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TEXT BASED ANALYSIS IN THE UNDERGRADUATE CLASSROOM

A Dissertation

Submitted to the McAnulty College and Graduate School of Liberal Arts

Duquesne University

In partial fulfillment of the requirements for the degree of Master of the Arts in English Literature

By

Katelyn Antolik

December 2017

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Katelyn Antolik

TEXT BASED ANALYIS IN THE UNDERGRADUATE CLASSROOM

By

Katelyn Antolik

Approved December 15, 2017

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ABSTRACT

TEXT BASED ANALYSIS IN THE UNDERGRADUATE CLASSROOM

By

Katelyn Antolik

December 2017

Dissertation supervised by Dr. James Purdy

This project compromises of both a written and technical portion. I have created an interactive web source for teaches in the undergraduate literature classroom to encourage a dynamic experience with literary text in order to promote active engagement in literature for students at any level of technological experience. Students or teachers are able to input outside texts that utilize graphs, charts, and interactive web tools in order to promote learning skills transferable to both academic and non-academic career paths. By utilizing "The Story of an Hour", I explore the uses of this software in order to demonstrate the potential of the digital humanities to fortify students to be active in the creation of their work and education and by extension, their future careers within and outside academia.

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The Project: Background

New technological advancements have resulted in debates throughout the humanities regarding the inclusion of the digital in the composition and literary classrooms. To offer a model for integrating the digital by combining the tools of literary investigation and composition with the technical experiences of digital humanities, I created a Text-Based Analysis webpage¹ to promote undergraduate study geared toward a career-oriented learning environment. The Text-Based Analysis tool can be found online at nowantdevelopers.com. This approach enhances current learning outcomes in undergraduate coursework by promoting necessary cooperative, technological, and reflexive learning skills transferable to both academic and non-academic career paths. In doing so, I wish to demonstrate the potential of the digital humanities to fortify students to be active in the creation of their work and education and by extension, their future careers within and outside academia.

In the academic realm, there is great concern regarding the intersection of reading skills, genre studies, and the digital realm. However, it is my aim to refute the pervading fear that the move from a print to digital culture or learning environment (and the associated academic implications of such a move) will result in students with decreased reading skills. N. Katherine Hayles (who specializes in postmodern and electronic literary studies) notes that traditional reading skills "are measured by the ability to identify themes, draw inferences, etc.," which includes "reading of print books and of literary genres (novels, plays, and poems)", whereas digital reading goals engage with these practices while avoiding "symptomatic reading" or "surface reading" (62-64). She goes on to explain that despite reports by the National

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¹ See Appendix 1 for hard coding of the Text-Based Analysis tool created to correspond with and as an extension of this project.

Endowment of the Arts (NEA), which "show that over a wide range of data-gathering instruments that results are consistent: people read less print, and they read print less well," that the relationship between a decrease in reading skills and a decrease in print-based reading is actually a "causal" connection (62). Hayles argues that those who see digital reading as contributing to the decline of reading skills (most specifically Mark Bauerlein of the NEA) are failing to acknowledge the transfer that may occur between digital and print reading skills, or at the very least, that digital reading skills are valuable in their own right (62-63). Furthermore, Hayles is a proponent of "hyper" reading which "stimulates different brain functions that print reading" which permit one to engage with multiple texts, topics, and rapid interaction with texts, benefits of digital texts (66). A similar sentiment is held by Julie Flanders, director of the Digital Scholarship Group at the Northeastern University Library, who claims that, "digital tools add a challenge and give us a new set of terms – like a new planet in the system they change the vectors of all the other things we have in our universe. They will probably change the way humanities research is done" (216). Technology provides an opportunity for the humanities to expand as a field by merging traditional and digital reading techniques.

In this regard, I aim to provide space for the Text-Based Analysis digital tool to display tactics for teaching digital reading and genre analysis to address the valid concern of decreased reading abilities (measured by ability to pull inferences from a text, recognize themes, connect concepts, etc.) and expand the goals of the undergraduate classroom further to include what I refer to as 'vocational' skill sets. The NEA's publication "To Read or Not to Read" indicates that between 1992 and 2003 the proficiency rates of students with a Bachelor's degree dropped from 325 to 314, at a change of -11 points over 11 years. Furthermore, the percentage of college graduates proficient in reading prose has dropped by -23% over the same period (14). I use the

term 'vocational' not in opposition to academic endeavors but rather as a designation for a skill set of use within both the academic and non-academic spaces that are not typically privileged in academic spheres. The term 'vocational' within the scope of my project refers to an emphasis on skills that implement collaborative, active learning which are valuable to both academic and alternative-academic students. 'Vocation' more loosely within this context refers to careers obtainable by students with bachelor's degrees who do not intend to continue an academic-based career. Simon Mahony and Elena Pierazzo, both scholars in the digital humanities, argue, "there is a real need for training students in collaborative methods and reflective practices to build a community of learning that will lead to a community of practice" (loc 4740). Collaborative practices are key to creating effective academic or working communities.

To continue development of the academic field of the humanities and ensure the field's ability to intervene in an ever changing public landscape, scholars must engage with new media as rhetorical, and, therefore, its study as useful for preparing students for future vocational work both in and outside the academy. Lisa Spiro, executive director of Digital Scholarship Services at Rice University's Fondren Library, argues for creating programs outside the university and academy altogether to produce "innovations in teaching and research, share educational practices and resources, bring new members, and cultivate a shared sense of mission" (756). While I do not suggest these programs require an anti-academic move, I do hope to use the Text-Based Analysis to engage with the literature and rhetoric in order to enhance current humanities programs rather than undermine them. Furthermore, it is important to note that the technological aspects of rhetoric already exist within all fields of study. As rhetoric and new media scholar Collin Brooke notes, leaning toward interdisciplinary skills via media and interfaces will intervene in traditional literary and genre studies with "technological specificity" (7). To

preserve the humanities long term, it is important to continue to evolve with technology and culture, which will necessitate a change in our academic practices. To do so with technology will result in a technological lean to traditional studies, which can be channeled into practices which cultivate interaction between fields and encourage participation by those students who may not see themselves within academia long-term.

For these changes to be realized, the digital humanities must be left to stand on its own in order to illuminate the tangible benefits of digital instruction. Kathleen Fitzpatrick indicates in her text, "Peer Review, Judgement, and Reading" that the future of digital scholarship is leaning toward a cooperative space where a body of individuals can participate in "discussion-oriented publishing" (196-197). However, her experiences indicate that there is some pushback at the academy level to recognizing these methods as equally valuable or calculable as traditional methods of scholarship (197-198). It is my goal to demonstrate the value of the digital humanities in its own regard in preparing undergraduate students for academic and non-academic careers which has the tangible result of increased income potential: "The top three average salaries [of 2016] are more than 20% over the overall average... information technology (\$58,438), data curation and management (\$58,227)... and data analytics (\$56,793)" (Allard). Furthermore, graduates interviewed about emerging careers in library services noted that job openings required, "employing digital platforms such as scholarly communication, digital archives, data curation, digital humanities, visualization, and born digital objects" (Allard). Through the use of the Text Based Analysis Program, I aim to intervene in traditional linear reading in order to provide space for students to practice digital skills such as basic mark-up and data analysis in order to encourage future career paths which often rely heavily on technological know-how.

Ensuring digital programs can take hold on an academic level will require a systematic academic change in the way scholars are evaluated on the work they produce as their products become increasingly technologically based. The question of evaluation arises in Steve Anderson and Tara McPherson's "Engaging Digital Scholarship: Thoughts on Evaluating Multimedia Scholarship." Anderson and McPherson conversely see the higher education administration in a much more positive light noting that "it has become increasingly commonplace to hear administrators avow that digital humanities scholarship is (or should be) taken seriously in tenure and promotion decisions" (136). They move this a step further by claiming that evaluation of these scholarly methods should take place in the medium in which they are produced and that new approaches to research should be encouraged to draw out new questions at the academic level (138-140). Against these arguments stands Jerome McGann in his article "On Creating a Usable Future" in which he claims:

If there is a crisis now in the humanities, as many seem to think, it is only partly about processes of tenure and promotion and ways of evaluating new forms of scholarship. The more central problem is the sustainability of born-digital resources and they work they support: the sustainability of specific undertakings... but also, and perhaps even more important, the imperative to establish online scholarship, both its research and its publication, as a general institutional practice. (182)

Together these pieces stand to position the digital humanities as deeply interested in the future of its constituents, but also in the ways the products of these individuals are valued in order to continue the development of the field.

Acknowledging the differences between textual scholarship and digital scholarship may result in cross-disciplinary activity which is beneficial both for academics and students. Bethany

Nowviskie's "Preconditions for the Evaluation of Collaborative Scholarship" makes a bold claim for attempting to overcome the tendency to equate digital scholarship with print publication and scholarship (169). In Nowviskie's opinion, rather than attempt to align these two fields as "equivalent" we should be instead attempt to acknowledge the ways the differences in these two fields could expand and transform the ways we approach knowledge and scholarship (169-170). Nowviskie notes the first step in this practice, "lies in appreciation of collaborative development practices in the digital humanities and in formal recognition of the collective modes of authorship this activity often implies" (170).

Beyond providing a greater space for acknowledgement for those who are collaborating in these academic endeavors, these tactics could be useful in the classroom by encouraging students to participate in active research. While this type of activity would typically be reserved for more advanced junior or senior – seminar style courses due to the time commitment of ongoing research and necessary long-term dedication a student to a single topic, students who saw themselves as producing valid published materials would be more likely to value and take more pride in the work they are creating. Much like rhetoric and composition professor Mary Hocks' understanding of the pride of hands-on learning, we could create an active atmosphere by showing students they are participating in the same discussions as their professors (650). Julie Flanders argues that this is achievable through "othering" of digital humanities scholarship:

If the future of digital scholarship may thus be... to remain "other" to the standard disciplinary structures of the academy, however, this should not be taken as a misfortune... Acknowledging the arbitrariness is crucial because it reminds us that change is possible and may be necessary... Digital scholarship works in relation to established disciplines, even as it stands in some degree usefully apart from them. (214)

No matter the tactics or the definitional realization of the humanities, through its development the work of digital humanities scholarship will need to remain diversified within and outside the realm of academics.

Quantitative and qualitative practices within the context of the Text-Based Analysis tool are intended to be used complimentarily rather than in competition with one another. Olin Bjork makes a distinction between older systems of digital humanities processes (which included traditional uses of digital tools) and the work of new media studies (which use these tools as "objects" to study). He argues that "composition studies is moving toward digital humanities even as it moves away from material humanities, or that the humanities, in becoming digital, have moved toward composition studies" in which quantitative work within the digital humanities "serve as corrective" to qualitative practices in the composition classroom (623). Though I do not see either as acting as a correction to the other, it is important to note that even academics fall into the trap of seeing quantitative work as an "answer" rather than a tool with which to further enhance qualitative practices In a lecture entitled "Computational Methods in Authorship Studies: Willa Cather as a Case Study", scholar of digital pedagogy, Matthew Lavin, makes a distinction between interpretive mark-up and computational analysis. For Lavin, computational text analysis utilizes direct measurements that may eventually result in hermeneutical discussion in which interpretation is secondary or unnecessary to the digital product. On the other hand, computer-assisted hermeneutics relies on interpretation in which "hermeneutics is the point of entry" (Lavin "Computational Methods in Authorship Studies"). The Text-Based Analysis tool explicitly uses hermeneutics as a point of entry in order to avoid privileging of computational methods and to ensure constant value of traditional genre studies techniques. Rather than treating texts as a set of components, which could result in reductive

readings of texts, the Text-Based Analysis tool requires the user to first perform close reading (a technique of traditional genre studies) and, when returning to the text after mark-up, think critically about the relationship between the text, the mark-up performed on it, and the value of reading the text in this alternative way.

Franco Moretti identifies this tension between quantitative and qualitative as an attention to data rather than text:

In the past few years, literary studies have experienced what we could call the rise of quantitative evidence. This had happened before of course, without producing lasting effects, but this time is probably going to be different, because this time we have digital databases and automatic retrieval (212).

Moretti's notion that literature is data and can be transformed into new forms of data fits in to traditional narratives of digital humanities, but emphasizes the shared goals of the academy and digital rhetoric (much like Douglas Eyman, doctor in writing in rhetoric). Due to this, Moretti claims that eschewing close reading is "a condition of knowledge: it allows you to focus on units that are much smaller or larger than the text" (48). In his championing of literary data analysis, Moretti moves away from narrative while situating it in relationship with one another through movements in space (92). To do so, in Moretti's estimation, relieves the reader from the authority of a small portion of texts (48). Moretti refers to the act of viewing large sums of empirical data from texts as "distant reading" which is tied directly to the tangibility of facts, "the clarity of the empirical confirmation: plot and style becoming manifestly decoupled as a result of movement (or not) in space" (92). Doing so implies an undermining or disruption of models of literary study within the academy such as period studies. By approaching texts in this

way creates a literary field which is, "historically longer, geographically larger, and morphologically deeper" (161).

In summary, the Text-Based Analysis tool is aimed at providing space to practice "vocational" skills while emphasizing traditional reading techniques in order to encourage students to participate across fields to strengthen their own career paths. Though first-time graduate school enrollment has increased 3.5% from 2009 to 2014, the majority of students receiving an undergraduate degree do not go on to pursue further education (Flaherty). It is the responsibility of educators at the university level to provide students with the tools that will help them succeed in both academic and non-academic career paths. This means an emphasis on communication to simulate workplace environments rather than solitary learning, development of technological skills such as basic coding logic or techniques, and continued utilization of critical thinking skills. While humanities classrooms already emphasize critical thinking in the form of genre studies techniques such as close reading (which I refer to as a "traditional" reading practice), often students participate with their studies in an isolated environment and often do not receive any form of technological education. The Text-Based Analysis tool is dedicated to bringing together these approaches in order to provide students with a well-rounded curriculum to provide mobility in their future careers, the ultimate goal of an education.

