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THE BENEFITS OF OUTLINING AND FREEWRITING FOR PEOPLE WITH DIFFERENT
SELF-MONITORING STYLES

by

Lisa Mintz

A Thesis

Submitted in Partial Fulfillment of the

Requirements for the Degree of

Master of Science

Major: Educational Psychology and Research

The University of Memphis

May, 2014

ACKNOWLEDGMENTS

My special gratitude goes to Dr. Yeh Hsueh for his guidance, understanding, and patience, and for helping me prepare this thesis by providing edits and helpful suggestions. I would also like to thank my committee members Dr. Art Graesser and Dr. Denise Winsor for their edits and suggestions in preparing this thesis.

Abstract

Mintz, Lisa Bess. M.S. The University of Memphis. May/2014. The Benefits of Outlining and Freewriting for People with Different Self-Monitoring Styles. Major Professor: Dr. Yeh Hsueh

Writing is a skill that is highly individualized in terms of style and method of practice. Individual differences in writing strategy preferences have been demonstrated, but little is known about what factors contribute to the development of these preferences. Previous studies have demonstrated a relationship between self-monitoring, planning strategy type, and idea generation. However, there is little research that has investigated the effects of planning strategies and self-monitoring on essay cohesion. The current thesis investigates the relation between self-monitoring and essay planning strategies in essay cohesion and idea generation. Participants were administered the Snyder Self-monitoring inventory and were assigned to either outlining strategy or freewriting strategy conditions before writing an essay. Latent Semantic Analysis (LSA), a method of assessing the semantic similarity between sentences and paragraphs, was used to measure the semantic cohesion of participants' writing. Idea generation was measured as the number of ideas that participants listed after writing their essays. The results indicated that only the high self-monitors produced significantly more ideas in the freewriting condition than in the outlining condition. High self-monitors who outlined as opposed to engaged in freewriting had higher LSA overlap cohesion. Low self-monitors who outlined as opposed to engaging in freewriting had higher LSA adjacent sentence cohesion. The results support theoretical models of text production and advance our understanding of the effects of individual differences and planning strategies on writing.

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Introduction

The ability to write well and with proficiency is a requisite in many academic fields and vocations. Students who graduate from high school today are often deficient in basic writing skills. In 2011, on an NCES national computer-based assessment of writing performance, only about a quarter of students in grades 8 and 12 were writing at the proficient level (National Center for Education Statistics, 2012). This statistic is concerning and it merits the investigation of the current writing curriculum. It is essential that researchers study the effectiveness of commonly promoted writing instruction strategies, and to confirm that they are scientifically based and efficacious (Graham & Perin, 2007).

Effectively communicating one's message through writing is inherently difficult because it involves a series of complex recursive processes that must be orchestrated by a working memory that is limited in its capacity (Kellogg, 1988). These complex processes of writing are conceptualized as planning, translating, and reviewing (Flower & Hayes, 1981). One way to circumvent the burden on working memory is to break up these complex processes into a series of phases in which the writers' attention is allocated to each process individually (Piolat & Roussey, 1996).

Planning is a phase of writing that is arguably the most important phase because this is when writers must decide what they are going to write about and how they are going to organize their writing so that is coherent and accessible to the audience (Piolat & Roussey, 1996). Primary and secondary school writing curriculums often include instruction on planning strategies that help writers plan their writing, develop goals to answer the prompt, come up with ideas, and structure their essays (Deane et al., 2008;

Kiuhara, Graham, & Hawken, 2009). There are a variety of planning strategies that educators teach students to use when they are planning their essays. Some commonly used planning strategies that are taught in schools are freewriting, outlining, graphic organizers, making multiple rough drafts, note taking and clustering, just to name a few (Graham, McKeown, Kiuhara, & Harris, 2012; Torrance, Thomas, & Robinson, 2000).

It is likely that not all planning strategies have the same benefits for all individuals because of individual differences (Kieft, Rijlaarsdam, Galbraith & Van den Bergh, 2007). Self-monitoring is an individual difference characteristic that may factor into how beneficial a planning strategy is in helping writers generate ideas and produce cohesive essays (Galbraith, 1992, 1996, 1999). Self-monitoring refers to the tendency of people to guide and regulate their self-presentation in social contexts. High self-monitors have performance goals in social contexts, whereas low self-monitors are not as concerned with their performance in a social setting, but act according to how they feel (Snyder & Gangestad, 1986). In other words, high self-monitors guide and regulate their self-presentation according to the external, social, situational context, whereas low selfmonitors guide and regulate their self-presentation according to their internal dispositions and goals. This phenomenon may transfer to the circumstance of writing an essay. Instead of regulating behavior to conform to the expectations of the social “other”, the goal of high self-monitors would be to fulfill the rhetorical writing goals by regulating idea generation and composition in a writing assignment during the course of answering the prompt.

This thesis begins by reviewing previous research on the effects of outlining and freewriting. Two theories of idea generation during writing, the *knowledge transforming*

model and the *knowledge constituting model*, potentially explain the effects that planning strategies have on high and low self-monitors. The thesis subsequently presents a method of testing these hypotheses using the computational linguistics analysis tool called CohMetrix on writing samples of students who receive different writing instructions and who are classified as high versus low self-monitors. The results of the study are reported and discussed.

Literature Review

There is some debate about what types of planning strategies benefit writers the most, and thereby lead to higher quality essays (Graham & Harris, 2006). Some planning strategies, such as outlining, help writers develop composition goals that they can use to help them organize an answer to a prompt (Kellogg, 1988). Other planning strategies, such as freewriting, allow writers to “free associate” about the prompt and do not require writers to organize their ideas according to their relevance to the topic (Elbow, 1973).

Outlining

One of the most commonly ascribed forms of planning that is recommended by teachers is outlining (Hayes, 2006). An outline is a structured form of planning in which writers must set goals, come up with ideas and organize the ideas by entering them into a hierarchical format (Kellogg, 2008). The purpose of outlining is to help writers generate and retrieve ideas from their memory, and at the same time organize and arrange those ideas systematically with the guide of a structured template (De Smet, Brand-Gruwel, Broekkamp, & Kirschner, 2012).

Some studies comparing the effects of outlining to other forms of planning have demonstrated that when individuals outline before they write a draft, there is a significant

improvement in the quality of the writing. These studies use the metric of increased coherence as a marker for quality (Bereiter & Scardamalia, 1987; Kellogg, 1988, 1990). There is also an increase in the number of ideas writers generate (Galbraith, Ford, Walker, & Ford, 2005; Piolat & Roussey, 1996).

