

May the Choice Be with You?  
The Effects and Perceptions of Choice  
on Writing for College Students

by

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## ABSTRACT

An explanatory sequence mixed methods design was used to examine the effects of choice on the writing performance and motivation of college students ( $n = 242$ ). The randomized control trial was followed by semi-structured interviews to determine the perceptions students ( $n = 20$ ) held on the experiment as well the importance of choosing writing topics in college writing assignments. The effects of choice were tested as part of a real writing assignment that was included in nine sections of an introductory special education course. Results from hierarchical linear modeling (HLM) analyses found choice had a statistically significant negative effect on holistic writing quality, number of words written, and intrinsic writing motivation. Findings from the semi-structured interviews provided context for understanding the unexpected quantitative results.

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are different perspectives that are complementary and enable one to more fully to see his or her world” (p. 53, Onwuegbuie & Johnson, 2006).

~May the Force be with you.

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## CHAPTER 1

### INTRODUCTION

Writing is a necessary life skill for success in the workplace, classroom, and for social and community engagement (e.g., email, social networks). At least 80% of all jobs require writing, and employers consider writing ability when hiring and promoting employees (National Commission on Writing, 2006). In classrooms, writing to learn allows students to organize, explore, and process new content (Graham, 2006; Klein, Arcon, & Baker, 2016). Further, writing becomes the primary vehicle for students to demonstrate their knowledge and to measure their learning. Without sufficient writing skills, students are unable to capitalize on this resource to deepen their learning, exhibit their knowledge, or express their personal preferences (Graham, 2006). As such, less proficient writers are at a grave disadvantage and less likely to experience success in the classroom, workplace, and beyond (Graham, 2006; National Commission on Writing, 2006).

Many factors contribute to the growing number of students who are not equipped to write at a collegiate level (College Board, 2016; Intersegmental Committee of the Academic Senates, 2002). One reason is that students do not receive adequate opportunities to practice the skill of writing (e.g., Gilbert & Graham, 2010) even though more writing practice results in better writing (Graham, Kiuahara, McKeown, & Harris, 2012). As students practice writing, they hone their writing skills. Consequently, students need more opportunities to write across subjects and disciplines (Kellogg & Whiteford, 2009).

Even if more writing opportunities were provided, another factor that contributes to the prevalence of low writing competencies is the challenging nature of writing. It is a difficult, complex task that requires multiple cognitive resources, disciplined self-regulation, and significant effort, knowledge, and skill to construct even a single paragraph (Graham, 2018; Hayes & Flowers, 1980; Kellogg, 1986; Kellogg, 1994; McCutchen, 2006; Zimmerman & Risemberg, 1997).

Given these challenges, there is a need to engage and motivate students to persist at this difficult activity. One strategy that has been considered a useful motivational tool across multiple domains is choice (Deci & Ryan, 2000; Flowerday & Schraw, 2000; Patall, Cooper, & Robinson, 2008), which is the focus of this study. Teachers believe providing students choice in writing assignments is beneficial (Flowerday & Schraw, 2000). However, few studies have investigated the role of choice in writing. This study not only filled this gap in the literature, but also provided college students with supported opportunities to practice writing in a real class setting.

## CHAPTER 2

### REVIEW OF THE LITERATURE

#### **Why Choice is Potentially Effective**

Intrinsic motivation is important in a variety of contexts including the classroom as well as multiple other domains of life (Deci & Ryan, 2000; Patall et al., 2008). Students who are intrinsically motivated demonstrate more academic engagement, increased persistence, deeper learning, enhanced memory, and are more proficient readers (Grolnick, Ryan, & Deci, 1991; Morgan & Fuchs, 2007; Royer, Lane, Cantwell, & Messenger, 2017; Vansteenkiste, Lens, & Deci, 2006). Given the importance of intrinsic motivation to learning and literacy, it is imperative that educators use methods to increase student motivation.

One aforementioned strategy that has been considered a useful motivational tool is choice (Deci & Ryan, 2000; Flowerday & Schraw, 2000; Patall, et al., 2008). However, the relationship between choice and motivation is complex. There is research that has challenged the notion that choice is a universal tool to motivate positive behavior and other desired outcomes (e.g., Flowerday, Schraw, & Stevens, 2004). In fact, some studies have found choice may have no, or a negative, impact on motivation and other outcomes (Patall, 2012).

#### **What Factors Influence the Effectiveness of Choice?**

In certain circumstances, the literature has shown that choice can enhance motivation, whereas in others it can have the opposite or nil effect. The characteristics that influence choice can be categorized as characteristics of the choice, situation, or individual (Patall, 2012). Characteristics that are addressed in this study include, (a)

characteristics of the choice: *autonomy/control* and *preferences*, (b) characteristics of the situation: *authentic experience*, and, (c) characteristics of the individual: *interest level*, *self-efficacy*, and *value for the choice*. For a more thorough discussion of the influence of choice please see Appendix A and Patall (2012).

**Autonomy and control.** Individuals experience autonomy when they feel in control of their actions. Autonomy is a sense that one's actions are volitional and based upon one's desires (Niemic & Ryan, 2009). Control and autonomy are inextricably linked to choice. Meaning, making a choice is often the result of an individual being in control and acting autonomously. It is more than merely being able to make independent decisions; it includes a psychological freedom because the choice is flexible and devoid of coercion (Deci & Ryan, 1987).

**Preferences.** Autonomous feelings tend to occur when choices reflect an individual's personal preferences. Choosing is more likely to have a positive effect on autonomous feelings and intrinsic motivation when it provides the individual the opportunity to express one's personal preferences (Cordova & Lepper, 1996; Patall, 2012; Tafarodi, Mehranvar, Panton, & Milne 2002; Ullmann- Margalit & Morgenbesser, 1997). However, an open question in the choice literature is whether the effects of choice are the result of the act of choosing or if it is more related to receiving one's preference. This question has not been addressed in the empirical literature. Thus, it is unknown what the differential effects may be when one has the opportunity to choose versus receiving their preference despite being denied choice.

**Realistic Setting.** Choice is generally more effective when presented in a naturalistic, yet controlled, setting such as a classroom versus a laboratory setting,

because the latter may be perceived as inauthentic (Patall et al., 2008; Patall, 2012). By setting this study as a structured learning activity within college classrooms as part of regular classroom procedures, I incorporated choice in an authentic and realistic context.

**Self-efficacy.** An individual's self-efficacy to complete a task can influence the effectiveness of choice. However, in some instances choice can be more effective for students with higher self-efficacy; and yet, in other instances choice can have stronger effects for those with lower self-efficacy. For example, for those with lower self-efficacy, choosing may enhance their motivation because they are allowed to make the overall task more manageable. On the other hand, for those with higher self-efficacy, choice may be more beneficial because they might be able to use their expertise to make meaningful decisions, whereas those with low self-efficacy may become overwhelmed when presented with choice (Patall, 2012).

There are multiple examples of the relation between self-efficacy and choice in the empirical literature. For example, those with higher self-efficacy or more expertise prefer to have more choice options as compared to those with lower self-efficacy (Reed, Mikels, & Lockehoff, 2012; Scheibehenne Greifeneder, & Todd, 2010). Similarly, those with high prior experience in the task domain performed better with more choice options and those with low prior experiences did better with fewer options (Chua & Iyengar, 2008). Finally, researchers investigated the moderating role of self-efficacy on the effects of choice on intrinsic motivation. They found, across four studies, that those with higher self-efficacy were more likely to perform better and have increased motivation (Patall, Sylvester, & Han, 2014).

**Interest, Value, and Perceived Competence.** Interest in, value of, and perceived competence for the task can influence the effects of choice. The initial interest and value that an individual has for a task may influence the effect of choice, particularly if the individual has existing beliefs and personal experience with the task or related activities (Patall, 2012). The benefits of choice for those with lower interest has been found in some studies (e.g., Patall, Cooper, & Wynn, 2010; Schraw, Flowerday, & Reisetter,, 1998; Tsai, Kunter, Ludtke, Trautwein, & Ryan, 2008). However, Patall (2013) found the opposite to be true: those with initial personal interest experienced greater benefits of choice than those with lower levels of interest. Additionally, if the task and/or choice options are considered to be of value, then the benefits of choice are more pronounced (Patall, 2012; Reeve, Nix, & Hamm, 2003). Similarly, levels of perceived competence can have different outcomes when individuals are asked to choose. As a result, in some studies choice has been found to be more effective for individuals with higher perceived competence, whereas in other situations, choice is more powerful for those with lower perceived competence (Patall, 2012). Not only can interest, value, and perceived competence moderate the effects of choice, but choice can positively influence these constructs as outcome variables (Patall, 2013, Study 3).

### **Choice and Writing**

There is an assumption in education that providing students with choice in writing topics has positive effects. For instance, one study found that teachers believed giving students choices in writing was beneficial and motivating, particularly for students who had little interest in writing, because it gave them a sense of control (Flowerday & Schraw, 2000). However, despite this assumption, little research has been done in this

area and the research that has been conducted has yielded seemingly contradictory results. Further, methodological issues in study design and data analysis raise questions as to the validity of some of the findings from these studies.

A few researchers have reported that choice has a positive significant effect on specific aspects of writing quality including: (a) writing fluency (Bonzo, 2008), (b) lexical sophistication (Kim & Kim, 2016), and (c) temporal cohesion (Kim & Kim, 2016). Additionally, Edwards & Juliebo (1989) cited an unpublished dissertation, which I was unable to locate, in which students who were given choice of topic wrote longer essays (Graves, 1983). Further, a qualitative study by Erwin (2002) compared the writing practices of two teachers which included, among other contextual features, choice in writing topics. While both teachers allowed students some flexibility in their writing topics, the teacher who gave unrestricted choice to her fifth-grade students had more students choose to write about struggle (e.g., alcoholic parent, divorce). A benefit of unrestricted choice, Erwin concluded, was that choice may give students a powerful opportunity to work out difficult life situations through writing. Finally, Lane and her colleagues found, in a single case design study, that providing a first grader choices during her writing class increased academic engagement and decreased disruptive behaviors; however, this intervention did not work for the other child in the study (Lane et al., 2015).

Despite these promising results, most studies in writing have found that choice did not have a statistically significant effect on performance or motivation (Barry, Nielsen, Glasnapp, Poggio, & Sundbye, 1997; Carroll & Feng, 2010; Edwards & Juliebo, 1989; Flowerday & Schraw 2003; Gabrielson, Gordon, & Engelhard, 1995; Kim & Kim,



2016; Myers, 2002; Schraw et al., 1998) while one found that it had a negative effect (Flowerday, Schraw, & Stevens 2004). Additionally, a single-case design study had to be abandoned because the intervention appeared to have counter-therapeutic effects on the students with emotional/behavior disorders; but, it is unclear whether choice was a factor in students' negative responses (Ennis, Jolivette, & Losinski, 2017).

Four of the studies that found no effect may have been underpowered due to small sample sizes (Carroll & Feng, 2010; Edwards, 1989; Meyers, 2002; Schraw, et al., 1998, Experiment 1). Nevertheless, two studies of statewide writing assessments that had tens of thousands of participants, and were therefore likely to have sufficient power, found that providing choice in topic did not have a statistically significant effect on writing quality (Barry et al., 1997; Gabrielson et al., 1995).

Kim and Kim (2016) investigated the effects of choice on writing quality and motivation with 31 college students in South Korea who had studied English for at least ten years. The procedures bear some similarities to my study. Students completed a brief demographic survey, wrote for 30 minutes, and then completed a motivational survey. The students who were provided choice were permitted to choose between two essay topics whereas the no-choice participants were assigned a topic.

The researchers reported that choice had a positive effect on motivation and two aspects of writing quality. However, these findings were somewhat misleading. While it is true that Kim and Kim (2016) found statistically significant effects for two aspects of writing quality, what was not highlighted was that these were two out of seventeen measures. Said another way, choice had no effect on fifteen out of seventeen aspects of writing quality. This realization tempers the otherwise exciting finding. Similarly, choice

had no effect on five of the six areas of motivation. The one area where there was a statistically significant result was under “perceived choice.” The researchers did not describe any of these constructs, which led me to conclude that the only motivational difference was whether the participants realized that they were being offered a choice. Given that there were no other statistically significant motivation results, it is difficult to conclude that choice had an effect on motivation in this study.

### **Research Questions**

The quantitative and qualitative research questions in this study address different, yet related, aspects of the impact and experience of choice. Therefore, I will present quantitative and qualitative research questions separately as well as a mixed methods research question to compare findings from both strands. Specifically, my research questions are:

### **Quantitative Research Questions and Predictions**

1. After first controlling for variance due to gender, preference, writing self-efficacy, interest in special education, the special education course, and knowledge about special education, does choice on argumentative writing position impact writing performance?
  - a. Does choice on argumentative writing position impact holistic writing quality?
  - b. Does choice on argumentative writing position impact number of words written?
2. After first controlling for variance due to gender, preference, writing self-efficacy, interest in special education, the special education course, and knowledge about

special education, does choice on argumentative writing position impact writing motivation?

- a. Does choice on argumentative writing position impact perceived value?
- b. Does choice on argumentative writing position impact interest?
- c. Does choice on argumentative writing position impact perceived competence?
- d. Does choice on argumentative writing position impact pressure/tension?

Based on theory and prior research, I anticipated choice would have a significant positive effect on holistic writing quality, number of words written, and intrinsic writing motivation. It is possible, however, that choice would have no effect or even a negative effect based on prior research in writing (Barry et al., 1997; Carroll & Feng, 2010; Flowerday & Schraw 2003; Flowerday et al., 2004; Gabrielson et al., 1995; Edwards & Juliebo, 1989; Kim & Kim, 2016; Meyers, 2002; Schraw et al., 1998) and other domains (Flowerday & Schraw, 2003; Flowerday et al., 2004; Reeve et al., 2003).

After analyzing the quantitative data, I refined the qualitative research questions in order to help explain and interpret the quantitative data. These questions are:

### **Qualitative Research Questions**

1. How do students talk about the experience of choice in college writing assignments?
2. How do students characterize choice, as compared to preference, when discussing choice in writing?
3. What are the most salient reasons that students think choices are important with writing?
4. How do students discuss benefits of not having choice in writing?

### **Mixed Methods Research Questions**

I asked the following mixed methods research question in order to explain and integrate the quantitative and qualitative findings into a more cohesive whole:

1. How do students' interview responses explain the quantitative findings?

### **Argumentative Writing**

This study focused on choice in argumentative writing because argumentative analysis is one of the most common college writing activities (Intersegmental Committee of the Academic Senates, 2002) and argumentative writing has been shown to provide college students improved learning as measured by better conceptual understanding of the subject matter (Wiley & Voss, 1999). Argumentative writing is a prominent method used to discuss controversial issues (van Eemeren et al., 2014) through mechanisms such as debating topics, persuading another of an alternate view, and resolving conflict.

Argumentative writing provides students the opportunity to think critically about an issue by comparing competing ideas, evaluating the reasons and evidence supporting those

ideas, and developing a rational conclusion based upon their evaluations (Klein et al., 2016).

Increasingly, students are expected to critically read and write like a content-area expert (Klein et al., 2016), so it is important for students to develop content area knowledge and the tools to effectively communicate their ideas in writing using domain-specific vocabulary and style (Ferretti & De La Paz, 2011). Reading and writing are an integral components to how one learns and demonstrates content-area knowledge therefore, academic success depends upon being able to write using discipline-specific norms, styles, and vocabulary (Ferretti & Lewis, 2013). Much of the content-area argumentative writing research has focused on literature, history, and science at the elementary and secondary levels (Ferretti & Lewis, 2013). However, once students enter college other content areas emerge, such as pedagogy for education majors. Even so, I was unable to locate any studies that examined using argumentative writing as a learning tool for pre-service teachers.

**Dialogic augmentative activities.** An argument is inherently a dialogue between people with differing opinions, which is why it is important to incorporate dialogic activities with argumentative writing experiences. Given the dialogic nature of argumentation, providing dialogic support and opportunities in conjunction with argumentative writing can foster strong, reflective writing (Ferretti & Fan, 2016). Further, dialogic activities provide students the opportunity to consider different perspectives, see limitations in their point of view, and avoid my-side bias (Coker & Lewis, 2008; Felton, Kuhn, & Shaw, 1997; Kuhn & Crowell, 2011; Newell, Beach,

Smith, & VanDerHeide, 2011; Reznitskaya & Anderson, 2002) while providing a meaningful, contextual, and motivating writing experience (Boscolo & Gelati, 2007).

Not only are choices made in authentic contexts potentially more effective (Patall, et al., 2008), but real-world writing experiences may result in stronger essays (Applebee, 1996; Cohen & Riel, 1989; New London Group, 1996; Purcell-Gates, Duke, & Martineau, 2007). When students write within a naturalistic, social context, they produce higher quality argumentative essays with more specific, and clearer arguments (Avery & Avery, 1995), although this is rarely done in research studies (Graham & Harris, 2016). This may be particularly important in studying the effects of choice in writing, as the motivational impact of choice may be higher, but only if students perceive the “authentic” task as real (Gulikers, Bastiaens, & Martens, 2005).

### **Valid, Reliable, and Meaningful Measures**

Scores from the dependent measures applied in this study have repeatedly been found to be valid and reliable in numerous studies. Further, these dependent measures involved widely used scales in the writing and motivation fields. Holistic writing quality (White, 1985) and the word count feature in Microsoft Word (Microsoft, n.d.) are accurate and widely used among writing scholars (Graham, Harris, & Mason, 2005; Morphy & Graham, 2012; Williamson, 1993). Similarly, the Intrinsic Motivation Inventory (IMI; Ryan, 1982) is a robust scale that has been modified for a variety of topics and has yielded consistent successful results (e.g., Deci, Eghrari, Patrick, & Leone, 1994; Gottfried, 1985; Selfriz, Duda, & Chi, 1992; Tsigilis & Theodosiou, 2003).

Additionally, I gathered data on key covariates to control for other possible influences of writing quality. Just as there are individual characteristics that have been

shown to influence the effectiveness of choice, there are unique attributes that have been found to have an impact on students' writing quality, production, and motivation. Not only have both self-efficacy and interest been shown to influence the effects of choice but they are both related to writing performance as well (Albin, Benton, & Khramtsova, 1996; McCarthy, Meier, & Rinderer, 1985; Shell, Colvin, & Bruning, 1995). I measured writing self-efficacy with the Self-Efficacy for Writing Scale (SEWS; Bruning, Dempsey, Kauffman, McKim, & Zumbrunn, 2013) which has been validated and used in multiple research studies. To measure interest in the introductory special education course, I modified items from a previous research study examining student interest in an introductory psychology course (Linnenbrink-Garcia et al., 2010). Further, I collected data on students' gender and their knowledge of special education because, in a review by Graham (2006), he found evidence that female students write better than males and students with more knowledge write longer, higher quality essays.

### **Mixed Methods**

To investigate the research questions, I employed quantitative and qualitative methods and integrated the respective data to gain a deeper understanding of the complexities of choice and writing. Using quantitative methods alone would not have been sufficient to explore multiple dimensions of the phenomenon of choice. The purpose behind the explanatory sequence mixed methods design used in this study was to explain participants' experience with and reaction to the experiment (Creswell & Plano Clark, 2011; Evans & Hardy, 2002). This was the most appropriate design given my purposes and research questions, as the qualitative data were used to provide additional insights into the quantitative data (J. Creswell, personal communication, July 15, 2017). Thus, this

mixed methods study offered the opportunity to provide a stronger and more complete understanding of this research problem (Creswell, 2013). A mixed methods study was needed to explore the role of choice in writing because the literature is not clear as to whether choice is a benefit or detriment to writing outcomes. By implementing a mixed methods study, I was able to employ qualitative methods to better understand significant and surprising quantitative results. Information gathered in the semi-structured interviews provided some guidance as to when and how college students perceive choice to be beneficial. Through a careful integration of the quantitative and qualitative findings, the mixed methods meta-inferences elucidate potential nuances of when and how choice may be beneficial or detrimental for college students.

Semi-structured interviews were an appropriate method to gather meaningful data related to my research questions because this method allowed students to describe their perspectives on choice in this experiment as well as choice in writing more generally. Using open-ended questions in semi-structured interviews permitted thoughts, ideas, and experiences not anticipated by the interviewer to emerge while allowing the researcher to direct questions to relevant issues and ensure consistency across participants (Maxwell, 2013; Tracy, 2013). The semi-structured interviews facilitated a deeper understanding of participants' perceptions of the experience. This provided context that assisted in explaining the quantitative results from the participants' perspectives. By including semi-structured interviews in this study, I explored the quantitative findings and gained a deeper level of understanding about choice, which is a complicated concept to understand.



## Conceptual Framework

Figure 1 provides a graphical depiction of my conceptual framework and how it guided my study procedures and measures. The green circles represent the primary substantive content theories underlying this study. The red hexagon represents choice, which was the independent variable and phenomenon of interest; choice was the focus of the semi-structured interviews. The dependent variables included four aspects of intrinsic writing motivation and two aspects of writing quality, which are represented by the blue rectangles. Finally, the purple rectangle includes the hypothesized covariates.

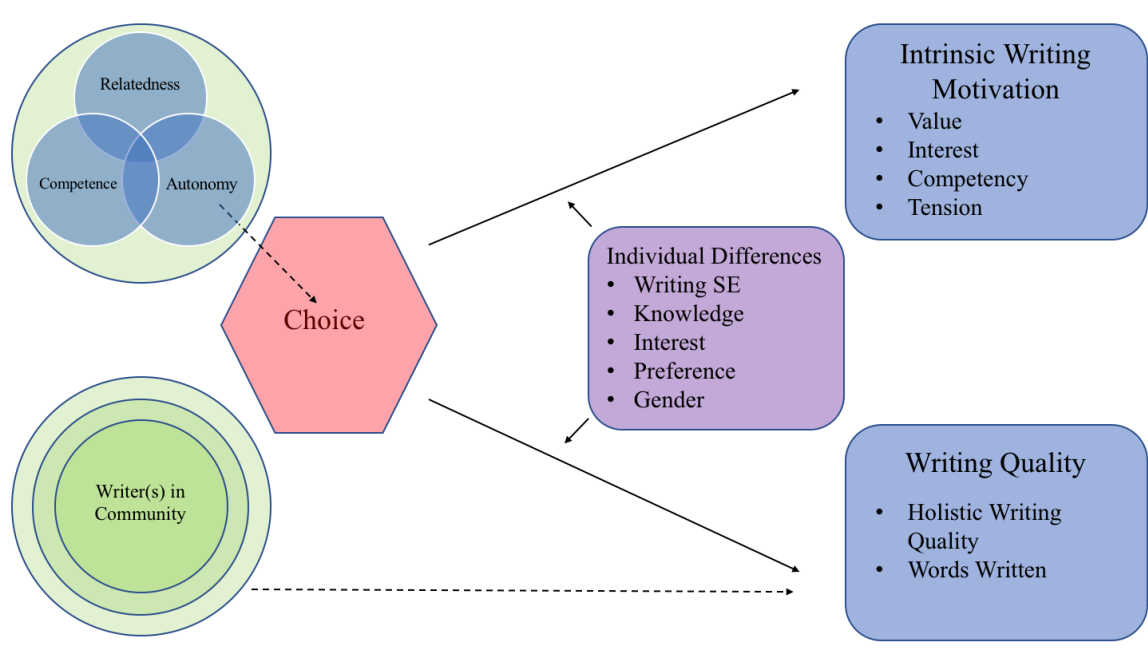


Figure 1. Conceptual framework

**Substantive content theories.** The substantive theories that informed my study were Writer(s) in Community (WiC; Graham, 2018) and Self-Determination Theory (Deci & Ryan, 2000).

**Writer(s) in community: A socio-cognitive view on writing.** The overarching view of the WiC is that “writing involves an interaction between the social context in

which it occurs and the mental and physical actions writers are able to enlist and engage” (Graham, 2018). Composing relies heavily on cognitive and physical actions that are, in large part, occurring within a writer (e.g., attention, working memory, executive control, ideation, translation, emotions, personality traits). However, it is short-sighted to assume that writing occurs within a cognitive vacuum. While cognitive processes are at work, writing is naturally a social activity (Barton, 1991; Hull & Schultz, 2001) informed by and situated within the context of writing communities. Components of a writing community include community purpose, community members, tools, writing actions of the community, written products, physical and social contexts, and collective history. To account for interactions between cognitive and social factors, the WiC is made up of two units which continually interact with one another: the writing community and writer(s). For a more thorough discussion see Appendix B.

***Self-Determination Theory.*** Self-determination theory takes a cognitive perspective holding that the psychological needs of autonomy, relatedness, and competence are required for personal fulfillment and to have the capacity for intrinsic motivation. “Self-determination is the process of utilizing one’s will. This involves accepting one’s boundaries and limitations, recognizing the forces operating on one, utilizing the capacity to choose, and enlisting the support of various forces to satisfy one’s needs.” (Deci, 1980, p. 26). Students who experience autonomy, relatedness, and competence are more likely to be intrinsically motivated to learn and behave in a self-determined manner (Graham & Weiner, 2012). Of these three psychological needs, choice most clearly relates to autonomy because autonomy needs are met through volition and choice (Graham & Weiner, 2012). When a student feels autonomous and in

control of one's choices, intrinsic motivation is enhanced (Patall et al., 2008). In the educational setting choice has been found to enhance motivation (Basten, Meyer-Ahrens, Fries, & Wilde, 2014; Hall & Webb, 2014; Patall et al., 2010), increase feelings of competence and academic performance (Patall et al., 2010; Royer et al., 2017), and decrease problem behaviors (Hall & Webb, 2014; Lane et al., 2015; Royer et al., 2017; Vaughn & Horner, 1997).

### **Significance of the Study**

This study improved on previous writing choice studies by implementing a stronger design, more rigorous data collection and analytic procedures, and a clear presentation of findings. First, for the quantitative portion of the study, I recruited a sufficient number of participants ( $n = 242$ ) to find a statistically significant effect of choice on the outcome variables. Second, I employed a yoking procedure to control for the potential confound of an unequal number of choice and no-choice participants on each side of the argumentative topics. This procedure has not been used in any previous writing choice studies, but it is common in the broader literature testing the effects of choice in other domains (see e.g., Iyengar & Lepper, 1999; Patall, 2013; Reeve et al., 2003). Third, I used and described well-established measures including the Intrinsic Motivation Inventory (Ryan, 1982), number of words written (Morphy & Graham, 2012), and a holistic writing score (Graham et al., 2005; White, 1985; Williamson, 1993). Using a single holistic writing score guarded against presenting potentially conflicting or misleading findings which could occur with too many measures (see e.g., Kim & Kim, 2016). Fourth, data were collected to control for other possible explanations for changes in writing quality or writing motivation. No other writing choice study implemented this

number of relevant covariate measures. Fifth, this is the first study that examined the effects of choice when students were asked to choose the side of an argumentative essay. Sixth, this study considered choice and writing for college students as part of a real writing task in a realistic setting; another first for the writing choice literature. Seventh, using a mixed methods design extended the literature as no mixed methods studies related to provision of choice and writing have been published to date. By taking a mixed-methods approach, this study provided an integrated understanding between the statistical effects and students' perceptions of the influence of choice on their writing and writing motivation.

## CHAPTER 3

### METHODS

In this mixed methods study, I used an explanatory sequence design (Creswell & Plano Clark, 2011) to investigate the effects of choice on writing and college students' perceptions of choice in an in-class discussion and argumentative writing activity.

#### **Mixed Method Research Design Applied in This Study**

The explanatory sequential design is a two-phase design where quantitative data are collected and analyzed prior to the qualitative phase of the study. The qualitative data are then connected to and are used to explain the quantitative results (Creswell, 2013; Creswell & Plano Clark, 2011); thus, this type of mixed methods study typically has an emphasis on quantitative methods and results (Creswell & Plano Clark, 2011). The quantitative and qualitative phases were connected by using quantitative data analysis, which informed qualitative research questions aimed at better understanding significant and surprising results (Creswell & Plano Clark, 2011). Additionally, the quantitative data were used to guide purposeful qualitative participant selection (Creswell, Plano Clark, Gutmann, & Hanson, 2003) in order to gain perspectives based on the order they received choice and whether or not they received their preference in the no-choice condition.

The data collection methods I employed were a randomized control trial for the quantitative strand and semi-structured interviews for the qualitative strand. Quantitative data in the form of holistic writing scores, number of words written, intrinsic writing motivation, and other covariate measures were collected and analyzed in the first phase, which informed qualitative participant selection and qualitative research questions

(Creswell, 2013; Creswell & Plano Clark, 2011). In the second phase, qualitative data were gathered to expound upon the quantitative results.

When designing a mixed-methods study, it is important to consider the rationale (see Introduction) for mixing methods and using a particular design, the relative emphasis of quantitative or qualitative methods, when quantitative and qualitative data were collected, and how the data were integrated (Creswell, 2013; Creswell & Plano Clark, 2011; Onwuegbuzie, Slate, Beach, & Collins, 2009; Teddlie & Tashakkori &, 2009).

**Timing.** Quantitative data were collected before, during, and after the two writing experiences in the Fall 2017 and Spring 2018 semesters. Qualitative data were collected, only in Fall 2017, after a participant had completed both writing experiences. This allowed for quantitative data to drive participant selection and inform potential topics in the semi-structured interviews. Further, waiting until after both in-class writing activities allowed for interviewees to speak to all aspects of the experiment and make meaningful comparisons between the two writing experiences.

**Emphasis.** The primary emphasis was on the quantitative strand of the study because the primary focus was the effect of choice between two sides of an argumentative essay. The semi-structured interviews were secondary because they were intended to provide another vantage point to interpret the results and to facilitate a deeper understanding of participants' perceptions of experiment and their beliefs of the importance of having choice in writing assignments.

