I ran statistical analysis on it. The statistical analysis showed me what type of information came up more often during the conversation. For example, if I had coded 150 words about writing and editing and 560 words on document design, then the analysis is that there was more discussion about the document design.

CHAPTER 4

THE ANALYSIS

4.1 Information Analysis

Analysis "is the search for patterns in data and for ideas that help explain why those patterns are there in the first place." Qualitative analysis "involves reducing people to words – your words about the meaning of their words or actions or artifacts" (Bernard 419). This type of research is often done with transcripts of conversations. Information is gathered and then analyzed and interpreted. A qualitative analysis can be done on both qualitative and quantitative data. Both of these methods are used in social research. For my thesis, I plan to do a qualitative analysis, or content analysis, of the transcribed conversation.

Content analysis is a research tool used to determine the presence of certain words or concepts within texts or sets of texts. You look at words and their meaning and interpret them based on other words in the text.

The recommended steps for content analysis are:

- 1. Decide the level of analysis. Is the coding going to be on single words or on word phrases?
- 2. Decide how many concepts to code for. At this point a list of categories and concepts needs to be created.
- 3. Decide whether to code for existence or frequency of a concept. Coding for the existence of a word is a less in-depth study than coding for the frequency in which a word or phrase appears.
- 4. Decide on how you will distinguish among concepts. At this point the decision is made if certain words or phrases can be coded even if they are shown in different forms in the document.

- 5. Develop rules for coding your texts. This helps to ensure that coding is done in a uniform manner.
- 6. Decide what to do with "irrelevant" information. Small words such as 'and' can either be ignored or recoded in a different way.
- 7. Code the texts. This can either be done by hand or with a computer program.
- 8. Analyze your results. This is the opportunity to interpret the data and make any possible conclusions.

4.2 Using QSR NVivo

Nvivo is designed for researchers who want to combine data coding with data modeling. Nvivo lets you import data in a rich text format and perform coding. Then you can link to web sites and create graphical models of the data. NVivo includes the ability to enter annotations into the text, and then view them as endnotes letting you link from your text out to pictures, audio, and video. And you can perform qualitative questioning on your interpreted data.

In *Introducing Nvivo: A Workshop Handbook*, Lyn Richards defines nodes as the "containers for categories and coding. Nodes can represent concepts, processes, people, abstract ideas, places or any other categories" in a project (6). Although a node need not have coding in it, you can store references to document text in a node during coding. For this project, the free node concept is being used.

4.3 Coding the English 352 Transcripts

The transcripts from the professor discussions were coded using QSR NVivo software. This package uses transcribed discussions and helps perform qualitative analysis on the information. NVivo is used heavily in educational research.

Based on the ENG 352 criteria, I went through the transcripts and coded words or passages that were meaningful based on the descriptor variables.

The professors were asked to discuss several different portfolios from the ENG 352 students. The use of the portfolio allowed the readers to see a diverse sampling of work from the students. "Portfolio evaluation implies assessment based on a collection of student work rather than on an individual piece of work. Portfolios allow teachers to give consideration to the idea that a student's work cannot be evaluated on a single sample, which is one of many performances, because the performance always occurs in contexts and situations" (Coppola 252-253). These portfolios included a web page, brochure, and proposal. This information was presented to the professors as a packet of paper; with the web page first, then the brochure, and finally the proposal. The second part of the exercise was done on the computer, reviewing portfolios online.

4.4 Analyzing the Data

In past and present writing classes, clear and correct writing is important. When I analyzed the data from the assessment, it appeared the basic design of a document, and the use of tone when writing, had become a critical aspect of analysis for the ENG 352 class.

This assessment looks at the work from a holistic approach. We are working to assess the writing rather than assess the student who did the writing. The desired goal is to see if what is being taught is both being learned by the students and is relevant to the current world of technical writing, and writing in general.

At NJIT, it is important that assessment not move into the realm of computer-aided assessment. Whereas the technology exists for a computer to "read" the work and based on the criteria and descriptors, come to a theoretical conclusion, the holistic approach of the people teaching the work being the assessors is more valuable for a school that is working to improve both the learning of the student and the teaching by the professors.