Kellogg's (1988) study demonstrated that outlining benefitted writers more than rough drafting by leading to higher quality essays, as demonstrated by increased coherence. He assigned participants to either the planning strategies of outlining, mental outlining or making multiple rough drafts, before writing an essay. Judges rated the participants' essays on coherence, and reported that for both outlining conditions, the mean coherence scores of essays were higher than in the rough drafting condition. The results of this study suggest that outlining may help writers produce coherent essays better than planning that is not structured such as writing rough drafts.

One potential limitation of outline planning is that it may constrain writers to generate only ideas that fit within the parameters of the rhetorical assignment. Constraining idea retrieval to only ideas that satisfy the rhetorical problem can help writers stay within the topic but can possibly inhibit their creativity (Belanoff, Elbow, & Fontaine, 1991). In addition, some researchers contend that structured forms of planning can even make the writing less coherent because it disrupts writers' natural idea generation process (Elbow, 1973; Wason, 1980). They argue that writers must be able to reflect upon their implicit understanding of the topic which can be facilitated by allowing writers to articulate their knowledge according to how it is represented within their memory (Galbraith, 1999). This is because outlining shifts writers' attention to specific threads of knowledge that satisfy their rhetorical goals, but are not necessarily associated and organized in their memory (Galbraith, 1999). Outlining interrupts writers from

articulating their knowledge of the topic according to how it is encoded in their memory and implicitly understood. Freewriting is an alternative method of planning that may assist writers in generating ideas according to how they are represented in their memory.

Freewriting

Freewriting is a planning exercise in which writers must write continuously for a set amount of time without editing or monitoring what they are writing (Elbow, 1973). The purpose of freewriting is to free writers from the constraints of editing their syntax grammar, spelling and punctuation while they are writing (Elbow, 1973). When writers do not have to think about these aspects of their writing, they can write more fluidly and their writing can be more spontaneous, because they are not editing their writing as they write. Zamel (1982) suggested that imposing goals and structure on writers interrupts the normally fluid aspect of writing. Planning that makes writers attend to rhetorical goals and structure their writing makes writers edit, modify, reorder and curtail their writing to meet rhetorical goals as they write. Freewriting creates a circumstance for the writer to generate content without any of these disruptions.

Studies have reported that low self-monitors come up with more ideas and their ideas are more coherent when they use less goal directed and structured forms of planning such as freewriting (Galbraith 1996, 1999; Galbraith, Torrance, & Hallam, 2006). Texts written by low self-monitors who use forms of planning that are similar to freewriting, such as making rough drafts, have been shown to have more ideas and higher coherence (Galbraith et al., 2005, 2006).

Theories of Idea Generation.

There are two theoretical based models that can explain how ideas (i.e., linguistic proposition units) are organized in writers' memories, as well as how they are activated and retrieved during writing. The models that explain idea generation in writing are the *knowledge transforming model* (Bereiter & Scardamalia 1987) and the *knowledge constituting model* of text production (Galbraith, 1999).

According to the *knowledge transforming model* (Bereiter & Scardamalia, 1987), knowledge is stored as propositional nodes that are units of knowledge connected by varying strengths in long-term memory (Bereiter & Scardamalia, 1987). These fixed propositions have been created during prior experiences, texts read, and writing. Experienced writers have a large range of pre-constructed propositional nodes that they can retrieve and translate into prose. In addition, text production and idea generation of skillful writers are similar to an active problem solving process because writers must not just retrieve these propositions, but also be tactical about how they evaluate and modify the ideas to satisfy rhetorical and communicative goals.

The *knowledge transforming model* supports the hypothesis that structured, goaldirected forms of planning like outlining are superior methods of planning. The theory asserts that what sets apart expert writers from novices is the ability to set rhetorical goals and retrieve ideas from their memory that match their goals (Bereiter & Scardamalia, 1987). Think aloud protocols have indicated the skill that sets expert writers apart from novice writers is the ability to form an accurate mental representation of the rhetorical structure, and then set various goals and sub-goals to fulfill these goals in the course of writing (Kellogg, 2008). According to this theory, good writers create elaborate

goals and sub-goals and focus on fulfilling these goals to answer the problem (or writing prompt) and the focused goals help them retrieve ideas and discover new ideas (Flower & Hayes, 1980). Since less skillful writers do not focus on generating content that satisfies communicative goals, they can be facilitated in doing so by outlining. Since outlining is a goal-directed planning strategy, the theory states that it should benefit writers the most.

Galbraith (1999) proposed the *knowledge constituting model* which gives an alternative explanation for how ideas are generated. Instead of there being an associative network of pre-formed propositions, there is a network of sub-propositional units that are uniquely organized and connected according to writers' disposition towards the topic (Torrance & Galbraith, 2006). This dispositional, dialectic, content is generated when there is activation of the sub-propositional network (Galbraith, 1999). As utterances are being activated and translated into writing, a writers' implicit disposition towards the topic is articulated. The dialectic can be maximally activated when a range of subpropositions are activated, and an individual's disposition towards the topic can be expressed to its fullest extent (Galbraith, 1999). If writers must search for specific ideas to match their goals to answer the rhetorical problem during planning, their dispositional dialectic becomes reduced, according to this theory. Thus, the activation of nodes and each successive search for an idea is evaluated to check if it satisfies the specific goals to answer the rhetorical problem. Predefined goals can increase the input constraints to shorten the dialectic if a search does not yield the correct utterance to satisfy the goals. Thus, fewer nodes are activated during idea activation and retrieval, and there is less of a chance for writers to express their full disposition towards the topic.

Research suggests that planning strategies can affect the degree of idea generation, which according to the theory is a product of the amount of sub-propositional

nodes that are activated in writers' dispositional dialectic (Galbraith, 1999). The *knowledge constituting model* predicts that writers will generate more ideas when they freewrite. This is because freewriting does not limit the dispositional dialectic, but activates it to its fullest extent, because it does not prompt writers to monitor and therefore disrupt the activation and retrieval of sub-propositions.

More specifically, low self-monitors, who are not as concerned about satisfying rhetorical goals when they are generating content, may be facilitated by using freewriting when planning their essays (Galbraith, 1996, 1999, 2009). According to the *knowledge constituting model*, low self-monitors do not monitor and guide their behavior in social situations according to the expectations of the social situational context, and would generate content and ideas according to their internal dispositions. Likewise, they might also express their disposition towards the topic without paying attention to their goals for answering the prompt or the expectations of the assignment. Outlining, which prompts writers to attend to rhetorical goals, could hinder low self-monitors from generating ideas because low self-monitors are not prone to be constrained by the rhetorical goals. Freewriting may facilitate low self-monitors because freewriting does not make writers keep track of rhetorical goals or to attend to how they are framing of ideas to the audience.