**Integration.** Integration is “the linking of qualitative and quantitative approaches and dimensions together to create a new whole or a more holistic understanding than achieved by either alone” (Fetters & Molina-Azorin, 2013, p. 293). A key characteristic

of mixed method studies is the integration at multiple levels including integration at the design, method, interpretation, and reporting levels (Creswell & Plano Clark, 2011; Fetters, Curry, & Creswell, 2013; Onwuegbuzie et al., 2009). First, I integrated at the design level using an explanatory sequence design which draws upon quantitative and qualitative approaches. Second, integration occurred at the methods level where quantitative results, Essay 1 scores and preference assessment results, informed the selection of qualitative participants. Third, integration occurred during qualitative data collection through the creation and modification of specific interview questions. Fourth, the quantitative results influenced my qualitative research questions and the lens through which I analyzed the qualitative data. Fifth, I used integration to make meta-inferences based upon quantitative, qualitative, and joint analyses.

### **Worldview**

In this study, I took a pragmatic perspective that provided me the flexibility to make practical research design decisions, allowing me to more fully focus on the research questions and gaining more meaningful results. As a pragmatic mixed methods researcher, I believe “the essential criteria for making design decisions are practical, contextually responsive, and consequential” (Datta, 1997, p. 34). I made design and analytical decisions that allowed me to answer the broad research questions of the effects and perceptions of choice in a real writing assignment. This included collecting quantitative data to measure the effects of choice on writing quality and writing motivation as well as a qualitative exploration of students’ perceptions on choice through semi-structured interviews.

## **Instructional and Writing Activity Procedures**

The writing activity procedures occurred in the Overview Session (OS), Session 1 (S1), and Session 2 (S2). In these contexts, this included presenting an explanation of S1 and S2, leading in-class discussion activities, implementing in-class writing activities, providing guidance for students to engage in the editing procedures, and collecting quantitative data. I led all sessions and collected quantitative data with the assistance of a trained research assistant.

**Overview Session.** I presented a short Overview Session where students were informed of procedures and expectations that were implemented as part of normal classroom procedures in two subsequent classes (i.e., S1 and S2). In this session, informed consent was obtained in accordance with Arizona State University Institutional Review Board (IRB) procedures.

***Writing self-efficacy, knowledge, and interest survey.*** Before the specifics of the in-class assignments (S1 and S2) were described, students completed a survey which contained writing self-efficacy items, knowledge items, and interest items (Appendix C). This survey contained 22 items from established scales (i.e., Bruning et al., 2013; Linnenbrink-Garcia et al., 2010) as well as multiple-choice items from the course textbook (Turnbull, Turnbull, Wehmeyer, & Shogren, 2015) and demographic questions. This survey took about 5 minutes to complete.

***Choice.*** Next, students were informed that over two class periods they would participate in nearly identical activities with the difference being, (a) the topic they would discuss and write about (this will change from one class to the next), and (b) whether they would get to choose which side of the argument to write about. During the overview,



students were also told that they were randomly assigned to when they would get choice, whether that was the first class or the second class; and that while one time they would be able to choose their position, in the other session they would not.

***Description of Sessions 1 and 2 in-class procedures.*** Students were informed of the expectations for the assignments, including completing the following procedures.

One, they would read a short case study (Appendix D) and then they would choose or be assigned to which side of the controversy they will argue. Two, they would engage in a series of small group discussion activities with their classmates. Three, based upon their discussions and facts from the case study, they would spend 30 minutes writing an argumentative essay. Four, they would complete a short survey at the end of the class. Five, they would submit their first draft to a secure Blackboard folder before leaving the classroom.

***Grading.*** The grading procedures were also reviewed during the Overview Session, using an evaluation rubric (Appendix E). They were told that each writing assignment would be worth 50 points and that their grade would not depend on which side of the argument they chose. Rather, they would earn points for participating and following directions. For instance, they would earn points for engaging in the discussion activities, writing their reflection in class, submitting their first draft to Blackboard before leaving the classroom, and completing short surveys. They were also told that the researcher would tally all points. Finally, it was stressed in the Overview Session that students must attend class to earn these points. If they missed the class they could be assigned an alternative assignment which could be much more difficult and labor intensive, at their instructor's discretion.

**Closing.** After describing the procedures and how students would be graded, other student questions were answered. I then informed the students that I was soliciting volunteers to interview about the writing assignments. This included their reactions to the classroom procedures involved in discussing the controversial topic and writing about it. They were told that participation was voluntary, and that they would be nominally compensated. It was stressed that compensation was just for their time and, in no way, would influence their grade. Further, they were told that interviewees were selected based primarily upon availability and that they could indicate their interest on a short survey that they would take in Session 1.

**Sessions 1 and 2.** The procedures for the in-class activities in Sessions 1 and 2 were identical with three exceptions. Those exceptions were the topic students wrote about (these differed for each session), the case study and the writing prompt used in each class, and when students chose their writing position. The topics centered on controversial issues in special education. For instance, one topic was whether a student with moderate to high behavioral issues should be sent to a therapeutic school. The second topic asked participants to consider whether a 2<sup>nd</sup> grade student should be medicated for ADHD symptoms. These writing activities coincided with course content. I was assisted by a trained research assistant for all S1 and S2 sessions.

In both S1 and S2, I read the case study while students followed along and then students chose or received their specific writing topic, engaged in a series of discussion activities, wrote, and completed a brief survey. First, we passed out a hard copy of the case study, face down, with the Preference Assessment (Appendix G) stapled to the back. The students were asked not to turn over or look at the documents. Then, the case study

scenario was read aloud while students followed along on a printed copy and/or a PowerPoint slide. After reading the case study scenario, students assigned to the choice condition chose which side of the topic they would like to address.

***Random assignment procedures.*** Prior to Session 1, students were randomly assigned by section to choice-first or choice-second groups. Those in choice-first groups chose their preferred position for Essay 1, whereas those in choice-second groups chose for Essay 2. After reading the case study and writing prompt, we passed out Choice and Yoking documents (Appendix F) to participants in the choice condition. Choice participants were instructed to mark which position they would take on the Choice document and to mark the same position on the Yoking document for a classmate. Before students in the no-choice condition were given their assignment, both the Choice and Yoking document were examined to ensure that the same choice was checked on both documents.

Next, the Yoking documents were mixed up and redistributed to participants in the no-choice condition. At this point, all students knew which position they would be writing about. Then, the students were instructed to complete the Preference Assessment. The completed Preference Assessments, Choice Forms, and Yoking Forms were collected, and materials were collected before starting the discussion activities. The discussion materials included a copy of the case study scenario and a planning sheet for taking notes during the discussion activities.

***Discussion activities.*** Next, students engaged in three stages of discussion activities modified from an intervention conducted by Kuhn and Crowell (2011). In Stage 1, students worked with a partner who would also write from the same perspective to

identify potential arguments. In Stage 2, each group of partners found another partner set that would write on the opposing view to discuss their respective perspectives. In Stage 3, the partners returned to their original partner to consider how to respond to potential counter-arguments. While I planned for this to be a partner activity, there were times when the groups contained more than two students due to the number of students who chose one side or the other.

*Stage 1.* After students received their materials, they were instructed to find a partner who had materials which are printed on the same color of paper. This meant that they were writing from the same perspective. After they were sitting with their partner, they were informed that they would have seven minutes to brainstorm reasons to support their argument and that they could use the Notes Page in the materials to help them. Students' attention were directed to a PowerPoint slide and the following guiding questions were read to them: (a) What are some reasons to support your point of view? (b) What facts in the case study could support your point of view? (c) What other reasons can you think of? After answering any questions, they were told to begin while a timer was set for seven minutes.

*Stage 2.* At the end of seven minutes, students were instructed to find another partner group who had materials which are printed on the other color of paper. This meant that each partner group needed to find another partner group that were writing from the other perspective. They were told that they had seven minutes for each group to share their potential reasons and their perspectives. Also, they should take notes on the provided materials. Students were directed to focus their attention to a PowerPoint slide and were read the following discussion prompts: (a) Each side share your reasons, (b)

Discuss: What are the best reasons for each side? (c) Discuss: Can you think of other reasons? (d) Discuss: Can you think of any counter arguments? After answering any questions, they were told to begin while a timer was set for seven minutes.

*Stage 3.* Once seven minutes had elapsed, students were instructed to go back to their original partner. After they were sitting with their partner, they were told that they would have seven minutes to discuss what they learned during Stage 2 and how this would impact their essay. Further, they could discuss their writing plan and how they would organize their essay. Again, they were reminded that they could use the Notes Page to plan. Students' attention was directed to a PowerPoint slide and they were read the following guiding questions: (a) What are the strongest reasons/arguments for your point of view? (b) What are the other side's strongest reasons/counterargument? (c) How can you refute that counterargument? (d) How will you organize your essay/reflection? Finally, if they finished discussing these points with their partner they were told they could take time to plan individually and make final notes on their notes sheet. After answering any questions, they were told to begin while a timer was set for seven minutes.

***In-class writing activity.*** At the conclusion of the discussion activities, students were instructed to get out their laptops and writing materials. Students' attention was directed to a PowerPoint slide and the following guiding points were read to them: (a) take some time to plan, if you need more time, (b) write and then write more! (c) if you get done early, read over your reflection and make edits, (d) you have 25 minutes, (e) if you finish writing and proofreading, stay in your seat and work on something quietly that will not distract those around you. After I answered any questions, time started, and the students were instructed to begin. The students were given a 12.5-minute and a five-

minute warning. Initially I planned for 30 minutes of writing; but, after nearly running out of time with the first section, the time frame was changed to 25 minutes. Laptops were provided to students who did not have one. Further, students had the option of writing by hand but none elected to do so.

***Intrinsic Motivation Inventory.*** At the end of 25 minutes, students completed a writing motivation survey online using Qualtrics (Qualtrics, Provo, UT) with hard copies being available as well. Hard copies were also available (Appendix H). The scale, the Intrinsic Motivation Inventory (IMI; Ryan, 1982), was modified for writing. This 12-item survey was altered to measure intrinsic motivation for the writing activity and took about five minutes to complete. To earn full credit, they were instructed to complete the IMI and submit their first draft to Blackboard before leaving the classroom.

### **Instructional Materials**

The instructional materials used in S1 and S2, to guide the learning activities were comparable in length, complexity, and readability but differ with regard to topic. The two topics focused upon inclusion for a student with moderate emotional/behavior issues and medicating a 2<sup>nd</sup> grade student with ADHD symptoms. For the in-class component, each student received a copy of the case study with their writing prompt as well as a Notes Page which was used to write notes and plan their essay. The case studies were similar length at 450-500 words each and at a seventh-grade reading level. The Notes Page for both assignments had identical guiding questions: notes from first discussion with my partner; notes from talking with the partners who are writing about the other side; additional notes (Appendix D).

## **Quantitative Strand**

**Participants.** In the quantitative strand, participants included undergraduate students at ASU enrolled in an in-person section of SPE 222, Orientation to Education of Exceptional Children (SPE 222) during the Fall 2017 or Spring 2018. Participants provided informed consent in accordance with ASU IRB procedures. Nearly all students enrolled in the course provided informed consent with the exception of Section 6 where seven (67%) of the students did not provide informed consent. No more than one student in the remaining sections indicated they did not want to participate in the study did not provide consent. Data from students who did not provide consent were not used as part of this study, but I provided participation scores to instructors because these activities were a part of regular classroom procedures.

There was a total of 242 undergraduate students who participated in this study across nine sections of SPE 222. Initially I conducted this study in 11 sections but two sections from Fall 2017 were dropped because of attempted modifications to the first case study. A majority of the students were female (75.2%), freshmen (52.5%), and enrolled in Mary Lou Fulton Teachers College (75.2%). Students' self-reported racial identification was similar to that of ASU with most of the students identifying as White (54.1%) or Hispanic/Latina/o (21.9%). Table 1 provides demographic information of the sample.

Students in each section were randomly assigned to choice-first or choice-second groups. Those in choice-first groups chose which side of the essay to argue for Essay 1, whereas those in choice-second groups were allowed to choose their position for Essay 2. When students do not choose, they were yoked to a choice student and wrote on the same position of the argument as their yoked-choice partner.

Table 1

*Demographic Characteristics of Sample (N = 242).*

Variable	<i>n</i>	%
Gender		
Female	182	75.2%
Male	50	20.7%
Prefer not to say	2	0.8%
Did not respond	8	3.3%
Racial/Ethnic identity		
White/Caucasian	131	54.1%
Hispanic/Latina/o	53	21.9%
Asian/Asian American	12	5.0%
Multi-racial	30	12.4%
American Indian/Alaska Native	3	1.2%
Prefer not to say	4	1.7%
Did not respond	8	3.3%
Department or College		
Mary Lou Fulton Teachers College	182	75.2%
Other	60	24.8%
Academic level		
Freshman	127	52.5%
Sophomore	61	25.2%
Junior	31	12.8%
Senior	7	2.9%
Prefer not to say	5	2.1%
Not listed	3	1.2%
Did not respond	8	3.3%

**Setting.** The discussion and writing activities were included a part of the normal scope of the SPE 222 course and therefore occurred at Arizona State University where the courses regularly met. In addition, the surveys and assignment for students to pick a side of the argument were included as part of regular class activities. These activities occurred during the 2017-2018 school year.

**Quantitative data collection.** Quantitative data were collected during the scope of typical classroom procedures during the Overview Session, Session 1, and Session 2 of the writing assignments. Data collected included argumentative essays and survey items



measuring writing self-efficacy, intrinsic writing motivation (value, interest, competency, and tension), interest in the special education course, topic knowledge, position preference, and demographic information. (Given the similarity in variable names which may appear to have measured the same construct, see Table 2 for a description of each variable. Having these definitions in one place was intended to be an easy reference so the reader could compare.) Survey items were collected at three time points during the Overview Session, Session 1, and Session 2.

***Student essays.*** For the purposes of this study, student essay, refers to the first draft of the writing assignment which was completed in class. Each student completed one essay on each topic. Two dependent measures, words written and holistic writing quality were measured using first drafts of students' essays. The first measured construct was total words written as measured by using the word count feature in Microsoft Word. This feature automatically counts and displays the number of words in a document on a status bar at the bottom of the page, (Microsoft, n.d.). Number of words written were measured because writing output under timed conditions (as is the case in this study) provides a measure of writing fluency which is strongly related to how well students' write (Morphy & Graham, 2012). At least 20% of the essays were checked for reliable data entry; reliability was 99.32%.

Table 2

*Descriptions of Predictor and Outcome Variables.*

Measure	Description
†Holistic Writing Quality	Outcome variable that measures quality of an essay in its entirety. Referred to as “writing quality or “holistic quality.”
†Words Written	Outcome variable that measures writing production. Referred to as “words written” and abbreviated by “WW.”
†Intrinsic Motivation	The following four variables are subscales from the Intrinsic Motivation Inventory. Participants completed a survey with these items right after completing each writing activity. All four measures were predictor variables and outcome measures.
Subscale: Value	Value for the writing activity. Referred to as “value.”
Subscale: Interest	Interest for the writing activity. Referred to as “interest (activity)”
Subscale: Competency	Perceived competency in the writing activity. Referred to as “competency.”
Subscale: Tension	Tension for the writing activity. Referred to as “tension.”
‡Interest in Special Education	Predictor variable that measured students’ interest in the introductory special education course. Referred to as “interest (SPE 222).”
‡Knowledge	Predictor variable that measured students’ knowledge of the special education topics presented in the case study. Referred to as “knowledge.”
‡Writing Self-Efficacy	Predictor variable that measured students’ general writing self-efficacy and was not related to the specific writing tasks. Referred to as “writing self-efficacy” or “SEWS.”

†Collected during or immediately after the writing activity

‡Collected prior to either writing activity during the Overview Session

The second measured construct was a holistic writing score. A holistic writing score of writing quality allows for measuring writing as a complete unit of written expression, rather than multiple isolated skills (White, 1985). It is a more accurate measure of how well a student writes than an indirect measure such as multiple-choice questions related to grammar, voice, or other writing techniques (Williamson, 1993).

Consistent with procedures implemented by previous scholars (see e.g., Graham et al., 2005) multiple raters were trained to criterion using anchor papers and descriptions for each possible score on a traditional holistic scale (Cooper, 1997). Essays were scored in accordance with 12<sup>th</sup> grade National Assessment of Educational Progress (NAEP) holistic scoring guidelines for persuasive essays (National Assessment Governing Board, 2016). This scale was used because a 1 to 6 scale provided a reasonable continuum of performance while allowing for distinctive operational definition that clearly distinguishes between achievement levels (National Assessment Governing Board, 2016; Wolcott & Legg, 1998). Two raters (first author and a trained research assistant) were trained to criteria on these procedures achieving at least 80% reliability before scoring participant essays.

After training, the research assistant scored all essays using the rubric, anchor papers, and descriptions. I scored at least 33% of Essay 1 and Essay 2 across all sections. Differences were discussed and resolved. In one instance, an expert in writing research was consulted to determine the final score. Overall reliability for essay scores was 96.82%.

***Survey 1.*** Prior to discussing the writing assignments in the Overview Session, students completed the first survey (Appendix C). This survey contained items to measure writing self-efficacy, interest in special education, and knowledge about special education issues.

*Writing Self-Efficacy Scale.* Students' writing self-efficacy was assessed using the Self-Efficacy for Writing Scale (SEWS; Bruning et al., 2013), a 16-item self-report instrument. This scale measured perceived confidence to perform tasks related to three

domains of writing: ideation, conventions, and self-regulation. However, the conventions subscale was not used because I, and an expert in writing research, reviewed the items and thought they were inappropriate for college students (e.g., *I can write complete sentences.*). All items were stated in the positive and the items were each scored on a 100-point scale (0 = no chance, 15 = very little chance, 35 = little chance, 50 = 50/50 chance, 65 = good chance, 85 = very good chance, 100 = completely certain). The following 11 items were used in this scale: *I can think of many ideas for my writing; I can put my ideas into writing; I can think of many words to describe my ideas; I can think of a lot of original ideas; I know exactly where to place my ideas in my writing; I can focus on my writing for at least 30 minutes; I can avoid distractions while I write; I can start writing assignments quickly; I can control my frustration when I write; I can think of my writing goals before I write; I can keep writing even when it's difficult.*

An exploratory factor analysis (EFA) was conducted on the two subscales of the *Self-Efficacy for Writing Scale* items that were used. Although a three-factor solution was suggested by the MAP test (O'Connor, 2000), a two-factor solution was used based upon scree-plot, parallel analysis, percentage of variance, and factor loadings. The factors aligned to the two subscales: ideation and self-regulation. No items were dropped. All self-regulation items loaded on the self-regulation factor and all ideation items loaded on the ideation factor. The range of factor loadings on the pattern matrix for the self-regulation factor was between 0.565 and 0.839. On the ideation factor, the factor loadings were between -0.647 and -1.007. When the factors are non-orthogonal and correlated, as is the case with these data factor loadings, the pattern matrix values can exceed 1.00 even though the structural matrix values cannot (Pedhazur & Schmelkin, 1991; Pett, Lackey,

& Sullivan, 2003). This is because non-orthogonal factor loadings are regression coefficients rather than correlations; therefore, they can be greater than one (Jöreskog, 1999). Coefficient alpha for these scores was 0.938.

*Interest.* The interest items were modified from a measure of situational interest in academic domains (Linnenbrink-Garcia et al., 2010, Study 1). The items used by Linnenbrink-Garcia and her colleagues were developed to measure students' interest in an introduction to psychology course based upon a 7-point Likert-type scale (1= strongly disagree, 7 = strongly agree). They found these items reflected students' general interest and value in the course. The six items that were used in this study loaded onto a common factor which, the authors concluded, reflected students' general interest and value in the course.

In this study, participants indicated their level of agreement with the following statements: *I think the field of special education is very interesting; I find the content of this course personally meaningful; I think what we are studying in this course is useful for me to know; I'm excited about special education; I think the field of special education is an important discipline; I think what we are learning in this course is important.* A factor analysis was conducted to determine the factor structure of this measure and coefficient alpha were compiled for each viable factor (Brown, 2015; Pett, et al., 2003). A one-factor solution was used based upon scree-plot, parallel analysis, MAP Test, percentage of variance, and factor loadings. No items were dropped. The lowest factor loading was 0.605. Coefficient alpha for these scores was .873.

*Knowledge.* Participants completed a multiple-choice assessment based upon questions from the course textbook test bank (Turnbull et al., 2015) Prior to instruction,

participants completed all ten items in Survey 1 (Overview Session). Five items measured content knowledge related to inclusion and the Individuals with Disabilities Education Act (IDEA) and five items measured participants' knowledge of issues related to ADHD. Each item had four options. At the end of Session 1 participants completed the five items related to inclusion and IDEA, and at the end of Session 2 participants completed the five items related to ADHD. Internal reliability was .368 (Thompson, 2003).

***Preference assessment.*** After students knew which writing position they would take, but before beginning the discussion activities, they completed a short preference assessment (Appendix G) to measure whether participants in the no-choice condition received the position they preferred. This measure controlled for instances where positive effects were the result of being assigned their preferred position as compared to the effects of choice. This researcher-made assessment measured which side they chose or were assigned, which position they preferred, and on a 1 to 10 scale, how much they desired their preferred position.

***Intrinsic Motivation Inventory.*** At the end of Session 1 and Session 2, after students completed the in-class discussion and writing activities, they responded to a short intrinsic motivation survey. This survey was modified from the Intrinsic Motivation Inventory (IMI; Ryan, 1982) to reflect the writing as well as the in-class experience in its entirety. The full IMI contains 45 items with six subscales; however, items from four subscales (value, interest, competency, and tension) were used in this study. In several previous studies researchers have elected to omit items and subscales with successful

results (e.g., Deci et al., 1994) because such modifications do not have detrimental effects on the psychometric properties of the IMI (McAuley, Duncan, & Tammen, 1989).

Intrinsic writing motivation was measured using 15 items from the IMI (Ryan, 1982) which were adapted for writing. The items were rated on a 7-point Likert-type scale (1= strongly disagree, 7 = strongly agree). These items included: *I enjoyed doing this writing activity very much; This writing activity was fun to do; I would describe this writing activity as very interesting; I thought this writing activity was quite enjoyable; I think I did pretty good at this writing activity; I am satisfied with my performance at this writing task; I was pretty skilled at this writing activity; After working at this writing activity for a while, I felt pretty competent; I believe this writing activity was of some value to me; I think that doing this writing activity is useful for learning about issues in special education; I think this writing activity is important to do because it can help me think about different perspectives on an issue; I think this is an important writing activity; I felt very tense while doing this writing activity; I was anxious while working on this writing task; I felt pressured while doing this writing activity.* The tension items were reverse scored.

An EFA was conducted to determine the factor structure of this measure and coefficient alpha for each viable factor (Brown, 2015; Pett et al., 2003). Evidence for a four-factor solution was provided by results from the scree plot, MAP test (O'Connor, 2000), percentage of variance, and factor loadings. The four factors were Value, Interest, Competency, and Tension. Two items cross-loaded. First, I dropped the item which was expected to load on the Interest factor (*I would describe this writing activity as very interesting*). It cross-loaded between the Value and Interest factors. Next, I dropped the

item from the Competency factor (*After working at this writing activity for a while, I felt pretty competent*) because it still cross-loaded onto the Competency and Value factors after dropping the first item. Once these items were dropped, the remaining three Interest items loaded on the Interest factor and the remaining three Competency items loaded onto the Competency factor. The factor loadings for the remaining items were between -.804 and -.894 and -.753 and -.932, respectively. The range for factor loadings on the pattern matrix for the value factor was between .762 and .945. On the tension factor the factor loadings were between .782 and .887. Coefficient alpha for these scores was 0.876.

***Procedure fidelity.*** First, to ensure treatment implementation was reliable, procedural fidelity data were collected. A trained research assistant observed every session where the writing activities occurred (S1 and S2) and completed a procedural fidelity checklist. Procedural fidelity for all 18 sessions was 99.32%.

***Quantitative data analytic procedures.*** As part of this study I calculated descriptive statistics for the quantitative participants, conducted EFAs on established measures (i.e., Interest in Special Education (Linnenbrink-Garcia et al., 2010), SEWS (Bruning et al., 2012), and IMI (Ryan, 1982)). Descriptive statistics and EFAs were conducted in SPSS Version 24.0. For the EFAs, I used principal axis factoring and oblimin (oblique) rotation methods. Once the factors were determined, I converted individual item scores to mean composite scores for each factor.

***Hierarchical linear modeling.*** Given the nested nature of the data, the quantitative data were analyzed using hierarchical linear modeling (HLM). Specifically, I used a mixed-fixed effects hybrid model where the first and second levels were analyzed



as an HLM analysis and a fixed effect model<sup>1</sup> was used on the third level. This technique has been found effective for three levels of data where the third level is a small sample (e.g.,  $n < 9$ ) and the third level does not relate to the research questions (McNeish & Wentzel, 2017). Level-1 data consisted of time varying, observation-level data including choice (whether they were assigned to choose their writing topic or were assigned), preference (whether or not they chose or received the topic they preferred), essay (essay one or essay two), and mean intrinsic motivation scores for each IMI subscale (value, interest, competency, tension). Level-2 data consisted of time invariant, student-level data including gender, knowledge of special education, interest in the introductory special education course, and mean writing self-efficacy scores for the ideation and self-regulation subscales from the SEWS. The fixed effects model at Level-3 accounted for all variability at classroom section level, regardless of whether the variables was collected or not (McNeish & Wentzel, 2017).

I followed a bottom-up, sequential model building process, starting with a simple model and incrementally adding fixed and then random parameters by levels, testing for significance after each parameter. This process tends to keep HLM models simple and avoids convergence issues (Hox, Moerbeek, & van de Schoot, 2017; Raudenbush & Byrk, 2002). I started with an unconditional, intercept-only model to compute interclass correlation (ICC) values. The ICCs were used to determine the proportion of variability

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<sup>1</sup> The term “fixed effect” may be confusing to readers because it has two different meanings in the context of an HLM framework or for a fixed-effect model (Gelman & Hill, 2006). In HLMs, “fixed effect” is the overall average effect of a predictor across all clusters. In the context of fixed-effect models, “fixed effect” refers to the dummy-coded variables that are included in the model to account for a level of clustering (McNeish & Wentzel, 2017).

which could be attributed to Level-1 or Level-2 data and whether use of HLM analyses were warranted to account for clustering. I could not calculate the ICC values at Level-3 because there were only two observations at Level-2; therefore, there were not enough degrees of freedom to calculate Level-3 ICC values. This was not detrimental to the analysis because the fixed effect method accounts for any and all variability at that the third level (McNeish & Wentzel, 2017). An ICC greater than .05 may justify the use of HLM analyses (Hox, 1998).

Next, I added predictors, one by one, inspecting estimates and standard errors to determine the significance of each parameter. Parameters with significant estimates ( $p < .05$ ) were retained in the model whereas parameter estimates which were not significant were not retained. However, focal parameters, choice and preference were included in the models regardless of significance. Additionally, parameters whose  $p$ -values were  $< .1$  were retained until either (a) the  $p$ -value increased to greater than .1, or (b) all other significant parameters were included in the model. This allowed for fluctuations in variance that can occur when adding predictors to a model (Keith, 2006). I also conducted likelihood ratio tests (LRT) to compare model fit when  $p$ -values were between .05 and .07 and all other significant predictors were included in the model.

Following this procedure, at each step of the model-building process I tested, in the following order: (a) Level-1 fixed effects, (b) Level-1 random effects, (c) Level-2 fixed effects, and (d) Level-2 random effects by investigating cross-level interactions. Applying these procedures resulted in a two-level HLM model. Next, I added the Level-3 fixed effects model to account for the incidental nesting that occurred at the classroom section level. Finally, when necessary, I dropped parameters that were not statistically

significant. These procedures were followed to build models for all outcome variables including holistic writing quality, number of words written, and the four IMI writing outcome measures: (a) value, (b) interest in the writing activity, (c) competency, and (d) tension.

All models were tested using SAS (Version 9.4; SAS Institute, Inc.). The estimation method I used was restricted full information maximum likelihood (REML) to account for the small sample size at Level-3 and for missing data. This method is applied only to missing outcomes (Beunckens, Molenberghs, & Kenward, 2005; McNeish & Wentzel, 2017). I used the Satterthwaite method to calculate degrees of freedom (Mills, 1973; Schaalje, McBride, & Fellingham, 2002) and an unstructured covariance matrix to allow variance parameters to covary.

For each final model I tested the following assumptions: (a) normality of residuals at Level-1, (b) normality of residuals at Level-2, (c) exogeneity at Level-1, (d) exogeneity at Level-2, (e) cross-level residuals are not related, and (f) multi-collinearity.

Assumptions at Level-3 did not need to be tested because, one advantage of the fixed effects model, is that it does not add additional assumptions to the model (McNeish & Kelley, 2018).

### **Qualitative Strand**

**Participants.** The sampling frame (Singleton & Straits, 2005) for the qualitative analysis included a subgroup of students ( $n=20$ ) from the quantitative strand. Students all met the inclusion criteria as they: (a) were enrolled in a section of SPE 222 in which the experiment took place, (b) were present for both sessions of the writing activities, (c)

were at least 18 years old, and (d) provided informed consent consistent with IRB procedures.

Table 3

*Qualitative Interview Participants*

	Preference	Order of Choice	Writing Quality Score	Gender
Bianca	Yes	1	3	F
Angel	Yes	1	3	F
Clarisse	Yes	1	4	F
Charles	Yes	1	4	M
Rachel	Yes	1	6	F
Thalia	No	1	3	F
Selena	No	1	4	F
Zoe	No	1	4	F
Grover	No	1	5	M
Annabeth	No	1	5	F
Leo	Yes	2	3	M
Calypso	Yes	2	3	F
Nico	Yes	2	4	M
Percy	Yes	2	5	M
Piper	Yes	2	5	F
Juniper	No	2	2	F
Tyson	No	2	3	M
Gracie	No	2	4	F
Hazel	No	2	5	F
Jason	No	2	5	M

I interviewed 20 participants so that I could gain a deeper understanding from a diverse set of perspectives and reach saturation (see Table 3). This sample included 13 women, and nearly all students were enrolled in the Mary Lou Fulton Teachers College. There were two non-traditional students: one, a mother who returned to college after raising four children (Piper; all names are pseudonyms) and a young man who spent five

years in the Navy (Percy). Finally, I interviewed students from all three campuses where the experiment took place.