Text-Based Analysis Overview

To this end, I created a webpage that combines methods of contemporary composition with the goals of trade-oriented learning. This web based tool is designed to emphasize the skills established in literary and composition classrooms such as close reading, interpretation and evaluation of texts, and critical thinking skills. The Text Based Analysis tool also provides space for students to participate in cooperative learning, analyze literature numerically through

graphical analysis, and engage with basic Hypertext Markup Language (HTML) coding techniques. By implementing these three practices, students will be primed for engagement in a collaborative and increasingly technological work force and experience alternatives to the traditional reading environment. The Text-Based Analysis tool's main goal is to instill the cross-vocational skills of collaboration and technical experience often lacking in humanities classrooms along with reading and writing that often accompanies the learning outcomes of traditional reading and genre studies. By combining all four of these pedagogical outcomes (collaboration, basics of HTML, traditional reading, and genre studies), the aim is to maintain the integrity of traditional learning environment of the humanities classroom with the added emphasis on skills that can be utilized both within and outside academia.

As an introduction to the Text-Based Analysis tool, the student is asked to engage with a sample text, "The Story of an Hour", complete with mark-up to begin developing the necessary coding skills. The students will contribute to discussion questions geared at illuminating the benefits of Text-Based Analysis before moving on to texts of their own interest. Each student will begin by entering unformatted text of "The Story of an Hour" into the existing text box as seen in Figure 2. The student will then follow instructions located on the left side of the screen which provides basic instruction² around the process of html mark up (see Figure 2). The student is asked to create their own html mark-up on a chosen sample of unformatted text by utilizing a set of pre-existing style sheet classes or "annotations" (Figure 2). I have chosen the term 'annotations' to refer to what is typically referred to as an "element" within HTML coding. I have done so to utilize language which is geared toward the literary to minimize the amount of

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² A link has also been provided to W3Schools as a learning supplement for basic coding. Additionally, a sample lesson plan is located in Appendix 2.

specialized rhetoric a student must be privy to before entering the digital humanities discussion. The list of annotations, the associated color of the annotation, and a three-letter code are provided on the left-hand side of the Text Based Analysis home screen³. Each annotation can be used as often as necessary by adding a number to the end of the chosen annotation. When listing multiple characters, the annotation <CHA1> and </CHA1> would be used for the first character, <CHA2> and </CHA2> for the second, and so on.

Website Instructions

Instructions for Use:

Step 1: Enter your unformatted text into the center textbooks. Ensure to double-space at the end of complete sentences following the period to indicate the completion of a sentence.

Step 2: Annotate the text using the three or four-letter annotation codes listed above. A glossary of literary terms has been provided for your convenience. To use multiples of an annotation (for example, for two characters within one text) add a number following the three or four-letter code such as <CHA1> and <CHA2>). Remember that all annotations must be nesting and have an associated closing annotation for proper results.

Example: <BODY> <AUT> Kate Chopin </AUT> "The Story of an Hour" </BODY>

For more information, please visit: W3 Schools

Step 3: Press "Submit" to retrieve your results.

(Figure 1: Instructions)

These annotations provoke students to differentiate among genre features found within a text to promote critical thinking about the complexities of genre and its relationships between reader, writer, and society. Genre features may stem anywhere from textual differences (lines, stanzas) to thematic observations or recurring themes. Anis Bawarshi (Director of the

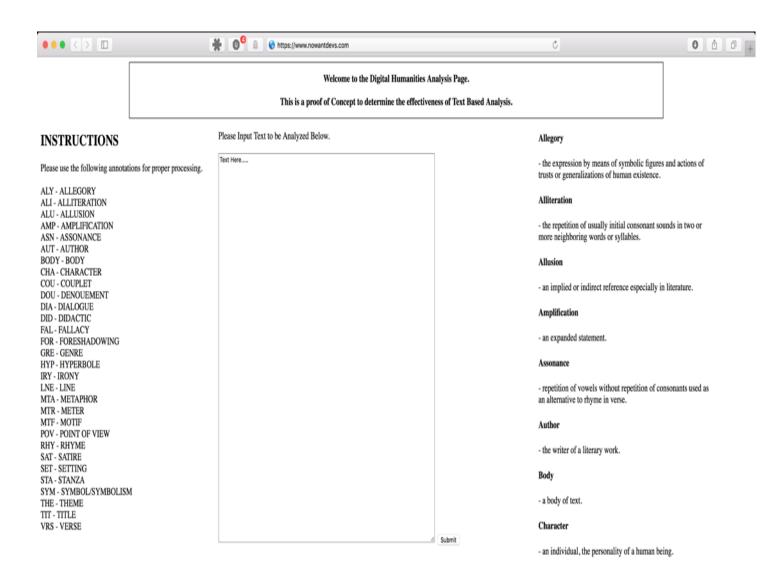
³ At this time, color functionality is not available on the Text-Based Analysis tool. A mock-up has been provided as an example.

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Expository Writing Program at the University of Washington) and Mary Jo Reiff (Associate Professor of English at University of Tennessee-Knoxville) emphasize a view of genre, "as both organizing *and* generating kinds of texts and social actions, in complex, dynamic relation to one another" in which:

Such a dynamic view of genre calls for studying and teaching genres beyond only their formal features.... In short, it calls for understanding genre knowledge as including not only knowledge of formal features but also knowledge of what and whose purposes genres serve; how to negotiate one's intentions in relation to genres' social expectations and motive; when and why and where to use genres; what reader/writer relationships genres maintain; and how genres relate to other genres in the coordination of social life.(4)

(Figure 2 – Text-Based Analysis Front Screen)



In addition to the basic list of annotations is a defined glossary located on the right hand side of the page. The terms in this glossary are based off a list of terms from the University of Cambridge Faculty of English Virtual Classroom site ("Glossary of Literary Terms"). This particular listing was generated to provide students with, "a taste of some of the many approaches to literary criticism which are practiced in the Cambridge English Faculty... [They] hope in particular that A Level students will find the classes helpful in building on... knowledge and critical skills" ("The Virtual Classroom). By pulling from an established high-level university and a tool expressly designated for the students, I anticipate the Text-Based Analysis webpage stays as closely grounded to the traditional reading and writing skills I identified earlier.

Once the student assigns these annotations as they see fit, the program generates the formatted input and color codes each of the classes in the text (as seen in Figure 3). In addition to color-coded text, the student is also provided with an ongoing tally of instances each annotation occurs within the text. Ideally, this program would also provide the student with a graphical representation of these counters such as a bar or pie graph which will compare the occurrences of different annotations. Though this functionality is not currently available, simulated graphs have been provided within this paper and on the Text-Based Analysis webpage as a conceptual tool.

A pervading criticism of the digital humanities is, "a lack of attention to issues of race, class, gender, and sexuality... and an institutional concentration in well-funded research universities" which often shape the progress of the field (Hirsch XII). By attending to genre studies, I attempt to negate some of these claims by asking students to confront the rhetorical positioning of each figurehead (reader/writer/society) in addition to the more tactile formatting attributes of genre studies. For example, annotations such as "body", "line", "meter", "couplet"

"stanza", "verse", and others, address the formal features of poetry. On the other hand, an annotation such as "foreshadowing" or "irony" must first take into consideration the rhetorical situation of reader and writer in order to access what such a textual representation achieves (which also necessitates close reading). "Point of view" takes this a step further by adding the layer of a character's or several characters' rhetorical situations in addition to that of the reader and writer to consider the effectiveness of an authorial choice such as point of view. A complete list of these annotations can be found in Figure 1. Thus, the digital aspects of the Text-Based Analysis software encourage focusing on genre students to provoke critical thinking skills often encouraged by print-based text reading.

Suggested Pedagogical Application

Text-Based Analysis Tool & Pedagogical Theory

Digital humanities pedagogy often utilizes "gaps" in traditional approaches to the humanities by combining the classic and contemporary theories, methods, and disciplines surrounding the humanities (3-33). The Text-Based Analysis tool is designed to provide students with entry into a very basic understanding of coding which may lead to further inquiry within such a field, but above all displays to students that participation in cross-discipline research is productive and that skills such as basic programming are also useful (and necessary) even for non-STEM educations and careers.

Such "gaps" are accessed within the context of the Text-Based Analysis tool by comparing samples of "The Story of an Hour" by Kate Chopin with the help of digital texts, graphic analysis, and discussion questions. "The Story of an Hour" follows Mrs. Mallard, a woman who, "was afflicted with heart trouble" as her family reveals to her the death of her

husband Brentley Mallard. Following the news, Mrs. Mallard undergoes a wild series of emotions beginning with "paralyzed inability to accept its significance" and ending with sheer ecstasy as she states, "free, free, free!". However, to Mrs. Mallard's great surprise following her embrace of a newfound life, Mr. Mallard walks through the door: "When the doctors came they said she had died of heart disease – of the joy that kills" ("The Story of an Hour"). Due to the revelation of female freedom found in her husband's death, "The Story of an Hour" has been studied as feminist literature (Mitchell). Because the nature of the text requires personal emotional attention, it is often also studied in regard to the relationship between reader and text (Diederich 116). Nicole Diederich, professor at The University of Findlay, uses "The Story of an Hour" in the sophomore-level writing and literature classroom to generate, "discussion about social, historical, and cultural norms" between students who come from mixed contexts (Findlay notes that her university enrolls a large international student population) (Findlay 116-117). However, studying this text through feminist, social, historical, and cultural studies all require what Findlay describes as, "the idea that a piece of literature may be connected to a reader's life and its meaning construction through interaction of the text [which] is neither new nor innovative in literary studies" (Findlay 116). She furthermore identifies an issue she describes as "usevalue" in which students struggle to use these approaches to text within their own professional studies (118). It is my goal that through the implementation of the Text-Based Analysis tool that students will be able to perform studies which include feminist, social, historical, and cultural critical thinking while addressing the needs of use while ensuring the humanities scholars avoid stagnation in their studies by approaching old texts with a new perspective. Rather than provide students simply with a graphs and numeric results, the Text-Based Analysis tool combines quantitative exploration of a text with reflexive discussion which goes so far as to question the

use of quantitative research. Discussion Question 3A asks, "What is the benefit (or detriment) of viewing this information numerically?" By asking the student to question the limitations of the program, they are prompted to think critically about the rhetorical position of the text to consider which approach to reading each text is most effective. Thus, rather than acting as a road block to critical thinking, the Text-Based Analysis tool can be utilized to provide more perspectives for continued critical interaction with a text.

A change in perspective through technology will require implementing new skills such as HTML and CSS in the humanities classroom. While use of the Text-Based Analysis tool requires the ability to implement basic HTML mark-up, students are not required to gain more than a fundamental knowledge of HTML to participate with the tool. A brief set of coding instructions is provided for students with access to external resources such as W3 Schools. Teachers are provided with a suggested lesson plan which can be found in Appendix 2 to precede the use of the Text-Based Analysis tool. Author of *Digital Rhetoric: Theory, Method, and Practice* and *Play/Write: Digital Rhetoric, Writing, Games*, Douglas Eyman, argues that despite the digital humanist's ability to implement both hardware and software programming to force a machine to "bend to our will", it is unnecessary to scholars to construct all aspects of their research (handbuilt machines, self-made software, etc.) ("Digital Rhetoric: Theory, Method, and Practice" 3-33).

As an example through the use of "A Story of an Hour", in Figure 3, a text has been annotated by identifying the speech of each character using the character annotation. Character 1 (CHA1) speaks 3 times while character 2 (CHA2) speaks once. Speech is identified by color coding all speech in blue, and by using shades of blue to distinguish between different characters. By adding color to the text, the student's eyes are also drawn to the length of each

speech. They may notice that though the main character speaks more times (a 3:1 ratio), the second character's speech is much longer. The student must consider the implication of the weight placed on the number of times a character utilizes speech and the amount of speech they used. A traditional read through the text would certainly reveal that the main character has repetition in speech, but would not so blatantly reveal this numeric dichotomy. Seeing the color coding visually in relation to the text's three-dimensional layout⁴ may also prompt the student to consider why the cast of characters do not begin speaking aloud to one another until the end of the short story. As introductory material, a teacher may use these examples in a class discussion to provoke students to consider why in a text heavily involved in delivering a message of the loss of a loved one would be so removed from speech. Though a student may come away from a traditional narrative read of the text noticing the lack of speech in the text, the difference from start to finish may not be as readily evident. Furthermore, despite seeing that Character 1 (Mrs. Mallard) speaks three times in the duration of the text versus Character 2 (Josephine) who only speaks once, a student would certainly notice given the color-coded visual that the length of Josephine's speech is significantly longer than those provided by Mrs. Mallard. A student may then consider the implications of utilizing this second character in such a significant manner in relation to that of Mrs. Mallard.