On the other hand, since high self-monitors are more in-tune with their social environment in social situations, so they may tend to be more concerned about the rhetorical goals and focus on these communicative goals when they are writing. Hence, high-self-monitors would tend constrain their idea retrieval by focusing on generating ideas that are more congruent with the rhetorical problem at hand. Therefore, it is

hypothesized that, relative to low Self-monitors, high self-monitors should be facilitated in composing when they use the planning strategy of outlining. Outlining compliments high self-monitors style of generating content to meet rhetorical goals by providing them with a template that helps them focus on their communicative goals and restrict their idea generation to only ideas that are related to the rhetorical problem.

The *knowledge transforming model* and the *knowledge constituting model* were tested by Galbraith (1996). He had high and low self-monitors plan their essays by either writing in prose or taking notes. The prose condition is similar to freewriting in that it does not require writers to organize their ideas or prompt writers to monitor their idea generation to meet rhetorical constraints. The note taking condition is similar to outlining. Just like outlining, note taking prompts writers to direct their idea generation to their communicative goals and assess their ideas as they think of them, to make sure that they pertain to their goals to answer the prompt (Torrance & Galbraith, 2006). According to the results of the study, there was an increase in the number of new ideas that low selfmonitors generated in the prose planning condition. There was also an increase in the number of new ideas that high self-monitors generated in the note taking condition. The results of this study supports the hypothesis that goal directed forms of planning like outlining positively affect high self-monitors, as displayed by increased idea generation. In addition, the result also supports the hypothesis that less goal directed forms of planning like freewriting positively affect low self-monitors as exhibited by increased idea generation.

Galbraith, Hallam, Olive, and Le Bigot (2009) had participants write a newspaper article and plan their article by listing their ideas and then writing an outline. To test the extent to which the ideas in the participant's initial list changed as participant outlined,

the researchers compared the list of ideas with the outlines using the semantic similarity analysis tool Latent Semantic Analysis (LSA). The researchers reported that high self-monitors had the lowest LSA cosine semantic similarity scores between their initial lists and their outlines. This was interpreted by the authors to indicate the high self-monitors changed their ideas the most in the course of planning an outline. The results of this study support the hypothesis that goal directed forms of planning like outlining have a greater impact on high self-monitors as exhibited by greater transformation of ideas during outlining planning than during less goal directed forms of planning.

In another study, (Galbraith et al., 2006) tested the effect of rough drafting and writing an outline on both the amount of ideas generated and the coherence of the ideas generated for high and low self-monitors. They presented participants with a writing prompt, asked them to develop a list of ideas about the topic, and then had them indicate how similar their ideas were on a 7-point Likert scale. Participants were subsequently assigned to either rough draft, outline or control conditions (write about a different topic). After planning they were told to again generate another list of ideas and rate the relationship between the ideas. They were instructed to compare the list from their initial list with their new list. The ratings of similarity of their ideas gave an indication of the coherence of the ideas that were developed as a function of the planning conditions. Low self-monitors did not produce a significantly different number of ideas after outlining or rough drafting. The researchers reported that only high self-monitors on average developed a greater number of ideas if they outlined, and the ideas were on average less similar to their initial list of ideas after they outlined. The researchers interpreted this finding to indicate that for high self-monitors, there is an inverse relationship between the number of ideas generated during outlining and the coherence of those ideas. Though this

study did not provide strong support for either the *knowledge transforming model* or the *knowledge constituting model*, it did provide evidence to suggest that when high self-monitors produce more ideas, there is a decrease in the coherence of those ideas.

The Current Study

The current study extends research regarding the extent of idea generation, change, and coherence of high and low self-monitors under different conditions of planning by investigating the cohesion and idea generation of participants' writing. Though some research has demonstrated a relationship between the number of ideas generated and the coherence of the ideas generated (Galbraith et al., 2006), there have not been many studies that have assessed the idea generation and cohesion between participants planning and essays, and within their essays using computational linguistic analyses tools.

The goal of this study is to investigate whether self-monitoring style can mediate a specific planning strategy that is most effective for idea generation and essay cohesion as measured by semantic cohesion. The *knowledge constituting model*, predicts that low self-monitors will benefit from freewriting in terms of idea generation and semantic cohesion of essays. According to *the knowledge constituting model*, low self-monitors engage their dispositional dialectic when writing, which is implicitly organized according to their understanding of the topic. Freewriting affords low self-monitors the facility to generate their writing via their dispositional dialectic without being inhibited by and being forced to engage in rhetorical goal satisfaction. Since rhetorical goal satisfaction is a defining characteristic of the mechanism in which outline planning facilitates idea generation during planning, the *knowledge constituting model*, predicts that outlining will

interfere with low self-monitors' ability to generate congruent ideas and writing that is high in cohesion. Thus, the *knowledge constituting model*, predicts that the low selfmonitors will produce more ideas, and will produce more semantically cohesive essays when they freewrite as opposed to when they outline.

On the other hand, the *knowledge constituting model* predicts that outline planning will facilitate the high-self monitors' natural tendency to constrain their ideas to answer the rhetorical problem, and will help them develop their writing with semantic cohesion and rhetorical structure. The *knowledge constituting model*, also predicts that high self-monitors who outline rather than freewrite will generate a greater quantity of congruent ideas and essays with higher semantic cohesion.

Method

Participants and Design

There were a total of 700 participants recruited from Amazon Mechanical Turk™ (AMT). This study was approved by the Institutional Review Board at the University of Memphis. AMT allows individuals to receive monetary compensation for completing this study online (Strain & Booker, 2012). According to Strain and Booker (2012), the average age of participants using AMT is 36 years old, and the age range is 18 to 80 years old. Also, 65% of users are female. Our AMT specification limited the eligibility of participants to only U.S. workers. Participants were recruited for the study by visiting the AMT website where they had the opportunity to sign up for this experiment which was called a Human Intelligence Task (HIT). Workers were automatically given an ID that consisted of a string of random numbers and letters. On the AMT website, workers could sort through the database of tasks according to various criteria, including the amount of

reward allocated for completing a task and the time allotted to complete it. This study was listed among a database of other HIT's on the website with the title "Planning and writing activity". The participants who signed up to participate in the current study received \$4.00 and on average the study lasted on average 46.5 minutes.

Materials

Snyder self-monitoring inventory. The Snyder self-monitoring inventory was used in this study to identify participants as either low or high self-monitors. Participants were presented with 18 statements, such as "In a group of people I am rarely the center of attention," and asked to respond whether they think the statement is true or false as applied to them. Participants were assumed to be low self-monitors if they scored between 0 and 8 on the scale, and high self-monitors if they scored between 10 and 18 on the scale (Gangestad & Snyder, 1985). The average reported Cronbach alpha for the 18 item self-monitoring inventory is $+ .70$. There was a $.801$ Cronbach alpha in this experiment.