One reason for interviewing 20 students is that I anticipated having about 200 participants from the quantitative strand and I would, thereby, interview 10% of the students who participated in the study. I came to this number after discussing my study with an experienced qualitative researcher because that number would likely provide data that reached saturation (K. Anderson, personal communication, June 6, 2017). Further, I initially planned to recruit interviewees based on two specific characteristics: writing competency and whether they received their preferred side in the no-choice condition. This would result in four groups of five participants who met different aspects of both criteria. With 20 interviews I was able to survey a range of perspectives while achieving the depth needed to fully answer my research questions. Finally, this number permitted a timely completion of the study.

To recruit interview participants, I told participants during the Overview Session (session where I introduced students to what would occur in subsequent sessions) that I was interested in interviewing students after the assignments were completed. Next, I asked students to indicate their interest in being interviewed on one of the writing motivation surveys following the writing activities. The students were told to click yes to the following survey item if they were interested: “If you might be interested in being interviewed, click here. It in no way commits you, I will just follow up with an email.” Finally, a single IRB-approved mass email was sent to recruit additional students who met specific characteristics.

Purposive sampling (Guba, 1981; Singleton & Straits, 2005) was used to select interview participants who were most likely to provide insights about issues that arose from the quantitative results (e.g., differences in perceptions which may have been related to receiving preferred position). I recruited students who were likely to reflect sources of maximum variation in their perceptions of having choice which allowed for both depth and complexity in the participants' responses (Singleton & Straits, 2005; Teddlie & Tashakori, 2009; Tracy, 2013). I selected this sampling technique because diversity may not have occurred if they were randomly selected (Singleton & Straits, 2005).

Initially, I proposed selection based upon the following criteria. One, writing competency was an initial criterion because understanding the effects of choice on writing may differ based upon a participants' skills as a writer (Graham, 2006; Patall, 2012). Thus, I planned to use a stratified purposeful sample (Patton, 1990) which included strong and weak writers. I planned to determine writing ability by using the holistic writing quality scores from Essay 1.

However, I discovered that recruiting participants with low writing scores was problematic. First, their response rate to participating in the interview was much lower than high-level writers, even though weaker writers indicated an interest in being interviewed on one of the surveys. Second, once I finally interviewed two lower level writers they reported perceiving themselves as strong writers who were "born with [excellent writing skills]." This was problematic because despite being less skilled writers, their responses were similar to that of the higher skilled writers which did not provide the anticipated response variation. I expected weaker writers to share different

perspectives as compared to the stronger writers. Thus, I shifted my focus to recruiting students based on when they were assigned to the choice condition (first or second). I decided upon these characteristics because multiple interviewees described perceived differences in the difficulty of the two assignments. For example, some expressed having more prior knowledge or experience with one of the assigned issues as compared to the other. Additionally, one young woman said the first topic was harder because she “didn’t know what to expect” from the assignment therefore the second essay was more difficult for her. Although I did not use writing performance as a selection characteristic, I kept these scores in mind because I tried to recruit interviewees with a range of holistic writing quality scores.

Second, I selected participants for interviews based upon whether they received their preferred position during the no-choice condition. Interviewees who received their preferred position during the no-choice condition may have different perspectives than those who did not get to write on their preferred position. Selection based upon this characteristic provided evidence of the unsettled question as to the relative importance of having the opportunity to choose versus receiving their preferred position (Patall, 2012).

All interviewees were offered their choice between a \$7 Starbucks or \$7 Taco Bell gift card to compensate them for their time.

**Setting.** Interviews were held in an office on the ASU Tempe campus or in another quiet, semi-private location such as a study room in one of the ASU libraries. All interviews were audio recorded using two devices (e.g., phone and digital recorder) to guard against technological difficulties resulting in lost data. Immediately following the

interview, the recordings were downloaded to my password-protected computer. All interviews occurred during Fall 2017.

**Qualitative data collection.** The purpose of collecting interview data was to better understand participants' perceptions and experiences of the experiment as well as their perceptions on choice in writing. The interview data was used to further interpret the quantitative data and gain a richer understanding of the difference between having choice and not having choice, from the participants' perspective (Creswell & Plano Clark, 2011). To collect this data, I conducted 20 in-person semi-structured interviews with purposefully selected participants (Table 3). Prior to interviewing any participants or collecting other data, I obtained IRB approval.

Once interview participants provided informed consent, I turned on two recording devices and began the interview. I asked questions in accordance with the interview protocol (Table 4) and appropriate follow-up questions that facilitated the flow of conversation and related to research questions. The full interview protocol (Appendix J) included questions intended to build rapport (e.g., *What is your major? Outside of this class have you had experiences with special education? Why are you taking SPE 222?*) as well as questions that will be used in a different study (e.g., questions related to editing procedures). At the end of the interview, I asked the interviewees if they would be available for a 5-minute follow-up phone call or short email if clarification was needed. Finally, I thanked them for their time and presented them with either a Starbucks or Taco Bell gift card.

Following the interview, and in order to process data collection, I wrote memos within 24 hours of each interview to gain analytic insights and ensure trustworthy



inferences (Corbin & Strauss, 2008; Maxwell, 2013; Tracy, 2013). I returned to these memos after listening to the interviews, reading through the transcripts, and throughout the analytic process. In doing this, I could compare initial impressions to my emerging views on an interviewee as well as the data. For instance, after interviewing Leo I wrote, “[he] came across as cocky with an inflated sense of confidence...I wonder if more students with low writing scores will describe themselves as being a confident/good writer.” In a later memo, I pondered whether he was angry and why. Weeks later, I came to my thought partner, a research assistant familiar with the study, to get her perspective on his possible emotional state during the interview. I proffered that Leo was acting oppositional for no reason. When my thought partner pushed back on my contention, I shared these memos with her and we listened to a portion of his interview. Through this reflection on my previous memoranda and other data I abandoned the notion that he was being oppositional for no reason.

All interviews were transcribed verbatim by a professional transcription service, Rev.com. Prior to coding, all transcripts were listened to and compared to the accompanying transcript. Small edits were made, as needed, to provide a more accurate transcript. The second transcripts were accurate.

Table 4

*Interview Protocol*

<b>Associated Research Questions</b>	<b>Interview Questions</b>
<p>RQ1: How do college students talk about the experience of choice in college writing assignments?</p> <p>RQ2: How do college students characterize choice, as compared to preference, when discussing choice in writing?</p>	<ul style="list-style-type: none"> <li>• How do you feel about getting to choose, generally?</li> <li>• Can you tell me about other assignments where you had some choice? How did you feel about having choice?               <ul style="list-style-type: none"> <li>○ <i>Probe:</i> Choice in books to review, choice in which questions to answer on a test, research topics</li> </ul> </li> <li>• Can you tell me about other writing assignments where you had some choice? How did you feel about having choice?               <ul style="list-style-type: none"> <li>○ <i>Probe:</i> Why was that important?</li> </ul> </li> <li>• How do you feel different about writing in different settings?</li> </ul>
<p>RQ3: What are the most salient reasons that students think choices are important with writing?</p> <p>RQ4: How do students discuss benefits of not having choice in writing?</p>	<ul style="list-style-type: none"> <li>• How do you think having a choice shaped your experience of this writing activity?               <ul style="list-style-type: none"> <li>○ <i>Probe:</i> Writing quality, writing motivation</li> </ul> </li> <li>• Can you tell me about other writing assignments where you had some choice? How did you feel about having choice?               <ul style="list-style-type: none"> <li>○ <i>Probe:</i> Composition course</li> <li>○ <i>Probe:</i> Quality, motivation</li> </ul> </li> <li>• Do you like have choices in your assignments? Examples?               <ul style="list-style-type: none"> <li>○ <i>Probe:</i> Quality? Motivation?</li> </ul> </li> </ul>

**Data reduction and analysis.** The overall goal of the qualitative data analytic process was to gain a richer understanding of participants’ perspective on: a) the perceived benefits of having choice in writing assignments and b) how these benefits presented themselves in the writing assignment in this particular study. After the

interviews were transcribed and checked for accuracy, I iteratively coded and analyzed the transcripts. My analytic framework included a three-step process using a combination of open and a priori codes during the primary coding phase, axial coding, and constant-comparative method (Corbin & Strauss, 2015).

**Primary coding.** First, I cut-and-pasted direct quotes from interview transcripts by meaning units (Saldaña, 2016) into Microsoft Excel and assigned codes to describe the given excerpt of the conversation. During primary level coding, I predominately used open, descriptive codes that employed *in vivo* coding methods (Saldaña, 2016; Tracy, 2013). I used the actual words of the interviewees as codes to describe the students' perceptions on writing. For example, some quoted *in vivo* codes included "passion" and "new perspectives." Additionally, based upon my research questions, theory, prior research, and my familiarity with the interviews, I also assigned *a priori* codes for "quality" and "motivation" to appropriate excerpts. Although I considered how codes related to one another and wrote memos discussing potential codes to consolidate or break apart after coding the interview for the third participant, it was not until I completed primary coding for 10 of the 20 interviews that I closely analyzed and began consolidating the codes (See Axial Coding). For the remaining ten interviews, I oscillated between axial and open coding, constantly comparing (Corbin & Strauss, 2015) current coding structure, while noting potential new codes and how codes relate to one another. Meaning, I primarily used 16 identified codes but also allowed for additional codes to emerge as necessary.

After all 20 interviews had undergone first-level coding, the excerpts that were pasted into Excel were condensed for readability and flow by removing filler words such

as “mm-hmm,” “uh,” “um,” and “like.” I then created a new column called “condensed quotes” to facilitate future axial coding sessions. Although the condensed quotes were the primary analytic source in this stage, I returned to the full excerpt as well as the transcript to provide context and a deeper understanding of the data as needed.

***Axial coding.*** During axial coding I transformed first-level, descriptive codes to codes grounded in self-determination theory (Deci & Ryan, 2000) and my understanding of the data (Tracy, 2013). For example, two *in vivo* codes, “forced” and “freedom” were collapsed into a single “autonomy” code. Through this process, I reassembled and organized codes that I had previously fractured into smaller components during the first-level coding (Strauss & Corbin, 1998). After coding the 10<sup>th</sup> interview, I took my first step in second-level coding. First, I counted 57 descriptive codes and reconstructed them into axial codes. This process helped me more fully see codes as prompts to reflect on the deeper meaning of the data (Miles, Huberman, & Saldaña, 2014).

Specifically, I took Tracy’s (2013) idea of hierarchical coding and organized codes based on the following categories: (a) motivation, (b) quality, (c) no-choice benefits, (d) choice versus preference, and (e) other. The motivation and quality categories focused on the benefits of having choice. I re-read quotes, transcripts, and memoranda to consolidate the 57 first-level codes into 16 codes including: (a) six types of motivation codes, (b) four types of quality codes, (c) three types of codes which address benefits of not having choice, and (d) three types of codes addressing the importance of choice versus preference. Motivation codes were broader than the quality codes because when a student described a benefit of having choice, it could also be assigned a motivation code. Whereas for a quality code, there had to be a direct

connection between a perceived benefit and performance such as a “better grade” or a “stronger essay.” The “other” codes were dropped because the codes and the accompanying data did not address the research questions.

Throughout axial coding, I considered ways to meaningfully merge or break apart categories. For example, I wrestled with whether “passion” for the writing topic should be coded as “interest” in the writing topic or whether it should have its own separate code. On an intuitive level, passion denoted a stronger sense of emotion toward a topic as compared to interest. However, as I continued to read the interviews, write memos, and have reflexive conversations with my thought partner, I found that these ideas fell together in one category because more often than not “interest” and “passion” were used interchangeably.

Through the axial coding process, I condensed the Excel spreadsheet, dropping seven columns that were used for different types of descriptive codes. The columns I retained included: (a) pseudonym, (b) choice condition, (c) preference—whether they received their preferred side in the non-choice condition, (d) four columns to label codes, (e) the condensed quote, and (f) my thoughts—a place for writing brief memos relating to the specific excerpt. With this information categorized in this way, I could compare statements by and among participants. Through this analytic process, I was able to determine which themes emerged through my lens as a researcher (Galman, 2013; Tracy, 2013) among all participants as well as those with defining characteristics such as whether or not they received their preference in the no-choice condition.

***Theoretical saturation.*** I reached theoretical saturation when no new data or perspectives were represented in the relevant categories (Strauss & Corbin, 1990; Tracy,

2013). Saturation occurred at different points for the categories and themes. For example, I saw themes related to the most salient reasons why college students believe choice in writing topics to be important to emerge rather quickly. Whereas data related to the benefits of not having choice took longer and required a deeper analysis before I saw theoretical saturation. In the latter case, during primary coding I did not realize that benefits of not choosing could potentially be an important category until about a third of the way through first-level coding. Once I evaluated my codes after the 10th interview, I went back to the earlier interviews and re-coded the data in light of this new category. Therefore it took more time and analysis to reach saturation with this research question.

***Code book.*** During the first-level coding process, I developed a code book to identify, organize, and define potential themes (Saldaña, 2016). After primary coding of the fourth interview, I created the first draft of the codebook by identifying 10 primary codes with each primary code having at least three sub-codes. This iteration of the codebook continued to grow until I completed the 10<sup>th</sup> interview. It was then revised significantly to include 16 codes as well as a definition and example of each code (Saldaña, 2016; Tracy, 2013). The codebook continued to develop iteratively and was revised to reflect themes that I saw emerge throughout the second level of axial coding. The final codebook included 14 codes (Appendix I).

***Reorganizing and re-envisioning the data.*** Once I solidified my codes through axial coding, I created separate word documents for each code and pasted the corresponding excerpts into each document. I then printed each document and cut each quote as a stand-alone piece of data. Next, I analyzed the quotes by highlighting and writing notes on the individual slips of paper. I also sorted and organized the datum to

create connections between other quotes, categories, and ideas. Throughout this process, I engaged in analytic memoing to process and synthesize the data to develop higher level analytic meaning (Miles et al., 2014).

### **Mixed Methods Integration**

After the quantitative and qualitative data were both analyzed, I looked again at the qualitative data to provide guidance as to why the quantitative data yielded unexpected results and to make some meta-inferences. I revisited the qualitative data and coding and memos from first level-coding. As I continued to write memos, I came up with potential explanations. I shared these theories with my advisor, my thought partner and conferred with two colleagues experienced with qualitative methods. I looked at the data I had already analyzed from a new perspective and found some potential explanations which were repeated by multiple students throughout the data. I used these meta-inferences to provide new meaning.

### **Ethical Issues**

Conducting research with human participants raises ethical considerations in the treatment of participants during data collection, data analysis, and presentation of findings. Steps were taken to act ethically following Institutional Review Board (IRB) protocols and federal law. This study sought *beneficence*, *justice*, and *respect for persons*, (Belmont Report, 1979).

This study had *beneficence* because perceived and anticipated harms were minimal and were of benefit to the participants, Arizona State University, and society (Bailey, 2014). Potential benefits to the participants included opportunities to: gain a better understanding of controversial issues in special education, hone critical thinking

skills from multiple perspectives, practice their writing skills as part of class procedures, and share their perspectives on the writing activities and how they perceive choice may or may not be beneficial as it relates to writing.

This study directly benefited Arizona State University. The writing activities at the crux of this study were created out of need to improve an assignment in a course, SPE 222. Results and all instructional materials were shared with the course coordinator for future instructional use. In fact, one instructor found such great benefit for her students in Fall 2017 that she asked if she could have the materials for her Spring 2018 and future courses. Additionally, this study was of benefit to society because it provided guidance on the instructional effectiveness of providing choice in writing activities. Selecting participants served *justice* because the benefits and burdens were distributed across various individuals across multiple classes (Bailey, 2014).

Several steps were taken to ensure *respect for persons*. Potential participants had sufficient information to make an informed, voluntary, and autonomous decision about whether or not to participate in the study. I provided written consent forms, approved by the IRB, and clearly shared the purpose of the study, anticipated procedures, and potential risks and benefits. Further, my advisor and I made ourselves available to answer any questions about the study. Finally, students were free to become participants by consenting to have their data used in this study and could have withdrawn consent at any time.

Further, I demonstrated respect for participants' time by meeting at times and places convenient to the participants and keeping time commitments. Finally, I rigorously protected students' confidentiality and privacy by de-identifying data. No one besides



IRB-approved research assistants and members of the dissertation committee saw the data. Data were de-identified and have not been shared with anyone other than IRB-approved research assistants and members of the dissertation committee. All data were secured in accordance with IRB procedures. This included data being stored in a locked file cabinet in a locked office at ASU or on a password-protected computer of the IRB-approved research team members.

### **Validity and Rigor**

To address issues of validity and rigor, I considered multiple validities (Onwuegbuzie & Johnson, 2006) by recognizing quantitative, qualitative, and mixed methods types of validity issues.

**Quantitative strand.** In order to make a confident causal inference from an experiment, a researcher needs to consider multiple types of validity, which is the “approximate truth of an inference...[and] the extent to which relevant evidence supports that inference being true or correct” (Shadish et al., 2002, p. 34). Utilizing random assignment does not guarantee that causal inferences are accurate; therefore, issues of validity still need to be addressed. Shadish and his colleagues (2002) suggested four validity typologies including statistical conclusion validity, internal validity, external validity, and construct validity. These types of validity are recognized as fundamental quality indicators for an experimental study (e.g., AERA, 1999; Creswell, 2013; Gersten et al., 2005; Onwuegbuzie & Johnson, 2006). I took steps to address possible issues that could arise with statistical conclusion validity, construct validity, internal validity, and external validity.

To guard against the threat of statistical conclusion validity first, I tested assumptions pertinent to the HLM analyses. Second, I ensured reliability of the holistic writing quality score by having raters trained to criterion and conducting inter-rater reliability on at least 50% of essays across all sections. Third, inter-observer agreement data were collected on at least 20% of words written data. Fourth, a trained research assistant observed all sessions where the writing occurred.

Construct validity is the degree to which a test measures what it purports to measure. However, this often-cited sound bite fails to delineate two different aspects of construct validity: understanding and measuring constructs (Cronbach & Meehl, 1955). To demonstrate strong construct validity, I set forth a rationale for the use of each of the measures (holistic writing quality, words written, and intrinsic writing motivation) and how the scores were used and interpreted (AERA, 1999). Further, I guarded against the threat of experimenter expectancies (Shadish et al., 2002) by providing case studies which were neutral and balanced in the number and quality of facts to support each side. Additionally, during instruction I stated that which position they choose had no impact in their grade on the project. Also, because the experiment occurred as part of the class' normal course of business, a novelty or disruption effect (Shadish et al., 2002) did not likely occur.

I controlled for internal threats to validity by using random assignment which controlled for selection bias because the groups were based on chance rather than a systematic bias (Shadish et al., 2002). To have strong external validity, I provided key demographic descriptions of the participants as well as clear descriptions of the context, the classroom activities, and the outcome measures so that a reader may generalize these

findings to other people, settings, treatments, or outcomes that they believe might match this study.

**Qualitative Strand.** Credibility is the degree to which the data collected and findings reflect the reality of the students I interviewed (Guba & Lincoln, 1994). I took several steps to address credibility issues and ensure trustworthy inferences to the best of my ability. First, I recorded interviews and returned to the audio recordings throughout data analysis so that I could interpret tone and pauses influenced the meaning of their statements. Second, I wrote memos throughout the data collection and analytic process to justify coding decisions and document my reflexive interpretation of the data (Corbin & Strauss, 2015; Maxwell, 2013; Tracy, 2013). Third, I gathered and analyzed multiple sources of data, including 20 interviews, which allowed saturation related to my findings. With these multiple sources, plus the quantitative data I was able to triangulate the data and provide credible findings. Fourth, I regularly discussed data collection and data analytic procedures with trusted colleagues who were familiar with qualitative research procedures to guide my data collection and data analysis. Fifth, I shared student statements and analytic inferences with an expert in the writing field to provide context for meaning making.

Sixth, I had a thought partner, with whom I discussed all aspects of dissertation study including data collection, data analysis, inferences, and findings. She was a paid research assistant who had earned her master's in Counseling and Psychology in 2016 and was considering a doctoral program. She primarily worked for my advisor but also assisted with the quantitative data collection and was the primary rater for the holistic writing scores. I shared my thoughts and insights after interviewing students and nearly

every coding session. She read and listened to excerpts of interviews when I was unsure if I might be experiencing researcher drift. By taking these steps I rigorously collected and analyzed the qualitative data resulting in credible and dependable findings.

**Mixed methods validity.** In addition to issues associated with quantitative and qualitative validity issues, integration raises additional, validity issues unique to mixed methods. Specifically, issues can arise when mixed methods researchers connect and make inferences on the combined data or findings (Creswell & Plano Clark, 2011; Onwuegbuzie & Johnson, 2006; Teddlie & Tashakkori, 2009). Creswell and Plano Clark (2017) provided guidance for addressing mixed methods validity concerns for an explanatory sequence design. First, I considered all significant and nonsignificant results, including covariates before finalizing interview protocol. Second, I took steps in sampling by selecting interview participants from the larger pool of quantitative participants. Thus, interviewees had experienced the in-class writing and discussion activities and were able to provide greater understanding of experiment and the quantitative results.

### **Researcher Subjectivity**

As a former teacher of third-grade students with emotional behavior disorders (EBD) and as a college instructor, I have assumed that choice was a useful tool motivationally and pedagogically. Particularly with my elementary students with EBD, I believed providing three or fewer choices provided them a sense of control, which led to increased interest and motivation in classroom activities. Second, I created the instructional procedures of this study for an assignment when I taught SPE 222 in Spring 2017. Although there were benefits to pilot testing these procedures and I received

positive feedback from my previous students, these experiences may have created a bias as to the benefit of the in-class discussion and writing activities. This bias may have affected how I collected, analyzed, and interpreted the data. Throughout the study, I practiced reflexivity and employed validation strategies to mitigate my biases and ensure trustworthy data and findings.

## CHAPTER 4

### RESULTS

Although I collected 464 essays from 242 student participants, not all data were included in the analysis. First, data for essays where students did not comply with experimental procedures ( $n = 2$ ; e.g., arrived to class after choice procedures occurred or wrote about the position that they were not assigned) were dropped.

Second, data were dropped to preserve the balance between randomly yoked match pairs. Although yoking procedures were implemented during the classroom activities, there still existed imbalances between students who chose and those who didn't choose a given position. Imbalances occurred because, although the entire class was required to complete the writing activities as part of the course, not all students provided consent, attended class, or turned in the writing assignment. Therefore, data were dropped so that there would be an equal number of yoke-matched pairs in every section.

Determining which data would be dropped occurred in a two-step process. First, I checked for students who did not submit the other essay and I dropped their data in order to preserve data for within-subjects analyses; however, only eight essays fit this criterion. Second, remaining essay data were dropped at random ( $n = 34$ ) to retain the balance between the number of choice and no-choice students on each position within each section. Overall, 19 essays were dropped for Essay 1 and 25 were dropped for Essay 2.

#### **Descriptive Statistics**

The means and standard deviations by condition and all participants are presented in Table 5 with the conditions combined, Table 6 for Essay 1, and Table 7 for Essay 2. The correlations between measures can be found in Table 8. The means for holistic

writing quality, words written, and value were all higher for those in the choice condition for Essay 1 but only the mean for “value” was higher for Essay 2.

Writing quality and words written were statistically correlated for both essays sharing 33% of the variance on Essay 1 and 42% on Essay 2. Both quality and words written statistically correlated with knowledge of special education and two of the intrinsic motivation constructs, competency and tension, for both essays. On the first essay there was also a statistically significant correlation between words written and value. The two writing self-efficacy measures, ideation and self-regulation, were statistically correlated with quality and words written on Essay 1, but only with words written on Essay 2. Interest in special education and value for the writing task did not statistically correlate with either writing quality or number of words written at either time point. Correlations between predictors for each essay were low to moderate with the exception of the two writing self-efficacy measures and two intrinsic motivation measures (value and interest). Aside from these measures, the rest shared no more than 49% of the variance.

There were statistically significant correlations between the intrinsic motivation measures except for the measure of tension on both essays. Tension only statistically correlated with competency. Although value did not statistically correlate with either quality or words written, it did statistically correlate with the other predictors except for knowledge and tension (as previously mentioned).

Table 5

*Overall Descriptive Statistics for Combined Conditions and Essays*

	<i>N</i>	<i>M (SD)</i>	<i>Min</i>	<i>Max</i>
1. Quality	379	3.80 (0.91)	1	6
2. Words written	379	422.17 (129.41)	143	817
3. IMI_Value	364	5.46 (1.28)	1	7
4. IMI_Interest	364	4.55 (1.52)	1	7
5. IMI_Competyency	364	5.12 (1.28)	1	7
6. IMI_Tension	397	4.76 (1.69)	1	7
7. Knowledge	381	4.46 (1.67)	0	9
8. Interest	381	6.19 (0.79)	2	7
9. SE_Ideation	381	75.89 (17.46)	6	100
10. SE_Self-Regulation	381	72.54 (18.90)	0	100

*Note.* IMI = Intrinsic Motivation Inventory; SE = Self-Efficacy.



Table 6

Descriptive statistics across conditions (Essay 1).

	<u>No Choice Condition</u>			<u>Choice Condition</u>			<u>Conditions Combined</u>		
	<i>N</i>	<i>M (SD)</i>	<i>Min</i> <i>Max</i>	<i>N</i>	<i>M (SD)</i>	<i>Min</i> <i>Max</i>	<i>N</i>	<i>M (SD)</i>	<i>Min</i> <i>Max</i>
1. Quality	93	3.57 (0.87)	2 6	97	3.84 (0.93)	2 6	194	3.70 (0.91)	2 6
2. WW	93	400.15 (121.50)	143 638	97	433.36 (124.09)	143 817	194	415.07 (123.48)	143 817
3. IMI_V	91	5.52 (1.21)	2 7	94	5.70 (1.16)	2 7	188	5.61 (1.18)	2 7
4. IMI_I	91	4.39 (1.47)	1 7	94	4.80 (1.57)	1 7	188	4.61 (1.52)	1 7
5. IMI_C	91	4.90 (1.34)	1 7	94	5.27 (1.19)	2 7	188	5.09 (1.27)	1 7
6. IMI_T	91	4.23 (1.76)	1 7	94	4.67 (1.69)	1 7	205	4.46 (1.77)	1 7
7. Know	92	4.71 (1.76)	1 9	97	4.28 (1.53)	1 9	193	4.48 (1.68)	0 9
8. Interest	92	6.10 (0.90)	2 7	97	6.28 (0.64)	5 7	193	6.19 (0.78)	2 7
9. SE_ID	92	74.83 (18.11)	6 100	97	76.69 (17.18)	17 100	193	75.84 (17.49)	6 100
10. SE_SR	92	70.56 (20.19)	0 100	97	74.35 (17.79)	22 99	193	72.51 (18.90)	0 100

Note. WW = Words Written; IMI = Intrinsic Motivation Inventory, V = Value, I = Interest, C = Competency, T = Tension; Know = Knowledge; SE = Self-Efficacy, ID = Ideation, SR = Self-Regulation.

Table 7

Descriptive statistics across conditions (Essay 2).

	<u>No Choice Condition</u>			<u>Choice Condition</u>			<u>Conditions Combined</u>		
	<i>N</i>	<i>M (SD)</i>	<i>Min</i> <i>Max</i>	<i>N</i>	<i>M (SD)</i>	<i>Min</i> <i>Max</i>	<i>N</i>	<i>M (SD)</i>	<i>Min</i> <i>Max</i>
1. Quality	90	3.99 (0.99)	1 6	94	3.82 (0.82)	2 6	185	3.90 (0.90)	1 6
2. WW	90	443.06 (131.34)	168 767	94	416.77 (139.13)	156 796	185	429.62 (135.28)	156 796
3. IMI_V	85	5.44 (1.26)	2 7	90	5.16 (1.46)	1 7	176	5.30 (1.37)	1 7
4. IMI_I	85	4.51 (1.43)	1 7	90	4.45 (1.58)	1 7	176	4.49 (1.52)	1 7
5. IMI_C	85	5.15 (1.29)	1 7	90	5.13 (1.29)	1 7	176	5.15 (1.29)	1 7
6. IMI_T	85	5.22 (1.49)	1 7	90	4.93 (1.60)	1 7	192	5.08 (1.54)	1 7
7. Know	91	4.31 (1.52)	2 9	94	4.60 (1.77)	0 9	188	4.44 (1.66)	0 9
8. Interest	91	6.27 (0.64)	5 7	94	6.11 (0.92)	2 7	188	6.19 (0.80)	2 7
9. SE_ID	91	75.91 (17.44)	17 100	94	75.86 (17.65)	6 100	188	75.94 (17.48)	6 100
10. SE_SR	91	73.92 (16.84)	22 99	94	71.00 (20.85)	0 100	188	72.57 (18.95)	0 100

*Note.* WW = Words Written; IMI = Intrinsic Motivation Inventory, V = Value, I = Interest, C = Competency, T = Tension; Know = Knowledge; SE = Self-Efficacy, ID = Ideation, SR = Self-Regulation.

Table 8

*Correlations Among Writing Variables for Essay 1 (bottom) and Essay 2 (top).*

	1	2	3	4	5	6	7	8	9	10
1. Quality	-	.422**	-.014	-.026	.223**	.318**	.193**	.030	.135	.096
2. WW	.328**	-	.071	.046	.235**	.218**	.218**	-.062	.199**	.186*
3. IMI_V	.056	.088	-	.773**	.491**	-.032	-.128	.329**	.162*	.220**
4. IMI_I	.070	.205**	.781**	-	.482**	-.076	-.154*	.251**	.151*	.196**
5. IMI_C	.197**	.268**	.351**	.472**	-	.194**	-.022	.157*	.401*	.421**
6. IMI_T	.275**	.212**	-.015	.056	.347**	-	.176*	.048	.108	.237**
7. Know	.212**	.146*	-.111	-.155*	-.002	.050	-	.134	.132	.077
8. Interest	.102	.030	.358**	.284**	.260**	-.038	.124	-	.229**	.207**
9. SE_ID	.241**	.268**	.246**	.269**	.456**	.123	.075	.218**	-	.796**
10. SE_SR	.170*	.243**	.236**	.273**	.466**	.214**	.024	.207**	.793**	-

*Note.* WW = Words written; IMI = Intrinsic Motivation Inventory, V = Value, I = Interest, C = Competency, T = Tension;

Know = knowledge; SE = Self-Efficacy, ID = Ideation, SR = self-regulation.