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⁴ Because the Text-Based Analysis tool distinguishes the end of a sentence based on a double-space following punctuation, all text is broken down by line if no layout annotations are provided. However, using an annotation such as paragraph manipulates the way the text is physically displayed on the page.

```
Knowing that Mrs. Mallard was afflicted with a heart trouble, great care was taken to break to her as gently as possible the news of her husband's death.

Knowing that Mrs. Mallard's new to told her, in broken sentences; valled hints that revealed in half concealing. Her husband's friend Kichards was there, too, near her, it was he who had been in the newspaper office when intelligence of the rainfoad disaster was received, with Brently Mallard's name leading the list of "killed." He had only taken the time to assure himself of its truth by a second telegram, and had hastened to forestall any less careful, less tender friend in bearing the admessage. She did not hear the story as many women have heard the same, with a paralyzed inability to accept its significance. She wept at mone, with sudden, wild abandonment, in her sister's arms. When the storm of giref had spent if she went away to her room alone. She would have no one follow her.

There stood, facing the open window, according to the storm of giref had spent if she went away to her room alone. She would have no one follow her.

There stood, facing the open window. It into her town.

She could see in the open square before her house the tops of trees that were all aquiver with the new spring life. The elicious breath of rain was in the air. In the street below a peddler was crying his wares. The notes of a distant song which some one was singing reached her faintly, and countless sparrows were twittering in the eaves.

There were patches of blue sky showing here and there through the clouds that had met and piled one above the other in the west facing her window.

She sat with her head thrown back upon the cushion of the chair, quite motionless, except when a sob came up into her throat and shook her, as a child who has cried itself to sleep continues to sob in its drama.

There was something coming to her and she was waiting for it, fearfully. What was it? She did not know, it was too subtle and elusive to name. But she felt it, creeping out of the sky,
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(Figure 3 – "The Story of an Hour" Speech)

However, it is important to note that all of these conclusions must first be reached by critically interacting with the text. The student must first conclude through an initial read through of the text that an annotation for speech may be a fruitful line of inquiry. Then, the student must enact the basic HTML mark-up to receive feedback from the Text-Based Analysis system. Finally, with the results at hand, the student must consider the rhetorical implications of the information provided in relation to their initial read of the text. At no point is a student simply delivered results by adding annotations to the text. The annotations and their results are only valuable based on the student's ability to first critically read and then critically evaluate the material. To perform this work, a supplementary lesson plan has been provided which would be used before asking students to participate with the Text-Based Analysis tool.

Once the student has received their results, they are provided with a list of questions aimed at generating critical analysis of the sample text, "The Story of an Hour". These questions are both quantitative in order to utilize the graphic materials and typical analytical questions often found in textual analysis (see Figure 4). All of the work provided to the system by the student will be stored for later access by other students in order to promote cooperative learning between classmates⁵. In the Text-Based Analysis tool, cooperative learning occurs through interaction between students during post-analysis discussion. A list of discussion questions are provided on the Text-Based Analysis tool geared toward discussion of A Story of an Hour. However, alternative discussion questions could be uploaded to supplement alternative texts. In this space, students are asked to consider which tactics are most effective for accessing the text at hand. These questions prompt students to compare with their peers, consider their own work and development, and most notably, to consider in what ways quantitative analysis could hinder their exploration of particular themes or texts. Critical thinking should not end with the provision of quantitative tools. Instead, it should provide more facets for critical thinking. Ideally, the webpage would also save all information entered into the system to encourage students to perform comparative reflective work before, during, and after mark-up has occurred. In addition to basic benefits of cooperation and its translation to work environments, allowing students to pause and self-reflect on the work at hand helps to diminish human error. Edward Vanhoutte's "The Gates of Hell: History and Definition of Digital Humanities Computing" examines the use of technology in the act of translation. Quoting Robuto Busa, he explains, "the major problem with research in Machine Translation [is] not... the inadequacy of *computers* to deal with human language, but as man's insufficient comprehension of human languages" (Vanhoutte 125).

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⁵ This functionality is not available at this time. However, screenshots of the examples of "Story of an Hour" have been listed to provide a sample mock-up of how work would be displayed visually on the website.

Though Busa and Vanhoutte are identifying an issue on a linguistic level, the need to correctly identify and comprehend materials is problematic in classrooms hoping to promote continuous learning and reflection. Traditional classrooms instill in students an expectation of right/wrong or pass/fail. Instead, the Text-Based Analysis program provides students with the space to generate materials which ask them to consider their evaluation of the text more objectively. Once a student has entered their own material into the Text-Based Analysis tool, they may find that their choice of annotation has not provided them with as fruitful a line of inquiry as they had hoped. To return to Figure 3, a student may decide after being provided with a count and color-coding of speech that the data provided does not in fact support their interpretation of the text in the way they had anticipated. This may lead them to decide that either their interpretation of the text (and the associated annotations they have chosen) could require re-interpretation, or that a new line of inquiry and new annotations could provide a more fruitful piece of data to exemplify their reading of the text. Both re-interpretation and re-creation of data permit the student to objectively experiment and interpret the text without the evaluative right/wrong dichotomy traditional systems of student evaluation place on student work. The space of re-interpretation allows them to identify less fruitful endeavors through reflection and re-engage with the material until the best possible results can be found. These tactics are not just conjecture. Computer and composition scholars Gail E. Hawisher and Cynthia L. Selfe argue that,

writing instruction... can improve in carefully designed electronic settings: students experience different kinds of intellectual 'spaces' in which they can learn differently and sometimes more effectively than in more traditional academic forums; instructors can become better acquainted with their students; many of the status cues marking face-to-face discourse are eliminated, thus allowing for more

egalitarian discourse, with greater attention to the text at hand. Collaborative activities increase along with a greater sense of community in computer supported classes. (58)

The Text-Based Analysis tool aims to accomplish the same goals by providing an online space for interaction in addition to the literal space of the text box to experiment and create.

Suggested Pedagogical Application

Introductory Lesson Plan to Text-Based Analysis

To emphasize mark-up as a tool for literature, I have created a lesson plan which presents HTML elements as a way of identifying textual components to relay and relate information within a text (see Figure 4). The lesson plan begins with a basic description of the meaning and use of 'mark-up' as a way to distinguish parts of a text from one another. The emphasis on distinguishing factors primes students with the understanding that these components are inherent in texts more generally, an approach consistent with a genre studies approach to literature. In part 2b of the lesson plan the instructor is asked to note that, "mark-up can be used to distinguish any parts of a text: title, author, genre interpretations, any other component within a text" (Appendix 2). This shows students that components can be structural (title), informational (author), or interpretive (genre studies), among other items. The distinction is important to make so that students do not assume that only structural elements are acceptable uses for tags. It is necessary for students to understand that despite incorporating technology with texts, the humanities continue to value both traditional interpretation of texts as well as structural or quantitative information. In part 2c, students are asked to identify parts of a text by placing brackets around elements of baking instructions using the example of sugar cookies. I suggest using a nonliterary text with obvious components (such as baking instructions) which display differences in content (ex. Heating instructions vs ingredients) and implements some form of logic (ex. First gather ingredients, then preheat oven, etc.). Using a non-literary text primes students to see a text as comprised of components before moving on to the more traditional example of "The Story of an Hour" in the Text-Based Analysis tool. Once each student has had time to bracket their own example, I suggest reconvening as a class. In part 2c 1-2, I have provided questions geared toward comparison and reflection: How do their results compare with their peers? How do these differences change the way they might approach the process of baking? The comparative work in this portion of the lesson allows students to identify alternative readings and to see that not only are alternative readings valid and useful – they are productive in that they emphasize different information.

Lesson Plan - Introduction to HTML

https://www.w3schools.com/html/

- 1. Key skills needed for use of Text-Based Analysis Tool:
 - a. Benefits to text encoding and distant reading (UCLA Center for Digital Humanities)
 - b. HTML "nesting" tag: root element and element tags (W3 Schools)
- 2. Intro & Benefits to Text Encoding
 - a. "'mark-up' refers to the use of tags that bracket words or phrases in a document"
 - Mark-up can be used to distinguish any parts of a text: title, author, genre interpretations, any other component within a text
 - c. Exercise: identify content of a recipe using brackets
 - i. Provide students with a basic recipe including measurements and baking instructions
 - ii. Ask students to isolate different elements of the recipe by using brackets on their own sheet of paper
 - iii. Example: Sugar Cookies
 - 1. 2 ½ Cups Flour, 1 tsp Baking Soda, ½ tsp Baking Powder, 1 cup Butter, 1 ½ cups White Sugar, 1 Egg, 1 tsp Vanilla Extract
 - Preheat oven to 375 degrees F. Stir together flour, baking soda, baking powder.
 In a separate bowl, cream together butter and sugar until smooth. Then, beat in egg and vanilla extract. Finally, add dry ingredients. Place on cookie sheet in one inch balls of cookie dough. Bake for 10 minutes.
 - iv. Ask students to share and compare their results. Students may identify elements such as ingredients, heating instructions, baking instructions, etc.
 - v. Questions for reflection:
 - 1. Consider how your results compare with those of the class: how might these differences change the way you approach the process of baking?
 - 2. How do these elements relate to one another?
 - 3. What do the elements tell you about the recipe?
- 3. HTML application: Elements & Nesting
 - a. HTML stands for Hyper Text Markup Language
 - b. HTML is used to describe the physical structure or components of a web page using markup such as "title", "paragraph", "heading", etc.
 - c. HTML elements, also known as tags, occur in pairs known as a start tag and an end tag.

- i. Tags are created by placing angle brackets around the tag title. An end tag has a forward slash inserted before the tag name (ex. <body> text </body>)
- ii. Tags are like nesting dolls. They may be contained within one another, but cannot cross through one another
 - 1. Correct example: <body> <title> TITLE HERE </title> TEXT HERE </body>
 - a. This is correct because both the "Title" and "P" elements occur completely within the "Body" element.
 - 2. Incorrect example: <body> <title> TITLE HERE </title> TEXT HERE </body>
 - a. This is incorrect because the "P" element is both inside and outside of the "Body" element.
- d. Using the previous recipe example, practice using HTML element nesting pairs. Remember, for each start tag there must also be an end tag. Tags must be nesting.
 - To practice, ask students to approach board one at a time to add a start and end tag, ensuring that both nesting and start/end rules are adhered to.
- 4. Introduction to Text-Based Analysis Tool
 - a. Provide students with access to Text-Based Analysis tool and Kate Chopin's "Story of an Hour"
 - b. Instructions: While reading through "Story of an Hour" consider what elements construct this text. These can be both physical in layout (title, author) or interpretive (genre elements).
 - Read through list of annotations to ensure student comprehension of textual elements
 - ii. Reference W3 Schools for additional help on implementing tags
 - iii. Homework: Ask students to identify one element within "Story of an Hour" and perform mark-up
 - 1. Compare student mark-up with samples from "Story of an Hour"
 - 2. Respond to discussion questions
 - iv. Ask students to bring discussion questions and results to class for further comparison and discussion of text

(Figure 4: Lesson Plan⁶)

⁶ For a full-text version of this lesson plan, please see Appendix 2.

Once students have experimented with identification of components, the lesson plan adds the standard conventions of HTML. First, it is important to provide some basic background information regarding HTML such as its definition and purpose: HTML is used to describe the physical structure or components of a web page using mark-up such as "title", "paragraph", "heading", etc (W3 Schools "What is HTML?"). This indicates to students that the logic behind HTML uses the same structure as the previous exercise by identifying components within a greater body of text. Students are then provided with the basic conventions of start and ending tags, and the need for nesting. Using examples of correct and incorrect uses of tags will help provide visual clarity (a few standard examples are provided in the Lesson Plan part 3c 1-2). The emphasis on nesting and tags has been chosen as they are necessary for use with the Text-Based Analysis tool. They are also the most basic forms of mark-up which do not require syntax which are more technologically demanding. The goal is to maintain focus on literary structures rather than mark-up structure at this juncture.

Using the Text-Based Analysis Tool

Once students have mastered visualizing text as comprised of components, they will then move on to proper formatting of mark-up. Students will continue to use the previous baking example (found in lesson plan part 2c) to expand the components they previously identified into mark-up by performing collaborative work. In part 2d, I suggest having students, approach the board one at a time to add a start and end tag, ensuring that both nesting and start/end rules are adhered to. This task allows for students to practice the new skills under supervision before moving on to individual work. Because the components of the text have already been identified, students are only being asked to consider the rules of proper HTML formatting without the added obstacle of identifying a logic within the text's components. It also uses student-sourced

elements so that student contribution is privileged. Students are not simply identifying a set of pre-chosen elements provided by the professor. Students will also benefit from the collaboration and help of their peers by permitting each student to have a hand in the creation of the example. Finally, in part 4 of the lesson plan, I suggest asking students to interact with the Text-Based Analysis tool via the example of Kate Chopin's "The Story of an Hour" by first identifying components within this larger text and applying a limited amount of mark-up. To begin (lesson plan part 4b), I recommend asking students to identify only one element to limit the implementation of tags on the first try. Limiting the number of tags addresses potential HTML flaws such as incorrect nesting of tags. Next, (lesson plan part 4biii) I advise asking students to compare their results with those of the samples available on the webpage. Though these samples are currently available for viewing before the initial entry is made, ideally these would be hidden from student view until after the first attempt has been made. Though examples can be helpful in aiding students to identify elements of the text, overly guiding students at this point may prevent them from thinking as critically or imaginatively about the text as possible. Students may fall into the common understanding that the example is a "correct" interpretation which should be duplicated rather than one interpretation which should be considered critically.

In the earlier example, "The Story of an Hour" was viewed through the lens of character speech. In the following examples (Figures 5-8), the same text is viewed through the scope of theme. In Figure 5 the theme of sadness is identified through the language of crying: "She wept at once", "a peddler was crying his wares". In Figure 6, the theme of sadness is identified but also includes other embodied images of grief: "a physical exhaustion that haunted her body", "her bosom rose and fell tumultuously". Finally, in Figure 7, the theme has expanded to include emotions more generally: "a feverish triumph in her eyes", "she carried herself unwittingly like a

goddess of Victory". These examples serve to demonstrate the boundaries and potential of a limited glossary. While one student may see the term "theme" as limited to a tangible representation of a basic feeling such as sadness, this can be expanded to encapsulate other readings of emotion and embodiment (providing an opportunity to perform a close reading on embodied emotions). Furthermore, annotations can be combined to diversify the information at hand by labelling embodied emotion as "allusion" (ALU1) while the more tangible representations of emotion (such as crying) remain labeled as thematic (THE1) (see Figure 8). Students may think as critically as they should like and apply annotations to retrieve the best data for their interests or coursework.

"Story of an Hour" - Crying Knowing that Mrs. Mallard was afflicted with a heart trouble, great care was taken to break to her as gently as possible the news

Knowing that Mrs. Mallard was afflicted with a heart trouble, great care was taken to break to her as gently as possible the news of her husband's death. It was her sister Josephine who told her, in broken sentences; veiled hints that revealed in half concealing. Her husband's friend Richards was there, too, near her. It was he who had been in the newspaper office when intelligence of the railroad disaster was received, with Brently Mallard's name leading the list of "killed." He had only taken the time to assure himself of its truth by a second telegram, and had hastened to forestall any less careful, less tender friend in bearing the sad message. She did not hear the story as many women have heard the same, with a paralyzed inability to accept its significance. She wept at once with sudden, wild abandonment, in her sister's arms. When the storm of grief had spent itself she went away to her room alone. She would have no one follow her.

There stood, facing the open window, a comfortable, roomy armchair. Into this she sank, pressed down by a physical exhaustion that haunted her body and seemed to reach into her soul.

She could see in the open square before her house the tops of trees that were all aquiver with the new spring life. The delicious breath of rain was in the air. In the street below a peddler was crying his wares. The notes of a distant song which some one was singing reached her faintly, and countless sparrows were twittering in the eaves.

There were patches of blue sky showing here and there through the clouds that had met and piled one above the other in the west facing her window.

She sat with her head thrown back upon the cushion of the chair, quite motionless, except when a sob came up into her throat and shook her, as a child who has cried itself to sleep continue to sob in its dreams.

shook her, as a child who has cried itself to sleep continues to sob in its dreams.

She was young, with a fair, calm face, whose lines bespoke repression and even a certain strength. But now there was a dull stare in her eyes, whose gaze was fixed away off yonder on one of those patches of blue sky. It was not a glance of reflection, but rather indicated a suspension of intelligent thought.

There was something coming to her and she was waiting for it, fearfully. What was it? She did not know; it was too subtle and elusive to name. But she felt it, creeping out of the sky, reaching toward her through the sounds, the scents, the color that filled the air.

There was soluted to name. But she felt it, creeping out of the sky, reaching toward her through the sounds, the scents, the color that filled he air.

Now her bosom rose and fell timultuously. She was beginning to recognize this thing that was approaching to possess her, and she was striving to beat it back with her will—as powerless as her two white alender hands would have been. When she abandoned herself a little whispered word escaped her slightly parted lips. She said it over and over under the breath: "free, free, free," The vacant stare and the look of terror that had followed it went from her eyes. They stayed keen and bright. Her pulses beat fast, and the coursing blood warmed and relaxed every inch of her body.

She did not stop to ask if it were or were not a monstrous joy that held her. A clear and exalted perception enabled her to dismiss the suggestion as trivial. She knew that she would weep again when she saw the kind, tender hands folded in death; the face that had never looked save with love upon her, fixed and gray and dead. But she saw beyond that bitter moment a long procession of years to come that would belong to her absolutely. And she opened and spread her arms out to them in welcome. There would be no one to live for during those coming years; she would live for herself, there would be no powerful will bending hers in that blind persistence with which men and women believe they have a right to impose a private will upon a fellow-creature. A kind intention or a cruel intention made the act seem no less a crime as le looked upon it in that brief moment of illumination.

And yet she had loved him—sometimes. Often she had not. What did it matter! What could love, the unsolved mystery, count for in the face of this possession of self-assertion which she suddenly recognized as the strongest impulse of her being!

There! Body and soul free!" she kept whispering.

Josephine was kneeling before the closed door with her lips to the keyhole, imploring for admission. "Louise, open the door."

Her

stood waiting for them at the bottom.

Some one was opening the front door with a latchkey. It was Brently Mallard who entered, a little travel-stained, composedly carrying his grip-sack and umbrella. He had been far from the scene of the accident, and did not even know there had been one He stood amazed at Josephine's piercing cry; at Richards' quick motion to screen him from the view of his wife.

When the doctors came they said she had died of heart disease—of the joy that kills.

(Figure 5- "The Story of an Hour" Crying)

"Story of an Hour" – Sadness

Knowing that Mrs. Mallard was afflicted with a heart trouble, great care was taken to break to her as gently as possible the news of her husband's death.

It was her sister Josephine who told her, in broken sentences; veiled hints that revealed in half concealing. Her husband's friend It was her sister Josephine who told her, in broken sentences; veiled hints that revealed in half concealing. Her husband's friend Richards was there, too, near her. It was he who had been in the newspaper office when intelligence of the railroad disaster was received, with Brently Mallard's name leading the list of "killed." He had only taken the time to assure himself of its truth by a second telegram, and had hastened to forestall any less careful, less tender friend in bearing the sad message. She did not hear the story as many women have heard the same, with a paralyzed inability to accept its significance. She wept at once with sudden, wild abandonment, in her sister's arms. When the storm of grief had spent itself she went away to her room alone. She would have no one follow her. There stood, facing the open window, a comfortable, roomy armchair. Into this she sank, pressed down by a physical exhaustion that haunted her body and seemed to reach into her soul. She could see in the open square before her house the tops of trees that were all aquiver with the new spring life. The delicious breath of rain was in the air. In the street below a peddler was crying his wares. The notes of a distant song which some one was singing reached her faintly, and countless sparrows were twittering in the eaves.

There were patches of blue sky showing here and there through the clouds that had met and piled one above the other in the west facing her window.

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She sat with her head thrown back upon the cushion of the chair, quite motionless, except when a sob came up into her throat and She sat with her nead thrown oach upon the cosmod has been continued to sob in its dreams. Show her, as a child who has cried itself to sleep continued to sob in its dreams. She was young, with a fair, calm face, whose lines bespoke repression and even a certain strength. But now there was a dull stare in her eyes, whose gaze was fixed away off yonder on one of those patches of blue sky. It was not a glance of reflection, but

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There was something coming to her and she was waiting for it, fearfully. What was it? She did not know; it was too subtle and elusive to name. But she felt it, creeping out of the sky, reaching toward her through the sounds, the scents, the color that filled the air. rather indicated a suspension of intelligent thought.

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Now her bosom rose and fell tumultuously. She was beginning to recognize this thing that was approaching to possess her, and she was striving to beat it back with her will—as powerless as her two white slender hands would have been. When she abandoned herself a little whispered word escaped her slightly parted lips. She said it over and over under the breath: "free, free, free!" The vacant stare and the look of terror that had followed it went from her eyes. They stayed keen and bright. Her pulses beat fast, and the coursing blood warmed and relaxed every inch of her body.

She did not stop to ask if it were or were not a monstrous joy that held her. A clear and exalted perception enabled her to dismiss the suggestion as trivial. She knew that she would weep again when she saw the kind tender hands folded in death; the face that had never looked save with love upon her, fixed and gray and dead. But she saw beyond that bitter moment a long procession of years to come that would belong to her absolutely. And she opened and spread her ams out to them in welcome.

There would be no one to live for during those coming years; she would live for herself. There would be no powerful will bending hers in that blind persistence with which men and women believe they have a right to impose a private will upon a fellow-creature. A kind intention or a cruel intention made the act seem no less a crime as she looked upon it in that brief moment of illumination.

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And yet she had loved him—sometimes. Often she had not. What did it matter! What could love, the unsolved mystery, count for in the face of this possession of self-assertion which she suddenly recognized as the strongest impulse of her being!

"Free! Body and soul free!" she kept whispering.

Josephine was kneeling before the closed door with her lips to the keyhole, imploring for admission. "Louise, open the door! I beg; open the door-you will make yourself ill. What are you doing. Louise? For heaven's sake open the door."

"Go away. I am not making myself ill." No; she was drinking in a very elixir of life through that open window.

Her fancy was running riot along those days shead of her. Spring days, and summer days, and all sorts of days that would be her own. She breathed a quick prayer that life might be long. It was only yesterday she had thought with a shudder that life might be long.

(Figure 6 – "The Story of an Hour" Sadness)

"Story of an Hour" – Emotion

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She did not hear the story as many women have heard the same, with a paralyzed inability to accept its significance. She wept a once, with sudden, wild abandomment, in her sister's arms. When the storm of grief had spent itself she went away to her room alone. She would have no one follow her.

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Facing her Window. She sat with her head thrown back upon the cushion of the chair, quite motionless, except when a sob came up into her throat and shook her, as a child who has cried itself to sleep continues to sob in its dreams. She was young, with a fair, calm face, whose lines bespoke repression and even a certain strength. But now there was a dull stare in her eyes, whose gaze was fixed away off yonder on one of those patches of blue sky. It was not a glance of reflection, but rather indicated a suspension of intelligent throught.

There was something coming to her and she was waiting for it, fearfully. What was it? She did not know, it was too subtle and elusive to name. But she felt it, creeping out of the sky, reaching toward her through the sounds, the scents, the color that filled the air.

Now her bosom rose and fell turnultuously. She was beginning to recognize this thing that was approaching to possess her, and she was striving to beat it back with her will—as powerless as her two white slender hands would have been. When she abandoned herself a little whispered word escaped her slightly parted lips. She said it over and over under the breath. "free, free, free!" The vacant stare and he look of terror that had followed it went from her eyes. They stayed keen and bright. Her pulses beat fast, and the coursing blood warmed and relaxed every inch of her body.

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There would be no one to live for during those coming years; she would live for herself. There would be no powerful will bending hers in that blind persis

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Some one was opening the front door with a latchkey. It was Brently Mallard who entered, a little travel-stained, composedly carrying his grip-sack and umbrella. He had been far from the scene of the accident, and did not even know there had been one He stood amazed at Josephine's piering cry; at Richards' quick motion to screen him from the view of his wife. When the doctors came they said she had died of heart disease—of the joy that kills.

(Figure 7 – "The Story of an Hour" Emotion)

Knowing that Mrs. Mallard was afflicted with a heart trouble, great care was taken to break to her as gently as possible the news

of her husband's death.

It was her sister Josephine who told her, in broken sentences; veiled hints that revealed in half concealing. Her husband's friend Richards was there, too, near her. It was he who had been in the newspaper office when intelligence of the railroad disaster was received, with Brently Mallard's name leading the list of "killed." He had only taken the time to assure himself of its truth by a second telegram, and had hastened to forestall any less careful, less tender friend in bearing the sad message. She did not hear the story as many women have heard the same, with a paralyzed inability to accept its significance. She wept at once, with sudden, wild abandonment, in her sister's arms. When the storm of grief had spent itself she went away to her room alone. She would have no one follow her.

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Now her bosom rose and fell tumultuously. She was beginning to recognize this thing that was approaching to possess her, and she was striving to beat it back with her will—as powerless as her two white slender hands would have been. When she abandoned herself a little whispered word escaped her slightly parted lips. She said it over and over under the breath: "free, free free!" The vacant stare and the look of terror that had followed it went from her eyes. They stayed keen and bright. Her pulses had the coursing blood warmed and relaxed every inch of her body. beat fast, and the coursing blood warmed and relaxed every inch of her body.

She did not stop to ask if it were or were not a monstrous joy that held her. A clear and exalted perception enabled her to dismiss

Sne did not stop to ask if it were or were not a monstrous joy that held her. A clear and exalted perception enabled her to dismiss the suggestion as trivial. She knew that the would weep again when she saw the kind, tender hands folded in death; the face that had never looked save with love upon her, fixed and gray and dead. But she saw beyond that bitter moment a long procession of years to come that would belong to her absolutely. And she opened and spread her arms out to them in welcome. There would be no one to live for during those coming years; she would live for hereif. There would be no powerful will bending hers in that blind persistence with which men and women believe they have a right to impose a private will upon a fellow-creature. A kind intention or a cruel intention made the act seem no less a crime as she looked upon it in that brief momen of illumination.

of illumination.