4.4.1 Textual Attribution

Based on the coding, I found that textual attribution is the least important topic. Textual attribution includes the ability to differentiate between sources and one's own text and correctly citing texts. In these portfolios, the need to cite references is mostly in the proposal. But, all aspects of the portfolio had the potential of plagiarism. While the ability to plagiarize has become easier with the Internet, this discussion did not focus on that at all. Schools are more cognizant of the possibility for plagiarism than ever before. The latest edition of The Scott, Foresman Handbook for Writers comes with an accompanying CD-ROM with a complete tutorial on avoiding plagiarism.

 Table 4.1 Textual Attribution Descriptors and Comments

Descriptors	Reader Comments
Demonstrates the ability to differentiate between sources and one's own text	Thought it sounded exactly like it was from a professional business and he may have written it and maybe not
	This was his business website, it was a real website.
Can cite texts in a uniform	
manner	

During the discussion, only one comment really touched upon this topic, and the comment was supposing what could happen:

About grass clippings, we all thought there was a good possibility of plagiarism because there was a lot of text for a person who doesn't like to write and most of it could have been copied directly from the instructions.

4.4.2 Audience Awareness

Audience awareness is a critical part of writing electronically. You need to know what your readers want and how to best give it to them. In <u>A Concise Guide to Technical Communication</u>, Laura J. Gurak, and John M. Lannon state that "all forms of technical communication are ultimately intended for an audience: the readers, listeners, viewers, and users who need information to make decisions or perform tasks" (15). In addition, the reason for the information being conveyed is important as well. If the writer is trying to sell something, then promoting the product in a clear and usable way is important. If the writer is trying to teach, then uniform and complete information is important.

Table 4.2 Audience Awareness Descriptors and Comments

Descriptors	Reader Comments
Can adapt content to audience and purpose	Tone was good
Can adapt tone for audience	Whatever anyone would need to know about this subject, opening a hobby store in a local neighborhood, was in that
Can adapt design for purpose	document Purpose to the point

When speaking of audience awareness, the undercurrent of the discussion was tone and being able to make a point. One thing missing from many of the proposals was the statement of audience at the beginning. Therefore, it was important when reviewing the information to be able to see who the audience is supposed to be. I think the comments that were received indicated that the reviewers were often able to see who the audience was. For example, the portfolio with the hobby store used the picture on the front page, and the tone of the writing to indicate that the users of this page would likely be hobby enthusiasts. Notable, tone is very important when writing online, as people tend to write conversationally at times. One comment, *tone was good*, shows that the students are understanding how to use tone when writing online.

4.4.3 Substance and Content

Both substance and content are critical parts of the writing process when you are writing electronically. Once readers come to the work, they want to be engaged with information and interested in what they are reading.

For the student, the substance and content is about understanding assignments and being able to take that knowledge and put it into the work. For this assessment, it was important to everyone that the student understood what the reason for the assignment was, and that the information in the portfolio was clear and understandable, even if it was not a topic the student was an expert in. The portfolio should read as if you were an expert and make the reader believe what they are reading.

 Table 4.3 Substance and Content Descriptors and Comments

Descriptors	Reader Comments
Exhibits clear understanding of assignments	Whatever anyone would need to know about this subject, opening a hobby store in a local neighborhood, was in that
Demonstrates accurate, thorough, relevant, and coherent	document
content and ideas	It didn't matter that some knowledge about the details was assumed
Can respond to different rhetorical situations	

The substance and content criteria are based on several descriptors, including clear understanding of assignments, accurate, relevant, and coherent content and ideas, and response to different rhetorical situations. The majority of comments were positive, stating that the information included in the sites was robust and contained enough detail to actually use the site intelligently. One comment, it didn't matter that some knowledge about the details was assumed, shows that people are willing to accept certain amounts of information, as long as the overall message is accurate. The one negative comment was that the author just did enough to get out of the class.

While the next three criteria had a similar number of comments, the number shows a marked move away from the detailed writing and a move toward the design of the document.

4.4.4 Writing and Editing

The writing and editing criteria were at one time the main focus of reviewing writing because the majority of the design features were standard. Writing was done either on a typewriter or computer word processing package, there was a standard document layout given to everyone, and there was little, if any, design in the document itself. This allowed the grammar and writing to be the focus of the document and it was easier to compare two documents to each other based on the writing.

Today, students have a mastery of the visual components, but are still weaker at the sentence level. This was noted during the English 352 discussion. The comments were general, focusing more on the wordiness of the work, rather than on the writing and editing of the text.