\* p < .05

\*\* p < .01

**Hierarchical linear modeling.** Data were analyzed using hierarchical linear modeling (HLM) to account for the three levels of nested data where essays (Level 1) were nested within students (Level 2) which were nested within classroom sections (Level 3). Six models were developed and tested to answer research questions focusing on three outcome variables: holistic writing quality, number of words written, and the four subscales of the intrinsic motivation inventory for writing. First, I calculated interclass correlations (ICC) for each outcome variable.  $ICC_{Quality} = .4329$ ,  $ICC_{WW} = .6653$ ,  $ICC_{IMI\_Value} = .5875$ ,  $ICC_{IMI\_Comp} = .5800$ ,  $ICC_{IMI\_Interest} = .6166$ , and  $ICC_{IMI\_Tension} = .3447$  which justified the use of HLM analyses to account for clustered data (Hox, 1998).

### **Research Question One**

My first research question asked, after controlling for multiple covariates whether choice impacted writing performance. To determine the effect of choice on writing performance, I conducted two HLM analyses each investigating a different, but related aspect of writing performance. In the first analysis I used holistic writing quality as the outcome measure and words written was the outcome variable in the second analysis.

**Holistic writing quality.** The independent variable, choice, had a statistically significant negative effect on *holistic writing quality* [ $t(297) = -2.16, p = .032$ ] with choice students producing lower writing quality essays (Table 9). The mixed-fixed effects hybrid model produced nine *y-intercepts*, one for each section. The median *y-intercept* was 1.91. At Level-1, *essay* [ $t(192) = -2.14, p = .034$ ], *competency* [ $t(343) = 2.11, p < .001$ ], *tension* [ $t(336) = 4.65, p < .001$ ] were statistically significant covariates but *preference* [ $t(313) = 0.10, p = .920$ ], *value* [ $t(341) = 0.02, p = .648$ ] and interest in writing

task [ $t(341) = 0.04, p = .749$ ] were not. Further there were not any statistically significant random effects Level-1.

At Level-2, *knowledge* [ $t(188) = 3.54, p = .001$ ] and the interaction between *choice* and *writing self-efficacy (ideation)* [ $t(307) = 2.28, p = .023$ ] were statistically significant. The relationship between choice and holistic writing quality changed based upon the student's level of writing self-efficacy (ideation). When students had choice, there is a stronger positive relationship between writing self-efficacy (ideation) and holistic writing quality as compared to when students did not have a choice. Higher writing self-efficacy (ideation) dampened the negative effects of choice on writing quality. Students who reported believing that they had more ideas for their writing were more likely to write higher quality essays when they chose their writing position but students who believed that they had fewer ideas for writing had lower quality essays when they chose their position (Figure 2).

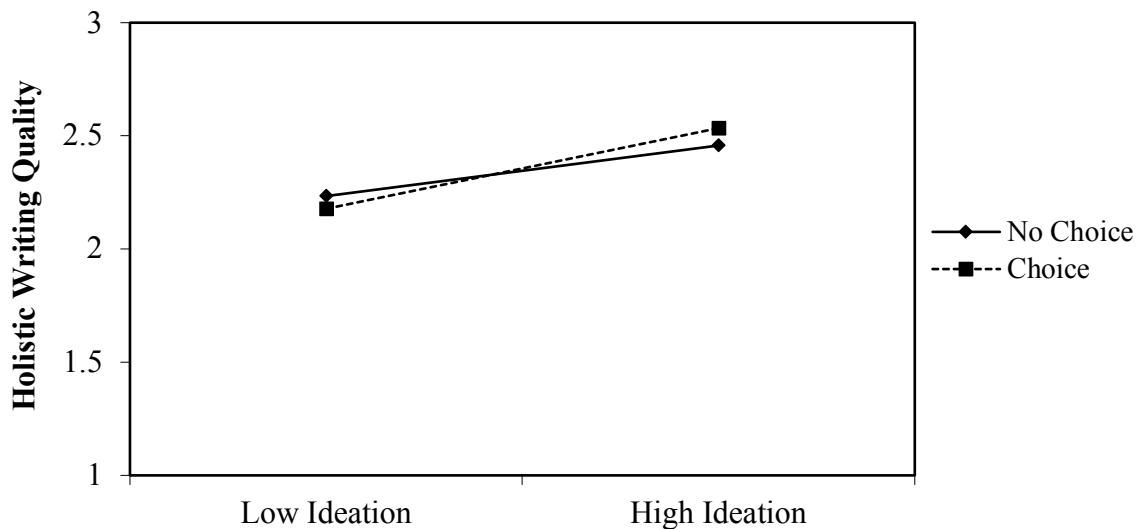


Figure 2. Interaction between choice and writing self-efficacy (ideation) with holistic writing quality as the dependent variable.

The Level-3 fixed effects were significant for all sections ( $p < .001$ ). However, *competency* was statistically significant until the Level-3 fixed effects model was added [ $t(339) = 0.04, p = .086$ ] so it was dropped in the final model. The formulaic representation of the final model is:

$$\begin{aligned}
 Quality_{ijk} &= \pi_{0jk} + Choice\pi_{1jk} + Essay\pi_{2jk} + Tension\pi_{3jk} + e_{ijk} \\
 \pi_{0jk} &= \beta_{00k} + \beta_{01k}Knowledge + r_{0jk} \\
 \pi_{1jk} &= \beta_{10k} + \beta_{21k}SE\_Ideation + r_{1jk} \\
 \pi_{2jk} &= \beta_{20k} \\
 \pi_{3jk} &= \beta_{30k} \\
 \beta_{00k} &= \gamma_{001}Section1 + \gamma_{002}Section2 + \dots + \gamma_{009}Section9 \\
 \beta_{10k} &= \gamma_{100} \\
 \beta_{20k} &= \gamma_{200} \\
 \beta_{30k} &= \gamma_{300} \\
 \beta_{40k} &= \gamma_{400}
 \end{aligned}$$

The normality of residuals assumptions were met at Level-1 [Kolmogorov-Smirnov  $D = .0280, p > .150$ ] and Level-2 [Kolmogorov-Smirnov  $D = .0418, p > .150$ ]. Visual analysis of the histograms and QQ-plot support the finding that the model is trustworthy because the normality assumption was reasonably satisfied. Additional visual analysis supported exogeneity assumptions at Level-1 and Level-2 were met as well as confirming that cross-level residuals were unrelated. Next, I checked for multicollinearity between all variables in the final model. The Variance Inflation Factor (VIF) was 1.30 or less for all variables meaning the ratio of variance fell far below the threshold of 10 and these variables did not share much variance (Cohen, Cohen, West, & Aiken, 2003).

**Words written.** The independent variable, choice, had a statistically significant negative effect on number of words written [ $t(229) = -3.27, p = .001$ ] with choice students writing shorter essays (Table 9). The mixed-fixed effects hybrid model produced nine *y-intercepts*, one for each section. The median *y-intercept* was 248.885. At Level-1

*preference* [ $t(247) = 2.23, p = .027$ ] *competency* [ $t(328) = 4.16, p < .001$ ], and *tension* [ $t(302) = 3.20, p = .002$ ] were statistically significant covariates, but *essay* [ $t(186) = -1.02, p = .310$ ], *value* [ $t(352) = 1.46, p = .145$ ] and *interest (activity)* [ $t(341) = 0.54, p = .589$ ] were not. There were not any statistically significant random effects at Level-1. However, the asymptotic Z-test for the random effect of *tension* was on the borderline of statistical significance [ $z = 1.60, p = .0553$ ], depending the rounding rule implemented. To ensure correct model specification, I followed up with a likelihood ratio test (LRT) which tends to be more appropriate for tests of random effects in the absence of essentially asymptotic samples (Self & Liang, 1987). The LRT supported the less complex model, without the random effects [ $\chi^2(2) = 5.5, p = .064$ ].

At Level-2, *knowledge* [ $t(192) = 2.07, p = .039$ ] and the interaction between *choice* and *writing self-efficacy (ideation)* [ $t(232) = 2.86, p = .005$ ] were statistically significant. The relationship between choice and the number of words written changed based upon the student's level of writing self-efficacy (ideation). When students had choice, there is a positive relationship between writing self-efficacy (ideation) and words written. When students did not have a choice, ideation had little or no relationship to how much a student wrote. Increased writing self-efficacy (ideation) dampened the negative effects of choice. Students who reported believing that they had more ideas for their writing were more likely to write longer essays when they chose their writing position (Figure 3).

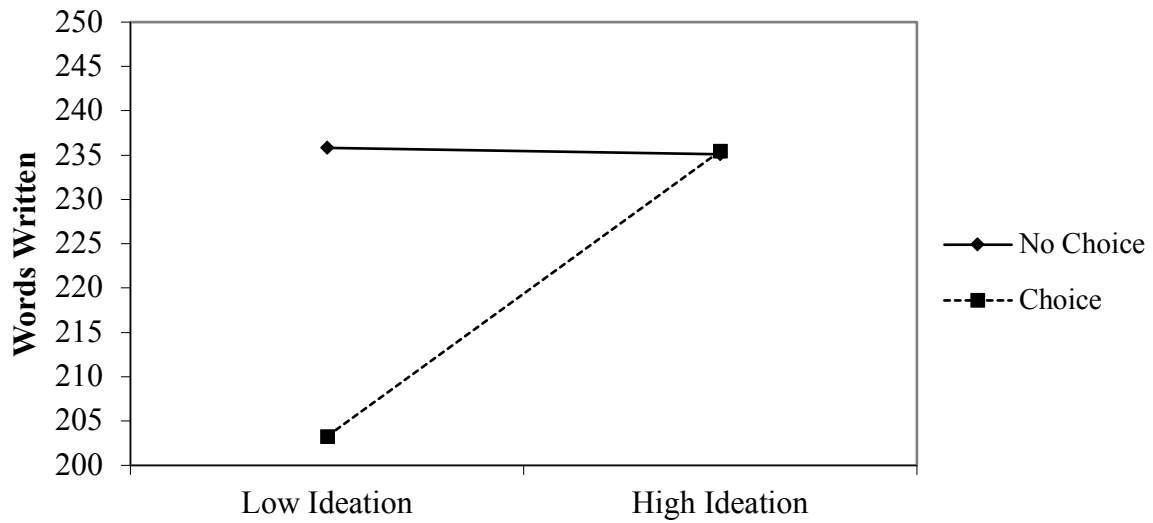


Figure 3. Interaction between choice and writing self-efficacy (ideation) with words written as dependent variable.

The Level-3 fixed effects were significant for all sections ( $p < .001$ ). The formulaic representation of the final model is:

$$\begin{aligned}
 WW_{ijk} &= \pi_{0jk} + Choice\pi_{1jk} + Preference\pi_{2jk} + Tension\pi_{3jk} + Competency\pi_{4jk} + e_{ijk} \\
 \pi_{0jk} &= \beta_{00k} + \beta_{01k}Knowledge + r_{0jk} \\
 \pi_{1jk} &= \beta_{10k} + \beta_{21k}SE\_Ideation + r_{1jk} \\
 \pi_{2jk} &= \beta_{20k} \\
 \pi_{3jk} &= \beta_{30k} \\
 \pi_{4jk} &= \beta_{40k} \\
 \beta_{00k} &= \gamma_{001}Section1 + \gamma_{002}Section2 + \dots + \gamma_{009}Section9 \\
 \beta_{10k} &= \gamma_{100} \\
 \beta_{20k} &= \gamma_{200} \\
 \beta_{30k} &= \gamma_{300} \\
 \beta_{40k} &= \gamma_{400}
 \end{aligned}$$

The normality of residuals assumptions were met at Level-1 [Kolmogorov-Smirnov  $D = .0422, p = .120$ ] and Level-2 [Kolmogorov-Smirnov  $D = .0304, p > .150$ ]. Visual analysis of the histograms and QQ-plot support the finding that the model is trustworthy because the normality assumption was reasonably satisfied. Additional visual



analysis supported exogeneity assumptions at Level-1, exogeneity at Level-2 were met, and that cross-level residuals were unrelated. The VIF was 1.31 or less for all variables.

Table 9

## Final Conditional Models for Holistic Writing Quality, Words Written, and Value

Variable	Quality			Words written			Value		
	Coefficient	SE	t (df)	Coefficient	SE	t (df)	Coefficient	SE	t (df)
<b>Fixed effect</b>									
Intercept ( $\gamma_{000}$ ) <sup>†</sup>	1.91**	0.25	7.78(241)	248.88**	55.66	4.47(245)	2.34**	0.17	13.67(303)
<b>Level-1</b>									
Choice	-0.59*	0.27	-2.16 (297)	-101.80**	31.18	-3.27 (229)	-1.09**	0.38	-2.88 (281)
Preference	---	---	---	30.28*	15.59	2.23 (247)	---	---	---
Essay	-0.16*	0.08	-2.14 (192)	---	---	---	0.21**	0.07	3.15 (171)
IMI Competency	---	---	---	20.33**	4.89	4.16 (328)	---	---	---
IMI Tension	0.13**	0.03	4.65 (336)	11.31**	3.53	3.20 (302)	---	---	---
IMI Interest	---	---	---	---	---	---	0.60**	0.03	19.77 (313)
<b>Level-2</b>									
Knowledge	0.12**	0.03	3.54 (188)	10.74*	5.18	2.07 (192)	---	---	---
SE_Idea*Choice	---	---	---	1.13**	0.39	2.86 (232)	---	---	---
Interest*Choice	0.01*	0.00	2.28 (307)	---	---	---	0.18*	0.07	2.58 (286)
	<i>Variance</i>	<i>SE</i>	<i>Z</i>	<i>Variance</i>	<i>SE</i>	<i>Z</i>	<i>Variance</i>	<i>SE</i>	<i>Z</i>
	<i>Component</i>			<i>Component</i>			<i>Component</i>		
<b>Random effect</b>									
Essay Level ( $\sigma^2$ )	0.26**	0.06	4.34	9217.68**	1261.09	7.31	1.49**	0.52	2.89
Student Level ( $\tau^{200}$ )	0.46**	0.51	8.95	4772.65**	533.29	8.95	0.36**	0.05	7.95
IMI Competency	---	---	---	---	---	---	0.07*	0.02	2.27

Note. WW = IMI = Intrinsic Motivation Inventory; SE\_Idea = Self-Efficacy\_Ideation. \* p < .05 \*\* p < .01

† The mixed-fixed effects hybrid model produced nine *y-intercepts* thus, the median *y-intercept* is presented.

## Research Question Two

For my second research question I conducted four additional HLM analyses to investigate the effects of choice on four aspects of intrinsic writing motivation: value, interest, perceived competency, and tension.

**Intrinsic motivation, value.** The independent variable, choice, had a statistically significant effect on students' value [ $t(281) = -2.88, p = .004$ ] meaning when students got to choose their writing position, they felt the writing assignment was less valuable (Table 9). The median *y-intercept* was 2.34. At Level-1, *essay* [ $t(171) = 3.15, p = .002$ ] and *interest (activity)* [ $t(313) = 19.77, p < .001$ ] were statistically significant covariates, but *preference* [ $t(314) = -0.53, p = .600$ ] and *tension* [ $t(343) = -0.79, p = .431$ ] were not. Initially *competency* was also a statistically significant covariate [ $t(153) = 2.03, p = .045$ ]. Further, there was a statistically significant random effect for *competency*, [ $z = 2.27, p = .012$ ]. A LRT supported the model with the random effect [ $\chi^2(2) = 11.7, p = .003$ ]. At Level-2, the interaction between *choice* and *interest (SPE 222)* [ $t(316) = 0.60, p < .001$ ] was also statistically significant. The Level-3 fixed effects were significant for all sections ( $p < .001$ ). *Competency* was a statistically significant fixed and random effect until the Level-3 predictors were added. However, with the additional variance at the top level accounted for, the direct effect was no longer statistically significant [ $t(149) = 1.91, p = .058$ ]. Results from an LRT comparing the two models were not statistically significant [ $\chi^2(1) = 0.8, p = .371$ ]. This confirmed dropping the fixed effect of *competency* from the model. The formulaic representation of the final model is:

$$\begin{aligned} Value_{ijk} &= \pi_{0jk} + Choice\pi_{1jk} + Essay\pi_{2jk} + Interest_{Activity}\pi_{3jk} + e_{ijk} \\ \pi_{0jk} &= \beta_{00k} + r_{0jk} \\ \pi_{1jk} &= \beta_{10k} + \beta_{21k}Interest_{SPE} \end{aligned}$$

$$\begin{aligned} \pi_{2jk} &= \beta_{20k} \\ \pi_{3jk} &= \beta_{30k} \\ \beta_{00k} &= \gamma_{001}\text{Section1} + \gamma_{002}\text{Section2} + \dots + \gamma_{009}\text{Section9} \\ \beta_{10k} &= \gamma_{100} \\ \beta_{20k} &= \gamma_{200} \\ \beta_{30k} &= \gamma_{300} \end{aligned}$$

The normality of residuals assumption were not met at Level-1 [Kolmogorov-Smirnov  $D = .0482, p = .042$ ]. Visual analysis of the QQ-plot shows six outliers at the top of the scale. However the assumption of normality of residuals at Level-2 were met [Kolmogorov-Smirnov  $D = .0304, p = .144$ ]. Additional visual analysis supported exogeneity assumptions at Level-1, exogeneity at Level-2 were met, and that cross-level residuals were unrelated. The VIF was 1.29 or less for all variables.

**Intrinsic motivation, interest.** The independent variable, choice, did not have a statistically significant effect on students' interest in the writing task [ $t(219) = 2.03, p = .155$ ]. Meaning students did not report a difference in their interest in the writing activity based on whether or not they chose their writing position. The mixed-fixed effects hybrid model produced nine *y-intercepts*, one for each section. The median *y-intercept* was -0.98. At Level-1, *value* [ $t(338) = 17.95, p < .001$ ] and *competency* [ $t(338) = 5.08, p < .001$ ] were statistically significant covariates but *preference* [ $t(314) = 0.1265, p = .481$ ], *essay* [ $t(166) = 1.59, p = .115$ ], and *tension* [ $t(354) = 1.21, p = .229$ ] were not. There were not any statistically significant random slopes at Level-1; nor were there any significant

Level-2 fixed or random effects. The Level-3 fixed effects were statistically significant for all sections ( $p < .05$ ). The formulaic representation of the final model is:

$$\begin{aligned}
 Interest_{ijk} &= \pi_{0jk} + Value\pi_{1jk} + Competency\pi_{2jk} + e_{ijk} \\
 \pi_{0jk} &= \beta_{00k} \\
 \pi_{1jk} &= \beta_{10k} \\
 \pi_{2jk} &= \beta_{20k} \\
 \beta_{00k} &= \gamma_{001}Section1 + \gamma_{002}Section2 + \dots + \gamma_{009}Section9 \\
 \beta_{10k} &= \gamma_{100} \\
 \beta_{20k} &= \gamma_{200} \\
 \beta_{30k} &= \gamma_{300} \\
 \beta_{40k} &= \gamma_{400}
 \end{aligned}$$

The normality of residuals assumptions were not met at Level-1 [Kolmogorov-Smirnov  $D = .0674, p < .010$ ] and Level-2 [Kolmogorov-Smirnov  $D = .1043, p < .010$ ]. Because inferential tests indicated a significant deviation from normality, I inspected histograms and QQ-plots of residuals to assess the severity of the deviations, which may possibly be due to reasonably large sample sizes at the lowest level. Visual inspection showed that while there is some negative skew in the distribution of the residuals, the deviation is not considered to be severe enough to conclude that the assumption was violated to an extent that would adversely affect interpretation of model estimates. Additional visual analysis supported exogeneity assumptions at Level-1. The VIF was 1.22.

**Intrinsic motivation, competency.** The independent variable, choice, did not have a statistically significant effect on students' feelings of competency [ $t(220) = 1.04, p = .299$ ]; meaning students did not feel more competent when they got to choose their writing position. The *y-intercept* was 0.25. At Level-1, *value* [ $t(335) = 2.69, p = .008$ ], *tension* [ $t(147) = 5.64, p < .001$ ], and *interest (activity)* [ $t(328) = 4.25, p < .001$ ] were statistically significant covariates but *preference* [ $t(307) = -0.29, p = .771$ ] and *essay*

[ $t(171) = -0.38, p = .707$ ] were not. Further, there were two statistically significant random effects when they were tested in the model separately: *value*, [ $z = 1.92, p = .028$ ] and *tension* [ $z = 2.58, p = .005$ ]. When both random effects were placed in the model the asymptotic Z-test for *value* was no longer statistically significant [ $z = 1.15, p = .125$ ]. A LRT supported the model with the random effect of *tension* as compared to not having the random slope [ $\chi^2(2) = 9.9, p = .007$ ]. Therefore the only Level-1 random effect was for *tension*. The only significant Level-2 predictor was the direct effect for *writing self-efficacy (ideation)* [ $t(165) = 6.11, p < .001$ ]. None of the Level-3 fixed effects were statistically significant for any of the sections: Section 1 [ $t(231) = -0.01, p = .991$ ], Section 2 [ $t(216) = 1.37, p = .172$ ], Section 3 [ $t(219) = 0.59, p = .558$ ], Section 4 [ $t(230) = -0.01, p = .989$ ], Section 5 [ $t(219) = -0.32, p = .750$ ], Section 6 [ $t(218) = -0.22, p = .828$ ], Section 7 [ $t(226) = 0.61, p = .540$ ], Section 8 [ $t(216) = -0.30, p = .764$ ], and Section 9 [ $t(235) = -0.21, p = .835$ ]. Therefore the fixed effects model at Level-3 was not included in the model.

$$\begin{aligned}
 \text{Competency}_{ij} &= \beta_{0j} + \beta_{1j}\text{Value} + \beta_{2j}\text{Tension} + \beta_{3j}\text{InterestActivity} + e_{ij} \\
 \beta_{0j} &= \gamma_{0k} + \gamma_{01k}\text{SE\_Ideas} \\
 \beta_{1j} &= \gamma_{10k} \\
 \beta_{2j} &= \gamma_{20k} + u_{2j} \\
 \beta_{3j} &= \gamma_{30k}
 \end{aligned}$$

The normality of residuals assumptions were met at Level-1 [Kolmogorov-Smirnov  $D = .0317, p > .150$ ] but not at Level-2 [Kolmogorov-Smirnov  $D = .0705, p = .017$ ]. Visual analysis supported exogeneity assumptions at Level-1 and Level-2 were met as well as confirming that cross-level residuals were unrelated. Next, I checked for multicollinearity between all variables in the final model. The Variance Inflation Factor (VIF) was 2.54 or less.

**Intrinsic motivation, tension.** The independent variable, choice, did not have a statistically significant effect on students' feelings of tension [ $t(216) = 0.94, p = .332$ ] meaning students did not feel more or less tension about the writing activity based on whether or not they chose their writing position. The mixed-fixed effects hybrid model produced nine *y-intercepts*, one for each section. The median *y-intercept* was 2.75. At Level-1 *essay* [ $t(176) = 25.12, p < .001$ ] and *competency* [ $t(142) = 23.07, p < .001$ ] were statistically significant covariates, but *preference* [ $t(300) = 1.36, p = .245$ ], *value* [ $t(347) = -0.62, p = .535$ ], and *interest in writing activity* [ $t(347) = 0.13, p = .898$ ] were not. There was a Level-1 random effect for *competency* [ $z = 2.01, p = .023$ ] which was supported the more complex model [ $\chi^2(2) = 14.6, p < .001$ ]. There were no statistical significant Level-2 fixed or random effects. The Level-3 fixed effects were significant for all sections ( $p < .001$ ). The formulaic representation of the final model is:

$$\begin{aligned}
 Tension_{ijk} &= \pi_{0jk} + Essay\pi_{1jk} + Competency\pi_{2jk} + e_{ijk} \\
 \pi_{0jk} &= \beta_{00k} \\
 \pi_{1jk} &= \beta_{10k} \\
 \pi_{2jk} &= \beta_{20k} + r_{2jk} \\
 \beta_{00k} &= \gamma_{001}Section1 + \gamma_{002}Section2 + \dots + \gamma_{009}Section9 \\
 \beta_{10k} &= \gamma_{100} \\
 \beta_{20k} &= \gamma_{200}
 \end{aligned}$$

The normality of residuals assumptions were not met at Level-1 [Kolmogorov-Smirnov  $D = .0741, p < .010$ ] and Level-2 [Kolmogorov-Smirnov  $D = .06379, p = .034$ ]. Similar to normality of residuals not being met for interest, I examined histograms and QQ-plots of residuals to assess the severity of the deviations, which may possibly be due to reasonably large sample sizes at the lowest level. Visual inspection showed that while there is some negative skew in the distribution of the residuals, the deviation is not considered to be severe enough to conclude that the assumption was violated to an extent

that would adversely affect interpretation of model estimates. Additional visual analysis supported exogeneity assumptions at Level-1. The VIF was 1.00 for both variables.

### **Qualitative Findings**

College is a time for many when they first experience a new kind of freedom. For the first time, they are making a multitude of decisions every day: everything from when, where, what to eat to what to do one minute to the next. Life is full of choices! Tyson, provided an anecdotal description of how his life has changed since becoming an undergraduate:

I love [choice]. (laughs). I think in like high school and middle school and elementary school, you sort of feel like you're just being moved from place to place. And always growing up being told, "in college you'll get so much more choices and stuff." And you do. And I actually really, really like that. I think it's much better like that. So definitely, I think the more choices the better.

All the students I interviewed felt that choice was important in writing for a multitude of reasons. In this section, I first address how students talk about choice in college writing assignments (RQ 1). Second, I explore students' characterization of choice with a comparison on their perspectives on choice versus preference (RQ2). Third, I present findings on the most salient reasons college students believe choice is important in writing activities (RQ3). Fourth, I conclude by sharing some contrasting points of view detailing when students find not having choice to be beneficial (RQ4).

### **Qualitative Research Question One**

The students I interviewed unanimously believed that choice was not only important in their writing assignments but in other contexts as well. Many students



described writing assignments they had in high school as well as college, which is not surprising given that 17 of the 20 interviewees were either freshman or sophomores. Calypso compared her writing assignments in high school to those in college in this anecdote:

I find that, especially high school, it was a little less enjoyable for me to write because the deadlines were so strict... Maybe they would give us a creative writing task, but then they would try to restrict us. So (.)<sup>2</sup> I mean, I couldn't really enjoy it because they were just, you know, kind of lying and saying, "Oh you know, this is creative writing," but I was very limited on what I could write. So, that kind of made me feel negatively towards writing, but I think now that I've gotten into college, I do feel that my English professor kind of promotes more liberal writing, putting your passions and opinions in it.

Later she concluded, "You still have a little wiggle room to put your voice in it. So I think I've definitely gotten a stronger connection with writing." Having the power to choose may have given many of the students a stronger sense of identity and the opportunity to express themselves, which might be mirrored in their newfound freedom that college has brought many of them.

When I asked Hazel, a college freshman, about the limits a professor placed on an otherwise open-choice writing assignment, she realized that her writing assignments and feelings of autonomy were changing for her as well:

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<sup>2</sup> *Note.* A (.) indicated a short pause in the conversation.

Hazel: If it was more of a political based essay then she would have 2 or 3 things that were off limits like marijuana legalization and abortion, gun control, stuff like that. But other than that, it was kind of (.) you can do whatever you want.

Angelique: What did you think about getting that much choice?

Hazel: I was kind of sitting there like, I don't know what to do? I've never had this much power before?

As part of the interview protocol, I asked all interviewees about other writing assignments in which they had choice. The most common responses were about assignments from one of the college writing courses where they, as Hazel mentioned, could write about almost any topic they wanted. Even with the assignments that had limited writing topics, students described feeling a great deal of freedom within the supposed confines. Percy described an assignment where he had to write an argumentative essay on who the next person should be on the 20-dollar bill.

And I got to write about “well I want to replace him with Neil Armstrong,” and so it was really cool because it was a topic I cared about...I got to choose every aspect of how I was going to write that. Even though it was about a topic, like everybody wrote about the \$20 bill...I got to choose who I wanted on the \$20 bill, why I wanted them or if I wanted to change it or not. So I think I got to incorporate a lot of what I cared about into it, so it was better.

Open-choice writing topics that students described were not limited to writing courses. In fact, students talked about writing assignments where they were allowed to choose their topics in physics, engineering, and, as with Zoe, biology:

Zoe: There was one assignment in my Bio 100 class that – it wasn't an intense writing project, but we were learning about diseases and we got to pick a disease. So, yeah, I remember that and that was one experience where I had to choose my topic.

Angelique: What did you think about choosing that topic?

Zoe: I liked it because I got to choose a disease I was interested about and I wanted to learn more about it, so that led to better writing.

Angelique: When you were making a choice, was it like you have to choose from five different things or any disease or what did the teacher (.)

Zoe: It was like any disease.

Broadly speaking, the undergraduate college students state having choice in writing assignments as important, and most of them described having much more freedom in choosing their writing topics in their writing courses as well as courses in other disciplines.

### **Qualitative Research Question Two**

All but one student that I interviewed expressed enthusiasm for having choice related to writing topics, albeit to varying degrees. However, through closer and deeper reflection upon the data, it became apparent that some students confused the idea of having choice with getting their preference. Meaning, they may have said that “choice” was important but, in context, they may have meant that getting their preferred side, regardless of whether they chose, was what was important. For instance, Gracie said

having choice makes writing easier, but then said if she had gotten her preference the writing task would have been easier:

Because that's what it is, it's an argumentative paper. So, having the choice between the pro and the con is easier. Because when I didn't get to *choose* [emphasis added], *I liked the other side better* [emphasis added] because there was more that I could have written about. But then I was like, "Well I guess I have to make due with what I have," which it's not as (.) like I feel more stressed out because I don't think it's as good as a paper... well if I would have gotten to write about the other side I could have made these points instead, which is helpful because then you can build your counterargument a little bit better.