And yet she had loved him--sometimes. Often she had not. What did it matter! What could love, the unsolved mystery, count for in the face of this possession of self-assertion which she suddenly recognized as the strongest impulse of her being!

"Free! Body and soul free!" she kept whispering.

Josephine was kneeling before the closed door with her lips to the keyhole, imploring for admission. "Louise, open the door! I beg; open the door--you will make yourself ill. What are you doing, Louise? For heaven's sake open the door."

"Go away. I am not making myself ill." No; she was drinking in a very elixir of life through that open window.

Her fancy was running riot along those days ahead of her. Spring days, and summer days, and all sorts of days that would be her own. She breathed a quick prayer that life might be long. It was only yesterday she had thought with a shudder that life might be

She arose at length and opened the door to her sister's importunities. There was a feverish triumph in her eyes, and she carried stood waiting for them at the bottom.

stood waiting for them at the bottom.

Some one was opening the front door with a latchkey. It was Brently Mallard who entered, a little travel-stained, composedly carrying his grip-sack and umbrella. He had been far from the scene of the accident, and did not even know there had been one He stood amazed at Josephine's piercing cry; at Richards' quick motion to screen him from the view of his wife. When the doctors came they said she had died of heart disease—of the joy that kills.

(Figure 8 – "The Story of an Hour" Theme & Allusion)

Quantitative Analysis

The Text-Based Analysis program expands the act of close reading to incorporate the act of "distant reading" which relies first and foremost on interpretation. It is important to note that neither traditional close reading nor "distant reading" skills are given preference: for the student to successfully complete the analysis and associated questions, they must engage with both close and distant reading skills. A student could not successfully bypass close reading in preference to the distant reading skills to receive the numeric "answers" (as these are only as successful as the initial close reading), nor could they strictly perform a close reading to bypass the mark-up (as this information is by definition not readily available to the naked eye). Douglas Eyman argues

in Digital Rhetoric: Theory, Method, and Practice that a computer may take on many roles such as tools for communication, reading/writing machines, tools for programming, computation, and so on (2-9). Eyman makes a definitional distinction between close reading and distant reading in which close reading is "often tied to print text" and distant reading uses many texts for comparison with "quantitative materials" (94). The Text Based Analysis program encourages both forms of reading while utilizing all aspects of a computer's role. The student first uses the computer as a reading/writing machine while performing close reading. Before mark-up occurs the student must first do a preliminary read-through in order to make choices best suited for the content of the text in question, much like a typical close analysis of a physical text. The computer is then used as a programming and computational tool as the student engages with the text by performing basic mark-up, and receives empirical data which permits them to step away from the printed text to perform quantitative analysis. Though students are not through the example of A Story of an Hour participating in "distant reading" through large amounts of data, the Text-Based Analysis tool can be used in this way once students have learned the basics of viewing a text distantly (as quantitative and numeric).

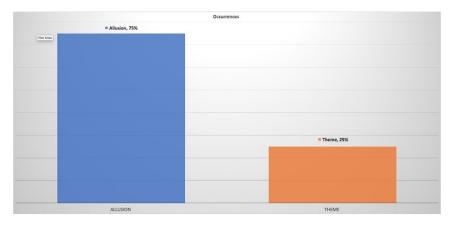
Accessing a text numerically allows students to consider a text three-dimensionally rather than linearly as a narrative promotes. Graphs stand as a quantitative approach to any form of literary database or form and are typically used in relation to gathered data (Moretti 4-33). Franco Moretti uses quantitative graphs, geographical maps, and trees of evolutional theory in order to explore aspects of literature with which scholars are already familiar such as themes, plot, and genre. The consequence in Moretti's view is to, "show us how little we still know about [the literary field] (I). Moretti's work indicates that even digital creations appear to be a *simplification* of the reading process can be an effective *broadening* of the act of reading.

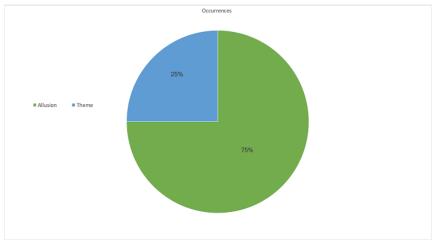
When a student is asked to approach the information found in a text (or compilation of texts) without reading from beginning to end, they are poised to move beyond plot, characters, and other narrative features to consider how the information stands on its own, or alternatively, how it cannot. Though each student is asked to pull discrete pieces of information from the text, the final move in the Text-Based Analysis program is always reflection, which provides opportunity to consider the most effective way to approach the text in question which takes the experience of linear reading into account. For example, in Figure 9 two graphs have been generated which convey information that could be garnered using the Text-Based Analysis tool⁷. Using the previous example from "The Story of an Hour" in Figure 8, the annotations of allusion and theme have been implemented in which crying is identified as a "theme" and embodied representations of emotion are identified as an "allusion". In order to reach this point, a student must first read through the text traditionally in order to first identify that crying and emotion are central to the text's meaning and secondly identify that the two could be read as different entities with different purpose or meaning within the text. In this way, the student is not simply bypassing the traditional reading methods. However, once the mark-up has been created and the visual is introduced, the student must also consider how those different entities may be affecting the text numerically. For example, while the student may understand that "The Story of an Hour" is highly fraught with sentiment, it may not be obvious from the initial read through that those sentiments are more commonly displayed through allusion rather than physical acts of crying. While they may have noticed this by viewing the color-coded version of the text, the graphs add a numeric value to this information. So, rather than there simply being *more* allusions to emotion

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⁷ At this time, the graphic function has not been implemented. However, open source software such as Grass or ESRI (which both map or graphically analyze statistics) could be employed to create this effect ("Resources – Software"). Image 8 has been generated as a sample mock-up using Microsoft Word graphic images.

than crying, the student now knows there are three times more instances in the text in which allusions are utilized in comparison to clear references to crying. The student may then consider the implications relying this heavily on allusions to emotion within the context of "The Story of an Hour". In this way, the student must use traditional genre studies and close reading techniques at the beginning and the conclusion of this exercise in order to gain any meaningful information from the graphic analysis. James Zappen refers to the interaction between close reading/genre studies analysis and quantitative analysis as an amalgamation of "discrete components" which interact to create and contribute to digital rhetoric more broadly (Eyman 8). Rather than simplify the task of reading by providing the student with a numeric "answer", they are instead provided with tools to provoke further interrogation of the text's rhetoric.





(Figure 9 – Allusion vs. Theme)

Discussion Questions and Cooperative Learning

To further achieve traditional pedagogical outcomes such as close reading, students are asked to consider the question of empirical information as it relates to models of literary study within the academy. Once the student has examined the samples, the discussion questions ensure further questioning of the utility of graphic analysis of literary data. Discussion question 2c asks, "Which of these graphical representations best helps you to access the information at hand? Why?" Requesting students to compare the utility of pie versus bar graphs requires retrospective attention to what helps the student understand meaning, much like a close reading of numeric information. The student must consider why perhaps a percentage and/or visual representation

allows them to convey meaning which is more effective than narrative reading in this instance. On the other hand, a student may also discover that graphic representations of particular forms of data are not as useful. In discussion question 4c the student is asked to consider their own work (new content with mark-up that has been run through the Text-Based Analysis system), and consider "What might you add to help you see this information more effectively?" Deliberating more effective means of representation requires identifying where digital humanities tactics are less effective which instills in the student the pervading need to continue the act of critical thinking encouraged by close reading and genre studies even when numeric "answers" seem to be provided

Finally, students are asked to respond to the discussion questions and perform comparative work between their own work and the samples (see Figure 10). To further this reflexive cooperation, the lesson plan notes that students should bring in their responses and results to compare with their peers. Constant comparison and expansion of work will help to emphasize the collaborative goals of the tool. For example, in Figure 10, question 4a asks, "compare your own work with Samples 1-3. What information does your own work access that these samples do not?". This displays to the student that collaboration even with samples can provide better results. Furthermore, the wording 'that the samples do not' implies that even a sample (which a student may perceive to be 'correct' material) can be flawed and require further reflection to access the material as effectively as possible.

Discussion Questions - "Story of an Hour"

Consider the following questions and respond on a blank sheet of paper. Hold on to your responses to share with your classmates.

- First, consider the provided samples of "The Story of an Hour". In Sample 1, all instances of
 crying have been marked as 'thematic' (blue). In Sample 2, the theme has been expanded to
 include all displays of sadness and Sample 3 expands this even further to include all emotion.
 What are the benefits and disadvantages of viewing the information in this way?
 - a. Compare Samples 1-3: Which sample gives the best understanding of the text? Why?
 - b. Compare Samples 1-3: Viewing all 3 samples together, what might this help us understand about the authorial choices being made in "The Story of an Hour"?
- 2. In Sample 4, both thematic and allusion annotations have been added. In this instance, explicit crying has been marked as a theme (blue), while allusions to emotion have been marked as allusion (green). What, if any, are the benefits to separating these genre features rather than combining them (such as in Sample 3)?
 - a. How might you break these genre features down further to better access the authorial choices made in "The Story of an Hour"?
 - b. Consider the Sample 4 graphs. Based on the data provided, what might we conclude about the use of allusion and theme in this text (based on this particular understanding of theme as representation of crying, and allusion as emotional representations)?
 - c. Which of these graphical representations best helps you to access the information at hand? Why?
- 3. In Sample 5, all instances of speech have been marked and can be seen in blue. Why might there be so little speech in a text so heavily based in emotional events?
 - a. Consider the Sample 5 graphs. How might this help us understand the division of speech in the text? What is the benefit (or detriment) of viewing this information numerically? What other information might you add to further explore speech in "The Story of an Hour"?
- 4. Now, consider your own work. What annotations did you choose, and why?
 - a. Compare your own work with Samples 1-3. What information does your own work access that these samples do not?
 - b. Compare your own work with Sample 4. If you were to combine your own sample with the information in Sample 4, what similarities or differences might you see?
 - c. Consider your own work alone. What does this help you see that you did not on your initial read through? What might you add to help see this information more effectively?

(Figure 10 – Discussion Questions)

The functionality of saved responses to discussion questions and mark-up will foster the implementation of collaborative learning and community building to draw vocational skills valuable within and outside of academic spheres. The list of discussion questions which accompany the Text-Based Analysis tool and associated lesson plan are also geared toward this goal. Eyman claims that, "the power of rhetoric lies not just in its analytic or productive capacities, but in its emphasis on pedagogy" (112). In his estimation, multimodal teaching permits students to explore theory and technology, which lends itself to an emphasis on

interdisciplinary approaches. Eyman notes that analysis and production are key to proper digital rhetoric. Therefore, students must not only be asked to engage in analysis but also in the production of a product (112). The save functionality will permit students to viscerally see that the product of their work is ensconced in the internet. They are enacting this digital creation of something new. Asking them to participate in technology before enacting the analytic work helps to produce this effect.

The students are presented with the limitations that exist between man and machine (and the imposed limitations of a set glossary in the Text Based Analysis program), the students are presented with the opportunity of performing reflexive studies. Students must engage with these limitations by determining which annotations and annotation placement best represents their interests and the text at hand. The Text-Based Analysis tool asks this reflexive work of them through the implementation of the previously mentioned discussion questions. I suggest asking students to compare their own work with the samples (lesson plan part 4biii ⁸). By requesting students to consider which representation best allows them to access the information, students must consider alternative ways of accessing the material even after the completion of an attempt.

The creation and cooperative sharing of work prompts questions of ownership which is a predominant anxiety within the digital humanities and can result in a beneficial discussion with students about the way evaluation can be performed in cooperative environments. Digital Humanities scholars Stephen Ramsay and Geoffrey Rockwell discuss these anxieties in Developing Things: Notes toward an Epistemology of Building the Digital Humanities. They note that through MLA guidelines "evaluation" and "documentation" are two of the greatest

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⁸ Though this act is currently performed through the lesson plan, it will also be accomplished virtually following the implementation of the save function.

standards (often manifestations of grants and promotions) by which "scholarship is determined" (76). This is also true of the undergraduate classroom. If a student has consistent expectations that the success of their work is dependent on traditional evaluation, it can be difficult for them to see the personal value of collaborative work or constant reflection and expansion of one's own work.

However, providing students with an alternative collaborative standard will train students in an environment which is highly valued outside academia and, within the realm of digital humanities, is also becoming more valued within academia. Matthew Kirschenbaum, recipient of the Guggenheim Fellowship for the Humanities, argues that "paperwork, branding, and identity construction are only part of what makes digital humanities tactical... the other... is the role of the network, in particular social media, and Twitter most definitely of all" (416). He utilizes definitional language to describe the "self-identity" and the "professional grapevine" by which the digital humanities continues to define itself with and against (416). In this way, these collaborative efforts not only have worked their way into academia but help to identify the scope of "digital humanist". It is my belief that if such spheres can be used to redefine the scopes of academic career paths, they may also be used to redefine academic pedagogies. If we see an individual undergraduate classroom as a small discourse community, collaborative learning will help to strengthen such a bond and help students prepare to enter their own respective discourse communities (within and outside academia).

A benefit to the Text Based Analysis program is its ability to quantify both large and small quantities of texts. Franco Moretti describes his use of databases within the graduate classroom in which he utilizes all of the British detective narratives to search for stylistic features. At the beginning of this chapter he notes that, "evolutionary theory... helped me to

analyze small-scale mechanisms" (2007 80). The ability to process multiple texts can also be a useful tool within the undergraduate classroom where stylistic features can be used to explore specific time periods, genres, or any other subset of texts. For example, "The Story of an Hour" was first published in *Vogue* in 1894 and is set in the late nineteenth century ("Kate Chopin: 'The Story of an Hour"). As previously mentioned, often referred to as a feminist text, the story was notably published in a women's magazine. A student may identify themes of double consciousness which were prevalent in nineteenth century texts (Mitchell). Alternatively, more basic features such as those of the short story may be identified in "The Story of an Hour". Moving from the basics of HTML mark-up on an individual text into the more labor intensive act of large scale mark-up would still involve the act of close reading, while the act of data mining on a larger scale would produce a literary field which is "historically longer, geographically larger, and morphologically deeper" (Moretti 161). However, this move should only be made once students have been exposed to smaller scale texts.

Implications for Academia

The goal of the Text-Based analysis tool is to provide space in the humanities for students to have a hand in innovative techniques that promote skills that are sought-after in the job market while fostering the self-reflection necessary to succeed in academic fields as well. Requiring students to participate in new practices may eventually lead to the production of academic programs that meet the needs of non-academia track students who are participating in, but are rarely included in, the discussion of the creation of new academic programs. Though the minority of bachelor's students go on to pursue a master's degree, the skills emphasized in the undergraduate classroom are often geared toward the fostering of future academics. Crossing this boundary in order to include vocational skills (such as communication and technological skills)

which will address the needs of the majority of students who move out of academia following their bachelor's degree with greater preparation for participation in the working world.

Despite some distrust around cooperation within the classroom and in humanities departments evident in the stress on citation in undergraduate curriculums, encouraging students to work in concert with one another encourages students to participate in team skills necessary in both academic and vocational workplaces. The act of "gift exchange" as described by Elizabeth Losh in Virtualpolitik: An Electronic History of Government Media-Making in a Time of War, Scandal, Disaster, Miscommunication, and Mistakes is heavily utilized in the creation of this web tool's cooperative save function. Losh notes that as pieces of digital information circulate, they function in an unregulated "gift exchange" in which information is shared and expanded (loc 883-900). While this breaks outside traditionally accepted policies of academic language and citation, the goal of information sharing is to encourage continued interaction with course materials in a way that reflects a communal team-based work environment found on job sites. Losh also notes that, "The gift economy of the Internet – which revolves around the paradigm of exchange – seems to present an opportunity for such an analysis, especially since users literally trade digital files, programs, and documents through informal networks" (883). Though this may appear to lend itself to cheating or plagiarism, instead it can encourage students, with each new attempt at utilizing the Text-Based Analysis tool, to collaboratively improve the text and engage in more imaginative critical thinking.

Cooperation in the classroom is enhanced by a standard language through which students may interact and engage in materials without needing to negotiate complicated social norms.

Losh notes that, "students learn what is appropriate by participating in actual exchanges, but those exchanges are still governed by the norms of the relevant society or subculture" (889). She

goes on to explain that a long email justifies a short response. By using social cues students determine the socially desirable response. However, the Text Based Analysis tool eliminates the need for negotiating social cues by providing a standardized glossary of terms. The glossary ensures all students have a standard language through which to engage with the materials and with one another. Students may then contribute to preexisting work based on their own critical reading of the text. In doing so, the students are geared away from the exchanges governed by social norms and are instead geared toward responses which specifically require critical thinking (as opposed to simple recreation or reproduction based on previous submissions). While social norms can function to benefit students in their development, social interaction still occurs when students cooperate and share materials. However, the ways in which they interact are limited and bounded within the construct of the Text-Based Analysis tool, much like the constructs of a working environment in which often language is predetermined through official lines of communication (human resources). Furthermore, official lines of communication are often collaboratively authored and follow a prescribed template which is often also written by external sources.

Cooperation in the creation of a product provides students with an incentive for being attentive in their learning by acting as a producer of a product. Mary E. Hocks notes in her text "Understanding Visual Rhetoric in Digital Writing Environments" that, "alternate ways of representing understanding of course material" often results in "hands-on learning" and "pride" (650). Hocks emphasizes use of publicly accessible web representation, which I seek to achieve in the Text-Based Analysis tool. An active learning environment will result in students who are not *completing* a learning process, but *participating* in a piece that will achieve something in the world. This experience is also a pre-professional one as students are able to create and re-create a

product similar to the way one would in a working environment. The traditional teaching environment asks students to take part in a discussion in which they are secondary to the professionals who create knowledge. Instead, the Text Based Analysis program asks students to manipulate information and create a product which situates them, "as active producers of knowledge within their discipline" (Hocks 652). More specifically, with each attempt the program will save information so that the student can see the tangible result of their efforts develop into a dynamic tool they may interact with rather than the typical submission of an essay which they are unlikely to come into contact with again following its submission.

The project then produces self-reflection in students by asking them to consider choices they have made in their initial mark-up, reconsider the conclusion they reached by providing space to return to earlier attempts, and to consider the cooperative work done with their peers much like experience of a work environment. An integral part of the Text-Based Analysis tool, the space for reflection is as important as the ability to mark-up and analyze numeric information. Without the ability to return and critically think about the choices made within the context of the digital tool, students could fall victim to the temptation of seeing discrete data in texts as a replacement to traditional or close reading skills rather than supplementary to it. To return to Vanhoutte's earlier claim, the dissonance is not related to the computer but rather to human inability to completely command language (125).

Providing students with the materials to have a greater hand in their education can enhance a student's interest in their chosen program or profession, leading to greater success long-term both within academia and alternate-academia pursuits. Matthew Gold's "Looking for Whitman" exemplifies this by creating a space for students to focus on creation and self-reflection in addition to research and product such as in traditional humanities coursework. The

Whitman project focused on "shared ideas, research, and feedback about Whitman's life and writing on the project's WordPress site" which culminated in a conference (Gold 396). The project included reports of student accomplishments and digital content. In this way, students were taught to create and self-reflect in ways similar to the tasks required of professors seeking tenure and proof of scholarship as noted by Kirschenbaum (416). These skills are useful in both the vocational world and within academia, which lends itself to interdisciplinary collaboration resulting in a modification of both academia and the vocational world by permitting more fluidity between the two spaces. When diverse students come together to perform work which is valuable to their peers who range from academic to vocational, it is possible that similar relationships will continue when these students move into the working world.

Expanding the creative efforts of the humanities to include production of an object with the goal of usability may shift the format of the digital humanities into both vocationally-oriented and academic endeavor. Melissa Terras notes in "Disciplined: Using Educational Studies to Analyze 'Humanities Computing'" that "[a] lot of work in Humanities Computing is project-based, usually resulting in a product for other academics to utilize, and there is concern whether this is an academic endeavor... Humanities Computing is often viewed as support to 'proper' academic research" (69). These concerns point to academia's, and more specifically the humanities', privileging of traditional academic skill sets. However, it is possible to value traditional skills while focusing on the creation of usable artifacts. I hope to accomplish this through the Text-Based Analysis tool by allowing students to generate mark-up which is transformed through the system into a more dynamic piece of literature. Refocusing the humanities around usability will reinforce traditional skills by displaying to students that their

work is not simply about constant production of writing samples, but about engagement and production of something tangible that can be engaged with time and again.

A more tangible issue experienced by digital humanists is the barrier of funding in a world that privileges creation of more knowledge and texts over usable products. Terras claims that, "Humanities Computing [is] often 'too technical' to be eligible for funding... and 'not technical enough' to secure funding through Engineering and Computing Science channels" (69). If this is the case, it stands to reason that approaching digital humanities as a vocationally based program could tap unused funding within those realms. The shifting of academic lines within the humanities appears to be anticipated, if not encouraged, by established humanities programs such as MLA whose current guidelines state, "Institutions should also take care to grant appropriate credit to faculty members for technology projects in teaching, research, and service. Because many projects cross the boundaries between these traditional areas, faculty members should receive proportional credit in more than one relevant area for their intellectual work" (Guidelines for Evaluating Work in Digital Humanities and Digital Media). This open ended language provides space for departments to negotiate the guidelines provided by MLA and the shifting academic lines delineating the digital humanities (into the realm of vocational-based education or, at the least, as a focus on creation of usable products) in order to best serve their purposes. To accomplish this change, digital humanists must not only emphasize production in their own work but also in the education of students who may eventually take on these roles (such as with the Text-Based Analysis tool).

A vocational-based approach could have further reaching implications than just within digital humanities. Julie Flanders argues in "The Productive Unease of 21st-Century Digital Scholarship" that, "Digital tools add a challenge and gives us a new set of terms – like a new

planet in the system, they change the vectors of all the other things we have in our universe. They will probably change the way humanities research is done" (216). Flanders indicates that the greatest reason digital humanities scholars strive to establish boundaries to encompass their scholarship is to create (or prevent) the amount of influence 'digital' has on 'humanities' and vice-versa. A move toward a vocation program within the digital humanities would, by extension, result in a change in the humanities more broadly by focusing on the needs of all students rather than specifically on those interested in pursuing a career within academia.

A move toward vocational programs may also result in alternative-academic institutions which would expand the opportunities for collaboration with those in non-academic fields.

Digital humanities scholar Brett Hirsch quotes Henry A. Giroux: "To invoke the importance of pedagogy is to raise questions not simply about how students learn but also about how educators (in the broad sense of the term) construct the ideological and political positions from which they speak" (379). Hirsch argues that these shifts are common to any field. However, due to the ongoing to push to publish in mass quantities, pedagogical issues are being eclipsed "even as the drive for greater publication opens up more and more field-specific avenues to do so" (379). Hirsch speculates that this is the result of a push at the administrative level. He sees the rise of digital humanities centers and institutions as correlating with a similar rise in pedagogical studies. These centers give testimony to an accumulation of researchers active within the field of digital humanities which have resulted in the need for increased digital humanities institutions (Hirsch 413). Emphasis on expanding pedagogy would may result in such an influx and by relation, result in more non-academics entering the digital humanities discussion.

However, a vocational move could only be to the benefit for the clear majority of students; both who do and do who do not continue their education beyond an undergraduate

degree. Brett Hirsch notes that the digital humanities may only restructure its existence within the academy through a pedagogical shift, "beyond the brackets, out of the marginalization of exclusion, to the fore of the digital humanities" (378). Hirsch is interested in moving the digital humanities beyond theoretical or numerical work which many digital humanities rely upon (378). An alteration in pedagogical focus to include vocational skills will require a more palpable representation of the humanities. While it still requires interaction with the theoretical numerical work Hirsch points to, the emphasis moves instead toward production of tools to expand collaborative pedagogical discourse and development of technological skills valuable outside the academy as well. It is my goal to ensure that the Text-Based Analysis tool also accomplishes the same principles.

Katelyn: So this is quite ambitious and interesting and extremely impressive work. I'm going to preface with that, to let you know that this is an excellent thesis, because I want to drill down to my real issue here with this kind of textual analysis: the question of "close reading." It seems that this tool asks students to see a text as a collection of discrete components—allusions, images, etc. But what makes "close reading" so powerful is that it doesn't stop at enumerating or comparing the individual components, but rather looks at them both holistically and sequentially. When an author uses a motif of a particular image, she is often relying on how that image evolves and develops through the text. Can your tool account for that, or can it only catalog the instances of this image? And how can your tool help students "put it together"—take these small pieces of data and interpretation and come up with an overarching interpretation of the text? That might not be what your tool is aimed at; that might be a task done by a teacher after the students have used the tool. But I'd like you to talk more, perhaps in your conclusion, about the question of reading not as a set of sensory impressions but as a holistic experience. My other issue is with

the introductory section. You rely on some assumptions that might be true (e.g. "reading skills are declining") but you don't define or explain what you mean sufficiently. What precisely are "reading skills"? How are you measuring them? What studies have demonstrated that these skills are declining, and among what kinds of populations? And what texts are they reading? That first section also lacks a kind of 10,000 foot view of what you are trying to do; it's buried in your quotes from other scholars and authorities, but I want to hear from YOU what the question is you are answering, what the problem is that you are solving, in your own words (not just quotes from authorities).

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Appendix 1: Text-Based Analysis Program Hard Coding

The following is the underlying hard coding for the Text-Based Analysis tool created to correspond with and as an extension of this project.