Prompts. Two prompts from a database of SAT prompts were randomly assigned to participants in each group (Appendix A). The prompts were argumentative essay topics. One of the prompts was about the proper role of government in people's lives and the other was about doing work that you love or work that pays well. The effect of the prompt was measured in the analysis by including the prompt variable as an independent variable separate from self-monitoring and planning condition.

Measures

Coh-Metrix & cohesion. To test the hypothesis that self-monitoring affects semantic cohesion in writing, the computational linguistics tool Coh-Metrix was used to

analyze the written planning and essays of participants in the different conditions.

CohMetrix is a computer program that analyzes linguistic features of words, sentences, and discourse (Graesser, McNamara, Louwerson, & Cai, 2004; McNamara, Graesser, McCarthy, & Cai, 2014). The Coh-Metrix indices of interest in the current research for measuring semantic cohesion include LSA semantic overlap and LSA adjacent sentence cohesion.

LSA semantic cohesion was used in the current thesis to analyze and assess the cohesion of participants writing. Cohesion is the physical features of texts that help the reader make connections between ideas and concepts and form a coherent understanding of the meaning of a text (McNamara, Crossly, & McCarthy, 2010). When writing has sparse cohesive cues it forces the reader to make inferences to fill in the gaps that connect concepts and ideas and this can negatively affect coherence (Graesser, Singer, & Trabasso, 1994). Thus, coherence is affected by the presence of cohesion in a text (Graesser et al., 2004). Cohesion is also an indication of essay quality (McNamara et al., 2010).

LSA is a method of quantifying the semantic similarity of words (Foltz, Kintsch, & Landauer, 1998). It can be used to measure cohesion of texts by assessing the extent to which there is conceptual overlap of words in sentences and paragraphs in a text. This overlap assessment is made possible by using a vector space from a co-occurrence matrix of a large corpus of texts and computing the cosine of the angle of pairs of words in the vector space. The vectors between words denote the semantic similarity of words. LSA uses the TASA corpus which contains a range of different texts that a person would be exposed to during their lifetime to provide a calculation of the co-occurrences of words

across discourse (Landauer, McNamara, Dennis, & Kintsch, 2013). For example, words that occur more frequently together in the TASA corpus such as dog and beagle would receive a high cosine value (Foltz et al., 1998). On the other hand, words like dog and backpack would have a lower cosine value because they co-occur together less frequently in texts.

LSA overlap cohesion. The current study uses LSA overlap to assess the congruence or coherence of ideas between the planning (outline, freewrite) and the essay. This is done to assess the efficacy of the planning strategy to help writers develop ideas and plan their essay using those ideas. A high semantic congruence would be an indication that the ideas developed in the plan were semantically congruent enough to be incorporated into a coherent composition. A low semantic congruence would indicate that ideas that were developed during the planning were divergent and not semantically coherent enough to be incorporated into an essay.

LSA overlap cohesion measures the semantic co-referentiality between texts (Crossley, Louwerse, McCarthy, & McNamara, 2007). In this study, LSA overlap is computed by adding all of the vectors in the planning (outlining, freewriting) and adding all of the vectors in the essay and taking the cosine between the two (Crossley & McNamara, 2011). Doing this gives a measure of the extent to which the concepts from the participants planning were semantically congruent with the concepts from their essays.

LSA adjacent sentence cohesion. LSA adjacent sentence cohesion measures the conceptual similarity between one sentence to the next (Crossley & McNamara, 2011; Graesser et al., 2004; McNamara et al., 2014). LSA adjacent sentence is a measure of the

local cohesion in writing, as opposed to LSA overlap which assesses a more global aspect of a piece of writing. In this study the LSA adjacent sentence measure was only measured on the essays part of participant's writing. Planning strategies are presumed to affect the organization and coherence of the ideas that participant's generate (Galbraith, 1999). Thus, the LSA adjacent sentence scores of participants essay should reflect the coherence of the propositions that were generated during planning and incorporated into the subsequent essays.

The *knowledge constituting model* of text production predicts that low and high self-monitors will demonstrate higher semantic cohesion between their planning and their essays, and within their essays when they are assigned to planning strategies that reinforce and align with their natural tendencies to generate ideas for a rhetorical prompt. The *knowledge constituting model* predicts that in the freewriting condition, low selfmonitors will have higher LSA overlap and LSA adjacent sentence cohesion and their LSA overlap and adjacent sentence cohesion will be lower when they outline. Likewise, the *knowledge constituting model* predicts that the LSA overlap and adjacent sentence scores of high self-monitors in the outlining condition will be higher than in the freewriting condition.

Procedure

Participants were randomly assigned to either outlining ($N = 334$) or freewriting ($N = 352$). The data of 18 participants who failed to complete the assignment were excluded from this analysis. Participants were presented with an informed consent form online immediately after they signed up to participate in the experiment and again after they have linked to the Qualtrics website (Mason & Suri, 2012). Before they could start

the experiment they were told that, “By clicking to the next page and beginning the study, I acknowledge that I have read and understand the information on this page and freely consent to participate” (Strain & Booker, 2011, p. 9). After reading the electronic informed consent, participants completed 18 question items from the Snyder Selfmonitoring inventory. Next, participants were randomly assigned to the conditions where they were and taught either the freewriting strategy or outlining strategy from a short 2-minute video.

Freewriting condition In the freewriting condition participants were shown a short video on how to freewrite. The video was approximately 2-minutes long. It included simple instructions on how to freewrite in a slideshow format with a few illustrations. After the participants watched the video they were directed to the next page where they were given the prompt and were asked do the freewriting. This page included additional instructions (Appendix B) reiterating how to freewrite. Below these instructions was the prompt, which was one of two possible randomly assigned prompts (Appendix A). Below the prompt there was a text box where participants were told to type their freewrite. Participants had to spend a minimum of 5 minutes on this page. They were required to write a minimum of 100 words in order to proceed to the next page and if they did not write at least 100 words they were prompted to write more. After freewriting they proceeded to the essay portion of the study. On the essay page participants were again shown the prompt at the top of their screen, but were told this time to write their essay with well-formed paragraphs, including an introduction, body, and a conclusion paragraph. Participants were told that their essay must be at least 500 words. They were told that they had plenty of time to write the essay and that they should not be worried about time constraints. When they were done writing their essays they were asked to list

all of the ideas that they came up with during the writing process in separate text boxes. They were told they should list the ideas by summing them up using one or two words but that they could write in a complete sentence if they felt they needed to.