Similarly, when I asked Angel how the discussion activities went, she responded:

Well aside from complaining, I guess (.) well I got to choose so that's what I wanted. Well, when we first sat down, everybody was discussing whether they *got* [emphasis added] the one they chose or not. And then for those who didn't get to choose (.) they were like, "Oh, I don't want to be here." (Laughing.) And they didn't really input a lot. They didn't give much of an input compared to those who did get to choose and wanted to write about that opinion.

Using the word “got” in reference to the assigned topic makes apparent the fact that she is describing her classmates as not getting their preferred side. Nico also provided evidence of why some students may use the word “choice” when they might mean preference.

After exclaiming that he wouldn't want to be forced to have a flavor of ice cream he didn't choose, he goes on to say, “when it comes specifically to writing, yeah it's always

good to choose. Because then you're definitely sure that you're gonna get a topic you're interested in. Or at least you think you can write about.”

Not only did the students confuse the terms, but seven participants made inconsistent statements about the relative importance of choice as compared to preference. For instance, initially Percy said, that because he got the side he wanted, choice “didn't really make too big of a difference.” However, later in the interview he said that choosing made him “care more” and feel more attached to that side of the argument. Therefore “[he] argued a little harder in the discussion portion and got a little bit better ideas.” Nine students, in total, specifically stated whether choosing or receiving their preference was most important.

**Preference.** Four students said having their preferred position was more important than choosing. For some who got their preferred side, getting to choose “didn't really make too big of a difference.” Zoe, who did not get her preferred position in the non-choice condition, was emphatic about receiving her preference: “I feel like [getting my preferred side] was the thing that mattered the most” because she had more ideas to support the position she was not assigned. Gracie explained:

It's not about the choice, it was about what I was gonna have to write about... like I'm pretty much fine about writing about anything as long as I know what I'm writing about. So it's not so much that I didn't get to make a choice...but it was the fact that I didn't get the one I wanted. If that makes sense?

**Choice and Autonomy.** Five students, however, expressed wanting to have the “power” to make their own choices. For them, it goes beyond merely *receiving* their preference; choosing is important because it allows them to act autonomously, and to

express their personal preferences (Cordova & Lepper, 1999; Patall, 2012; Tafarodi et al., 2002; Ullmann- Margalit & Morgenbesser, 1997). Piper, a mother who had returned to college after raising four children, enthusiastically replied to a probe of why she thought choice was important: “Because it's empowering! You already have a bank of experiences and a bank of knowledge, and so you feel like you're setting yourself up for success.”

In a particularly rich interview, Grover provided the following analogy:

Grover: So definitely, having a choice helps. It also helps that you want it (.) you chose this topic. It wasn't given to you. You know? It's one of those things where then you've (.) you get into the confidence mode. Like this is what I wanted to write about. It's not what someone told me I had to write about.

Angelique: Can you talk more about that?

Grover: It's like listening to music. If you just have it on shuffle and you're just getting a random song, every now and then...you get kind of bored. But then when you choose the songs that you want to listen to (.) then you get more excited and you feel like you're more in control. And you have more control over what you're gonna be doing with it. You know, you can skip the song or you can play another one.

An integral component of autonomy is having a sense of control (Deci & Ryan, 1987; Niemiec & Ryan, 2009). Four interviewees described control over their writing topic, generally, and/or grades being an important aspect of choice. When Annabeth was

asked how she felt once she realized she was not going to choose, but before she knew her topic, she said she was “bummed out” because she did not feel in control: “When you're not in control it's kind of like you're scared because you don't know what's going to be thrown at you.” If one does not feel that they have a sense of control because they are denied the opportunity to choose, they cannot have a strong sense of autonomy.

Being able to choose is often the result of an individual being in control and acting autonomously (Deci & Ryan, 1987). According to Self-Determination Theory, if this psychological need of autonomy is not met, then students may be less intrinsically motivated to learn (Graham & Weiner, 2012). To Grover, having choice is important because it fills the need of autonomy which makes him “more excited and [feeling] like [he is] more in control.” Specifically with writing, choice gives him more confidence which goes beyond just wanting to write about the topic but, more importantly, it is not something that someone “told [him] to write about.”

Seven more students echoed displeasure in “having to” write on a certain topic. For instance, Juniper repeated the idea four times that being “forced” to write on a topic detrimentally influenced her writing motivation (“cause you're just kind of forced and usually the things you're forced into, you don't like. So it's ‘I don't like it, that's why it's harder.’”) and the quality of her writing:

It's easier to write about, and when people get a choice, then it's like their writing becomes a little better. If they don't have a choice, they're just kind of forced to write things and it doesn't always turn out the best. But if they're given a choice, it just makes a lot more sense and looks a lot better.

Students also described the opportunity to exercise their autonomy in positive ways; many talked about choice being important because they could exercise their personal freedom when they got to choose. Zoe explained:

I think it's easier for students if they have choices [in writing], 'cause they have the freedom to be more creative and do what they want, and if students do what they want then they're gonna produce better work, I feel like. So, it's definitely a good thing if we get choices.

Several students described how choice, specifically, enhanced feelings of autonomy in other writing assignments. Even though Percy chose a topic he was less interested in, he described how choosing provided other benefits.

I wrote one about “is red wine heart healthy.” And you had to acknowledge counter arguments and stuff, and I wasn't as interested in that, but just having that freedom...it meant I could choose something that there was a lot of scientific data on and made the writing process easier that way, so I think that freedom kind of lets you play to your strengths.

The question of whether the act of choosing or just receiving one's preferred writing topic is more important to college students remains unresolved based on the qualitative data. In much of the data collected in this study, not only did some students use choice and preference interchangeably; they also used the word *choice* when describing the act of receiving their preference. This confound is understandable because when individuals choose, they are also receiving their preferences. Despite this confusion, a subset of students ( $n=8$ ) voiced the relative importance of either choice over preference or vice versa. There was an even split with four students clearly favoring one



view or the other. Seven other students made statements related to the importance of choice as well as preference. Those who saw preference as more important said it was because they had more ideas, knowledge, or they thought it would be easier to write about their preferred side. On the other hand, students who viewed choice as more important said it was because it allowed them to exercise autonomy.

### **Qualitative Research Question Three**

In addition to the motivational effects choice has on students' feelings of autonomy, I saw several other themes emerge as I analyzed the data through my interpretive lens. Here I present the three themes most often reported by students of the importance of choice: interest, knowledge, and difficulty. Having choice in writing is important because it allows them to write about topics that they find interesting and have knowledge of or ideas for, both of are related to the difficulty of the writing task.

**Interest.** Every student mentioned interest in the writing topic as a reason they liked having choice. Here is one example of a student's perception of the impact of interest on writing quality. Tyson shared that he "definitely favor[s] choosing the topics" because "when I care about what I'm writing about, or when I know about what I'm writing about, I think the quality of the essay improves a good bit." Percy expanded upon this by tying interest to enjoyment. "Yeah, I think it makes it more fun, and the more you care about something, the better the product's going to be. And so because I had choices, I cared and put more effort in." Here, Zoe tied in the idea of motivational impact:

I think if it's something you're passionate about or want to do then you're obviously gonna create better work 'cause you're gonna wanna actually do it, but

if it's something that you're not interested in, you're not gonna wanna work on it at all.

With 71 examples of interest, this is the most cited reason why these college students think that choice is important in writing topics.

**Knowledge.** Another important aspect of choice is that students can choose a topic that they know more about. In the interviews, many individuals described the importance of choice as it related to the ideas they had for this and previous assignments. When Annabeth did not get to choose her position on the second essay for this assignment she described feeling stressed. She shared this thought process:

Oh, and now I need to think of a whole new ideas because sometimes when I have to write something and I don't have any ideas, I just stress over it because I just think about all the time and you think of a great idea or it's gonna be a bad paper and then I'm gonna get a bad grade.

Five students echoed the sentiment that they feel stressed when they do not have enough background knowledge about the topic and ideas for their essay. However, Bianca, speaking about writing assignments more generally, saw a connection between relating to the topic (i.e., interest) and knowledge.

I feel like it's easier if you can relate to it, or you know what's going on about it, if you don't (.) you have to do more research. And then you'll probably be doing it based off research, not about how you can relate to it. And I feel like when you write something that you can relate to, it comes off better than just throwing down facts.

Another benefit three students saw in choosing a topic based on how much knowledge they have is that it can boost their self-efficacy for the task as well as decrease the difficulty. For instance, Grover shared:

Like in my history classes you get to pick a prompt and write on it. And you kind of say, okay, I feel like I have a little more information on this one, but this one would be easier to write about. And so you get to think of your strengths and weaknesses with each topic, and you choose one that you're the most confident in. And then you can put all your focus on that. It's like, OK, I was given these two prompts, but I wasn't told which one I had to write on.

**Difficulty.** Another salient theme students expressed as a reason for choice in writing topics is that the topic seemed easier, which made them feel more motivated. For example, in this discussion with Jason, he connected autonomy to difficulty and appreciated being able to choose easier options.

Jason: I appreciate it (.) yeah. I would rather be able to choose what I would prefer over being forced some things. So, yeah.

Angelique: So why?

Jason: ... I was gonna say it's a freedom thing. I prefer, maybe subconsciously, I would always choose the easier option. So it's something that, if I was given the choice, I would choose something that I perceive to be easier or something I can explore more.

However, having choice was important not only to be able to choose the easier option but may be related to other motivational aspects. Not surprisingly, students described connections between difficulty and interest and/or knowledge. Hazel explained:

Angelique: Do you like having choice in your assignments?

Hazel: Yeah, I do. I think it makes it easier to think of things to write about.

Angelique: Tell me more.

Hazel: If you already have a pretty strong stance on something, then (.) you're basically done with the brainstorming part, you just gotta put it down on paper. And if it's something that you feel strongly about, then you're more likely to be passionate about it or research more about it I feel like (.)

Angelique: And so, how would that help?

Hazel: I guess it would be a more detailed essay.

These interviews provided numerous motivational reasons for college students to have choice in their writing assignments. The most prevalent themes were interest (71 examples), knowledge (65 examples), and ease/difficulty (58 examples). Having choice in writing is important because it allows these students to write about topics that they find easier, more interesting, and possess more knowledge/ideas.

#### **Qualitative Research Question Four**

In the experimental phase of this study, students were randomly assigned to choose to write about one of two sides of an argumentative essay or to a no-choice condition. Every student could choose which side to argue for one essay, but for the other

they had to argue the position given to them. An exciting and unexpected theme I saw emerge was related to the advantages associated with *not* choosing in this writing activity. Eleven of the 20 students I interviewed mentioned at least one benefit. Interestingly, nearly all the students, eight of the 10, who did not receive their preferred position during the no-choice condition talked about the importance of not choosing. A striking commonality was that the students who did receive their preferred position *and* described benefits in *not* choosing; they had a history of participating in a debate-type club in high school. The benefits of not having a choice on this assignment, according to the students, included: (a) practice “rolling with the punches,” (b) become a better writer, and (c) gain new perspectives.

**“You Can’t Always Get What You Want.”** Some students made the point that, realistically, choices are not always available and even though they might feel disappointment, it is still possible to persevere. Selena mentioned this while discussing becoming a better writer whereas Zoe and Annabeth tied this idea to the final benefit, gaining new perceptions. To all three it came across as an incidental benefit; however, Grover strongly felt that this was an important experience that he and his fellow students should have.

Angelique: So how did you feel about not getting the side that you wanted?

Grover: Oh, well, I don't really, it was a choice. You know, sometimes, you can't always get what you want as Mick Jagger would say. But it's life you know, you don't always get what you want. And so you kind of have to roll with the punches. I've always been a big fan of just playing

with the cards that you're dealt. And I wasn't given the cards I wanted, but I'll make the best out of it.

Angelique: That's a good point. When you say nowadays, you don't get as much choice, are you talking about in college? Or?

Grover: Well...I'll try to make this not political...it just feels like now-a-days if someone doesn't get what they want. It just ruins everything. You know, like it blows everything out, like oh, why can't I do this? Why can't I do that? You know? It just kind of- that's life and you just got to roll with it. You know? I mean you can do what you can, but sometimes you just got to know it's not all about you."

**Better Writers.** Ten students said they believed being assigned a perspective different than their own could ultimately help them become better writers. They described becoming better writers in different ways. For instance, Thalia believed not having a choice gave her an opportunity to learn more and Selena thought it gave her the opportunity to be "able to adjust [her] writing." Bianca provided a more detailed explanation and example when she did not get to choose for a high school writing assignment.

I think choosing, it does have an effect on how you write. But also not being able to choose what you wanted makes you a better writer. Because then you have to go against what you personally believe. And so maybe it's a stronger argument that you have...I think I did one prompt when I was in high school. And I didn't agree with it, but I had to write about it because then I wouldn't have gotten a good grade on it. So I wrote it, and it was actually better to see the other side,

'cause I was like, I don't agree with what I'm writing, but it's what [the teacher] wants so I'm gonna write it. And I think it was challenging for me as a writer, but it made me become a better writer, because I'm doing something that is out of my normal.

Perhaps one reason not having choice may help improve writing is that when students do not have choice, they may put in more effort which may result in better writing. For example, when I asked Charles what he thought of the activity he responded:

Charles: I guess I would say I liked it. I liked the fact that I was able to choose the first time, and not the second time.

Angelique: Why is that?

Charles: Just because it kind of makes you think more. And if you know you don't really have a choice, you really have to think about it. Because, in my head I knew what I would be writing for this side, but I didn't really know what I would write for the other side. And so, it made me kind of think and evaluate the other side.

Similarly, although Gracie felt very frustrated over not getting her preferred side, she admitted that it pushed her analysis:

I think not having that choice actually influenced me to delve more into the research prompt and [to] have to look for pieces of the puzzle that would fit (.) so it helped me like [analyze] or (.) [have] a better analysis of the prompt itself.

These accounts supported Nico's experience of not receiving his preferred position when he was on a speech and debate team in high school. He said,

Nico: There's a notable difference in how I write, depending on if I care about the topic or not. And, on a somewhat side note, let's not forget anger, even. (.) If I heavily dislike a certain topic, I might try and knock it out of the park, purely to prove to myself that I can, because I hate it.

Angelique: You mean, so if you get the side you really, really don't want, you would be angry that you have it so you would even work harder?

Nico: Yeah, there are, in certain cases, that I would. [With] the reparations [debate topic], I almost argued harder for the side I hated to prove to myself that I could.

Near the end of the interview, Nico again revealed his determination and desire to become a better writer.

Like I said, I good writer can argue any topic. But a great writer can care about any topic. So, I want to become that level of great so I can find something to care about in any topic that I write about.

While Nico's account is the most intense reaction to someone not receiving a preferred position, it raises an interesting point about the persistence students take on when they do not get to choose their topic or point of view, particularly when they are motivated to become better writers.

**New Perspectives.** The most surprising theme I found, given the presumed benefits of choice, was that *not* receiving choice, particularly in this assignment, was important because it helped them see a new perspective. I was impressed and intrigued with how Annabeth described her process of appreciating the opportunity of being denied



choice. Initially, she was “bummed out” because she “had no control (.) and when you're not in control it's kind of like you're scared because you don't know what's going to be thrown at you.” Once she was assigned the topic she did not want, she described feeling more stress because she did not have many ideas. She worked through the discomfort by asking herself, "Okay if I was in this position, how would I see it?" By asking that question it helped her perspective to begin to change:

Annabeth: And it just made me grow because (.) I saw a whole new point of view of that situation. I know I just like (.) I don't know, it just expanded my mind so-

Angelique: Mm-hmm (affirmative), and so is that a positive, or?

Annabeth: Yeah. I think it's definitely a positive.

Later in the interview when reflecting on the assignment she went into greater detail describing why a new point of view is important to her:

Annabeth: I did like it [not getting to choose] even though it was a bit uncomfortable, but I feel like you do have to be uncomfortable sometimes just to experience life more.

Angelique: So it sounds like your feelings changed over the process of the assignment?

Annabeth: Yeah... I feel like in the beginning I was happy I got to choose what I could do because it's what I'm comfortable with, and then the second time when I didn't get to choose what I could do (.) I was like (.) uncomfortable but being uncomfortable actually led to me growing as a

person (.) as I said before, because I got to think outside the box (.) and try to think in a whole new perspective and I never thought I would ever think about [the other point of view] in that way.

Similarly, Thalia provided an interesting comparison between the times she got to choose versus not choose. When I asked her if she experienced a difference between the discussion activities based on whether she got to choose, she responded:

I do. I think so because, with the first one, I felt a little bit more educated almost...I was so set in my ways that I kind of was unable to hear the other people's points of view...Then, with the second one, I definitely felt like I was getting information out of it, but because I didn't know and also because I was kind of upset about getting that one, just a tiny bit. I was able to see their point of view and I was like, "Oh, well that actually really makes sense, too." So, they were both, to me, really educational in a way.

Many students described the importance of not choosing because it helped them see another point of view. In my interview with Jason we talked about this in light of this specific assignment. After he wavered between the importance of choice and not having choice in writing, I asked him whether it was important to let students choose or to assign topics in this particular assignment. He responded:

Jason: I would advocate for assigning just because (.) I don't know. When I was in high school I did speech and debate, and I enjoy arguing sides I didn't do (.) So that's why I enjoy that and I understand why that's better. I think that it gives you a more insider point of view on the other side rather than

just being like, "Well, all those people are wrong," so, if you have to argue a position you don't believe in, I feel like you get a better understanding as to why someone might think that.

Angelique: Even though earlier you were saying that you like the feeling of being able to to choose?

Jason: Yeah.

Angelique: So then you're talking about the positives of not choosing.

Jason: Yeah. (laughs)

Angelique: Say it again so I can process what you're saying.

Jason: I think that I advocate for not choosing just because I think it gives everyone a better understanding of both points of views. However, I do personally enjoy choosing things, but I would say that the assigned groups is more helpful for understanding a topic.

In my memo after I interviewed him, I wrote: "I had a really interesting discussion with him that really took me by surprise– it really floored me. He kept going back and forth about whether choice was good in writing." I was intrigued and went back to this issue at the end of the interview.

Jason: I think that when it's something (.) Choice in writing is good when it's a topic that might not be bipartisan. But, when it's something that's content-based like a book or an article or something. I would rather have the choice of a prompt. But if it's something that's like political or with two sides, I could say that the choice isn't needed. *But choice I prefer*

*when it's something that I wanna explore more* (emphasis added). I don't know if that's making sense.

Angelique: Let me just try to rephrase. When you're talking about responding to either a book or an article, so maybe something that's more of an informational analysis or something like that, you prefer to have choice.

Jason: Mm-hmm (affirmative)

Angelique: Yeah, it is a good thing 'cause I feel like in life you're gonna have to ... I don't know how to put it, but in life you're gonna have to side or talk about something you don't wanna talk about, like for a job or something, so you're gonna have to do it eventually. You're not always gonna get what you wanna do.

Jason: *I would say it's more important to not have choice because that's where you can make people see both sides of things* (emphasis added).

Although Jason (as well as several other students), “personally enjoy[s] choosing things,” sometimes there are more important benefits beyond those associated with choosing. Jason sees a difference between choosing informational writing versus a persuasive essay, like we had in this assignment. It would be better to not allow students to choose so that “you can make people see both sides of things.” Grover also suggested assigning topics for this assignment but tempered it by saying it would be good to offer choice one time and not another. While not all students went as far as advocating for assigning topics, 10 students appreciated the opportunity for new perceptions.

Eleven of the college students I interviewed believed there were benefits to not choosing for a variety of reasons. In closing, Zoe nicely brought together the benefits of

no choice including working harder and becoming a better thinker, seeing new perspectives, and rolling with the punches.

Angelique: Was there anything good about not choosing in the assignment in class?

Zoe: It made you think harder about your points and you had to think outside of the box I feel like. So-

Angelique: And is that a good thing?

Zoe: Yeah, it is a good thing 'cause I feel like in life you're gonna have to ... I don't know how to put it, but in life you're gonna have to side or talk about something you don't wanna talk about, like for a job or something, so you're gonna have to do it eventually. You're not always gonna get what you wanna do.

These students made an important point (especially given the quantitative findings in this study), “sometimes you just can’t get what you want”, but that it can have benefits.

### **Mixed Methods Meta-Inferences**

The reason I conducted a mixed methods study was to gain a deeper understanding of the role of choice in choosing writing position on an argumentative essay. In this study, the quantitative results were mostly unexpected in that they differed from my hypothesis, as choice had negative effects on writing quality, the number of words written, and writing motivation (value). It is important to note, however, that choice had neutral and even negative effects on writing and performance in other previous studies (Barry, et al., 1997; Carroll & Feng, 2010; Flowerday & Schraw 2003;

Flowerday et al., 2004, Study 1; Gabrielson, et al., 1995; Edwards & Juliebo, 1989; Kim & Kim, 2015; Meyers, 2002; Schraw et al., 1998).

The findings from the qualitative strand were that students overwhelmingly believed that choice *is* important in college writing assignments which, on its face, seemed to contradict the quantitative findings (Table 10). However, other findings answer the mixed methods research question: how do students' interview responses shed light on the quantitative findings?

**Perceived choice.** The first possible explanation for the negative effects on the writing outcomes is that the students may not have perceived they had choice between two sides of a controversial issue in special education as a real choice. When the students described choice in their college writing assignments, they most often described assignments with open choice; meaning, they could choose nearly any topic they wanted. Even on writing assignments with some limitations, these still provided students with much more latitude than a dichotomous choice as in this study. For example, Percy got to choose *anyone* to replace Andrew Jackson on the \$20 bill. Even Tyson's assignment, where he could choose to analyze any amendment to the United States Constitution, offered him 27 options whereas in this assignment the students in my study only had two options. Further, as college students, the participants may have had the expectation that they should have more choice in their writing assignments, because they have and "really want to have that freedom" in their lives.

**Having to work harder.** One of the benefits students identified with not having choice is that it could help them become a better writer. To become a better writer when not given a preferred topic or side, students described working harder. This took the form

of Charles “thinking harder” about the case study, Selena adjusting her writing, and Gracie pushing her analytic skills. In fact, Nico emphatically stated that disliking a topic can make him push himself harder, saying, “I might try and knock it out of the park, purely to prove to myself that I can.”

Along these lines, as an anecdote, one interviewee had a writing quality score of 3 out of 6. Based on that score, I was surprised when she said that she took AP English and AP Literature in high school and was planning to become a high school English teacher. In her interview, she described being “very passionate” about the position she chose, and not caring either way about the position when she did not choose. I looked back at her essays after the interview and she received a higher score when she did not choose. Her no-choice essay was better organized and overall more persuasive. In the essay where she chose, her arguments amounted to emotional pleas phrased as numerous rhetorical questions. Perhaps when students do not choose, they put forth more effort, resulting in higher quality essays

**New perspectives.** A final meta-inference that can be made from the qualitative findings to explain the quantitative results is the belief that gaining new perspectives is sometimes more important than choosing. Nine of the ten students who did not get their preferred position expressed how meaningful it was *not* to choose. For students who experienced this benefit in a no-choice condition with the first essay, this may have lowered the motivational and performance effect in the second essay. Similarly, students with a background in experiences like speech and debate may have come into the experiment with this preconception also impacting their views on the importance of choice in a dichotomous choice on a controversial issue.

Table 10

*Joint Display of Qualitative Data and Findings Explaining Quantitative Results*

Quantitative Results	Qualitative Data and Findings	Mixed Methods Integration and Explanation
<p>When students had choice:</p> <p>They wrote <b>lower quality</b> essays  <math>[t(297) = -2.16, p = .032]</math></p> <p>They wrote <b>shorter</b> essays  <math>[t(229) = -3.27, p = .001]</math></p> <p>They had <b>lower</b> writing motivation  <math>[t(281) = -2.88, p = .004]</math></p>	<p>If it was more of a political based essay then she would have 2 or 3 things that were off limits like marijuana legalization and abortion, gun control, stuff like that. But other than that, it was kind of (.) you can do whatever you want. ~<i>Hazel</i></p> <p>I got to choose every aspect of how I was going to write that. Even though... everybody wrote about the \$20 bill...I got to choose who I wanted on the \$20 bill. ~ <i>Percy</i></p> <p>I almost argued harder for the side I hated to prove to myself that I could. ~<i>Nico</i></p> <p>I think choosing, it does have an effect on how you write. But also not being able to choose what you wanted makes you a better writer. Because then you have to go against what you personally believe...And I think it was challenging for me as a writer, but it made me become a better writer. ~<i>Bianca</i></p> <p>I think that I advocate for not choosing just because I think it gives everyone a better understanding of both points of views. However, I do personally enjoy choosing things, but I would say that the assigned groups is more helpful for understanding a topic. ~<i>Jason</i></p> <p>[Not choosing] made you think harder about your points and you had to think outside of the box...I feel like it is a good thing 'cause I feel like in life you're gonna have to... I don't know how to put it, but in life you're gonna have to side or talk about something you don't wanna talk about, like for a job or something, so you're gonna have to do it eventually. You're not always gonna get what you wanna do. ~<i>Zoe</i></p>	<p>A dichotomous choice may not seem like a “real” choice for college writing assignments; therefore, students may not have received the benefits of having choice.</p> <p>When students did not get to choose, they may have worked <i>harder</i> on their essays which may explain why wrote more and higher quality essays when they did not choose.</p> <p>The benefit of gaining new perspective may outweigh the benefits of choosing.</p>



## CHAPTER 5

### DISCUSSION

In this mixed methods study, I examined the effects of providing choice on position of an argumentative essay to undergraduate students as part of an assignment in an introductory special education course. I followed up this experiment by conducting semi-structured interviews with 20 students to gain a better understanding of their perspectives of the importance of the experiment and choice in college writing assignments.

#### **Quantitative Strand**

Choice is assumed by many educators and researchers to have a positive effect on student writing. However, few studies have been conducted with choice in writing to support these claims. This study addresses the effects of choice, but unlike previous writing choice studies, it controlled for the following potential confounds: preference, topic knowledge, interest in the introductory special education course, writing self-efficacy, gender, and four aspects of motivation related to the writing tasks (value, interest, competency, and tension).

In this study, choice had a statistically negative effect on writing quality, words written, and value. The statistically significant predictors (i.e., covariates) that were related to the effects of choice on holistic writing quality were essay, tension, and topic knowledge. For words written, the statistically significant predictors were preference, tension, competency, and topic knowledge. There were also statistically significant interactions between choice and writing self-efficacy (ideation) for both quality and words written. As a result, competency, tension, writing self-efficacy (ideation), and

topic knowledge are potentially important covariates that should be controlled for in future writing studies examining the effectiveness of choice.

The effects of choice may vary based upon individuals' belief that they can come up with good ideas for their writing projects. One aspect of writing self-efficacy (i.e., ideation) was related to the effects of choice as an interaction. The interaction between choice and ideation was statistically significant for both writing quality and words written. For both of these dependent variables, higher writing self-efficacy (ideation) dampened the negative effects of choice on writing quality. Students who reported believing that they had more ideas for their writing were more likely to write higher quality essays when they chose their writing positions, but students who believed that they had fewer ideas for writing had lower quality essays when they chose their positions. Similarly, students with lower writing self-efficacy were more likely to write shorter essays when they chose their writing position. When students had choice, there was a strong, positive relationship between writing self-efficacy (ideation) and words written. However, when students did not have a choice, this aspect of writing self-efficacy had little or no relationship to how much students wrote. These findings are consistent with prior research that has found that those with higher self-efficacy for a task perform better as compared to those with their less efficacious peers (Patall et al., 2014).

Choice had a statistically significant negative effect on one aspect of writing motivation: value. The statistically significant predictors (i.e., covariates) for the relationship between choice and value with random intercepts were essay and interest (activity). Competency did not have a statistically significant random intercept, but it did have a statistically significant random slope. This means that, even though the intercept

for competency was not statistically significant, the variance around the common intercept was statistically significant. There was also a statistically significant interaction between choice and interest in the special education course that the students were attending. Therefore, interest (activity), competency, and interest in the general domain (in this case, an introductory special education course) are potentially important covariates that should be controlled for in future writing choice studies. The effect on the other writing motivation subscales (interest (activity), competency, and tension) were not statistically significant.

These findings contradict most studies in writing and choice which have concluded that choice has a neutral effect on writing outcomes. However, this study can be distinguished because it had a relatively larger sample size which allowed for the detection of a statistically significant effect as compared to other studies (Carroll & Feng, 2010; Edwards & Juliebo, 1989; Flowerday & Schraw 2003; Kim & Kim, 2016; Meyers, 2002; Schraw et al., 1998). Also, to distinguish this study from other studies which found no statistically significant effect, this experiment occurred in a college classroom setting as part of a required assignment whereas the two studies with large samples were part of a mandatory statewide writing exam (Barry, et al., 1997; Gabrielson, et al., 1995).

These findings also contradict previous studies which found statistically significant positive effects. However, even in studies where there were statistically significant positive effects, these findings were not consistent throughout these studies (Bonzo, 2008; Kim & Kim, 2015). For instance, Kim and Kim (2015) found statistically significant effects for two out of seventeen aspects of writing quality, and one out of five writing motivation measures (perceived choice). Similarly, Bonzo (2008) found that

choice had a statistically significant effect on fluency, but not either of the grammar measures: lexical complexity or syntactic complexity. These studies yielded inconsistent results across their measures, as compared to my study, which found similar results across writing quality, words written, and value.

Further, my study is distinguishable from the Bonzo (2008) study which also occurred with American college students. Our two studies differed in that the other participants: (a) wrote in German for a college-level language course, (b) had open choice on their writing topic as compared to dichotomous choice, (c) wrote for 10 minutes as compared to 25, and (d) were graded on the content, but not the grammar (dependent measures), as compared to just participation.

In the one previous writing choice study that also found a statistically significant negative effect, the authors suggested that providing students choice only once in a low-stakes situation (not as part of a course requirement) may not be as effective as systematically offering choice (Flowerday et al., 2004, Study 1) which may also apply to this study. Despite similar findings, my study can be distinguished in that it was a more robust study which had more than double the participants, controlled for additional potential confounds that impacted writing outcomes, and provided a more explicit description of scoring and reliability procedures.

### **Qualitative Strand**

After students completed both writing activities in the experiment and all quantitative data were collected, I conducted 20 semi-structured interviews with a subset of quantitative participants. The purpose of these interviews was to gain a deeper understanding of their perceptions of choice and writing. The students I interviewed

unanimously believed that choice was not only important in their writing assignments, but in other contexts as well.