```
<!DOCTYPE html>
<html>
<head><meta http-equiv="Content-Type" content="text/html; charset=utf-8">
  <link href="Stylesheets/StyleSheet.css" rel="stylesheet" type="text/css" />
  <title>Digital Humanities Proof of Concept</title>
  <script src="showMessage.js"></script>
  <script>showMessage();</script>
  <script src="newWriteToFile.js"></script>
  <script>newWriteToFile();</script>
  <script src="searchtool.js"></script><script>searchtool();</script>
  <script src="jquery-3.1.1.js">
  </script><script src="showMessage2.js"></script>
  <script>showMessage2();</script>
  k href="http://cdnjs.cloudflare.com/ajax/libs/fancybox/1.3.4/jquery.fancybox-1.3.4.css"
media="screen" rel="stylesheet" type="text/css" />
</head>
<body>
<div class="container">
<div id="header">
<h2>Welcome to the Digital Humanities Analysis Page.</h2>
<h3>by Katelyn Antolik</h3>
</div>
<div id="sidebar">
<h2>INSTRUCTIONS</h2>
Please use the following annotations for proper processing. <br/> />
<br />
ALY - ALLEGORY<br />
ALI - ALLITERATION < br />
ALU - ALLUSION<br />
AMP - AMPLIFICATION < br />
ASN - ASSONANCE<br />
AUT - AUTHOR<br />
BODY - BODY<br />
```