Outlining condition. In the outlining condition participants were shown a video that was approximately 4 minutes long on how to outline. After the participants watched the video they were directed to the next page where they were given the prompt, and were asked to do the outline. This page included additional instructions (Appendix B) reiterating how to outline. Below these instructions was one of two possible randomly assigned prompts (Appendix A). Below the prompt was an example of an outline template and a text box where participants were told to create their outline (Appendix B). Participants were required to spend a minimum of 5 minutes on this page. When they were done outlining, they were asked to write their essay. After they outlined, they proceeded to the essay portion of the study. On the essay page, participants were again shown the prompt at the top of their screen, and were told to write their essay with wellformed paragraphs including an introduction, body and a conclusion paragraph.

Participants were told that their essay must be at least 500 words. They were told that they would have plenty of time to write the essay and that they should not be worried about time constraints. When they were done writing their essays, they were asked to list all of the ideas that they came up with during the writing process in separate text boxes. They were told they should list the ideas by summing them up using one or two words but that they could write in a complete sentence if they felt they needed to.

Analysis and Statistical Techniques

A factorial design two-way ANOVA with condition of planning (outlining, freewriting), and self-monitoring as independent variables was used to test the hypothesis that there would be differences in the number of ideas, LSA overlap, and LSA adjacent sentence scores of high versus low self-monitoring participant's writing under the two conditions of planning.

Results

Descriptive Statistics

Table 1 shows descriptive statistics for the Coh-Metrix scores and number of ideas of low and high self-monitors in the outlining and freewriting conditions.

Table 1

Descriptive statistics for Number of Ideas, LSA overlap, LSA adjacent sentence

Dependent Variable	<u>Low Self- monitors</u>				<u>High Self- monitors</u>			
	<u>Outlining</u>		<u>Freewriting</u>		<u>Outlining</u>		<u>Freewriting</u>	
	<i>(n = 148)</i>		<i>(n = 153)</i>		<i>(n = 145)</i>		<i>(n = 148)</i>	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Ideas	7.12	(3.45)	7.45	(4.29)	7.46	(3.85)	8.67	(5.07)
LSA overlap	.584	(.187)	.546	(.179)	.639	(.197)	.553	(.155)
LSA Adjacent sentence	.187	(.064)	.173	(.056)	.199	(.057)	.179	(.068)

Prompts

An analyses of variance (ANOVA) was conducted with the prompt condition as a between-subjects independent variable and the dependent variables of LSA overlap cohesion and LSA adjacent sentence cohesion. The effect of the prompt for number of

ideas was non-significant $F(1, 590) = .881, p > .05$. The effect of the prompt for LSA overlap cohesion was significant $F(1, 590) = 8.262, p = .008$. The effect of the prompt for LSA adjacent sentence cohesion was non-significant $F(1, 590) = .402, p > .05$.

Idea Generation

A univariate analysis of variance (ANOVA) was used to investigate whether different self-monitoring styles and the two conditions of planning predicted idea generation (see table 2). To test the assumption that the variance of the dependent variable of number of ideas were equal across the groups of low and high self-monitors and freewriting and outlining conditions a Levene's test of homogeneity of variance was performed. The results revealed that the assumption was violated, $F(3, 590) = 6.437, p < .001$ indicating that the amount of variance in idea generation was significantly different for high and low self-monitors in the freewriting and outlining conditions. The ANOVA revealed that there was a significant main effect for condition $F(1, 590) = 4.991, p = .026$ and self-monitoring $F(1, 590) = 5.042, p = .025$. High self-monitors ($M = 8.07, SD = 4.54$) on average listed significantly more ideas than low self-monitors ($M = 7.29, SD = 3.89$).

Participants in the freewriting condition wrote significantly more ideas ($M = 8.05, SD = 4.717$) than in the outlining condition ($M = 7.29, SD = 3.65$). The analysis also revealed that the significant difference in the number of ideas generated following either freewriting or outlining was only true for high self-monitors $t(291) = 2.306, p = .001$. High self-monitors listed statistically significantly more ideas in the freewriting condition than the outlining condition (outlining: $M = 7.46, SD = 3.84$; freewriting: $M = 8.67, SD = 4.537$). For the low self-monitors, there were no significant differences in the number of

ideas generated in either planning condition $t(299) = .733, p = .092$ (outlining: $M = 7.12, SD = 3.452$; freewriting: $M = 7.45, SD = 4.286$). There was no significant interaction between planning strategy type and self-monitoring style $F(1, 590) = 1.639, p = .201$.

This result is contrary to the predicted hypothesis that high self-monitors would produce more ideas in the outlining condition. The *knowledge constituting model* maintains that high self-monitors are goal directed in their planning, and are facilitated to generate ideas by structured goal directed forms of planning like outlining. The finding that high self-monitors generated statistically significantly more ideas in the freewriting condition did not support the *knowledge constituting model*. Low self-monitors on the other hand, did produce more ideas in the freewriting condition, as was predicted by the *knowledge constituting model*. However, the amount of ideas produced by low self-monitors in the freewriting condition compared to the outlining condition was not statistically significant.

The finding that high self-monitors generated statistically significantly more ideas in the freewriting condition was also not in line with the *knowledge transforming model*, either. According to the *knowledge transforming model*, both high and low self-monitors should have generated more ideas in the outlining condition. This is because the *knowledge transforming model* asserts that ideas are generated when writers stick to their rhetorical goals and search their memory for ideas that satisfy their goals to answer the rhetorical problem.

LSA Overlap Cohesion

We investigated whether self-monitoring styles predicted LSA overlap cohesion. There was a significant main effect for self-monitoring, $F(1, 590) = 4.318, p = .038, p < .05$ such that the mean LSA overlap score for high self-monitors ($M = .595, SD = .182$)

were significantly higher than low self-monitors ($M = .565$, $SD = .184$). There was also a significant main effect for planning $F(1, 590) = 17.302$, $p < .001$. However a t-test revealed that only high self-monitors $t(299) = 4.131$, $p = .001$ had statistically significantly higher LSA overlap scores in the outlining condition than the freewriting condition (outlining: $M = .639$ $SD = .197$; freewriting $M = .553$, $SD = .155$). For low self-monitors there was no significant difference in LSA overlap scores $t(299) = -1.77$, $p = .077$ (outlining: $M = .584$ $SD = .167$; freewriting $M = .546$ $SD = .180$). There was no significant interaction between planning strategy and self-monitoring for LSA overlap cohesion $F(1, 590) = 2.638$, $p = .105$.

High self-monitors had higher LSA overlap scores between their outlines and their essays than between their freewriting and their essays. This result is in correspondence with both the *knowledge transforming model* and the *knowledge constituting model* of text production. The finding that high self-monitors had greater LSA semantic cohesion overlap scores when they outlined could suggest that outlining helps high self-monitors generate content during planning that is semantically similar to the content that they included in their essays. In addition the finding suggests that when high self-monitors outline, there is more conceptual congruence between their plan and their essay. On the other hand, when high self-monitors freewrite, there may be less conceptual congruence between their plan and their essays.