Table 4.4 Writing and Editing Descriptors and Comments

Descriptors	Reader Comments
Exhibits clear style (readable, concise, cohesive)	Writing repeated itself
Demonstrates accurate language usage (grammar, punctuation, spelling)	They tend to be wordy
	Repeat it too many times
	Can't be concise
	Not so much grammar anymore
	Text itself was not geared to any person or any purpose except to get the assignment done

The comments in the criterion writing and editing were specific in two different ideas. Most of the comments stated that the writing was too wordy, long, and diffuse. This is important since this is a technical writing class, and the comments from the

professors were more design-oriented, but it is clear that there are problems with the writing.

The critical part of these comments comes from the dichotomy of the class and the comments. Whereas clear and correct writing is a strong way to make a point, today, writers often use graphics, sounds, and pictures to get that point across. This is made evident by the comments the professors made. As shown in Table 4.4, comments were made that portfolios were too wordy.

Only one person took a larger amount of time to review the writing and editing.

These comments all came from an ESL professor. This is an important point, since it is good to note that a teacher teaching ESL students still holds the writing in high regard.

4.4.5 Document Design

We no longer live in a world of 8.5 by 11 inch paper, where the words are uniform on the page, and you read from left to right, top to bottom. Now, electronic authoring gives us the opportunity to format information in myriad ways, and use graphics, links, and sounds to enhance usability. The document design criterion comes into play at this time. Writers now work to make their information eye-catching and pleasing to the reader, while making the writing concise.

Table 4.5 Document Design Descriptors and Comments

Descriptors	Reader Comments
Demonstrates cohesion by	Well-supported with illustrations
graphic means (headings,	Didn't like the chunked paragraphs
white space) in documents Uses parallel structure with heading and subheadings	People look to use formatting as a cue or clue to find the meaning in a document
	Patched together, jumbled, thrown into a heap, no layout, no structure, margins all over the place
Includes basic graphics	If it isn't formatted well (with white space, spacing, headings, etc.) they get confused and can't find things

The criterion that garnered the most comments was document design. In this case, the document design descriptors include cohesion of document space, white space, headings, parallel structure usage, and use of graphics. In the past, a writing class focused on how the student wrote. Now, with the Internet and the computer, it appears that the future of these classes is on design.

When papers were still written in blue books and on typewriters, the writer made an effort to come up with a catchy, exciting title to bring the reader to the work. Today, the title is no longer the face of the work. "Sometimes a catchy title is not enough to reel in an audience ... Depending on your audience and purpose, that something might be flash, fun, or simple readability" (Hairston 334). I think that statement implies that graphics and color are being looked at the catch a reader's eye, as opposed to a very flashy title doing all that work. This statement sums up the way the reader looks today. The audience, the tone, the design are more important to draw a reader then the title or text itself.

Of all the comments made about document design, most were positive when it came to graphics. The students used graphics to draw the reader in and they did it in an uncluttered way. The negative comments tended to be about the proposal and the web site. These comments included *poor formatting with the use of white space, too many dense, single-spaced paragraphs*, and *did not like the chunked paragraphs*. These comments show how people use their mind's eye to take in information. These comments were not really about the detailed formatting, but more about the global, high-level formatting. There was a strong consensus amongst all reviewers in this area. Everyone felt that the usable portfolios showed good use of space and formatting.

CHAPTER 5

CONCLUSION

5.1 Learning to Move Forward

As technology moves forward with electronic writing, the ability to assess writing and writing classes becomes imperative to ensure students are learning the skills they need.

From this research, it is clear that the focus of what people teach and learn in a technical writing class has shifted from the words on the page to the way those words are displayed for the audience. The focus has shifted off clear and correct writing being the focus, and now the electronic age has created the need for document design and audience awareness to be the point of entry to the work being done, to reach people in the most efficient way. Different skills are now needed to be a good communicator. Excellent writing and good grammar are no longer enough, but the visual design – the look, feel, and sound of the work – are equally important to making the work high quality. This does not change the need for good writing, because eventually the user gets down to the level of actually reading the text. But to get to that point, with the latest technological advances, it is even more critical to show off a good design and catch the audience with the right balance of color, white space, and online options like hyperlinks.