```
CHA - CHARACTER<br />
COU - COUPLET<br />
DOU - DENOUEMENT<br />
DIA - DIALOGUE<br />
DID - DIDACTIC<br />
FAL - FALLACY<br />
FOR - FORESHADOWING<br />
GRE - GENRE<br />
HYP - HYPERBOLE<br />
IRY - IRONY<br />
LNE - LINE<br />
MTA - METAPHOR<br />
MTR - METER<br />
MTF - MOTIF<br />
POV - POINT OF VIEW<br />
RHY - RHYME<br />
SAT - SATIRE<br />
SET - SETTING<br />
STA - STANZA<br />
SYM - SYMBOL/SYMBOLISM<br />
THE - THEME<br />
TTL - TITLE<br />
VRS - VERSE<br />
<br />
<br />
 
<h3>Website Instructions</h3>
<h4>Instructions for Use:</h4>
<b><i>Step 1:</i></b> Enter your unformatted text into the center textbooks. Ensure to double-
space at the end of complete sentences following the period to indicate the completion of a
sentence.<br/>
<br />
<b><i>Step 2:</i></b> Annotate the text using the three or four-letter annotation codes listed above. A
glossary of literary terms has been provided for your convenience. To use multiples of an annotation (for
example, for two characters within one text) add a number following the three or four-letter code such
as <CHA1&gt; and &lt;CHA2&gt;). Remember that all annotations must be nesting and have an
associated closing annotation for proper results and all annotations must use capital letters. < br />
<br />
<br />
<b>Example:</b> &lt;BODY&gt; &lt;AUT&gt; Kate Chopin &lt;/AUT&gt; &ldquo;The Story of an
Hour" </BODY&gt;<br/>
<br />
```

```
For more information, please visit: <a href="https://www.w3schools.com/html/html intro.asp">W3
Schools</a><br/>
<br />
<b><i>Step 3:</i></b> Press &ldquo;Submit&rdquo; to retrieve your results.
<br />
<a href="lessonPlan.html">Lesson Plan</a><br />
<a href="discussionQuestions.html">Discussion Questions - &quot;Story of an Hour&quot;</a>
</div>
</div>
<div id="newBody">
<div id="TextInput">
<br />
<label>Please Input Text to be Analyzed Below./>
<textarea autofocus="" class="newInput" id="msg">Text Here.....</textarea>
<button onclick="showMessage2()" type="button">Submit</button>
Your Formatted Input:
<div id="author"></div>
<div id="title1"></div>
 
<div id="printText"></div>
 
<div id="countBySTA"></div>
<div id="countByCOU"></div>
<div id="countByALY"></div>
<div id="countByALI"></div>
<div id="countByALU"></div>
<div id="countByAMP"></div>
<div id="countByASN"></div>
```

```
<div id="countByCHA"></div>
<div id="countByDOU"></div>
<div id="countByDIA"></div>
<div id="countByDID"></div>
<div id="countByFAL"></div>
<div id="countByFOR"></div>
<div id="countByGRE"></div>
<div id="countByHYP"></div>
<div id="countByIRY"></div>
<div id="countByLNE"></div>
<div id="countByMTA"></div>
<div id="countByMTR"></div>
<div id="countByMTF"></div>
<div id="countByPOV"></div>
<div id="countByRHY"></div>
<div id="countBySAT"></div>
<div id="countBySET"></div>
<div id="countBySYM"></div>
<div id="countByVRS"></div>
<div id="countByTHE"></div>
<div>
<br />
<br />
```

```
<img src="Images/Figure_6.PNG" /><br />
<img src="Images/Figure 7.PNG" /><br />
<img src="Images/Figure 8.PNG" /><br />
<img src="Images/Figure 9.PNG" /><br />
<img src="Images/Figure_10.PNG" /><br />
<br />
<br />
<img src="Images/Occurrences_Pie.png" /><br />
<img src="Images/Occurrences Bar.png"/><br/>
<img src="Images/Characters_Pie.png" /><br />
<img src="Images/Characters_Bar.png" /><br />
<img src="Images/Discussion Questions.PNG" />
</div>
</div>
</div>
<div id="glossary">
<h2>GLOSSARY</h2>
<h4>Allegory</h4>
- the expression by means of symbolic figures and actions of trusts or generalizations of human
existence.
<h4>Alliteration</h4>
- the repetition of usually initial consonant sounds in two or more neighboring words or syllables.
<h4>Allusion</h4>
- an implied or indirect reference especially in literature.
<h4>Amplification</h4>
- an expanded statement.
<h4>Assonance</h4>
- repetition of vowels without repetition of consonants used as an alternative to rhyme in verse.
<h4>Author</h4>
- the writer of a literary work.
<h4>Body</h4>
- a body of text.
<h4>Character</h4>
```

- an individual, the personality of a human being.

<h4>Couplet</h4>

- two successive lines of verse forming a unit marked usually by rhythmic correspondence, rhyme, or the inclusion of a self-contained utterance.

<h4>Denouement</h4>

- the final outcome of the main dramatic complication in a literary work.

<h4>Dialog</h4>

- written composition in which two or more characters are represented as conversing.

<h4>Didactic</h4>

- designed or intended to teach.

<h4>Fallacy</h4>

- a false or mistaken idea.

<h4>Foreshadowing</h4>

- to represent, indication, or typify beforehand.

<h4>Genre</h4>

- a category of artistic, musical, or literary composition characterized by a particular style, form, or content.

<h4>Hyperbole</h4>

- extravagant exaggeration.

<h4>Irony</h4>

- the use of words to express something other than and especially opposite of the literal meaning.

<h4>Line</h4>

- a horizontal row of written or printed characters: a unit in the rhythmic structure of verse formed by the grouping of a number of the smallest units of rhythm.

<h4>Metaphor</h4>

- a figure of speech in which a word or phrase literally denoting one kind of object or idea is used in place of another to suggest a likeness or analogy between them.

<h4>Meter</h4>

- rhythm that continuously repeats in a single basic pattern.

<h4>Motif</h4>

- a usually recurrent salient thematic element; a dominant idea or central theme.

<h4>Point of View</h4>

- a position or perspective from which something is considered or evaluated.

<h4>Rhyme</h4>

- correspondence of terminal sounds of units of composition or utterance.

<h4>Satire</h4>

- a literary work holding up human vices and follies to ridicule or scorn.

<h4>Setting</h4>

- the time, place, and circumstances in which something occurs or develops.

<h4>Stanza</h4>

- a division of a poem consisting of a series of lines arranged together in a usually recurring pattern of meter and rhyme.

<h4>Symbol/Symbolism</h4>

- something that stands for or suggests something else by reason of relationship, association, convention, or accidental resemblance.

<h4>Theme</h4>

- a subject or topic of discourse or of artistic representation.

<h4>Title</h4>

- a descriptive or general heading.

<h4>Verse</h4>

- a line of metrical (see meter) writing.