LSA Adjacent Sentence Cohesion

An ANOVA was performed to investigate whether self-monitoring styles predicted LSA adjacent sentence cohesion scores. To test the assumption that the variance of the dependent variable of number of LSA adjacent sentence scores were equal across the groups of low and high self-monitors and freewriting and outlining conditions

a Levene's test of homogeneity of variance was performed. The results revealed that assumption met, $F(3, 590) = 1.55, p = .201$ and that the amount of variance in idea generation was not significantly different for low and high self-monitors in the freewriting and outlining conditions.

There was a significant main effect for condition, $F(1, 590) = 5.75, p = .017, p < .05$, such that the mean LSA adjacent sentence scores in outlining ($M = .188, SD = .061$) were significantly higher than in freewriting conditions ($M = .176, SD = .062$). However a t-test revealed that only low self-monitors $t(299) = -1.98, p = .049$ had statistically significantly higher LSA adjacent sentence scores in the outlining condition ($M = .187, SD = .064$) than in the freewriting condition ($M = .174, SD = .056$). For high self-monitors there was no significant difference in LSA adjacent sentence scores $t(291) = -1.43, p = .153$ (outlining: $M = .189, SD = .057$; freewriting $M = .179, SD = .068$). There was no significant interaction between planning strategy and self-monitoring for LSA overlap cohesion $F(1, 590) = 2.638, p = .105$.

Results revealed that there were higher LSA adjacent sentence scores in low selfmonitors essays after they outlined as opposed to after they engaged in freewriting. This could indicate that outlining helps low self-monitors plan more semantically cohesive essays better than freewriting. This finding supports the *knowledge transforming model*. The *knowledge transforming model* assumes that goal directed form of planning like outlining help writers by prompting them to develop specific goals to answer the rhetorical problem, and then use the goals to search for specific ideas. Since low selfmonitors had more semantically cohesive essays after they outlined it may mean that

outlining helps them develop ideas that are more closely associated to the rhetorical problem and are easier to integrate into a cohesive essay.

Table 2

Summary table for Two-Way Analysis of Variance of the Effects of Self-monitoring and Planning Condition (Outlining, Freewriting) on Number of Ideas, LSA Overlap Cohesion and LSA Adjacent Sentence Cohesion Scores

Number of Ideas				
Source	<i>df</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Self-monitoring	1	89.33	5.05	.025
Condition	1	88.37	4.91	.026
Self-monitoring x Condition	1	29.03	1.64	.201
Within cells	590	17.71		
LSA Overlap Cohesion				
Self-monitoring	1	.14	4.32	.038
Condition	1	.56	17.30	<.001
Self-monitoring x Condition	1	.09	2.64	.110
Within cells	590	.03		
LSA Adjacent sentence Cohesion				
Self-monitoring	1	.002	.65	.421
Condition	1	.02	5.75	.017
Self-monitoring x Condition	1	.001	.09	.754
Within cells	590	.004		

Discussion

The purpose of the study was to assess the differential effects of freewriting and outlining on idea generation and cohesion of writing for low and high self-monitors. Our findings suggest that writing planning strategies and self-monitoring do play a role in the idea generation and writing cohesion. Specifically high self-monitors generate more ideas when they freewrite. High self-monitors have greater semantic congruence between planning and essays when they engage in outlining. Also, low self-monitors have higher

semantic cohesion within their essays after they outline. These results provide partial support for both the *knowledge transforming model* and the *knowledge constituting model*.

Alignment of Findings with Hypotheses

According to the *knowledge constituting model*, high self-monitors were hypothesized to generate more ideas in the outlining condition. The theory posits that outlining facilitates high self-monitors in planning by reinforcing their natural tendency to develop and satisfy goals to answer the rhetorical prompt (Galbraith, 1999). However, our results suggest that high self-monitors generated more ideas when they engage in freewriting and thus do not support the *knowledge constituting model* theory. This finding could be explained by the tendency of high self-monitors to want to “do what they are supposed to do”; that is, high self-monitors may be motivated to generate more ideas when they freewrite because they may believe that freewriting is a task that is designed to help them do this. On the other hand, low self-monitors may not adapt at all to the directions or expectations of the assignment, and therefore the way they respond to the planning strategies is less pronounced. Previous studies have also reported that low selfmonitors do not produce a significant number of new ideas during planning (Galbraith et al., 2006).

LSA overlap scores of high-self monitors were higher when they outlined as opposed to when they engaged in freewriting. This finding supports the *knowledge constituting model* and the *knowledge transforming model* predictions for high selfmonitors. Both the *knowledge transforming model* and the *knowledge constituting model* predicted that writers would produce cohesive essays after they outline. The

finding may indicate that when high self-monitors engage in outlining, they may not change the semantic content that they generated during outlining in their essay. This could also indicate that outlining helps high self-monitors stay within the topic when they are planning their essays and not diverge from the topic as they write their essays

According to the *knowledge constituting model* of text production, low self-monitors were predicted to generate higher scores of semantic cohesion between their freewriting and essay than between their outline and essay. However, low self-monitors did not display significantly more LSA overlap cohesion when they engaged in freewriting. This finding supports the *knowledge transforming model* predictions for low self-monitors, but does not support the *knowledge constituting model* theory.

High self-monitors generated more ideas in the freewriting, condition, but the overlap cohesion scores in the freewriting condition were lower than in the outlining condition. A similar result was reported in another study. Galbraith et al. (2006) measured the conceptual coherence of ideas by having participants indicate how similar their ideas were before and after planning and composing an essay. He reported that there is negative relationship between the number of ideas that high self-monitors generate and their perception about the conceptual coherence of those ideas (Galbraith et al., 2006). Even though in the current study, semantic cohesion between the participants outlines or freewriting and essays were measured using a computational linguistic tool, it may be the case, that the coherence of ideas drives essay semantic cohesion. Therefore, it can be argued that both studies support the supposition that there is a negative relationship between the number of ideas high self-monitors generate and their writing cohesion

For low self-monitors, the adjacent sentence cohesion in essays was significantly larger if they outlined than if they engaged in freewriting. This finding supports the *knowledge transforming model* hypothesis which predicted that low self-monitors would benefit from outlining in terms of increased cohesion of essays. Since the *knowledge constituting model* predicted that low self-monitors would have higher LSA adjacent sentence scores when they engaged in freewriting, our findings did not provide support for the *knowledge constituting model* theory.