Based on my research, I have concluded that the English 352 class, while bearing the title Technical Writing, has become much more than that. The class has become a place where different types of students can hone their skills at writing and creating electronic documents that are both technically accurate and well designed for the audience. While in the past it was easier simply to have students write papers, this class has taken both the students and the professors into a new realm of writing. All involved

can learn from each other and from future assessments of this class as the technology grows. And the technical writing service course stands to gain a lot in with all this new knowledge and consistent assessments. The outcomes we find in these assessments help us to really consider what the next step is for the students, what they need to move on to the next writing class or writing job, and whether they are capable of applying what they have learned outside the context of this specific class.

5.2 The Future of the Paradigm Shift

As technology grows, and the needs of the student change, it is critical that both the professors and the information they teach move with the changing approaches. With the concept of the traditional writing class gone, replaced by electronic writing and document design, everyone involved has to adapt to these new, emerging technologies.

Even more interesting is how this shift affects all involved. Not only are the students able to work on and learn techniques that are relevant to the current workplace, but also the professors learn from the students who may already be quite adept at the technology of it creating a symbiotic relationship that will help propel the NJIT English 352 Technical Writing class into the future of both technology and learning.

APPENDIX A

TRADITIONAL HUMANITIES RUBRIC

Figure A.1 defines a standard writing level used by a Humanities department. These criteria and descriptors help both the professors and students to gain an equal footing on what is being looked for in the class. These levels help to define what is most important when assessing a writing class.

SCORING LEVELS FOR WRITING IN THE HUMANITIES AND SOCIAL SCIENCES

Listed below are writing standards that are used to score analytic papers in the Department of Humanities and Social Sciences. This six-point scale may be used as established, objective criteria by which students and their instructors may come to consensus on the characteristics of effective written communication

Level 6

- The entire paper works to develop a thesis.
- The thesis is supported throughout by specific arguments and evidence.
- Paragraphs are used effectively to develop each stage of the discussion.
- Transitiona, words, phrases and sentences are employed.
- Effective and appropriate word choice is
- There is evidence of extensive vocabulary.
- The paper is virtually free of grammatical or mechanical errors.
- Correct MLA or APA citation is used. Use of paraphrase and quotation is skillful.

Level 5

- With very few larses, the paper develops a main idea throughout.
- The thesis is generally supported by specific arguments and evidence.
- Paragraphs are generally use Leffectively
- Generally effective transition.
- Generally effective and appropriate word choice Evidence of a good vocabulary
- Very few grammatical or mechanical errors.
- Generally correct citation. Appropriate use of paraphrase and quotation.

- The paper has a clearly recognizable thesis, but may occasionally stray from the topic.
- Specific arguments and evidence are marshaled in support of the thesis, though there may be significant lapses in this effort.
- Effective transitions are sometimes present.
- Word choice is functional, though sometimes reflects a limited vocabulary.
- Some grammatical or mechanical errors. though sentence boundaries and verb tenses are under control.
- An attempt to cite sources is made. An overall understanding of paraphrase and quotation is demonstrated.

Level 3

- . There is some attempt to develop a thesis, but the paper is not generally effective in developing the main idea.
- There is some attempt to organize specific arguments and evidence, but this effort often breaks down.
- · Effective transitions are seldom present.
- · Vocabulary is limited.
- . Grammatica, and mechanical errors are fairly numerous, but there is no pattern of sentence or verb errors.
- Minimal grasp of citation style. Some confusion about the houndaries between the student's own words and ideas and those of others. Confusion about the difference between paraphrese and quotation.

Level 2

- Only a minimal attempt at thesis development is made.
- · Little success in marshaling specific arguments or evidence.
- No attempt to use transitional words, phases
- or sentences

 Very Emited vocabulary.
- Numerous grammatical and mechanical errors, and apollers of sentence and vern
- · Inability to cite correctly. Confusion about the boundaries between the student's own words and ideas and those of others

Level 1

- No recognizable thesis.
 No coherent use of specific arguments of evidence.
- No concept of transition.
- Extremely limited vocabulary
- No sustained ability to control sentence houndaries or verb tenses. Numerous other grammatical and mechanical errors.
- Virtually no distinction between the student's own words and ideas and those of others

Figure A.1 Scoring levels for writing in the Humanities and Social Sciences.