The first qualitative research question explored how students talk about their experience of choice in college writing assignments. They described having much more latitude to choose topics that are important to them. Even when their writing assignments were limited in some way, students described feeling large amounts of flexibility within the supposed confines. Broadly speaking, the undergraduate college students believed having choice in writing assignments is important and, further, most of them said they usually had a great deal of freedom in choosing their writing topics in their writing courses as well as courses in other disciplines. Having the power to choose gave many of the students a stronger sense of identity and the opportunity to express themselves, which was mirrored in their new found freedom that had come with their college experience.

For the second qualitative research question, I explored how students characterized choice as compared to preference when discussing choice in writing. First, most college students were enthusiastic about having choice related to writing topics, albeit to varying degrees. However, some students confused choice with getting their preference by using the terms “choice” and “preference” interchangeably. Similarly, although they may have said that “choice” was important they may have meant that getting their preferred side, regardless of whether they had chosen, was actually what was important to them. This finding, on its own, may not provide much guidance to the choice literature because it confirms that choice and preference are frequently confused.

Not only did the students confuse the terms, but seven participants made inconsistent statements about the relative importance of choice as compared to

preference. For instance, initially Percy said, that because he got the side he wanted, choice “didn't really make too big of a difference.” However, later in the interview he said that choosing made him “care more” and feel more attached to that side of the argument. Therefore “[he] argued a little harder in the discussion portion and got a little bit better ideas.”

Despite this confusion, a subset of students voiced the relative importance of either choice or preference specifically. Four students saw preference as more important because they had more ideas or knowledge, or because they thought it would be easier to write about their preferred side. On the other hand, five other students believed choice was more important because it allowed them to act autonomously. Those who indicated that choice was more important believed so because they wanted to have the “power” to make their own choices and “be in control” of their writing topics. This finding is consistent with previous studies’ findings that choosing and feeling in control supports a feeling of autonomy (Deci & Ryan, 1987; Niemiec & Ryan, 2009). Further, students reported that choice is important because it goes beyond merely *receiving* their preference, as it allows them to act autonomously and to express their personal preferences. This is consistent with previous research (Cordova & Lepper, 1999; Patall, 2012; Tafarodi, Mehranvar, Panton, & Milne 2002; Ullmann- Margalit & Morgenbesser, 1997). Although the interviewees did not collectively provide a clear answer to the question of choice versus preference, some of the important findings from this study are the stated reasons why some students favored either the act of choosing as compared to receiving their preferred position.

With the third research question, I explored the three most salient reasons, in addition to autonomy, why students thought choice in writing was important. The three themes that emerged and were most often reported included: interest, knowledge, and difficulty. Having choice in writing is important because it allows students to write about topics that they find easier, more interesting, and possess more knowledge/ideas. They did not see these reasons for choice as isolated benefits, but interconnected to one another as well as to other advantages. For instance, students had more ideas for topics they found interesting which made their writing experience easier.

The fourth research question revealed some of the most interesting and surprising findings about students' perspectives on the benefits of not having a choice. The reasons students felt that not having a choice was beneficial included the opportunity to: (a) practice "rolling with the punches," (b) become a better writer, and (c) gain new perspectives. Some students made the point that, realistically, choices are not always available and even though there might be some disappointment, it is still possible to persevere. Practicing this skill was important because there are times in life where "you can't always get what you want." Most students mentioned this benefit incidentally although one student strongly felt all college students should experience this.

The second theme that emerged from the fourth qualitative question was that students believed being assigned a perspective different than their own ultimately could help them become better writers. They articulated different ways this could develop such as. Some described learning or thinking more about the topic, whereas others talked about having the opportunity to practice adjusting their writing or putting more effort toward the writing assignment.

A third benefit to not choosing was the opportunity to gain a new perspective on a controversial issue. Several students mentioned the benefits of “growing,” “thinking outside of the box,” and being more receptive to different points of view when they did not get to choose. In fact, although students reported that they, “personally enjoy[ed] choosing things,” sometimes they discerned more important benefits beyond those associated with choosing, particularly seeing a new perspective.

### **Mixed Methods Meta-Inferences**

After analyzing the quantitative and qualitative data, I made meta-inferences based on the findings from each strand. In the quantitative strand I expected choice to have statistically significant positive effect on writing quality, words written, and writing motivation because this was a rigorously designed and implemented study which took place as part of an authentic classroom activity (as compared to occurring in a lab setting; Patall, 2012). Further, it allowed students to demonstrate autonomy by expressing their preference (Cordova & Lepper, 1999; Patall, 2012; Tafarodi et al., 2002; Ullmann-Margalit & Morgenbesser, 1997). However, choice had a statistically significant *negative* effect on writing quality, words written, and value. The qualitative findings shed some light on these mostly unexpected quantitative results.

The first possible explanation is that the students may not have perceived the choice between two sides of a controversial issue in special education as a real choice because the majority of writing assignments that they described for other college courses were open-choice assignments with few limitations. In comparison, this study only provided a dichotomous choice between two points of view on a controversial issue in special education and no choice in topic. As a result, these college students may not have



perceived choosing between two sides of an issue as a real choice. They may have influenced the effects of choice on the outcome variables.

Second, when students did not get to choose, they may have worked *harder* on their essays. Alternatively, students had the opportunity to choose, they may have felt more comfortable and put forth less effort. For example, they may have been more lax in organization or had a stronger tendency to demonstrate my-side bias. In the interviews, several students stated that they worked harder in the no-choice condition. This took the form of “thinking harder” about the case study, adjusting their writing, and/or pushing their analytic skills. In fact, a young man corroborated this finding when he shared an instance when he did not get his preferred side on a debate. He emphatically stated that disliking a topic could make him push himself harder. He said, “I might try and knock it out of the park, purely to prove to myself that I can.” This reaction is particularly understandable for college students who have had to demonstrate a certain level of persistence to be admitted to college. This argument, however, may be more apt when talking about preference as compared to choice. While preference was a unique predictor of words written, it did not have a statistically significant effect on holistic writing quality.

A third explanation for the unexpected negative effect of choice on the writing measures could be the belief that gaining new perspectives is more important than choosing. Nine of the ten students who did not get their preferred position expressed how meaningful it was *not* to choose. For students who experienced this benefit in a no-choice condition with the first essay, this may have lowered the motivational and performance effects in the second essay. Similarly, students with backgrounds in experiences like

speech and debate may have come into the experiment with this preconception also impacting their views on the importance of choice in a dichotomous choice on a controversial issue. While this explanation may also lend itself more to a discussion about preference, the interviewees suggested assigning topics for future iterations of this assignment when only when discussing the benefits of gaining a new perspective. Therefore, this may provide evidence that choice, rather than denying one's preference, is more important.

### **Limitations and Future Directions**

One limitation of this study is that differences between the two case studies and essay topics may have influenced study outcomes. The two case studies were piloted and reviewed by myself and an expert in writing research. On their face, they had an equal number of reasons for both sides and were similar length and reading level. Further, the format of the writing prompts (i.e., write a letter to convince another person of your point of view) were similar as were all other aspects of the discussion and writing activities. Yet, there was still a statistically significant effect between the two essays for holistic writing quality and value. Despite the two essays being statistically different on these two variables, it is interesting that for quality the relationship was negative whereas the for value the relationship was positive. This means that when variance due to all other variables was first controlled, Essay 2 had statistically higher quality scores than Essay 1, but students placed a higher value on the Essay 1 writing activity. If these two essays are used in future research, steps must be taken to make them more comparable in terms of these two outcome measures.

While testing choice in an authentic setting—like an assignment that is part of normal class activities—provided some potential advantages it is not without limitations. I facilitated the assignment students completed as a guest lecturer and was not the instructor of record, so I did not have control of the class meetings before or between the experimental writing activities. For instance, one instructor told me after the first session that she had “prepared” the students so that they knew the importance of inclusion which was one of the positions in the first essay. Not surprisingly, this section had the most severe divide toward the position the instructor reportedly prepared them.

A third limitation involved having students participate in the group activities because it is not known how the group work may have influenced the effects of choice on the outcome measures. It is possible that choosers had an impact on how non-choosers engaged in the activity or vice versa. Similarly, students’ perception and enjoyment of the activity may have been tainted (either positively or negatively) by other students, and this may have influenced how students responded to the motivational outcome measures. Despite these possible limitations, however, the group discussion activities likely provided an important pedagogical function of helping the students develop knowledge and ideas for their essays. Furthermore, prior research has found that dialogic writing activities provide students the opportunity to consider different perspectives, allowing students to see limitations in their point of view and avoid my-side bias (Coker & Lewis, 2008; Felton, Kuhn, & Shaw, 1997; Kuhn & Crowell, 2011; Newell et al., 2011; Reznitskaya & Anderson, 2002).

A fourth limitation is that students were graded on participation rather than writing performance, which could have affected the outcome measures (although having

students earn points based on their writing performance could have artificially inflated any effects). In the interviews, about half of the students talked about the importance of choice because it could influence their writing quality. Further, only three students mentioned earning good grades as being important to them generally; and, only one tied choice to having an effect on his grades. However, it is a safe assumption that grades are important to most college students. Given that all of the students I interviewed believed that choice in writing topic is important for writing motivation and/or writing quality, one might conclude that college students connect choice to their writing quality, and therefore, their grades. However, the students were not graded based on writing performance for this assignment, so choice may not have had the motivational or performance effect I expected. Future researchers should look for connecting student writing to students' grades or some other meaningful measure of writing performance.

A fifth limitation concerns the knowledge measure. While the knowledge measure had high face validity because the questions came from the course textbook's test bank, it had poor reliability. Future research needs to apply knowledge measures that are more reliable (e.g., by increasing the number of test items).

A sixth limitation of the qualitative research in this study is that the findings, while illustrative and providing some guidance, are not easily generalizable. Additional research is needed to determine if future research will replicate the qualitative findings. A seventh limitation is that nearly all of the students I interviewed indicated that they believed that they were good writers even though, according to the holistic writing quality measure, they had a range of writing scores. If students do not have an accurate understanding of their writing performance, they may not have a factual grasp on how

choice might influence their writing motivation or writing quality. Future research could consider manipulating information provided to students: one-half of randomly selected students could receive feedback about their writing performance while the other half would receive no such information, to determine if this influences how informants discuss the impact of choice on writing.

An eighth limitation is that I did not have an independent measure of writing ability outside the essays used for dependent measures. Future researchers should consider using a norm-referenced measure to gain a more accurate measure of writing performance with a measure unrelated to the experiment.

### **Conclusion**

This mixed methods study provides important guidance for educators and researchers on using choice as a tool to increase students' writing motivation and writing performance. This study improved on previous writing choice studies through a stronger design, more rigorous data collection and analysis procedures, and a clear presentation of findings. Key attributes of this study that have not been used in most or any writing choice studies to date include: (a) recruiting a sufficient number of participants to detect a statistically significant effect, (b) employing a yoking procedure to control for potential confound of an unequal number of choice and no-choice participants on each side of the argumentative topics, and (c) collecting additional data to control for other possible explanations for changes in writing quality or writing motivation. Additionally, this study extends the literature in that it is the first study to examine the effects of a dichotomous choice on an argumentative essay. Finally, this is the first mixed methods study on choice and writing. By taking a mixed-methods approach, this study provided clarification of

students' perceptions of the influence of choice on their writing and writing motivation which permitted a richer, more complete understanding of the importance of choice and writing.

Although the quantitative results indicated that choice had a statistically negative impact on writing quality, number of words written, and students' value for the task, the qualitative findings provided some guidance to explain these findings and evidence that supports previous research on the importance of choice. Further, these results confirmed that choice is a complex construct and is not a quick-fix to improving writing performance. Rather, effective use of choice requires taking into account multiple factors and it is imperative for researchers to continue this path of inquiry to provide meaningful guidance to educators.

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APPENDIX A  
CHOICE REVIEW

**Choice is generally considered to be an instructional procedure that enhances students' motivation and performance. Select one theoretical perspectives and define choice through that lens and consider the factors the effectiveness of choice from that perspective. You can use other perspectives on choice to explain its effect. Review the available evidence on wither choice is effective in the area of writing.**

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### May the Choice Be with You

Researchers, theorists, and educators have long attributed choice has something that enhances motivation (Deci & Ryan, 2000; Flowerday & Schraw, 2000; Patall, Cooper, & Robinson, 2008). The quality of motivation can be considered as whether it is centered on extrinsic or intrinsic motivation. Extrinsic motivation is fueled by the desire for an outcome other than the learning task itself, for example to earn a reward; whereas intrinsically motivated individuals engage in the learning activity out of personal interest or desire (Deci & Ryan, 2000). Another factor that impacts the quality of motivation are whether the it instills a sense of choice or a sense of coercion (Moller, Deci, & Ryan, 2006).

Intrinsic motivation is important in a variety of contexts including the classroom, workplace, health contexts, and guarding against burnout in athletes (Deci & Ryan, 2000; Patall, et al., 2008). While the choice literature encompasses many contexts, this review will focus on the effects of choice in the academic and educational contexts but will also include findings from other fields, as needed, to describe what we know about choice.

Students who are intrinsically motivated demonstrate more academic engagement, increased persistence, and deeper learning (Vansteenkiste, Lens, & Deci, 2010). For example, elementary students with strong intrinsic motivation perform better academically (Grolnick, Ryan, & Deci, 1991) and have better memory and conceptual learning capabilities than their less motivated peers (Grolnick & Ryan, 1987).

Additionally, students who are intrinsically motivated to read, are more proficient readers (Morgan & Fuchs, 2007). In this review, I will first describe self-determination theory, the theoretical rationale and lens with which I understand choice. Next, three types of factors that impact the effectiveness of choice will be discussed. These factors include characteristics of the choice, characteristics of the individual, and characteristics of the situation. Finally, I provide evidence on the effectiveness of choice as it is related to writing.

### **Self-Determination Theory**

Self-determination theory provides a useful framework for understanding the distinctions between intrinsic and extrinsic motivators when looking at learning, academic motivation, and academic achievement (Graham & Weiner, 2012). Intrinsic motivation occurs when a student is driven to learn out of a personal desire to gain knowledge or expertise whereas extrinsic occurs when a student is motivated by outside factors such as grades or adult approval (Deci & Ryan, 1992; Vansteenkiste, et al., 2010). Learning, growth, and mastery occurs naturally when one is intrinsically motivated to interact with the environment (Deci & Ryan, 2000; Patall et al., 2008; Vansteenkiste et al., 2010).

Self-determination theory holds that the psychological needs of autonomy, relatedness, and competence are required for personal fulfillment and to have the capacity for intrinsic motivation. “Self-determination is the process of utilizing one’s will. This involves accepting one’s boundaries and limitations, recognizing the forces operating on one, utilizing the capacity to choose, and enlisting the support of various forces to satisfy one’s needs.” (p. 26, Deci, 1980).

Academic motivation increases when these psychological needs underlying self-determination theory are present (Deci & Ryan, 1992). Students who experience autonomy, relatedness, and competence will be intrinsically motivated to learn and behave in a self-determined manner (Graham & Weiner, 2012). For example, a student who feels in control and autonomous to competently complete an assignment while feeling connected to teachers, peers, and others in their educational community should have increased intrinsic motivation to learn and complete academic tasks.

Of these three psychological needs, choice most clearly relates to autonomy because autonomy needs are met through volition and choice (Graham & Weiner, 2012). When a student feels autonomous and in control of one's choices, intrinsic motivation is enhanced (Patall, et al., 2008). In the educational setting choice has been found to enhance motivation (Basten, Meyer-Ahrens, Fries, & Wilde, 2014; Hall & Webb, 2014; Patall, Cooper, & Wynn, 2010), increased feelings of competence and academic performance (Patall et al., 2010), and decreased problem behaviors (Vaughn & Horner, 1997). For example, a study examined the correlation between intrinsic motivation and students' perception of autonomy. Students with autonomy-supportive professors who provided opportunities for students to make choices positively correlated with intrinsic motivation, interest in physics, and academic performance; additionally, choice had a negative correlation with anxiety (Hall & Webb, 2014).

Adults can promote a student's sense of autonomy by providing choice. For example, teachers who were more inclined toward supporting student autonomy, as compared to controlling student behavior, had students with higher self-esteem and increased intrinsic motivation (Deci, Schwartz, Sheinman, & Ryan, 1981). Another

positive finding occurred in the home context. Children's perceived autonomy with their parents positively predicted school achievement (Grolnick, et al., 1991). Therefore, according to self-determination theory, providing choice should support feelings of autonomy and increase intrinsic motivation because they have control over outcomes. Not surprisingly, on the other hand, a controlled environment where students have little choice, leads to undesirable outcomes.

### **Effects of Choice**

#### **Neutral and Negative Findings**

Many researchers and theorists believe autonomy and choice support self-determination and intrinsic motivation. However, some research challenged the notion that choice is a universal tool to motivate positive behavior and other desired outcomes. In fact, some studies suggested choice may have no or negative impact on motivation and other outcomes (Patall, 2012).

Findings from some studies suggest that choice may not predict self-determination or autonomy (Assor, Kaplan & Roth, 2002; Reeve, Nix, & Hamm, 2003). For example, in a study on looking at which teacher practices enhanced Israeli, Jewish elementary students' feelings of autonomy, they found perceived choice had little impact. Instead, suppression of criticism and enhancing relevance had greater impact on teachers' perception of student engagement (Assor et al., 2002).

In some situations, choice may lead to undesired outcomes such as ego depletion. Ego-depletion is a type of fatigue and is defined as "a temporary reduction in the self's capacity or willingness to engage in volitional action (including controlling the environment, controlling oneself, making choices, and initiating action), caused by prior

exercise of volition” (p. 1253, Baumeister et al., 1998,). Ego-depletion can occur when one engages in difficult or numerous acts of self-regulation or volition, such as making multiple choices (Baumeister et al, 1998). However, Moller and colleagues (2006) provided evidence that ego depletion does not occur in all acts of self-regulation. In fact, they found instances of autonomous choice, but not controlled choice, did not have a depleting effect.

Providing choice can result in maladaptive outcomes such as lower self-esteem, higher anxiety, increased hostility, and lower performance when participants are concerned with self-presentation or performance (Patall, 2012). For instance, Patall reported some unpublished data where Burger (1988) gave a group of participants the opportunity to choose their words for a paired-associates task and told them that the supervising professor and two experimenters would discuss the participants’ performance with them. The participants in the no-choice condition performed better on the memory tasks than those in the choice condition.

### **What Influences the Effects of Choice?**

The relationship between choice and motivation is complex. In some contexts, and circumstances the literature shows that choice can enhance motivation while in others it can have the opposite or no effect. In Patall’s (2012) literature review, she examined which characteristics influenced choice. She presented her findings of the characteristics of the type of choice, individual, and circumstances. Here, I follow her structure, summarize pertinent findings, and present additional information. For a more thorough discussion of the influence of choice on motivation please see her full chapter (Patall, 2012).



**Characteristics of the Choice.** Characteristics of the choice which can impact intrinsic motivation include whether it is a perceived or actual choice, if the choice promotes feelings of control, competence, or autonomy, the level of effort required to make the choice, and how participants are treated when choices are restricted.

***Perceived choice.*** What is important is the perception of choice which the individual believes to have control over the outcome. Participants who were told they had a choice between an easy or difficult task performed better than those not given a choice even though the task was the same for all participants (Dember et al., 1992). This exemplifies the importance of perceived choice even if the participant does not actually have a choice of different options.

According to one study, the perception of choice is more powerful than actual choice. The researchers manipulated actual choice by giving some preschool students the opportunity to choose what picture they would draw with eight markers. Perceived choice was manipulated by giving them eight markers and telling them they could choose any of the eight markers to draw their picture whereas the other children were shown a set of 32 markers but were told they could use any of the eight markers they were given. Not only did those in the perceived choice condition have higher intrinsic motivation following the activity, but the effect between low and high perceived choice was greater than between low and high actual choice groups (Detweiler, Mendoza, & Lepper, 1996).

***Control.*** Actual or perceived control is the ability or belief that one has the ability to engage in a certain behavior, that the behavior will lead them toward a preferred outcome, and they will experience the desired outcome (Bandura, 1977, 1997). Individuals experience autonomy when they feel in control of their actions. Autonomy is

a sense that one's actions are volitional and based upon one's desires (Niemi & Ryan, 2009). Control and autonomy are inextricably linked to choice; meaning, making a choice is, many times, the result of an individual being in control and acting autonomously. However, experiments have separated choice from control and autonomy but this separation generally results in the choice having negative or no effects (Patall, 2012). To do this, researchers have looked at the effects choice when the choice has been autonomous, controlled, or something in between.

Compare an autonomous choice to a controlled choice. A controlled choice is one where the choice is based upon coercion or pressure. In describing the difference between an autonomous and controlled choices, Moller and colleagues (2006) characterized a study where participants were allowed to choose any three of six puzzles (Zuckerman et al., 1978) as an autonomous choice. But, they characterized another study as a controlled choice because participants were initially told that they could choose between two options, but were also told that it would help the researchers if the participants made a specific choice (Baumeister et al., 1998). This was a controlled choice because the participants' choice may have been influenced by a desire of pleasing the researchers, and may not, therefore, have been the result of an internal locus of control.

To further illustrate, Moller and colleagues (2006) found in a series of three experiments differences in the effect of choice on performance and persistence between choices that were autonomous and those where the experimenter tried to influence the choice (controlled choice). A similar finding on the effects of autonomous versus controlled choice were also found in a recent meta-analysis which found that providing a reward had near zero effect when compared to participants choosing their reward or

receiving no reward (Patall et al., 2008). The negative or neutral effects on choice may occur because verbal pressure and rewards may be perceived as methods for another to exert control over one's autonomy and control (Patall, 2012).

*Autonomy.* While the importance of autonomy was discovered in studies comparing autonomous and more controlled choices, other empirical evidence provides additional insights on the importance of autonomy and the effects of choice. A sense of autonomy occurs when one believes their actions are volitional (Deci & Ryan, 2000), self-initiated, and occur because of a perceived internal locus of causation (DeCharms, 1968). It is more than merely being able to make independent decisions; it includes a psychological freedom because the choice has flexibility and is volitional (devoid pressure or coercion; Deci & Ryan, 1987).

Autonomous feelings tend to occur when choices reflect an individual's personal preferences. To describe the difference between choices that allow for the expression of one's preferences and support a sense of autonomy, some scholars have distinguished between picking and choosing. Picking occurs when someone is asked to make a choice between alternatives that do not necessarily reflect their personal preferences whereas choosing allows for expression of their preferences (Ullmann- Margalit & Morgenbesser, 1997). Choosing is more likely to have a positive effect on autonomous feelings and intrinsic motivation because it provides the individual the opportunity to express one's personal preferences. For example, participants who made choices where their personal preference could be expressed had a significant positive effect on their confidence in the task outcome and performance-related self-esteem (Tafarodi, Mehranvar, Panton, & Milne 2002). Similarly, students who made choices to personalize a computer-based

math game had increased motivation, academic engagement, persistence, perceived competence, and levels of aspiration (Cordova & Lepper, 1999).

**Effort.** The level of effort required in making choices is related to the potential benefits of providing choice. Effort associated with choosing can be considered with regard of the number, similarity, attractiveness, complexity, importance of choices, and the number of options influence effort associated with choosing. A series of studies published in one article by Vohs and her colleagues (2008) demonstrate the effect of effort on outcomes such as persistence, performance, and passivity. For example, participants either made 35 choices on changes to their introductory psychology course or, those in the no-choice condition, were asked to carefully read through the same material. Participants in the choice condition demonstrated lower persistence and performance on a subsequent math task. These findings were corroborated in another study. Participants who made a series of choices surrounding customizing a computer exerted more effort and performed less well on an anagram after making their decisions as compared to participants that were asked to implement pre-determined choices or those that considered the options and stated their opinion but did not indicate their selection. Making choices for a longer period of time resulted in lower self-regulation, or passivity, as measured in the amount of time it took participants to alert the experimenter of broken equipment which was needed to complete the following task. These findings were confirmed in a meta-analysis by Patall and her colleagues (2008) where they found the optimal number of choices was between two and four. Any more or less resulted in smaller effects on intrinsic motivation.

Similarly, more options may not yield better results. For example, in two studies, individuals who were given 6 options as compared to 30 options were more likely to engage in the desired behavior of the study, purchasing a product or writing an extra-credit essay. Consistent with ego-depleting theory, providing too many choices requires more effort and drains cognitive resources which can decrease motivation (Inyengar & Lepper, 2000). In another study, when researchers provided participants ten theme options to create a print advertisement exhibited less creativity as compared to the group given only two options (Chua & Inyengar, 2008).

The similarity or attractiveness of options can influence the effort required to make a choice as well as its outcomes. For instance, when young children were provided two choose between two equally preferred options, children demonstrated less intrinsic motivation than when they were offered one preferred activity (Higgins, Trope, & Kwon, 1999). In comparing attractive options, Botti and Iyengar (2004) compared participant satisfaction between choice and no-choice conditions as well as desirable and undesirable choices in yogurt. They found participants in the choice condition with desirable yogurt options had higher satisfaction. But when faced with undesirable yogurt options those in the choice condition had lower satisfaction and ate less yogurt than those in the no-choice condition.

Pataill and her colleagues (2008) found in their meta-analysis that instructionally irrelevant or trivial choices were more effective than instructionally relevant choices in enhancing students' intrinsic motivation. They theorized that an instructionally relevant choice, such as choosing which method to use to complete a task, may have required more effort if the students were aware of the potential consequences of the choice.

Whereas, instructionally irrelevant choices such as choosing what color of pen to use is an easier choice requiring less effort. However, intrinsic motivation is not the only benefit. For example, in a study utilizing a computer game to teach math concepts, students who were asked to choose the digital icon to represent themselves on the game board, name their spaceship, and name their opponent's spaceship not only had high intrinsic motivation but also demonstrated better learning of the mathematical concepts and engagement (Cordova & Lepper, 1996).

***Awareness of options.*** When participants in control conditions are aware that other options are available but they are not provided the opportunity to choose, it can negatively impact intrinsic motivation (Patall et al., 2008). These findings are in line with theory. Self-determination theory suggests that choices that appear controlling will have detrimental effects on intrinsic motivation (Moller et al., 2006). According to reactance theory, when individuals know that options are available but not provided to them, they consider the options which are available to them as less favorable and the unavailable options as more favorable (Brehm, 1966). For example, pre-school aged children were shown ten boxes of art supplies and told to make a design by pasting the items in any way they wished. The no-choice group was given five boxes chosen by the researcher but the choice condition students were allowed to choose five from the ten boxes. Students in the choice condition demonstrated higher creativity than those in the no-choice condition.

***Characteristics of the Individual.*** While characteristics of the choice such as number of options, the degree of control or freedom, and how the choice is presented influence the effect of choice; so, do individual differences. An individual's cultural

perspective, socioeconomic status, developmental level, interest level, perceived competence, and value for the choice can impact choice.

***Cultural differences.*** Culture is a broad, multi-faceted construct making it difficult to describe its influence. Within the choice literature, some research has attempted to look at differences between collectivist and individualist cultures. Collectivism refers to a group of individuals identify as a member of a certain community, and their role in that community. Therefore, these individuals tend to be motivated by group norms and goals. On the other hand, individualism focuses on the needs of the individual before those of a group. People from individualist cultures are generally motivated by the individual's beliefs, preferences, and rights (Goncu & Gauvain, 2012; Rogoff, 2003). The effect of choice may be moderated on whether the chooser identifies as a member of a collectivist or individualistic culture or community (Hagger, Rentzelas, & Chatzisarantis, 2013; Patall, 2012).

Researchers have found differences of the effects of choice between participants with different cultural backgrounds including competence to choose for oneself versus choosing for another (Kitiyama, Snibbe, Markus, & Suzuki 2008), as a predictor of job satisfaction and performance, intrinsic motivation, and perceptions of fair treatment at work (Chua & Iyengar, 2006). Choice also can have differential effects on intrinsic motivation and performance of academic tasks. For example, in a pair of studies Iyengar and Lepper (1999) compared the effects of choice between Anglo American and Asian American students who spoke their respective Asian language at home with their parents. In the first study, Asian American students demonstrated increased intrinsic motivation and performance on an anagram task when they were told their mother chose the anagram

task and pen color as compared to when either the participant chose or the experimenter made those choices. However, Anglo-American children demonstrated highest levels of intrinsic motivation and performance when they chose. In the second study these findings were confirmed and expanded. The Anglo-American children again demonstrated enhanced performance and intrinsic motivation when chose the color of their spaceship and their screen name on a video game. Asian-American participants were more intrinsically motivated when these choices were made by trusted peers from their classroom.

***Socioeconomic level.*** Socioeconomic status may more strongly influence the effect of choice for individuals from higher socioeconomic backgrounds, as measured by having a bachelor's degree, because of stronger desires to have control over their environment and/or to express their unique preferences (Snibbe & Markus, 2005) and differentiate themselves from others (Stephens, Markus, & Townsend, 2007). On the other hand, those with out a college degree value choices that enable them to be similar to others.

***Developmental level.*** Little research has investigated the differences of the effects of choice based upon developmental level even though cognitive capacity required for choosing may be moderated by one's age or developmental level (Bereby-Meyer, Assor, & Katz, 2004). However, Patall and her colleagues (2008) found in their meta-analysis that choice has a greater effect on children's intrinsic motivation than for adults. In addition to this meta-analytic view, one other study was found which compared the effect of and reasons for choice in children and adults (O'Leary, 2014).