This result could indicate that outlining compliments low self-monitors style of idea generation during writing. Low self-monitors may benefit from constraining their idea retrieval during planning to satisfy rhetorical goals because they may lack the ability to stay on topic when they are planning their essays if they freewrite (Galbraith et al., 2006). Low self-monitors may develop more divergent ideas when they freewrite, which may be harder for them to connect in the course of writing their essays. Outlining may create a situation where low-self monitors can notice the semantic associations of their writing and limit the ideas that are not related to their communicative goals for answering the prompt, which can improve cohesion.

Limitations and Future Directions

A limitation to the interpretation of these findings are that cohesion measured using computational linguistic analyses does not indicate that writing would necessarily be judged as being high quality. LSA only measures the semantic similarity of words between the outlining or freewriting and the sentences in the essays (Landauer et al., 2013). LSA does not take into account word order, but syntax is a very important aspect of writing quality (Dennis, 2007). Future analysis of these data should involve human

ratings of essay coherence to verify that essays that have higher cohesion are actually also more coherent. We will need to determine whether or not increased semantic cohesion in essays is indicative of higher quality essays.

Another limitation of this study is that there was no control for time spent planning. It could be the case that participants in the outline condition spent more time planning their essays, and it was the extra time spent thinking about the rhetorical problem and generating congruent ideas to answer the rhetorical problems that caused them to write more cohesive essays. Future studies should control for participants' time spent planning and writing essays.

A replication of this study using both freewriting and outlining may be prudent. According to our findings, freewriting helps high self-monitors generate more ideas, but the ideas are perhaps less semantically congruent, and it is perhaps more difficult for the writer to coherently integrate them into their essay. Freewriting may be a better way to help writers generate ideas to write about than outlining, and the process of creating an outline may help them maintain cohesion at the semantic level. Thus, future research should look at the effects of combining freewriting and outlining. The combination of freewriting and outlining may be the best combination because outlining may help writers organize and structure the many different ideas that they came up with during freewriting.

Conclusion

This investigation represents an important contribution to the literature on the effects of planning strategies and individual differences on writing cohesion and idea generation. Our results highlighted the benefit of planning with a clear implication for both writing instructions and learning to write in English. They suggest that outlining

should be overall an effective method of planning for both high and low self-monitors to improve semantic cohesion in writing. Freewriting may help high self-monitors generate a great number of ideas. However, recommending freewriting as a sole planning strategy for both high and low self-monitors may result in less semantically cohesive writing. If writing instructors want to recommend a planning strategy for their students to help them generate ideas, they may be better off by recommending that their students freewrite. If writing instructors are more concerned about increasing the semantic cohesion in students' writing, they may be better off by recommending that their students use outlining. Before making extensive recommendations though, we must verify that these findings using LSA measures of semantic cohesion are aligned with human verification of writing coherence.

References

- Belanoff, P., Elbow, P., & Fontaine, S. I. (Eds.). (1991). *Nothing begins with N: New investigations of freewriting*. Carbondale and Edwardsville: Southern Illinois University Press.
- Bereiter, C., & Scardamalia, M. (1987). *The psychology of written composition*. Hillsdale, NJ: Lawrence Erlbaum Associates.
- Crossley, S. A., & McNamara, D. S. (2011). Text coherence and judgments of essay quality: Models of quality and coherence. In *Proceedings of the 29th Annual Conference of the Cognitive Science Society* (pp. 1236-1241).
- Crossley, S. A., Louwrese, M. M., McCarthy, P. M., & McNamara, D. S. (2007). A linguistic analysis of simplified and authentic texts. *The Modern Language Journal*, *91*(1), 15-30.
- Deane, P., Odendahl, N., Quinlan, T., Fowles, M., Welsh, C., & Bivens-Tatum, J. (2008). Cognitive models of writing: Writing proficiency as a complex integrated skill. *Educational Testing Service Research Report*, 8-55.
- De Smet, M. J. R., Brand-Gruwel, S., Broekkamp, H., & Kirschner, P. A. (2012). Write between the lines: Electronic outlining and the organization of text ideas. *Computers in Human Behavior*, *28*(6), 2107-2116.
- Dennis, S. (2007). Introducing word order within the LSA framework. In T. Landauer, D.S. McNamara, S. Dennis, & W. Kintsch (Eds.), *Handbook of Latent Semantic Analysis* (pp. 449-466). Mahwah, NJ: Erlbaum.
- Elbow, P. (1973). *Writing without teachers*. New York, NY: Oxford University Press.
- Flower, L., & Hayes, J. R. (1980). The dynamics of composing: Making plans and juggling constraints. *Cognitive Processes in Writing*, *31*, 50.
- Flower, L., & Hayes, J. R. (1981). A cognitive process theory of writing. *College Composition and Communication*, *32*, 365-387.
- Foltz, P., Kintsch, W., & Landauer, T. K. (1998). The measurement of textual Coherence with Latent Semantic Analysis. *Discourse Processes*, *25*, 285-307.

- Galbraith, D. (1992). Conditions for discovery through writing. *Instructional Science*, 21, 45-72.
- Galbraith, D. (1996). Self-monitoring, discovery through writing, and individual differences in drafting strategy. In G. Rijlaarsdam, H. van den Bergh, & M. Couzijn (Eds.), *Theories, models and methodology in writing research* (pp. 121-141). Amsterdam: University Press.
- Galbraith, D. (1999). Writing as a knowledge-constituting process. In Torrance M.; Galbraith D. (eds.) *Knowing What to Write*. Amsterdam, NL: Amsterdam University Press, 139-160.
- Galbraith, D. (2009). Writing as discovery. *Teaching and Learning Writing*, 1(1), 5-26.
- Galbraith, D., Ford, S., Walker, G., & Ford, J. (2005). The contribution of different components of working memory to knowledge transformation during writing. *L1 Educational Studies in Language and Literature*, 5(2), 113-145.
- Galbraith, D., Hallam, J., Olive, T., & Le Bigot, N. (2009). The role of different components of working memory in writing. *In Proceedings of Annual Conference of the Cognitive Science Society*.
- Galbraith, D., Torrance, M., & Hallam, J. (2006). Effects of writing on conceptual coherence. In R. Sun & N. Miyake (Eds.), *Proceedings of the 28th Annual Conference of the Cognitive Science Society* (pp. 1340-1345). Mahwah, NJ: Erlbaum.
- Gangestad, S., & Snyder, M. (1985). "To carve nature at its joints": On the existence of discrete classes in personality. *Psychological Review*, 92, 317-349.
- Graesser, A. C., McNamara, D. S., Louwerse, M. M., & Cai, Z. (2004). Coh-Metrix: Analysis of text on cohesion and language. *Behavior Research Methods, Instruments, & Computers*, 36(2), 193-202.
- Graesser, A. C., Singer, M., & Trabasso, T. (1994). Constructing inferences during narrative text comprehension. *Psychological review*, 101(3), 371.
- Graham, S., & Harris, K. R. (2006). Strategy instruction and the teaching of writing. *Handbook of Writing Research*, 187-207.
- Graham, S., McKeown, D., Kiuahara, S., & Harris, K. R. (2012). A meta-analysis of writing instruction for students in the elementary grades. *Journal of Educational Psychology*, 104(4), 879-896.