APPENDIX B

CRITERIA AND DESCRIPTORS USED IN ENGLISH 352

Table B.1 describes the criteria and descriptors used for writing assessment in English 352. Each of these criteria, and their associated descriptors, covers the important factors in assessing a writing class. This information was formed by the professors of the NJIT English department and is used in the assessment of the English 352 Technical Writing course.

Table B.1 Criteria and Descriptors for English 352

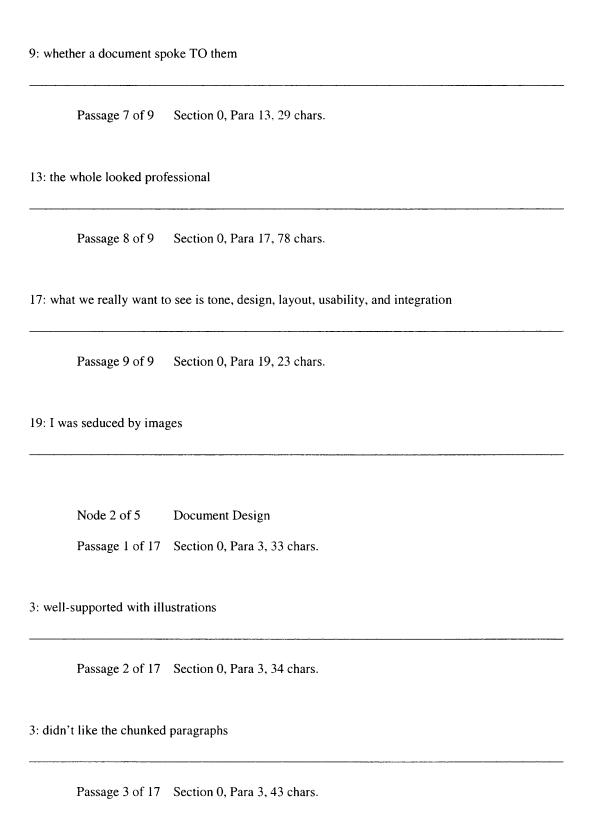
Criteria	Descriptors
Writing and Editing	Exhibits clear style (readable, concise, cohesive)
	Demonstrates accurate language usage (grammar, punctuation, spelling)
Substance and	Exhibits clear understanding of assignments
Content	Demonstrates accurate, thorough, relevant, and coherent content and ideas
	Can respond to different rhetorical situations
Audience	Can adapt content to audience and purpose
Awareness	Can adapt tone for audience
	Can adapt design for purpose
Document Design	Demonstrates cohesion by graphic means (headings, white space) in documents
	Uses parallel structure with heading and subheadings
	Includes basic graphics
Textual Attribution	Demonstrates the ability to differentiate between sources and one's own text
	Can cite texts in a uniform manner

APPENDIX C

ENGLISH 352 TRANSCRIPT CODING

Follov	wing is the codi	ng report from NVivo for the English 352 transcripts.
	Nodes in Set:	All Free Nodes
	Node 1 of 5	Audience Awareness
	Passage 1 of 9	Section 0, Para 3, 13 chars.
3: tone	was good	
	Passage 2 of 9	Section 0, Para 3, 20 chars.
3: purp	ose to the point	
	Passage 3 of 9	Section 0, Para 3, 122 chars.
	tever anyone would	d need to know about this subject, opening a hobby store in a local neighborhood
	Passage 4 of 9	Section 0, Para 7, 70 chars.
7: if the	ey had seen this in	color, they may have given it a higher rating
	Passage 5 of 9	Section 0, Para 9, 40 chars.
9: visua	al logic, layout, auc	lience awareness

Passage 6 of 9 Section 0, Para 9, 32 chars.



Passage 4 of 17 Section 0, Para 7, 40 chars.
7: seduced by the first page and the images
Passage 5 of 17 Section 0, Para 7, 70 chars.
7: if they had seen this in color, they may have given it a higher rating
Passage 6 of 17 Section 0, Para 7, 114 chars.
7: the image on the first page of the hobby one, that they didn't like the image, it turned them off, it was too busy
Passage 7 of 17 Section 0, Para 9, 80 chars.
9: people look to use formatting as a cue or clue to find the meaning in a document
Passage 8 of 17 Section 0, Para 9, 110 chars.
9: If it isn't formatted well (with white space, spacing, headings, etc.) they get confused and can't find things
Passage 9 of 17 Section 0, Para 11, 48 chars.
11: positively inclined due to the great first image