In a Master's thesis, O'Leary (2014) conducted a series of four studies to examine whether providing task choice influenced children's ability to switch between tasks. Switching between tasks can have a switch cost as measured by performance accuracy and response time. Because switching between tasks requires cognitive flexibility which is thought to develop during preschool years (Zelazo et al., 2003), in two of the experiments O'Leary compared four and five-year-old children's performance to adults. During instructional and practice phases using dimensional change card sort (DCCS) task, participants learned to sort items by either shape or color. In the choice condition, which was presented in a block of trials, participants chose whether to sort by shape or color. When a new block occurred, they had the opportunity to choose to continue the same task or switch to sort by the other dimension. Participants in the cued group were yoked to the same pattern chosen by a participant in the choice group. Comparing children and adults in the choice conditions, children switched tasks more frequently than adults. Interestingly, performance of children in the choice condition was not statistically different than those in the cued condition. Adults in the choice condition had longer reaction times than adults in the cued group. Thus, O'Leary concludes that choice may have detrimentally impacted adults' reaction time and, therefore, did not benefit from being provided choice. It should be noted, however, that O'Leary used different measures of performance for children and adults. Children's performance was measured by accuracy, but because adults' accuracy reflected a ceiling effect, she measured their performance by reaction time. It would be interesting to know if these findings would hold if both groups had the same measure of performance.

In the following study, O’Leary investigated the reasons for choosing one task over another. She found that adult participants were more strategic in their choices and choose a task because it was easier and more frequently chose the easier task over time. Children, on the other hand, only chose the easier task about half the time, which was no more often than would occur by chance. Also, children did not strategically choose the easier task or demonstrate a pattern of learning as to which game was an easier task. Finally, most of the adult participants (58%) reported their choices reflected the easier task whereas the top three reasons given by children were that they wanted to switch between or do both tasks (45%), color preference (24%), or they did not know the reason behind their choices (28%).

***Perceived competence.*** An individual’s perceived competence to complete a task can influence the effectiveness of choice. For those with lower perceived competence, choosing may enhance their motivation because they can make choices to make the overall task more manageable. On the other hand, for those with higher perceived competence, choice may be more beneficial because they might have expertise to make meaningful decisions whereas those with low perceived competence may become overwhelmed when presented with choice (Patall, 2012). There is evidence to support these seemingly contradictory theories. First, Patall (2009) found a trend in experimental studies that choice was generally more beneficial for those with lower perceived competence but that restricting choice was more detrimental for those with high perceived competence. In a study that compared participants with high and low levels of creative self-efficacy, more choice options resulted in more creative outcomes for those

with high creative self-efficacy but those with lower self-efficacy demonstrated more creativity when they were provided fewer options (Chua & Iyengar, 2008).

***Personal interest.*** The initial interest that an individual has for a task may influence the effect of choice related to the task, particularly if the individual has existing beliefs and personal experience with the task or related activities. In a study on teacher beliefs about instructional choice, findings suggested that teachers believe that providing choice can be motivating, particularly for students who have low motivation for the task (Flowerday & Schraw, 2000). Similarly, when students were provided choice in homework options (a typically low-interest task), they demonstrated higher performance on their unit test and homework completion rates. Further, they reported increased interest, enjoyment, and perceived competence understanding the material (Patall et al., 2010).

The benefits of choice for those with lower interest has been found in some studies (e.g., Schraw et al., 2001; Tsai, Kunter, Ludtke, Trautwein, & Ryan, 2008). However, Patall (2013) found those with initial personal interest benefited more from choice than those with lower levels of interest, albeit with mixed results. Specifically, participants were told they were going to complete a series of trivia and brain teaser-type questions and were then asked their interest in trivia games. Next, they were randomly assigned to a choice or no choice condition. The choice group participants were told that they could choose three categories of questions that a preponderance of their questions would reflect. However, the questions were worded in such a way that they could fit into multiple categories so that the questions were identical across participants. The no-choice condition participants were told which categories they would receive and was based upon

being yoked to a choice participant. Participants who were given a choice reported higher perceived competence and better performance but not post-task interest levels. However, the interaction between initial interest and choice yielded only statistically significant differences in post-task interest level but was not significant in perceived competence or performance.

***Value for task and options.*** The value one places on the choice options and the process of choosing may influence the effectiveness of choice because any costs of choice (e.g., ego depletion) may be ameliorated by one's value and enjoyment. When one values the choice options, positive effects may occur because the chooser can experience enhanced autonomy. Similarly, when they do not value the choice options choice can have neutral or negative effects (Patall, 2012). Along these lines, value for the choice-making task may yield similar results. For instance, participants who enjoyed the task of choosing a moderate number of items for a bridal registry did not experience depletion as compared to those that found it aversive (Vohs et al., 2008).

***Characteristics of the Situation.*** The context surrounding the individual, the task, and the provision of choice can influence the effectiveness of choice. How an individual thinks their choices will be viewed by others as well as how realistic and meaningful the task and choices are can influence the effectiveness of choice.

***Self-presentation concerns.*** When self-presentation concerns are linked to a choice, the choice can positively impact desired outcomes. For instance, undergraduate student participants were asked to perform an associative-pair learning task. Participants who chose the response word performed better than those who did not have a choice and those who had a choice but were not told the experimenter would know their choice or

how they performed (Burger 1987). Burger replicated this finding to a study using anagrams using the same design study. Participants performed better when they believed the experimenter would know which anagram test they chose and their performance.

***Realistic setting.*** Choice is generally more effective when presented in a naturalistic, yet controlled, setting as compared to a laboratory setting because laboratories may be perceived as inauthentic. For instance, Patall and her colleagues (2008) found in their meta-analysis the effects of choice were greater when participants were taken to another room at the school or workplace rather than engaging in a study in a laboratory setting.

***Desirability of outcomes.*** Previously discussed was the attractiveness of the options impacting the effectiveness of choice (e.g., choosing between desirable and undesirable yogurt flavors; Botti & Iyengar, 2004). Along these lines, the circumstances surrounding choices related to tragic events or outcomes could result in fewer benefits, higher choice costs, and a reduced desire to choose. For example, researchers found when participants were presented with difficult hypothetical situations (e.g., asked to choose between which of their children to receive a life-saving transplant), they experienced regret, guilt, psychological distress, and were averse to deciding (Beattie, Baron, Hershey, & Spranca, 1994). In another study, parents who made the decision to discontinue life support for their infant were less able to cope and carried more negative feelings than when the decision was made by the physician (Botti, Orfali, & Iyengar, 2009).

## **Choice and Writing**

There is an assumption in education that providing students choice in writing has positive effects. For instance, one study found that teachers believed giving students choices in writing was beneficial and motivating, particularly for students who had little interest in writing (Flowerday & Schraw, 2000). However, despite this assumption, little research has been done in this area; and the research that has been conducted yields seemingly contradictory results. Further, methodological issues in study design and data analysis give rise as to the validity of some of the results. In this section I will briefly describe the range of findings from these studies and then evaluate the studies which are most applicable to my potential study.

### **Overview of Findings**

Some researchers have reported writing has a positive significant effect on writing fluency (Bonzo, 2008), lexical sophistication, and temporal cohesion (Kim & Kim, 2015). Additionally, Joyce (1989) cited an unpublished dissertation, which I could not locate, that when students were given choice of topic, they wrote longer essays (Graves, 1973). Further, a qualitative study compared the writing practices of two teachers which included, among other themes, choice in writing topics. While both teachers allowed students some flexibility in their writing topics, Erwin (2002), observed that the teacher who gave unrestricted choice to her fifth-grade students, had more students choose to write about struggle (e.g., alcoholic parent, divorce). A benefit of unrestricted choice, he concluded, is that may give students a powerful opportunity to work out difficult life situations through writing.

Despite these promising results, there may be more evidence that choice has no, or negative, effects (Barry, Nielsen, Glasnapp, Poggio, & Sundbye, 1997; Carroll & Feng, 2010; Flowerday & Schraw 2003; Flowerday & Schraw 2004; Gabrielson, Gordon, & Engelhard, 1995; Joyce, 1989; Kim & Kim, 2015; Meyers, 2002; Schraw et al., 1998). Four of these studies which found no effect may have been underpowered due to small sample sizes (Carroll & Feng, 2010; Joyce, 1989; Meyers, 2002; Schraw, Flowerday, & Reisetter, 1998, Experiment 1). However, two studies of statewide writing assessments which had tens of thousands of participants, and therefore likely to have sufficient power, also found providing choice in topic did not have a statistically significant effect on writing quality (Barry et al., 1997; Gabrielson et al., 1995).

### **Flowerday, Schraw, and Colleagues**

A series of studies with college students, who were required to enlist as participants for research studies as part of their coursework, found choice had insignificant or slight negative effect on written responses (Flowerday & Schraw 2003; Flowerday et al. 2004; Schraw, Flowerday, & Reisetter, 1998). An important point to investigate with these studies is how they defined and measured writing.

**Construct Validity Issues.** All three studies describe the writing measure similarly, yet the description is vague. They each described a two-fold prompt which asked participants to respond to the main idea of a story and provide a personal reaction. Schraw and colleagues (1998) is the only study where they state the purpose in the written responses was to count the number of responses and to categorize them into 12 types. However, the researchers in the other two studies describe similar procedures. Based upon a close reading of all studies, this raises issues related to construct validity

because this dependent variable, a writing measure, is not clearly defined and the researchers failed to describe why it is meaningful to measure. Further, even if, one concludes that the researchers adequately described the writing measure, additional concerns arise as to the construct validity and reliability of the measure.

The second concern with construct validity is whether what they purport is a writing measure is an appropriate assessment of writing. The sources that are cited as support for their measure are Weber (1985), Ericson and Simon (1993), Many and Wiseman (1992), Schraw (1997). (It should be noted that Schraw (1997) cites Weber (1985) and Many and Wiseman (1992) for support; therefore, I will omit Schraw from this analysis.) Weber's book, *Basic Content Analysis* appears to be an appropriate form of support to analyze what type of statements were written. But the researchers did not justify why these types of statements are a useful measure. It appears that these authors just had a tally of the total number of written assertions which falls under one of the twelve types but that is not entirely clear. It is not apparent if and how categorizing these statements are related to inferences about the relative quality of participants' writing.

The second reference they cite in support of their writing measure is Ericsson and Simon's *Protocol Analysis: Verbal Reports as Data*. This book, as the title suggests, is about collecting verbal data such as through think alouds. Ericson and Simon provided no significant examples or discussion about applying this method to writing. Flowerday and colleagues provided no explanation as to how the verbal reporting of data justified their writing measure. Finally, the researchers used "similar categories proposed by Many and Wiseman (1992)" (p. 707, Schraw et al., 1998) but they failed to mention that this study was conducted with third grade students. It is unclear as to how the guidelines by Many



and Wiseman would be an appropriate measure for college students' writing. Therefore, the writing measure may not be supported in the literature as a valid measure of writing which raises questions as to the legitimacy of the findings.

**Reliability.** The problems with the writing measure are not confined to their cited sources. Despite best practices of conducting high quality empirical writing research is to establish inter-rater reliability (Graham & Harris, 2014), Flowerday and colleagues failed to provide any measures of reliability. Further, in two of the studies, they did not describe any procedures to establish reliability (Flowerday et al., 2003; Schraw et al., 1998).

Flowerday and colleagues (2004) claim that 10 out of 98 essays were scored by a third rater but they do not provide any data about the degree of reliability. Given these issues, interpretations of the effects of choice on writing should be taken with caution.

### **Kim and Kim**

Kim and Kim (2015) investigated the effects of choice on writing quality and motivation with 31 college students in South Korea who had studied English for at least ten years. The procedures bear some similarities to my potential study. Students completed a brief demographic survey, wrote for 30 minutes, and completed a motivational survey. The students who were provided choice were permitted to choose between two essay topics whereas the no-choice participants were assigned a topic. The researchers reported that choice had a positive effect on motivation and two aspects of writing quality. However, these findings are a bit misleading. While it is true that Kim and Kim found statistically significant effect for two aspects of writing quality, what was not highlighted is that this is two out of *seventeen* measures. Said another way, choice had no effect on fifteen aspects of writing quality. This realization tempers the

otherwise exciting finding. Similarly, choice had no effect on five of the six areas of motivation including, (a) intrinsic motivation, (b) identified regulation, (c) external regulation, (d) amotivation, and (e) intention to persist. The one area where there were statistical significant results was under “perceived choice.” The researchers do not describe any of these constructs which leads me to infer that the only motivational difference was whether the participants realized that they were being offered a choice. Given there were no other significant motivation results, it is difficult to conclude that choice had an effect on motivation.

### **Anderson**

Anderson (2008) asserted in the abstract of his mixed-methods dissertation that topic choice on a writing test influences fifth-grade students’ motivation and engagement. However, several issues with this study raise questions as to the validity of these claims. First, it is unclear in when, how, and if participants were given choice. Anderson did not describe the writing prompt procedures except, “the writing prompt format variables consisted of writing prompts with no choice or option allowed and prompts that were open and allowed the participant to write about whatever they chose in an expository mode,” (p. 45-46). He failed to describe or give an example of the prompts, how many choices were offered, how many prompts were collected, or the context of when and where the children wrote their essays. Anderson also did not describe the procedures and context surrounding his data collection of surveys, interviews, and observations.

Furthermore, description of measures and data analysis procedures were scant and erroneous. Although Anderson eluded in his abstract to having choice in writing prompts had an effect on writing engagement, what is reported in his results section suggested the

opposite. His second question, “do students perceive themselves as being more motivated or engaged in writing assignments when provided with choice of content,” (p. 56) did not result in a statistically significant difference. He glosses over this fact saying differences in the means still is evidence that providing choice in writing prompts is beneficial. He may, however, have concluded a significant correlation, based upon his third question.

Anderson’s third question was, “is there a difference in the self-perceived levels of engagement between intermediate-level girls and boys when presented with writing assignments of varied degrees of choice pertaining to content?” (p. 59) Based upon this question, it appears he had two categorical variables, gender and “writing assignments of varied degrees of choice pertaining to content.” Despite this, he reported conducting a one-way ANOVA even though a two-way ANOVA should be used when wanting to test the effect of two variables and their interaction (Field, 2000). Based on his conclusion, “the data indicate there was significant correlation between gender-based perceived levels of engagement and writing prompt options to reject the null hypothesis for the treatment,” (p. 61) it appears, he believed he was reporting an interaction between gender and choice which would have required a two-way ANOVA analysis.

Methodological and analytical concerns were not limited to the quantitative strand of Anderson’s study. Anderson failed to provide a rich description of the participants, context, the researcher’s participation or positioning which are key components to the qualitative strand of a mixed methods study (Guba, 1981). There was no discussion related to how the interview questions were developed or piloted (Warren, 2010). Further, Anderson provided little or no description of the coding procedures, if/how themes developed (Birks & Mills, 2011), and whether he reached saturation (Charmaz,

2006). Based upon these descriptive, methodological, and analytical concerns, it is difficult to rely upon this study for evidence of the effectiveness of choice in writing.

### **Conclusion**

Researchers, theorists, and educators have long attributed choice has something that enhances motivation (Deci & Ryan, 2000; Flowerday & Schraw, 2000; Patall, Cooper, & Robinson, 2008). According to self-determination theory, providing choice should enhance intrinsic motivation because it enhances feelings of autonomy (Patall, et al., 2008). Autonomy and choice have also been found to have significant positive effects on other desirable outcomes such as enhanced self-esteem (Deci et al., 1981), increased academic performance (Hall & Webb, 2014; Patall et al., 2010), and decreased problem behaviors (Vaughn & Horner, 1997). Despite these promising findings, the effectiveness of choice is not universal but instead is related to issues surrounding the characteristics of the choice, characteristics of the individual, and characteristics of the circumstances surrounding the choice (Patall, 2012).

There is little evidence on the effectiveness of choice on writing outcomes. First, there are few studies which address these issues; and, most that exist should be interpreted with caution because of potentially being under powered (Carroll & Feng, 2010; Joyce, 1989; Meyer, 2002; Schraw et al., 1998, Experiment 1), potential confounding variables such as threats to construct validity (Flowerday & Schraw 2003; Flowerday et al. 2004; Schraw, et al., 1998), threats to reliability (Flowerday & Schraw 2003; Flowerday et al. 2004; Schraw, et al., 1998), misleading presentation of findings (Kim & Kim, 2015), and poor methodological descriptions and analyses (Anderson,

2008). Therefore, there is a gap in the literature with quality research on the effects of choice on writing.

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APPENDIX B

ARGUMENTATIVE WRITING REVIEW

**Q1: For this question, define argumentative writing and why it is important. Select three theoretical positions related to argumentative writing and describe them. Please be sure to indicate how they differ. Finally, consider three aspects of teaching argumentative writing.**

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### Argumentative Writing: It is Important Because I Said So

Writing is a necessary life skill for success in the workplace, classroom, and for social and community engagement (e.g., email, social networks). More than 90% of white collar and 80% of blue collar jobs require writing and employers consider writing ability when hiring and promoting employees (The National Commission on Writing, 2006).

In classrooms, writing to learn allows students to organize, explore, and process new content (Graham, 2006; Klein, Arcon, & Baker, 2016). Further, as students move into middle school, writing becomes the primary vehicle for students to demonstrate knowledge and measure their learning. As such, less proficient writers are at a grave disadvantage and less likely to experience success in the classroom and beyond (Graham, 2006; The National Commission on Writing, 2006).

Recent educational movements including the Common Core State Standards highlight the importance of writing, and argumentative writing in particular (Common Core State Standards, 2011; Ferretti & Fan, 2016). Argumentative writing is a prominent method to discuss controversial issues (van Eemeren et al., 2014) through various purposes such as debating a controversial issue, persuading another of an alternate view, and conflict resolution. Argumentation enhances critical thinking and may provide students opportunities to engage with content more deeply by considering alternative perspectives (Ferretti & Fan, 2016). Additionally, evidence suggests a positive

relationship between argumentative writing and academic achievement (Halpern, 1998; Preiss, Castillo, Grigorenko, & Manzi, 2013).

Despite the stated importance of writing, and argumentative writing in particular, students at all levels struggle. Less than one-third of 8<sup>th</sup> and 12<sup>th</sup> students write proficient argumentative essays (National Center for Education Statistics, 2010) and the problem persists into college. Not only do students neglect to include basic elements of an argument, but their arguments are poorly developed (Ferretti & Lewis, 2013). Less proficient essays fail to consider alternative perspectives resulting in weak arguments with my-side bias (Nussbaum, Kardash, & Graham, 2005; Wolfe & Britt, 2008; Wolfe, Britt, & Butler, 2009). To help students gain critical thinking and writing skills necessary for success, there is a need for argumentative writing instruction and learning opportunities.

### **Argumentative Writing**

Argumentative writing is an ill-defined topic with teachers and researchers interpreting it differently depending on their theoretical perspective, experience, or following the views presented in the textbook chosen by their school district (Hillocks, 2011). If seen as a spectrum, one end of argumentative writing would be seen as a written text which advances logical statements with the purpose of resolving conflict rather than convincing the audience to agree with the writer's claim (van Eemeren et al., 2014). At the other end is persuasive writing where the primary purpose is to convince the reader to agree with you using selective facts and emotional appeals. Hillocks (2011) uses these views to differentiate argumentative from persuasive writing. However, I take an integrated view where argumentative writing is a text that relies upon reason and

evidence to discover some view of truth (Lunsford, Ruskiewicz, & Walters, 2016), but it also has the intent to sway the reader that the argument is convincing because it has a reasonable thesis that is supported with valid reasons and credible evidence.

Writing and analyzing argumentative text has been heavily influenced by the Toulmin Model (Toulmin, 1958). Every argument has a thesis (claim), reasons (grounds) that support the claim, and warrants which connect the reasons to the thesis. Additional evidence (backing) or data can further back the claim. Arguments may also have qualifiers and rebuttals to focus the argument's scope.

Another argumentative element to consider is counterarguments. Although some may consider counterarguments more persuasive in nature than argumentative, numerous argumentative writing textbooks and books about teaching argumentative writing include counterarguments as a part of argumentative writing (Ferretti & Lewis, 2013; Lunsford, Ruskiewicz, & Walters, 2016; Ramage, Bean, & Johnson, 2015; Smagorinsky, Johannessen, Kahn, & McCann, 2010). Writing assignments can focus not only on the soundness of one side of an argument, but also in refuting a counterargument with the same level of quality and reason. Further, because educators consider audience in addition to argumentative structure, there are additional elements such as counterarguments that need to be considered (Crammond, 1998).

To summarize, the elements in an argumentative essay include (a) thesis, (b) reasons, (c) warrant, (d) evidence, (e) qualifier (f) backing, and (g) counterargument. These elements are used in argumentative writing to defend a thesis using reasons and evidence to convince the reader of the validity of the argument.

Although argumentative writing is grounded in structural elements, they are necessary but not sufficient for describing the complex argumentative and writing practices. An expanded view upon argumentative writing is suggested by Newell and his colleagues (2011). Based upon the work of Halliday (1994), they suggested argumentative writing includes (a) organizing and expressing the logic of ideas, (b) interpersonal use of language to express emotions and attitudes used to argue and discuss these ideas, and (c) the text which organizes language so that it can be communicated to the audience (Newell, Beach, Smith, & VanDerHeide, 2011). Therefore, in defining argumentative writing, it has ideational, interpersonal, and textual aspects which are generated and analyzed through specific structural elements.

### **Theoretical Perspectives**

Three theoretical perspectives influence different aspects my views on argumentative writing. The first which I will describe is my broader view on the purpose, influence, and function of writing more broadly. The Writer(s) in Community theory brings together cognitive and sociocultural aspects of writing (Graham, *in press*). The second theoretical perspective I describe, the Toulmin model (1958), addresses the genre-specific views and structure related to argumentative writing, specifically. While the Toulmin model provides important insights on the elements of an argument, I look to pragma-dialectical theory to supplement my theoretical perspectives of argument to account for the social aspects unique to the argumentation genre (van Eemeren & Grootendorst, 2004).

### **Writer(s) in Community: A Socio-Cognitive View on Writing**



My theoretical perspective on writing is based upon Steve Graham's Writer(s) in Community (WiC) Model (Graham, *in press*) which considers writing as both cognitive and social processes. Although, socio-cognitive theories have gained acceptance in other education disciplines (Gee, 2001), in the writing field, one is typically situated in one camp or the other without much consideration to the other side's point of view (Newell et al., 2011). The WiC model embraces both perspectives, which provides a deeper and broader understanding of writing.

The overarching view of the WiC is that "writing involves an interaction between the social context in which it occurs and the mental and physical actions writers are able to enlist and engage" (Graham, *in press*). Composing relies heavily on cognitive and physical actions that are, in large part, occurring within a writer but it is short-sighted to assume that writing occurs within a cognitive vacuum. While cognitive processes are at work, writing is naturally a social activity (Barton, 1991; Hull & Schultz, 2001) informed by and situated within the context a writing community. To account for interactions between cognitive and social factors, the WiC is made up of two units which continually interact with one another: the writing community and writer(s).

**Writing community.** The writing community unit addresses socio-cultural forces that influence the writing process. A writing community (usually) includes multiple people with similar assumptions and shared goals to help them achieve a common purpose. The seven basic components of a writing community include:

- (a) **Purpose**—Goals, values, and norms related to writing as well as the intended audience
- (b) **Members**—Number of members, level of exclusivity, members' roles and responsibilities

(c) **Tools**—Print, electronic, online forums

(d) **Actions**—Defining writing tasks, creating the writing environment, designating responsibility, composing, managing discussions, and regulating the physical, motivational, social, emotional aspects of writing

(e) **Written Product**—Tangible written artifacts as well as diagrams, pictures and other artifacts related to the composition

(f) **Physical and Social Environments**—the physical and social contexts where writing occurs

(g) **Collective History**—shapes the work of a writing community through defining and redefining values, norms, and views expressed in the community's written products and establishing community practices

These core components work together within the framework of the community.

Writing goals are established and accomplished when writers (and possibly collaborators) use tools and take action in accordance with community norms to create a written artifact.

This artifact represents the community's value, norms, identity, and target audience; therefore, it likely represents at least one central purpose of the writing community. The community members who participate as writers or collaborators may depend upon their role and responsibilities within the community as well as how power is distributed.

Physical environment, whether in real life or digital, influences the writing process and written products. A classroom with desks in triads might provide an environment conducive to collaboration whereas a classroom arranged in rows with two feet between students might be a quieter space for composing (Graham, *in press*).

Likewise, an online forum where posts must be approved by a moderator would influence writing differently than one without such restrictions. Social environments also impact writing. For instance, a student in a classroom community who feels like they belong and

has positive social relationships may be more engaged in the writing process and committed to the writing community. The collective history shapes these physical and social dimensions, as well as why and how to achieve writing community's goals (Graham, *in press*).

To illustrate, consider how these components of the Writing Community might emerge in my potential study. The *purpose* could be multi-faceted such as my goal of having the students write a high-quality argumentative essay, students writing so they can earn the requisite participation points and/or presenting themselves in a socially-desirable manner, the instructor wanting the students to write to learn and/or take up class time. These purposes can shift and overlap among the members but remain, more or less, in line with writing as part of a class assignment (Shanahan, Shanahan, & Misischia, 2011). The *members* would include the instructor, students, and myself. Membership is exclusive because students must be enrolled in the course to be a part of the community (Freedman, Hull, Higgs, & Booten, 2016; Kalman, 1996). The members will most likely use a laptop as their *tool* for writing. Even if they use pencil and paper during class, they will be required to type and email an electronic copy of their essay (Graham, *in press*; Yancey, 2009).

*Actions* could refer to how I define and situate the writing activity based upon the case study and writing prompt that I will present the students (Russell, 1997). The students will further take action and define their writing based upon discussions with peers, engaging in pre-writing planning, and composing. The *written product* would include their essay as well as any notes or diagrams related to their composition (Moje, 2009). The *physical and social environments* include, not only the classroom where the

writing will occur, but also the relationship between the writing community members (Hsiang & Graham, 2015; Jones, 1998). This can include the relationship between me and the students, the instructor of record and the students, and the students with one another. In fact, because the students will engage in discussion activities prior to writing, this aspect of the social environment may have a significant impact on the composition. Influences of the *collective history* could include prior writing experiences within the community, previous lectures or other community activities which could be reflected in the written product (Graham, *in press*; Schultz & Fecho, 2000).

**Writer(s).** While the writing community unit addresses the influences outside the individual, the writer(s) unit considers how the individual processes the writing community's influences as well as issues with cognitive processing, self-regulation, and other internal influences. Even when another writing community member assigns a writing activity, the writer must make many personal decisions. They need to consider the purpose and whether they will do the writing task. If they decide to engage in it, then they must consider what tools they will use, how much effort they will put toward writing, what cognitive resources to use, and what, when, how, and where they will go about doing the various writing tasks (Zimmerman & Risemberg, 1997).

The WiC model assumes limitations in our cognitive architecture inhibit composition because writing is a cognitively demanding task. Writing requires the management and performance of many skills: motor, memory, executive function, self-regulation, attention, and language skills (Hayes, 2000) but our cognitive architecture has limited capacity which makes writing a complex and difficult endeavor (Mayer, 2012; Paas & Sweller, 2014). When conscious effort exceeds the processing system's capacity,

a writer experiences cognitive overload which interferes with the writing process (McCutchen, 1988; Paas & Sweller, 2014). Cognitive overload can be ameliorated through writing communities firmly establishing routine patterns and practices of writing because once member writers have practice with a framework, cognitive resources can be directed to other actions associated with writing (Paas & Sweller, 2014). The cognitive components within writer(s) include four components each with multiple subcomponents. The primary components include long-term memory resources, control mechanisms, production mechanisms, and modulators (Graham, *in press*).

(a) **Long-Term Memory Resources**—Knowledge about content and writing, writing beliefs, identity, and values

(b) **Control Mechanisms**—Attention, working memory, executive control (intentions, plans, monitoring, reacting)

(c) **Production Processes**—Conceptualization, ideation, translation, transcription, reconceptualization

(d) **Modulators**—Emotions, personality traits, physical state

Because, in my potential study, the students will write independently, I will illustrate using a hypothetical student participant, Stevie, to demonstrate the role of Writer in this model. To engage in writing, Stevie will draw on his *long-term memory resources*, his knowledge and beliefs which influence what and how he writes such as expectations for success, the value of writing, his identity as a writer (or non-writer!), interest in writing about special education issues, and his view and understanding of our writing community. Further, multiple areas of knowledge will impact Stevie's writing including oral language skills (Brown & Attardo, 2005), reading ability (Hayes, 2000; T. Shanahan, 2006), understanding about writing communities, and specialized writing

knowledge. This includes knowledge about word and sentence formation, genres, text features, transcription, and more (Graham, 2006). Stevie's beliefs about writing including the importance and usefulness of writing (Graham & Weiner, 2012), writing self-efficacy, and identity as a writer (Bazerman, 2016) will influence Stevie's writing.

While Stevie is accessing his long-term memory resources, he is also attending to *control mechanisms* by placing his attention toward certain tasks (Jacob & Parkinson, 2015), managing information in his working memory (Baddeley, 2000), and using executive control to set intentions, plan, monitor, and react to stimuli (Graham, *in press*). While writing Stevie could set multiple hierarchical intentions (e.g., construct a grammatically sound sentence, clearly articulate an idea, complete a writing assignment within the 30-minute time limit). He would use his control mechanisms to plan, monitor, and implement those intentions.

While long-term memory resources and control mechanisms are active, Stevie will simultaneously employ *production mechanism*. As he is writing he will conceptualize what needs to be written next using previously written text and goals to guide him (Torrance, Thomas, & Robinson, 1996). Ideation will occur from within him or from external influences such as the students with whom engaged in the discussion activities. He will translate those ideas into words, sentences, and paragraphs to convey his meaning (Kaufers, Hayes, & Flower, 1986) through transcription (typing or handwriting). Finally, Stevie could reconceptualize and revise anything related to the writing process including his writing goals, plans, text, and other composition procedures. On top of these three simultaneously occurring components are Stevie's emotions, personality trait, and physical state, all which can impact what and how well

Stevie writes an argumentative essay on a controversial special education issue. Under the WiC model, all of these influences from the writer, as well as the writing community contribute to what and how writing is produced.

### **Toulmin Model of Argument Theory**

The Toulmin model of argument theory is foundational to argumentation and teaching argumentative writing (Crammond, 1998; Hillocks, 2011; Karbach, 1987). Many pedagogical models of argumentative writing are based upon the components in this model (e.g., Hillocks, 2011; Smagorinsky et al., 2010). Further, numerous studies have found the Toulmin model to have efficacy in studying persuasive writing (Crammond, 1998). Because a vast amount of theory, teaching, and practice stems from the Toulmin theory (Karbach, 1987), I will include a brief review of his model.