```
</div>
<div id="footer">
<div>&copy; 2017 NowAntDevelopers</div>
</div>
</div>
</body>
</html>
```

```
@CHARSET "ISO-8859-1";
body {
  height: auto;
}
.container{
  width: auto;
  margin: 0 auto;
#sidebar{
  float: left;
  top: 140px;
  bottom: 5%;
  left: 5px;
  margin: auto;
  right: 20px;
  width: 25%;
}
#instructions{
  position: absolute;
  padding: 10px;
}
#glossary{
  top: 140px;
  bottom: 5%;
  left: 20px;
  right: 5px;
  margin: auto;
  float: left;
  width: 25%;
}
#glossaryOfTerms {
  padding: 10px;
  position: absolute;
}
#header{
  text-align: center;
  font-weight: bold;
  border: 1px solid #000;
  width: 75%;
  margin: auto;
  position: static;
#TextInput .newInput {
```

```
width: 700px;
  height: 600px;
}
#newBody{
  float: left;
  top: 140px;
  bottom: 5px;
  right: 10px;
  left: 50px;
  width: 50%;
  margin: auto;
}
#footer {
  clear: both;
  right: 0;
  left: 0;
  margin: 0;
  bottom: 0;
  padding: 5px;
  text-align: left;
  font-weight: bold;
}
img {
  max-width: 75%;
}
.s1 {
color=red;
}
.s2 {
color = blue;
}
.s3 {
color = green;
}
.s4 {
color = yellow;
}
```

```
@CHARSET "ISO-8859-1";
body {
  height: auto;
}
.container{
  width: auto;
  margin: 0 auto;
#sidebar{
  float: left;
  top: 140px;
  bottom: 5%;
  left: 5px;
  margin: auto;
  right: 20px;
  width: 25%;
}
#instructions{
  position: absolute;
  padding: 10px;
}
#glossary{
  top: 140px;
  bottom: 5%;
  left: 20px;
  right: 5px;
  margin: auto;
  float: left;
  width: 25%;
}
#glossaryOfTerms {
  padding: 10px;
  position: absolute;
}
#header{
  text-align: center;
  font-weight: bold;
  border: 1px solid #000;
  width: 75%;
  margin: auto;
  position: static;
#TextInput .newInput {
```

```
width: 700px;
  height: 600px;
}
#newBody{
  float: left;
  top: 140px;
  bottom: 5px;
  right: 10px;
  left: 50px;
  width: 50%;
  margin: auto;
}
#footer {
  clear: both;
  right: 0;
  left: 0;
  margin: 0;
  bottom: 0;
  padding: 5px;
  text-align: left;
  font-weight: bold;
}
img {
  max-width: 75%;
}
.s1 {
color=red;
}
.s2 {
color = blue;
}
.s3 {
color = green;
}
.s4 {
color = yellow;
}
```

```
<html>
<head><meta http-equiv="Content-Type" content="text/html; charset=utf-8">
  <link href="Stylesheets/StyleSheet.css" rel="stylesheet" type="text/css" />
  <title>Digital Humanities Proof of Concept</title>
  <script src="showMessage.js"></script><script>showMessage();</script><script
src="newWriteToFile.js"></script><script>newWriteToFile();</script><script</pre>
src="searchtool.js"></script><script><script><script><script><script
src="showMessage2.js"></script><script>showMessage2();</script>
  k href="http://cdnjs.cloudflare.com/ajax/libs/fancybox/1.3.4/jquery.fancybox-1.3.4.css"
media="screen" rel="stylesheet" type="text/css" />
</head>
<body>
<div class="container">
<div id="header">
<h2>Welcome to the Digital Humanities Analysis Page.</h2>
<h3>by Katelyn Antolik</h3>
<h3>Lesson Plan - Introduction to HTML</h3>
</div>
<0|>
  value="NaN">
  <div><span style="font-family:times new roman,times,serif;">Key skills needed for use of Text-Based
Analysis Tool:</span></div>
  <div><span style="font-family:times new roman,times,serif;">Benefits to text encoding and distant
reading (UCLA Center for Digital Humanities)</span></div>
    <div><span style="font-family:times new roman,times,serif;">HTML &Idquo;nesting&rdquo; tag:
root element and element tags (W3 Schools)</span></div>
    value="NaN">
  <div><span style="font-family:times new roman,times,serif;">Intro &amp; Benefits to Text
Encoding</span></div>
```

<div>“’mark-up’ refers to the use of tags that bracket words or phrases in a document"</div> <div>Mark-up can be used to distinguish any parts of a text: title, author, genre interpretations, any other component within a text</div> <div>Exercise: identify content of a recipe using brackets</div> < <div>Provide students with a basic recipe including measurements and baking instructions</div> <div>Ask students to isolate different elements of the recipe by using brackets on their own sheet of paper</div> <div>Example: Sugar Cookies</div> value="NaN"> <div>2 ¾ Cups Flour, 1 tsp. Baking Soda, ½ tsp Baking Powder, 1 cup Butter, 1 ½ cups White Sugar, 1 Egg, 1 tsp Vanilla Extract</div> value="NaN">

<div>Preheat oven to 375 degrees F.
Stir together flour, baking soda, baking powder. In a separate bowl, cream together butter and sugar until smooth. Then, beat in egg and vanilla extract. Finally, add dry ingredients. Place on cookie sheet in one inch balls of cookie dough. Bake for 10 minutes.

<div>Ask students to share and compare
their results. Students may identify elements such as ingredients, heating instructions, baking
instructions, etc.</div>

```
<div><span style="font-family:times new roman,times,serif;">Questions for
reflection:</span></div>
               value="NaN">
                    <div><span style="font-family:times new roman,times,serif;">Consider how your results
compare with those of the class: how might these differences change the way you approach the process
of baking?</span></div>
                    value="NaN">
                    <div><span style="font-family:times new roman,times,serif;">How do these elements relate to
one another?</span></div>
                   value="NaN">
                    <div><span style="font-family:times new roman,times,serif;">What do the elements tell you
about the recipe?</span></div>
                   value="NaN">
     <div><span style="font-family:times new roman,times,serif;">HTML application: Elements & Description: Elements & Descriptio
Nesting</span></div>
     <div><span style="font-family:times new roman,times,serif;">HTML stands for Hyper Text Markup
Language</span></div>
          <div><span style="font-family:times new roman,times,serif;">HTML is used to describe the physical
structure or components of a web page using mark-up such as "title",
"paragraph", "heading", etc.</span></div>
          <div><span style="font-family:times new roman,times,serif;">HTML elements, also known as tags,
occur in pairs known as a start tag and an end tag.</span></div>
```

<div>Tags are created by placing angle brackets around the tag title. An end tag has a forward slash inserted before the tag name (ex. <body> text </body>)</div> <div>Tags are like nesting dolls. They may be contained within one another, but cannot cross through one another</div> value="NaN"> <div>Correct example: <body> <title> TITLE HERE </title> <p> TEXT HERE </p> </body></div> <div>This is correct because both the "Title" and "P" elements occur completely within the "Body" element.</div> value="NaN"> <div>Incorrect example: <body> <title> TITLE HERE </title> <p> TEXT HERE </body></p></div> <div>This is incorrect because the "P" element is both inside and outside of the "Body" element.</div> <div>Using the previous recipe example, practice using HTML element nesting pairs. Remember, for each start tag there must also be an end tag. Tags must be nesting.</div>

<div>To practice, ask students to approach board one at a time to add a start and end tag, ensuring that both nesting and start/end rules are adhered to.</div> value="NaN"> <div>Introduction to Text-Based Analysis Tool</div> < <div>Provide students with access to Text-Based Analysis tool and Kate Chopin's "Story of an Hour"</div> <div>Instructions: While reading through " Story of an Hour" consider what elements construct this text. These can be both physical in layout (title, author) or interpretive (genre elements).</div> <div>Read through list of annotations to ensure student comprehension of textual elements</div> <div>Reference W3 Schools for additional help on implementing tags</div> <div>Homework: Ask students to identify one element within " Story of an Hour" and perform mark-up</div> value="NaN"> <div>Compare student mark-up with samples from " Story of an Hour" </div> value="NaN"> <div>Respond to discussion

questions</div>

```
<div><span style="font-family:times new roman,times,serif;">Ask students to bring discussion
questions and results to class for further comparison and discussion of text</span></div>
     <h3><a href="index.html">Home</a></h3>
<h3><a href="discussionQuestions.html">Discussion Questions - &quot;Story of an
Hour"</a></h3>
<div id="footer">
<div>&copy; 2017 NowAntDevelopers</div>
</div>
</div>
</body>
</html>
```

```
function showMessage2(){
  var oClick = document.getElementById("msg");
  var newTextEntry = oClick.value;
  var newArray = newTextEntry.split("\n");
  var textOut = newArray.join("<br>
  var oOpen = document.getElementById("printText");
  oOpen.innerHTML = textOut;
}
```

```
function showMessage2(){
  var oClick = document.getElementById("msg");
  var newTextEntry = oClick.value;
  var newArray = []
  newArray=newTextEntry.split('. ');
  var countALY = 1;
  var countALI = 1;
  var countALU = 1;
  var countASN = 1;
  var countAMP = 1;
  var countCHA = 1;
  var countCOU = 1;
  var countDOU = 1;
  var countDIA = 1;
  var countDID = 1;
  var countFAL = 1;
  var countFOR = 1;
  var countGRE = 1;
  var countHYP = 1;
  var countIRY = 1;
  var countLNE = 1;
  var countMTA = 1;
  var countMTF = 1;
  var countMTR = 1;
  var countPOV = 1;
  var countRHY = 1;
  var countSAT = 1;
  var countSET = 1;
  var countSTA = 1;
  var countSYM = 1;
  var countVRS = 1;
  var countTHE = 1;
  var newAuthorName="";
  var newTitle="";
  var counter = 0;
  var countOutSTA = "Count of Stanza is: ";
  var countOutCOU = "Count of Couplets is: ";
  var countOutALY = "Count of Allegory is: ";
  var countOutALI = "Count of Alliteration is: ";
  var countOutALU = "Count of Allusion is: ";
  var countOutAMP = "Count of Amplification is: ";
  var countOutASN = "Count of Assonance is: ";
  var countOutCHA = "Count of Character's is: ";
  var countOutDOU = "Count of Denouement: ";
```

```
var countOutDIA = "Count of Dialogue: ";
var countOutDID = "Count of Didactic: ";
var countOutFAL = "Count of Fallacy: ";
var countOutFOR = "Count of Foreshadowing: ";
var countOutGRE = "Count of Genres: ";
var countOutHYP = "Count of Hyperbole: ";
var countOutIRY = "Count of Irony: ";
var countOutLNE = "Count of Lines: ";
var countOutMTA = "Count of Metaphor: ";
var countOutMTR = "Count of Meter: ";
var countOutMTF = "Count of Motif: ";
var countOutPOV = "Count of POV: ";
var countOutRHY = "Count of Rhymes: ";
var countOutSAT = "Count of Satire: ";
var countOutSET = "Count of Settings: ";
var countOutSYM = "Count of Symbol/Symbolism: ";
var countOutVRS = "Count of Verses: ";
var countOutTHE = "Count of Themes: ";
var authorName = "Author Name is: "
var titleName = "Title is: "
var numArray=[];
for (var i=0; i<newArray.length; i++){</pre>
  var switchArray = [];
  switchArray[i]=newArray[i];
  for (var j = 0; j<switchArray.length; j++){</pre>
    if(newArray[i].includes("<ALY"+j)) {</pre>
      newArray[i]='ALY'+counter+': '+ newArray[i];
      counter=j;
      if (countALY<=counter){</pre>
         countALY=counter+1;
      }
      else {
         countALY;
      }
      counter = 0;
    }
    else {
      newArray[i]=newArray[i];
    if (newArray[i].includes("<ALI"+j)){
      newArray[i]='ALI'+counter+': '+ newArray[i];
      counter=j;
      if (countALI<=counter){</pre>
```

```
countALI=counter+1;
  }
  else {
    countALI;
  counter = 0;
}
else {
  newArray[i]=newArray[i];
if (newArray[i].includes("<ALU"+j)){</pre>
  newArray[i] = 'ALU'+j+': '+ newArray[i];
  counter=j;
  if (countALU<=counter){</pre>
    countALU=counter+1;
  }
  else {
    countALU;
  counter = 0;
}
else {
  newArray[i]=newArray[i];
}
if (newArray[i].includes("<ASN"+j)){</pre>
  newArray[i] = 'ASN'+j+': '+ newArray[i];
  counter=j;
  if (countASN<=counter){</pre>
    countASN=counter+1;
  }
  else {
    countASN;
  counter = 0;
}
else {
  newArray[i]=newArray[i];
}
if (newArray[i].includes("<AMP"+j)){</pre>
  newArray[i] = 'AMP'+j+': '+ newArray[i];
  counter=j;
```

```
if (countAMP<=counter){</pre>
    countAMP=counter+1;
  }
  else {
    countAMP;
  counter = 0;
}
else {
  newArray[i]=newArray[i];
}
if (newArray[i].includes("<CHA"+j)){</pre>
  newArray[i] = 'CHA'+j+': '+ newArray[i];
  counter=j;
  if (countCHA<=counter){</pre>
    countCHA=counter+1;
  }
  else {
    countCHA;
  counter = 0;
}
else {
  newArray[i]=newArray[i];
if (newArray[i].includes("<COU"+j)){</pre>
  newArray[i] = 'COU'+j+': '+ newArray[i];
  counter=j;
  if (countCOU<=counter){</pre>
    countCOU=counter+1;
  }
  else {
    countCOU;
  counter = 0;
}else {
  newArray[i]=newArray[i];
}
if (newArray[i].includes("<DOU"+j)){</pre>
  newArray[i] = 'DOU'+j+': '+ newArray[i];
  counter=j;
```