- Graham, S., & Perin, D. (2007). A meta-analysis of writing instruction for adolescent students. *Journal of Educational Psychology, 99*(3), 445.
- Hayes, J. R. (2006). New directions in writing theory. *Handbook of writing research, 2*, 28-40
- Kellogg, R. T. (1988). Attentional overload and writing performance: Effects of rough draft and outline strategies. *Journal of Experimental Psychology: Learning, Memory, and Cognition, 14*(2), 355–365.
- Kellogg, R. T. (2008). Training writing skills: A cognitive developmental perspective. *Journal of Writing Research, 1*(1), 1–26.
- Kieft, M., Rijlaarsdam, G., Galbraith, D., & Van Den Bergh, H. (2007). The effects of adapting a writing course to students' writing strategies. *British Journal of Educational Psychology, 77*, 565-578.
- Kiuhara, S. A., Graham, S., & Hawken, L. S. (2009). Teaching writing to high school students: A national survey. *Journal of Educational Psychology, 101*, 136-160.
- Landauer, T. K., McNamara, D. S., Dennis, S., & Kintsch, W. (Eds.). (2013). *Handbook of Latent Semantic Analysis*. Psychology Press.
- Mason, W., & Suri, S. (2012). Conducting behavioral research on Amazon's Mechanical Turk. *Behavior research methods, 44*(1), 1-23.
- McNamara, D. S., Crossley, S. A., & McCarthy, P. M. (2010). Linguistic features of writing quality. *Written Communication, 27*(1), 57-86.
- McNamara, D. S., Graesser, A. C., McCarthy, P. M., & Cai, Z. (2014). *Automated evaluation of text and discourse with Coh-Metrix*. Cambridge, MA: Cambridge University Press.
- Piolat, A., & Roussey, J.-Y. (1996). Students' drafting strategies and text quality. *Learning and Instruction, 6*(2), 111–129.
- Scardamalia, M., & Bereiter, C. (1987). Knowledge telling and knowledge transforming in written composition. *Advances in Applied Psycholinguistics, 2*, 142–175.
- Snyder, M., & Gangestad, S. (1986). On the nature of self-monitoring: Matters of assessment, matters of validity. *Journal of Personality and Social Psychology, 51*(1), 125-139.

- Strain, A. C., & Booker, L. M. (2012) Amazon Mechanical Turk: A Web-Based Tool for Facilitating Experimental Research in ANLP.
- Torrance, M., & Galbraith, D. (2006). 'The processing demands of writing'. In C. MacArthur, S. Graham, & J. Fitzgerald (eds.), *Handbook of Writing Research* (pp. 67-80). New York, NY: Guilford Press.
- Torrance, M., Thomas, G. V., & Robinson, E. J. (2000). Individual differences in undergraduate essay-writing strategies: A longitudinal study. *Higher Education*, 39(2), 181–200.
- The College Board. (2009). SAT Essay Prompts. Retrieved October, 11, 2013, from <https://professionals.collegeboard.com/testing/sat-reasoning/prep/essay-prompts>
- National Center for Education Statistics (2012). The Nation's Report Card: Writing 2011 (NCES 2012–470).
- Wason, P. C. (1980). Specific thoughts on the writing process. In L. W. Gregg & E. R. Steinberg (Eds.), *Cognitive Processes in Writing*, pp. 129–137. Hillsdale, NJ: Erlbaum.
- Zamel, V. (1982). Writing: The process of discovering meaning. *TESOL quarterly*, 16(2), 195-209.

APPENDIX A

Writing Prompts

Prompt 1

Many people believe that our government should do more to solve our problems. After all, how can one individual create more jobs or make roads safer or improve the schools or help to provide any of the other benefits that we have come to enjoy? And yet expecting that the government—rather than individuals—should always come up with the solutions to society's ills may have made us less self-reliant, undermining our independence and self-sufficiency.

Should people take more responsibility for solving problems that affect their communities or the nation in general? Plan and write an essay in which you develop your point of view on this issue. Support your position with reasoning and examples taken from your reading, studies, experience, or observations. (The College Board, 2009).

Prompt 2

Most human beings spend their lives doing work they hate and work that the world does not need. It is of prime importance that you learn early what you want to do and whether or not the world needs this service. The return from your work must be the satisfaction that work brings you and the world's need of that work. Income is not money, it is satisfaction; it is creation; it is beauty.

Is it more important to do work that one finds fulfilling or work that pays well? Plan and write an essay in which you develop your point of view on this issue. Support your position with reasoning and examples taken from your reading, studies, experience, or observations.

(The College Board, 2009)

APPENDIX B

Instructions for Planning

Outline

In writing your paper, I want you to use a planning technique of outlining. We have provided you with an example of how to write your outline. You should create a standard hierarchical outline using Roman numerals for main ideas; (I, II), capital letters for subpoints (A, B), numerals for further sub points;(1, 2), and so on. Your outline may contain as many points and as many subpoints as you would like. You will be given plenty of time to compose your outline. In addition, you will be able to view what you wrote in your outline as you write your essay. Subdivide topics by a system of numbers and letters, followed by a period.

Freewriting

In writing your paper, I want you to use the planning technique of freewriting. You will do your freewriting on the computer. To freewrite you write without stopping to generate as many ideas as possible without worrying about spelling, punctuation, grammar, logic, organization or accuracy. Never stop to look back, to cross something out, to wonder how to spell something, to wonder what word to use, or to think about what you are doing. The only requirement is that you never stop writing. You will be given plenty of time to do freewriting. In addition, you will be able to view what you wrote in your freewrite as you write your essay.

The University of Memphis Institutional Review Board, FWA00006815, has reviewed and approved your submission in accordance with all applicable statutes and regulations as well as ethical principles.

PI NAME: Lisa Mintz **CO-PI:**

PROJECT TITLE: The Benefits of Outlining and Freewriting for People with Different Self-Monitoring Styles

FACULTY ADVISOR NAME (if applicable): Yeh Hsueh

IRB ID: #3022

APPROVAL DATE: 3/14/2014

EXPIRATION DATE:

LEVEL OF REVIEW: Exempt Modification

RISK LEVEL DETERMINATION: No more than minimal

Thank you,

Ronnie Priest, PhD

Institutional Review Board Chair

The University of Memphis.