Passage 10 of 17 Section 0, Para 11, 28 chars.
11: the layout of the links page
Passage 11 of 17 Section 0, Para 11, 83 chars.
11: The pictures were too dark for some people that may have been not seeing it online
Passage 12 of 17 Section 0, Para 13, 49 chars.
13: beautiful, professional and sophisticated looking
Passage 13 of 17 Section 0, Para 13, 48 chars.
13: Frank pointed out that this person did it in CSS
Passage 14 of 17 Section 0, Para 13, 103 chars.
13: anyone who knows CSS these days (it's what professional developers are using now) is way ahe visually
Passage 15 of 17 Section 0. Para 15, 29 chars.

Passage 16 of 17 Section 0, Para 17, 98 chars.

15: links were haphazard and ugly

17: Patched together, jumbled, thrown into a heap, no layout, no structure, margins all over the place

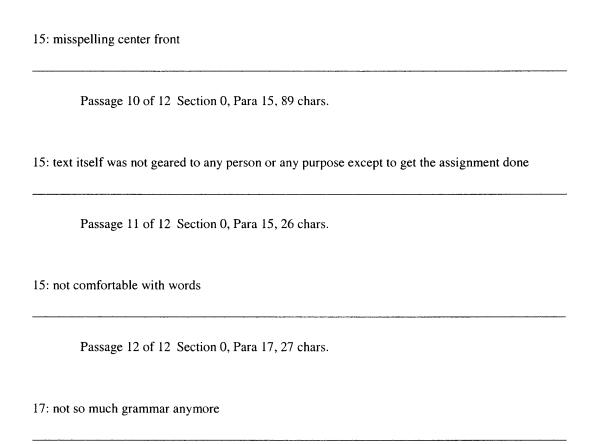
Passage	17 of 1	7 Section 0, Para 19, 38 chars.
19: hard time rea	ding big	boxy paragraphs
Node 3	of 5	Substance and Content
Passage	1 of 5	Section 0, Para 3, 24 chars.
3: the purpose to	the poir	ıt
Passage	2 of 5	Section 0, Para 3, 172 chars.
		, which was a very complex technological thing of cleaning a tiny motor, didn't what it was or shy anyone would want to do it.
Passage	3 of 5	Section 0, Para 3, 140 chars.
3: someone said local neighborhood		atever anyone would need to know about this subject, opening a hobby store in a
Passage	4 of 5	Section 0, Para 3, 74 chars.
3: It didn't matter	to then	that some knowledge about the details was assumed
Passage	5 of 5	Section 0. Para 15, 118 chars

15: The text itself was not geared to any person or any purpose except to get the assignment done and get out of Engl. 352 Node 4 of 5 **Textual Attribution** Passage 1 of 3 Section 0, Para 13, 235 chars. 13: thought it sounded exactly like it was from a professional business and he may have written it and maybe not, and Nina said how could you give it the highest rating then, and I said because, although I can't tell, I don't think he did. Passage 2 of 3 Section 0, Para 13, 53 chars. 13: this was his business website, it was a real website. Passage 3 of 3 Section 0, Para 17, 220 chars. 17: about grass clippings, we all thought there was a good possibility of plagiarism because there was a lot of text for a person who doesn't like to write and most of it could have been copied direly from the instructions. Node 5 of 5 Writing and Editing Passage 1 of 12 Section 0, Para 3, 23 chars. 3: writing repeated itself

Passage 2 of 12 Section 0, Para 5, 21 chars.

5: they tend to be wordy
Passage 3 of 12 Section 0, Para 5, 24 chars.
5: repeat it too many times
Passage 4 of 12 Section 0, Para 5, 16 chars.
5: can't be concise
Passage 5 of 12 Section 0, Para 7, 151 chars.
7: It was Nina who thought it was average. However, she teaches ESL and a Chinese person writes this, she immediately zeros in on ESL mistakes.
Passage 6 of 12 Section 0, Para 9, 98 chars.
9: Although they talked about grammar and punctuation, it was mainly Nina who was concerned with that
Passage 7 of 12 Section 0, Para 11, 21 chars.
11: too wordy and diffuse
Passage 8 of 12 Section 0, Para 13, 18 chars.
13: too long and wordy

Passage 9 of 12 Section 0, Para 15	, 24	chars.
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