```
if (countDOU<=counter){</pre>
    countDOU=counter+1;
  }
  else {
    countDOU;
  counter = 0;
}
else {
  newArray[i]=newArray[i];
}
if (newArray[i].includes("<DIA"+j)){</pre>
  newArray[i] = 'DIA'+j+': '+ newArray[i];
  counter=j;
  if (countDIA<=counter){</pre>
    countDIA=counter+1;
  }
  else {
    countDIA;
  counter = 0;
}
else {
  newArray[i]=newArray[i];
if (newArray[i].includes("<DID"+j)){</pre>
  newArray[i] = 'DID'+j+': '+ newArray[i];
  counter=j;
  if (countDID<=counter){</pre>
    countDID=counter+1;
  }
  else {
    countDID;
  counter = 0;
}
else {
  newArray[i]=newArray[i];
if (newArray[i].includes("<FAL"+j)){</pre>
  newArray[i] = 'FAL'+j+': '+ newArray[i];
```

```
counter=j;
  if (countFAL<=counter){</pre>
    countFAL=counter+1;
  }
  else {
    countFAL;
  counter = 0;
}
else {
  newArray[i]=newArray[i];
if (newArray[i].includes("<FOR"+j)){</pre>
  newArray[i] = 'FOR'+j+': '+ newArray[i];
  counter=j;
  if (countFOR<=counter){</pre>
    countFOR=counter+1;
  }
  else {
    countFOR;
  }
  counter = 0;
}
else {
  newArray[i]=newArray[i];
if (newArray[i].includes("<IRY"+j)){</pre>
  newArray[i] = 'IRY'+j+': '+ newArray[i];
  counter=j;
  if (countIRY<=counter){</pre>
    countIRY=counter+1;
  }
  else {
    countIRY;
  counter = 0;
}
else {
  newArray[i]=newArray[i];
if (newArray[i].includes("<HYP"+j)){</pre>
  newArray[i] = 'HYP'+j+': '+ newArray[i];
```

```
counter=j;
  if (countHYP<=counter){</pre>
    countHYP=counter+1;
  }
  else {
    countHYP;
  counter = 0;
}
else {
  newArray[i]=newArray[i];
if (newArray[i].includes("<LNE"+j)){</pre>
  newArray[i] = 'LNE'+j+': '+ newArray[i];
  counter=j;
  if (countLNE<=counter){</pre>
    countLNE=counter+1;
  }
  else {
    countLNE;
  counter = 0;
}
else {
  newArray[i]=newArray[i];
}
if (newArray[i].includes("<MTA"+j)){</pre>
  newArray[i] = 'MTA'+j+': '+ newArray[i];
  counter=j;
  if (countMTA<=counter){</pre>
    countMTA=counter+1;
  }
  else {
    countMTA;
  counter = 0;
}
if (newArray[i].includes("<MTR"+j)){</pre>
  newArray[i] = 'MTR'+j+': '+ newArray[i];
  counter=j;
```

```
if (countMTR<=counter){</pre>
    countMTR=counter+1;
  }
  else {
    countMTR;
  counter = 0;
}else {
  newArray[i]=newArray[i];
if (newArray[i].includes("<STA"+j)){</pre>
  newArray[i] = 'STA'+j+': '+ newArray[i];
  counter=j;
  if (countSTA<=counter){</pre>
    countSTA=counter+1;
  }
  else {
    countSTA;
  counter = 0;
}else {
  newArray[i]=newArray[i];
}
if (newArray[i].includes("<MTF"+j)){</pre>
  newArray[i] = 'MTF'+j+': '+ newArray[i];
  counter=j;
  if (countMTF<=counter){</pre>
    countMTF=counter+1;
  }
  else {
    countMTF;
  }
  counter = 0;
}else {
  newArray[i]=newArray[i];
if (newArray[i].includes("<POV"+j)){
  newArray[i] = 'POV'+j+': '+ newArray[i];
  counter=j;
  if (countPOV<=counter){</pre>
    countPOV=counter+1;
```

```
}
  else {
    countPOV;
  counter = 0;
if (newArray[i].includes("<RHY"+j)){</pre>
  newArray[i] = 'RHY'+j+': '+ newArray[i];
  counter=j;
  if (countRHY<=counter){</pre>
    countRHY=counter+1;
  }
  else {
    countRHY;
  counter = 0;
}else {
  newArray[i]=newArray[i];
}
if (newArray[i].includes("<SAT"+j)){</pre>
  newArray[i] = 'SAT'+j+': '+ newArray[i];
  counter=j;
  if (countSAT<=counter){</pre>
    countSAT=counter+1;
  }
  else {
    countSAT;
  counter = 0;
}else {
  newArray[i]=newArray[i];
}
if (newArray[i].includes("<SET"+j)){</pre>
  newArray[i] = 'SET'+j+': '+ newArray[i];
  counter=j;
  if (countSET<=counter){</pre>
    countSET=counter+1;
  }
  else {
    countSET;
```

```
counter = 0;
}else {
  newArray[i]=newArray[i];
}
if (newArray[i].includes("<SYM"+j)){
  newArray[i] = 'SYM'+j+': '+ newArray[i];
  counter=j;
  if (countSYM<=counter){</pre>
    countSYM=counter+1;
  }
  else {
    countSYM;
  counter = 0;
}else {
  newArray[i]=newArray[i];
if (newArray[i].includes("<VRS"+j)){</pre>
  newArray[i] = 'VRS'+j+': '+ newArray[i];
  counter=j;
  if (countVRS<=counter){</pre>
    countVRS=counter+1;
  }
  else {
    countVRS;
  counter = 0;
}else {
  newArray[i]=newArray[i];
if (newArray[i].includes("<THE"+j)){</pre>
  newArray[i] = 'THE'+j+': '+ newArray[i];
  counter=j;
  if (countTHE<=counter){</pre>
    countTHE=counter+1;
  }
  else {
    countTHE;
  counter = 0;
```

```
}else {
      newArray[i]=newArray[i];
    if (newArray[i].includes("<GRE"+j)){</pre>
      newArray[i] = 'GRE'+j+': '+ newArray[i];
      counter=j;
      if (countGRE<=counter){</pre>
        countGRE=counter+1;
      }
      else {
        countGRE;
      counter = 0;
    }else {
      newArray[i]=newArray[i];
    }
    if (newArray[i].includes("<TTL>")){
      newTitle = newArray[i];
      newArray[i]="";
      counter = 0;
    }
    if (newArray[i].includes("<AUT>")){
      newAuthorName = newArray[i];
      newArray[i]="";
      counter = 0;
    }
  }
}
countOutSTA = countOutSTA+Number(countSTA-1);
countOutCOU = countOutCOU+Number(countCOU-1);
countOutALY = countOutALY+Number(countALY-1);
countOutALI = countOutALI+Number(countALI-1);
countOutALU = countOutALU+Number(countALU-1);
countOutAMP = countOutAMP+Number(countAMP-1);
countOutASN = countOutASN+Number(countASN-1);
countOutCHA = countOutCHA+Number(countCHA-1);
countOutDOU = countOutDOU+Number(countDOU-1);
```

```
countOutDIA = countOutDIA+Number(countDIA-1);
countOutDID = countOutDID+Number(countDID-1);
countOutFAL = countOutFAL+Number(countFAL-1);
countOutFOR = countOutFOR+Number(countFOR-1);
countOutGRE = countOutGRE+Number(countGRE-1);
countOutHYP = countOutHYP+Number(countHYP-1);
countOutIRY = countOutIRY+Number(countIRY-1);
countOutLNE = countOutLNE+Number(countLNE-1);
countOutMTA = countOutMTA+Number(countMTA-1);
countOutMTR = countOutMTR+Number(countMTR-1);
countOutMTF = countOutMTF+Number(countMTF-1);
countOutPOV = countOutPOV+Number(countPOV-1);
countOutRHY = countOutRHY+Number(countRHY-1);
countOutSAT = countOutSAT+Number(countSAT-1);
countOutSET = countOutSET+Number(countSET-1);
countOutSYM = countOutSYM+Number(countSYM-1);
countOutVRS = countOutVRS+Number(countVRS-1);
countOutTHE = countOutTHE+Number(countTHE-1);
authorName = authorName + newAuthorName;
titleName = titleName + newTitle;
var textOut = newArray.join('<br><');</pre>
var cOpen = document.getElementById("author");
cOpen.innerHTML=authorName;
var cOpen = document.getElementById("title1");
cOpen.innerHTML=titleName;
var oOpen = document.getElementById("printText");
oOpen.innerHTML = textOut;
var cOpen = document.getElementById("countBySTA");
cOpen.innerHTML=countOutSTA;
var cOpen = document.getElementById("countByCOU");
cOpen.innerHTML=countOutCOU;
var cOpen = document.getElementById("countByALY");
cOpen.innerHTML=countOutALY;
var cOpen = document.getElementById("countByALI");
cOpen.innerHTML=countOutALI;
var cOpen = document.getElementById("countByALU");
cOpen.innerHTML=countOutALU;
var cOpen = document.getElementById("countByAMP");
cOpen.innerHTML=countOutAMP;
var cOpen = document.getElementById("countByASN");
cOpen.innerHTML=countOutASN;
var cOpen = document.getElementById("countByCHA");
cOpen.innerHTML=countOutCHA;
```

```
var cOpen = document.getElementById("countByDOU");
cOpen.innerHTML=countOutDOU;
var cOpen = document.getElementById("countByDIA");
cOpen.innerHTML=countOutDIA;
var cOpen = document.getElementById("countByDID");
cOpen.innerHTML=countOutDID;
var cOpen = document.getElementById("countByFAL");
cOpen.innerHTML=countOutFAL;
var cOpen = document.getElementById("countByFOR");
cOpen.innerHTML=countOutFOR;
var cOpen = document.getElementById("countByGRE");
cOpen.innerHTML=countOutGRE;
var cOpen = document.getElementById("countByHYP");
cOpen.innerHTML=countOutHYP;
var cOpen = document.getElementById("countByIRY");
cOpen.innerHTML=countOutIRY;
var cOpen = document.getElementById("countByLNE");
cOpen.innerHTML=countOutLNE;
var cOpen = document.getElementById("countByMRA");
cOpen.innerHTML=countOutMRA;
var cOpen = document.getElementById("countByMTR");
cOpen.innerHTML=countOutMTR;
var cOpen = document.getElementById("countByMTF");
cOpen.innerHTML=countOutMTF;
var cOpen = document.getElementById("countByPOV");
cOpen.innerHTML=countOutPOV;
var cOpen = document.getElementById("countByRHY");
cOpen.innerHTML=countOutRHY;
var cOpen = document.getElementById("countBySAT");
cOpen.innerHTML=countOutSAT;
var cOpen = document.getElementById("countBySET");
cOpen.innerHTML=countOutSET;
var cOpen = document.getElementById("countBySYM");
cOpen.innerHTML=countOutSYM;
var cOpen = document.getElementById("countByVRS");
cOpen.innerHTML=countOutVRS;
var cOpen = document.getElementById("countByTHE");
cOpen.innerHTML=countOutTHE;
```

}

Appendix 2: Sample Lesson Plan

Lesson Plan – Introduction to HTML

https://www.w3schools.com/html/

- 1. Key skills needed for use of Text-Based Analysis Tool:
 - a. Benefits to text encoding and distant reading (UCLA Center for Digital Humanities)
 - b. HTML "nesting" tag: root element and element tags (W3 Schools)
- 2. Intro & Benefits to Text Encoding
 - a. "'mark-up' refers to the use of tags that bracket words or phrases in a document"
 - b. Mark-up can be used to distinguish any parts of a text: title, author, genre interpretations, any other component within a text
 - c. Exercise: identify content of a recipe using brackets
 - i. Provide students with a basic recipe including measurements and baking instructions
 - ii. Ask students to isolate different elements of the recipe by using brackets on their own sheet of paper
 - iii. Example: Sugar Cookies
 - 2 ½ Cups Flour, 1 tsp Baking Soda, ½ tsp Baking Powder, 1 cup Butter, 1
 ½ cups White Sugar, 1 Egg, 1 tsp Vanilla Extract
 - Preheat oven to 375 degrees F. Stir together flour, baking soda, baking powder. In a separate bowl, cream together butter and sugar until smooth. Then, beat in egg and vanilla extract. Finally, add dry ingredients. Place on cookie sheet in one inch balls of cookie dough. Bake for 10 minutes.
 - iv. Ask students to share and compare their results. Students may identify elements such as ingredients, heating instructions, baking instructions, etc.
 - v. Questions for reflection:
 - 1. Consider how your results compare with those of the class: how might these differences change the way you approach the process of baking?
 - 2. How do these elements relate to one another?
 - 3. What do the elements tell you about the recipe?
- 3. HTML application: Elements & Nesting
 - a. HTML stands for Hyper Text Markup Language
 - b. HTML is used to describe the physical structure or components of a web page using markup such as "title", "paragraph", "heading", etc.
 - c. HTML elements, also known as tags, occur in pairs known as a start tag and an end tag.
 - i. Tags are created by placing angle brackets around the tag title. An end tag has a forward slash inserted before the tag name (ex. <body> text </body>)
 - ii. Tags are like nesting dolls. They may be contained within one another, but cannot cross through one another
 - Correct example: <body> <title> TITLE HERE </title> TEXT HERE </body>

- a. This is correct because both the "Title" and "P" elements occur completely within the "Body" element.
- Incorrect example: <body> <title> TITLE HERE </title> TEXT HERE </body>
 - a. This is incorrect because the "P" element is both inside and outside of the "Body" element.
- d. Using the previous recipe example, practice using HTML element nesting pairs. Remember, for each start tag there must also be an end tag. Tags must be nesting.
 - i. To practice, ask students to approach board one at a time to add a start and end tag, ensuring that both nesting and start/end rules are adhered to.
- 4. Introduction to Text-Based Analysis Tool
 - a. Provide students with access to Text-Based Analysis tool and Kate Chopin's "The Story of an Hour"
 - b. Instructions: While reading through "The Story of an Hour" consider what elements construct this text. These can be both physical in layout (title, author) or interpretive (genre elements).
 - i. Read through list of annotations to ensure student comprehension of textual elements
 - ii. Reference W3 Schools for additional help on implementing tags
 - iii. Homework: Ask students to identify one element within "The Story of an Hour" and perform mark-up
 - 1. Compare student mark-up with samples from "The Story of an Hour"
 - 2. Respond to discussion questions
 - iv. Ask students to bring discussion questions and results to class for further comparison and discussion of text