According to Brockriede and Ehninger's (1960) interpretation of Toulmin, "an argument is movement from accepted data through a warrant to a claim," (p. 44). Toulmin created this model as a means of strategically analyzing an argument to see if a claim is justified. To do this, Toulmin proposed six interconnected components that are used to analyze and evaluate the soundness of an argument (Andrews, 2005; Toulmin, 1958).

Three essential components which are necessary in all arguments are claim (thesis), ground (reason), and warrant. The claim, which is also called thesis, is a position on an issue. Toulmin describes it as a conclusion but one that still must be justified (Toulmin, 1958). The claim is an overarching statement that the remainder of the argument must be related (Karbach, 1987). Grounds include the evidence, facts, and data which support the claim. Grounds are the reasons for the claim establishing the basis for

the argument (Toulmin, 1958). It answers the question, “what have you got to go on?” (p. 45, Brockriedge & Ehninger, 1960) Without grounds, an argument has no substance (Brockriede & Ehninger, 1960). The warrant connects the grounds, explicitly or implicitly, and the claim which provides general support for the argument. They are the logical connection which demonstrates how the grounds led the writer to their claim. It answers the question; how did you get from the grounds to the claim? (Brockriede & Ehninger, 1960).

The remaining components, qualifier, evidence (backing), and rebuttal may not be needed in every argument. Backing (evidence/data) provides additional support to the warrant if the warrant is not sufficient to convince the audience. It may provide additional information to better understand the context and/or validity of the warrant. It can be as simple as a single statement or as elaborate as an entire argument. A qualifier is a word or phrase which communicates the certainty of the claim. Some examples include “most likely,” “certainly,” and “probably” (Brockriede & Ehninger, 1960; Toulmin, 1958).

Although some texts characterize rebuttal as a refuting a counterargument (Ramage et al., 2016), this is not wholly consistent with Toulmin’s definition. A rebuttal anticipates a restriction to the claim which would weaken the argument (e.g., All LLT doctoral candidates should teach a college course as part of their graduation requirements [claim] unless they have taught at least five courses at the college level [rebuttal]). It recognizes that under certain conditions, the claim will not be accurate or persuasive so a rebuttal limits the claim accordingly. Counterarguments, can include rebuttals but also other objections such as the validity of the claim, warrant, or evidence.



The soundness of the claim is measured by the degree the remaining elements support the claim and the overall argument. To test the soundness of an argument one considers the relationship between the claim and grounds as well as relationship between a warrant and its associated backing (Andrews, 2005).

Despite the important influence Toulmin's model has had on argumentative writing, there is disagreement in the education field as to the effectiveness of using only these components to write an argumentative essay (Crammond, 1998; Lunsford, 2002). Crammond (1998) pointed out that argumentation and persuasive writing may not align. Because educators consider audience in addition to argumentative structure, there are additional elements such as counterarguments that need to be considered. Rather, the Toulmin model may be better suited to analyzing existing arguments rather than creating new ones (Andrews, 2005).

### **Pragma-Dialectical Theory**

While the Toulmin model provides important insights on the elements of an argument, I look to Pragma-Dialectical theory to supplement my theoretical perspectives of argument to account for the social aspect of argumentation. Pragma-dialectical theory brings together two areas: pragmatics and dialectics. Argumentation is the resolution of a difference of opinion based upon the merits. Classically, a protagonist would articulate argumentative statements related to an issue and an antagonist would question, accept, and/or reject the protagonist's assertions (van Eemeren & Grootendorst, 2004; van Eemeren et al., 2014). With this view where argumentation is a part of a discourse between people, one can see how this theory has been influenced by the field of

pragmatics. Further, the dialectic component is represented through the belief that argumentation is also the study of regimented dialogues (van Eemeren et al., 2014).

Through a pragma-dialectical theoretical framework, van Eemeren and Grootendorst (2004) define argumentation as “a verbal, *social*, and rational activity aimed at convincing a *reasonable critic* of the acceptability of a standpoint by putting forward a *constellation of* propositions justifying or refuting the proposition expressed in the standpoint” (p. 1, emphasis provided). Based upon this definition, Ferretti and Fan (2016) made three points about argumentative discourse: (a) it is a social activity, (b) that is based upon a set of structured argumentative statements, and (c) requires the reader to be a reasonable critic. Further, while argumentation includes oration, it also includes argumentative writing (van Eemeren et al., 2014; van Eemeren & Grootendorst, 1992) which will be the focus here.

First, argumentation is a social experience where the protagonist and antagonist exchange ideas about controversial issues with the intent of resolving differences of opinion. Even if the writer does not intend to share the argument with another person, it still is a social activity because the writer imagines opinions and counterarguments that someone might raise (van Eemeren & Grootendorst, 2004; van Eemeren et al., 2014). Ferretti and Fan (2016) described a “constellation of propositions” as a set of argumentative statements which can include argumentative elements such as reasons, evidence, counterarguments, refutations etc. However, the mere presence of these elements is not sufficient for a strong argument, but the constellation requires these elements to come together as an effective message as a whole.

Finally, the antagonist/reader must critically evaluate the protagonist's argument. Ten critical rules exist to evaluate the effectiveness of an argument. Violation of these rules can frustrate the reasonable resolution in the difference of opinion and are considered fallacies (van Eemeren et al. 2014). Fallacious arguments are, of course, weak arguments. Some of these critical rules relate to how, when, and what order an argumentative statement at a certain stage. The rules also require that quality arguments be reasonable and well-written. Argumentative statements should be set forth logically valid statements that are clearly and unambiguous language (van Eemeren et al., 2014; van Eemeren & Grootendorst, 1992). For a more in depth discussion see van Eemeren and colleague's (2014) chapter on pragma-dialectical theory in the Handbook of Argumentation.

### **Teaching Argumentative Writing**

#### **Argumentative Writing Quality**

In evaluating the quality of an argument, one should look at the overall argumentative structure to ensure fluid consistency within the argument as a whole. To assess the soundness of a complex argument, individual components must also be evaluated (van Eemeren et al. 2002). Based upon this tenant of pragma-dialectical theory, similar analysis is appropriate in argumentative writing. To evaluate the quality of a persuasive essay, an evaluator should consider the overall quality of the essay as well as the argumentative elements.

Good claims are clearly written, reasonable, and have appropriate qualifiers. Claims must be supported by strong reasons and evidence. There should be sufficient evidence that is credible and accurate. The warrants underlying the evidence should be

based upon reasonable assumptions that the audience will likely agree. Furthermore, arguments should appropriately use qualifiers and conditional rebuttals to have appropriate qualifiers to focus the argument and avoid an absolute position (Lunsford et al., 2016).

The inclusion of counterarguments can increase the quality of an argumentative essay provided, of course, that the counterarguments raised are refuted using reasons and evidence that are logical, credible, and accurate (Ferretti & Lewis, 2013; Ramage et al., 2015). Raising potential counterarguments can reduce my-side bias in an essay which increases the overall quality of the argument (Allen, 1991; Wolfe et al., 2009). Further, support for including counterarguments comes from research on oral persuasion. Allen (1991) found in a meta-analysis one-sided versus two-sided messages that two sided messages where the opposing view was refuted was more persuasive than one-sided messages.

### **Dialogic Augmentative Activities for Writing**

An argument is inherently a dialogue between people who have a difference of opinion which is why it is important to incorporate dialogic activities with argumentative writing experiences. Even when a writer has not yet identified the other voice(s) in the argument, the writer anticipates potential counterarguments and must consider other perspectives surrounding the issue creating a dialogue in one's own mind (Ferretti & Fan, 2016). Given the dialogic nature of argumentation it is important to provide dialogic support and opportunities in conjunction with argumentative writing so foster strong, reflective writing.

Dialogic activities provide students the opportunity to consider different perspectives, see limitations in their point of view, and avoid my-side bias (Coker & Lewis, 2008; Felton, Kuhn, & Shaw, 1997; Kuhn & Crowell, 2011; Newell et al., 2011; Reznitskaya & Anderson, 2002). As compared to a standard five-paragraph essay written to a teacher, these discussion activities provide meaningful, contextual, and motivating writing experiences (Boscolo & Gelati, 2007). Further, the less authentic experience of writing to a teacher rather than a real, meaningful audience results in weaker argumentative essays. When students have an authentic social context, they produce higher quality argumentative essays with more specific and clearer arguments (Avery & Avery, 1995).

A study by Wagner (1999) is one example where dialogic activities improved argumentative writing. Fourth and 8<sup>th</sup> grade students were assigned to either a role-playing, direct instruction, or no instruction condition. The role-playing condition students role-played a persuasive discussion on controversial topics between a student and principal. In the direct instruction condition students were taught eight rules for persuasion. The students then analyzed and discussed a strong and poor model essay related to the topic that they would eventually write about. Results revealed better arguments by those in the role-play condition because they had better adapted their arguments to the audience than those in direct instruction and no instruction conditions (Wagner, 1999).

In a multi-year study by Kuhn and Crowell (2011), 6<sup>th</sup> grade students took a philosophy class twice a week for 50 minutes. Each quarter a new controversial topic was introduced and the students worked through through a four-stage cycle. This cycle began

with students identifying which side of the topic they agreed with and worked in small groups with students who held the same belief. Second, pairs of same-side students had online dialogues with a pair of students that held the other perspective and completed a reflection sheet recounting their arguments and their opponents' arguments as well as identifying potential counterarguments and rebuttals. This experience was repeated six times so that a same-side pair would argue with a different opposing-side pair each session. Third, the pairs would return to discuss possible reasons, counterarguments, and rebuttals to prepare for a class-wide verbal debate. The final session was a debriefing session and when participants were assigned their individual essays. The essays were turned in at the following session.

The comparison group also participated in a philosophy class which met twice a week for 50 minutes. This class covered more philosophical topics or social issues through whole-class, teacher-led discussions. There were other activities such as dramatizations and more frequent writing assignments. The comparison group wrote 14 essays as compared to the intervention group who wrote four essays per year.

Participants completed two post-test essays; one was a repeated measure (teacher salary) which was completed at the end of each school year and the other was only completed at the end of the third year (euthanasia). Although students in the comparison condition had many more opportunities to write about controversial topics than those in intervention, the treatment students wrote significantly more dual-perspective arguments on both essays. Further a higher percentage of treatment students wrote dual perspective arguments and integrative perspective arguments in both post-test essays. The repeated measure essay on teacher salary, also had statistically significant more dual-perspective

arguments but the euthanasia one did not. Based upon these findings, students who participated in the dialogic activities wrote better arguments which addressed both sides of an issue (Kuhn & Crowell, 2011).

### **Content-Area Argumentative Writing**

Writing is an effective tool for learning and demonstrating one's knowledge (Graham & Perin, 2007). Argumentative writing provides students the opportunity to think critically about an issue through comparing competing ideas, evaluate the reasons and evidence supporting those ideas, and based upon these evaluations, come to a rational conclusion (Klein et al., 2016). A meta-analysis reviewed interventions which compared non-writing tasks to those with extended writing and found that writing tasks, some of which were argumentative, had low to medium effect sizes (Graham & Hebert, 2011). In fact, there is some evidence to suggest that argumentative writing, at least at the college level, is better for student learning than other writing genres (Wiley & Voss, 1999).

While argumentative writing may require more sophisticated writing skills to be an effective learning tool (Klein et al., 2016), at each grade level, students need to develop literacy skills that are more, and more, dependent on content-area knowledge and associated skills (Heller & Greenleaf, 2007). They are expected to be able to critically read and write like a content-area expert (Ferretti & De La Paz, 2011). Further, Common Core State Standards (2011) mandates students to write arguments across the curriculum. Because the way one learns and demonstrates content-area knowledge becomes enmeshed with reading and writing, academic success depends upon being able to write using discipline-specific norms, styles, and vocabulary.

Much of the content-area argumentative writing research has focused upon literature, history, and science at the elementary and secondary levels (Ferretti & Lewis, 2013). However, once students enter college many more content areas emerge. One of these areas includes education and pedagogy, yet no studies were located that examined using argumentative writing as a learning tool for pre-service teachers.

Pre-service teachers have specialized knowledge to gain, not just to their particular subject-matter, but also pedagogical practices, learning theories, and applicable laws and standards. Some teacher educators have called for reflective writing-to-learn activities such as journal writing, brainstorming lesson plan objectives, self-reflection and evaluation (Stover, 1984) but these articles are written for practitioners and, therefore, fail to tie these assertions to research.

Stover (1984, 1989) suggested reflective persuasive writing such as having students write briefly on if they agree or disagree with a statement and writing a letter to an author of a curriculum to argue about the applicability of an academic activity. But, the field is open provide additional argumentative writing activities for pre-service teachers.

Not only could argumentative writing be an important tool for pre-service teachers to learn the content, but to model good teaching practices. Because of the mandate to include writing opportunities across the curriculum (Common Core State Standards, 2011) and that many teachers are not taught to teach writing in their teacher prep programs (Gillespie, Graham, Kiuahara, & Hebert, 2014) they need the opportunity to experience incorporating writing into a variety of learning activities.



## **Conclusion**

Writing is a necessary life skill for success in the workplace, classroom, and for social and community engagement. Recent educational movements including the Common Core State Standards highlight the importance of writing, and argumentative writing in particular. Argumentation enhances critical thinking and may provide students opportunities to engage with content more deeply by considering alternative perspectives. Despite the stated importance of writing, and argumentative writing in particular, students at all levels struggle.

Three aspects of effectively argumentative writing instruction include teaching students to evaluate the quality of an argumentative essay, include dialogic argumentative activities, and teach argumentative writing with in specific content areas. To evaluate the quality of a persuasive essay, a student should learn to consider the overall quality of the essay as well as the argumentative elements. Second, Given the dialogic nature of argumentation it is important to provide dialogic support and opportunities in conjunction with argumentative writing so foster strong, reflective writing. Finally, Students need to develop literacy skills that are more, and more, dependent on content-area knowledge and associated skills. Pre-service teachers have specialized knowledge to gain, not just to their particular subject-matter, but also pedagogical practices, learning theories, and applicable laws and standards. Further, not only could argumentative writing be an important tool for pre-service teachers to learn the content, but to model good teaching practices.

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APPENDIX C  
STUDENT SURVEY



## Student Survey

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Instructor: \_\_\_\_\_

What year are you?

- Freshman       Sophomore       Junior       Senior  
 Other: \_\_\_\_\_

What is your major? If you are undecided, say that but also state what you are thinking you would like your major to be, as of today.

Major: \_\_\_\_\_

Race (check all that apply):

- African-American       Asian/Pacific Islander       Caucasian, non-Hispanic       Latino/Hispanic  
 Native American       Other: \_\_\_\_\_

Gender (check all that apply):

- Male       Female       Other: \_\_\_\_\_

## Interest in Special Education

On a 1 to 7 scale, where 1 is strongly disagree and 7 is strongly agree, please rate the following statements.

1. I think the field of special education is very interesting.

1	2	3	4	5	6	7
Strongly Disagree			Neutral			Strongly Agree

2. I find the content of this course personally meaningful.

1	2	3	4	5	6	7
Strongly Disagree			Neutral			Strongly Agree

3. I think what we are studying in this course is useful for me to know.

1	2	3	4	5	6	7
Strongly Disagree			Neutral			Strongly Agree

4. I'm excited about special education.

1	2	3	4	5	6	7
Strongly Disagree			Neutral			Strongly Agree

5. I think the field of special education is an important discipline.

1	2	3	4	5	6	7
Strongly Disagree			Neutral			Strongly Agree

6. I think what we are learning in this course is important.

1	2	3	4	5	6	7
Strongly Disagree			Neutral			Strongly Agree

**Name:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**Instructor:** \_\_\_\_\_

**Time:** \_\_\_\_\_

1. Which principle of IDEA states that a student with a disability must be educated with students without disabilities to the maximum extent appropriate for the student?
  - A. The Education for All Handicapped Children Act
  - B. Zero reject
  - C. Least restrictive environment
  - D. Due process
  
2. Which IDEA category includes ADHD?
  - A. Emotional disturbance
  - B. Learning disabilities
  - C. Other health impairments
  - D. Attention deficit disorder
  
3. The process of determining whether a student's behavior is a direct result of the student's disability is:
  - A. Equal treatment
  - B. No cessation
  - C. Interim alternative placement
  - D. Manifestation determination
  
4. According to the American Psychiatric Association, symptoms of ADHD must persist for at least how long?
  - A. 6 months
  - B. 3 years
  - C. 6 years
  - D. 3 months
  
5. With regards to medications for ADHD teachers are expected to:
  - A. Help monitor the impact on the child
  - B. Help the parents learn behavioral interventions to avoid using drugs
  - C. Discourage parents from resorting to using medications
  - D. Recommend drugs that have proven to be successful in their experience

6. Which of the following students are most likely to be educated in the general education classroom?
- A. Students with learning disabilities and severe intellectual disabilities
  - B. Students with learning disabilities and other health impairments
  - C. Students with emotional or behavioral disorders, multiple disabilities, and deaf blindness
  - D. Students with hearing impairments, visual impairments, and deaf-blindness
7. José is a student with ADHD combined type. He is inattentive, withdrawn, restless, and impulsive. Which would be the most appropriate intervention to help José with his behavior?
- A. Send him to the principal's office where there are less distractions.
  - B. Offer José reading materials below his reading level to decrease frustration.
  - C. Teach José organizational and goal-setting skills.
  - D. Help José's parents seek medication to control his behavior.
8. Specialized settings in schools may include resource rooms and which of the following?
- A. General education classrooms
  - B. Self-contained classrooms
  - C. Least restrictive classrooms
  - D. Gifted and talented classrooms
9. Services that range from the most typical and most inclusive settings to the most atypical and most segregated settings refers to:
- A. The principle of natural proportions
  - B. Restructuring and teaching and learning
  - C. Age- and grade-appropriate placements
  - D. The continuum of services
10. Common components of multimodal treatment include each of the following *except*:
- A. Medication
  - B. Parent training
  - C. Behavior management in the home
  - D. Behaviorally oriented treatment

## Writing

Students differ in how confident they are about doing various assignments and activities in courses. **In relation to writing**, rate how confident you are that you can do each of the following by indicating a probability of success from 0 (no chance) to 100 (complete certainty). The scale below is for reference only; you don't need to use only the given values. You may assign **any number** between 0 and 100 as your probability.

0	10	20	30	40	50	60	70	80	90	100
No Chance	Very Little Chance		Little Chance		50/50 Chance		Good Chance		Very Good Chance	Complete Certainty

- \_\_\_\_\_ 1. I can think of many ideas for my writing.
- \_\_\_\_\_ 2. I can put my ideas into writing.
- \_\_\_\_\_ 3. I know exactly where to place my ideas in my writing.
- \_\_\_\_\_ 4. I can write complete sentences.
- \_\_\_\_\_ 5. I can punctuate my sentences correctly.
- \_\_\_\_\_ 6. I can write grammatically correct sentences.
- \_\_\_\_\_ 7. I can avoid distractions while I write.
- \_\_\_\_\_ 8. I can control my frustration when I write.
- \_\_\_\_\_ 9. I can start writing assignments quickly.
- \_\_\_\_\_ 10. I can keep writing even when it's difficult.

APPENDIX D  
CASE STUDY MATERIALS

## Case Study (Inclusion)

Name: \_\_\_\_\_

Bobby is 13, in foster care, and receiving special education services as a student with emotional/behavior disorders. Results from his special education evaluations suggest he has a slightly above average IQ. He has had a history of being in trouble in class and demonstrating problem behaviors. A while back, Bobby told Mr. Tano, his special education teacher and case manager, that he was talking with a social worker who works with his foster care agency. Mr. Tano thought the counseling appeared to be successful as Bobby was aware that his behavior can, at times, be inappropriate. Several of his teachers have reported Bobby saying, he wants to do well at school. His social studies teacher, Ms. Bridger, and Mr. Tano said Bobby produces good work when he is interested in the subject.

However, Bobby can have a bad temper and becomes aggressive in a very short period of time. Emotional outbursts have been reported by all of his teachers except his science teacher, Ms. Binks. Ms. Bridger says she feels like she is “walking on eggshells” in trying to avoid one of Bobby’s emotional outbursts. During these outbursts Bobby can yell, scream, cry, use profanity, and will carry on an argument until the other person gives up or he is removed from the situation. Not only does Bobby disrupt the entire class but it can take him two or more hours to calm down enough to return to class and be ready to learn.

Mr. Tano noticed for about two months after Bobby told him about talking with the social worker that Bobby had no outbursts but they have started again and are becoming more frequent. In fact, today Bobby got so upset in Ms. Bridger’s class that he picked up a globe and Ms. Bridger was worried that Bobby might throw it or hit another student with it. But, Bobby ended slamming it down on a desk.

The teachers have talked informally about Bobby’s behavior in the teacher’s lounge. Ms. Binks strongly believes that Bobby should stay at Raada Elementary School and be included in the general education classrooms. However, Ms. Bridger thinks it is time send Bobby to a special school for students with behavior issues called Kessel School. Bobby’s IEP meeting is next week and Mr. Tano would like for Ms. Binks and Ms. Bridger to write him a letter to support their position.

Please consider the facts shared above as well as your knowledge of special education law. You should state your position and provide reasons to support your position.

**Pretend you are Ms. Binks and argue that Bobby should remain at Raada Middle School in his current placement.**

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Case Study (ADHD)

Owen and Bae Lars argued recently whether their son, Rex, should be medicated for his ADHD. Both have a strong opinion but decided that instead of arguing verbally, they are going to write one another a letter trying to convince the other of their position.

Rex has always been a sweet, creative, and “energetic” boy. Now 7-years-old and in the 2<sup>nd</sup> grade, Rex was identified for special education services for ADHD a couple weeks ago. Dr. Pava, who first identified Rex’s ADHD, told the Larses that she thought medication could be quite beneficial to help Rex’s home and school behavior and his concentration. However, there were some potential side effects including decreased appetite and sleep difficulties. She indicated that his growth might also be slowed.

Mr. and Mrs. Lars decided against medication at that time because of how medication seemed to affect their neighbor’s daughter, Carrie. She told Mrs. Lars that she was doing better in school but she sometimes had difficulty sleeping and she didn’t feel like herself—like she lost some of her spark. Over the last year, Bae has come to believe that Rex is not going to grow out of his ADHD; however, her husband disagrees. Recently, she began to wonder if medication could help him.

At the IEP meeting a few weeks ago the school psychologist, Mr. Wickett, reported that Rex’s ADHD was impacting his learning at school. Also, Rex has an above-average IQ which may have helped him compensate for ADHD symptoms but as his schoolwork has become more difficult, he would need additional supports.

His teacher, Mrs. Kanata, reported to the IEP team, “Rex is a good kid with many ideas but he gets distracted and needs a lot of redirection to keep on task. He also can impulsively speak out of turn on topics unrelated to the lesson. He needs me to constantly remind him to finish his schoolwork and turn it in. His desk is messy and disorganized. I frequently find old assignments he completed stuffed into books or in his backpack, but he did not get credit for them, so this greatly impacts his academic success.”

Mr. Wickett, suggested a multimodal approach which includes a combination of any or all of the following: behaviorally oriented treatments, parent training, classroom behavior management, and/or medication. Some benefits he saw in other students who used most or all of these approaches were improved academics, organization, social relations, and self-esteem. He said choosing to provide Rex with medication is a family decision to be discussed with his pediatrician.

But Mr. Lars believes that with time and some help from his teacher, Rex could learn to cope without medication. "I do not want my son being dependent on a drug to behave and learn in school," he told the IEP team. He is also concerned with the social stigma that is associated with being a medicated kid, as his neighbor’s child Carrie, was teased for having to take her ADHD medication in the middle of the school day. He is afraid people will treat Rex differently.

Mr. Lars does not want to medicate their son but Mrs. Lars believes they should try everything they can to help Rex right now.



Name: \_\_\_\_\_

**Pretend you are Ms. Binks and argue that Bobby should remain at Raada Middle School in his current placement.**

Notes from first discussion with my partner:

Notes from talking with the partners who are writing about the other side:

Final set of notes:

APPENDIX E

RUBRIC

### Rubric

Requirements		Day 1	Day 2
<b>Points Earned In-Class During Overview Session</b>			
Survey	Completes survey and turns in before leaving the classroom	8	
<b>Points Earned In-Class During</b>			
In-class discussion activity participation	-Actively works with partners and classmates in the activity. Asks questions and makes comments that are on topic and respectful. (2) -Turns in notes from discussion activities (3)	5	5
In-class writing participation	Writes on topic for the full amount of time.	5	5
Survey	Completes survey and turns in before leaving the classroom	5	5
Submits to Draft to Dropbox	-Submits before leaving class (3) -Saves with the proper format (1) Last Name First Name_Instructor Last Name_Date_DRAFT 1.docx -Submits as Microsoft Word document (1)	5	5
<b>Points Earned for Following Editing Procedures</b>			
Editing Procedures	Marks editing suggestions on hard copy of essay in pen or pencil	5	5
Completes Writing Center Feedback Form or Self-Evaluation Form	-Tutor Name (.5) -Date/Time of Session (.5) -At least one thing done well (1) -Three ways to improve (2) -Choose most important goal for other writing activities this semester (1)	6	6
Revises Essay	Revises essay based upon suggested edits (May make additional revisions)	5	5
Submits to Final to Dropbox	-Submits on time (3) -Saves with the proper format (1) Last Name First Name_Instructor Last Name_Date_FINAL.docx -Submits as Microsoft Word document (1)	5	5
Editing Survey	Completes and turns in editing survey on time	5	5
Total Points per Day		50	50
		100	

APPENDIX F  
CHOICE & YOKING SLIPS

### Choice and Yoking Slips

I, \_\_\_\_\_, choose to write about:

- Pretend you are Ms. Binks and argue that Bobby should remain at Raada Elementary in his current placement.
- Pretend you are Ms. Bridger and argue that Bobby should go to Kessel School, a special school for students with behavior challenges.

My classmate will write about the same thing I am writing about.

- Pretend you are Ms. Binks and argue that Bobby should remain at Raada Elementary in his current placement.
- Pretend you are Ms. Bridger and argue that Bobby should go to Kessel School, a special school for students with behavior challenges.

APPENDIX G  
PREFERENCE ASSESSMENT

## Preference Assessment

Name: \_\_\_\_\_ Instructor: \_\_\_\_\_

### Preference Assessment

1. Did you get to choose which side of the argument you wrote about?

Yes

No

2. Which position did you write about?

Bobby Should Stay  
at Raada Middle School

Bobby should go to  
Kessel School

3. Which position did you WANT to write about?

Bobby Should Stay  
at Raada Middle School

Bobby should go to  
Kessel School

4. On a scale of 1 to 10 how much did you want to write about the position identified in number 3?

1  
Don't Care  
At All

2

3

4

5

6

7

8

9

10  
I Care  
VERY Much

APPENDIX H

INTRINSIC MOTIVATION INVENTORY–WRITING



## **Intrinsic Motivation Inventory—Writing**

Name: \_\_\_\_\_

Instructor: \_\_\_\_\_ Date: \_\_\_\_\_

### **Intrinsic Motivation Inventory—Writing**

1. I think this writing activity is important to do because it can help me think about different perspectives on an issue.

1	2	3	4	5	6	7
Not At			Somewhat			Very
All True			True			True

2. After working at this writing activity for a while, I felt pretty competent

1	2	3	4	5	6	7
Not At			Somewhat			Very
All True			True			True

3. I felt pressured while doing this writing activity.

1	2	3	4	5	6	7
Not At			Somewhat			Very
All True			True			True

4. This writing activity was fun to do.

1	2	3	4	5	6	7
Not At			Somewhat			Very
All True			True			True

5. I am satisfied with my performance at this writing task.

1	2	3	4	5	6	7
Not At			Somewhat			Very
All True			True			True

6. I was anxious while working on this writing task.

1	2	3	4	5	6	7
Not At			Somewhat			Very
All True			True			True

7. I thought this writing activity was quite enjoyable

1	2	3	4	5	6	7
Not At			Somewhat			Very
All True			True			True

8. I think that doing this writing activity is useful for learning about issues in special education.

1	2	3	4	5	6	7
Not At			Somewhat			Very
All True			True			True

9. I was pretty skilled at this writing activity.

1	2	3	4	5	6	7
Not At			Somewhat			Very
All True			True			True

10. I think this is an important writing activity.

1	2	3	4	5	6	7
Not At			Somewhat			Very
All True			True			True

11. I think I did pretty good at this writing activity.

1	2	3	4	5	6	7
Not At			Somewhat			Very
All True			True			True

12. I felt nervous while doing this writing activity.

1	2	3	4	5	6	7
Not At			Somewhat			Very
All True			True			True

13. I would describe this writing activity as very interesting.

1	2	3	4	5	6	7
Not At			Somewhat			Very
All True			True			True

14. I believe this writing activity was of some value to me.

1	2	3	4	5	6	7
Not At			Somewhat			Very
All True			True			True

15. I felt very tense while doing this writing activity

1	2	3	4	5	6	7
Not At			Somewhat			Very
All True			True			True

16. I enjoyed doing this writing activity very much.

1	2	3	4	5	6	7
Not At			Somewhat			Very
All True			True			True

APPENDIX I

CODE BOOK

## CODE BOOK

Short	Detailed	Quote
Mot	<p>The below "motivation" codes deal with reasons why they want to have choices or make a choice. Most of these comments occur in talking about choosing writing topics but there are instances where the speaker may be describing other types of choices. They may or may not be connecting motivation and quality. If they do, the statements should be dual-coded both as at least one motivation and at least one quality code. Typical words used to describe motivation-related codes include "want"</p>	N/A
Mot_Int	<p>Motivation and Interest; Student describes wanting to and/or why they want write about something that they are interested in. Phrases that fall under "interest" may include "passion" "passionate" "caring about."</p>	<p>"Yeah, I think it just makes it more <b>fun</b> and <b>the more you care about something</b>, the better the product's going to be and because I had choices I cared and like put more effort in."</p>
Mot_Diff	<p>Motivation and difficulty; Student describes the degree of difficulty (or lack thereof) of one choice versus another. [[[This is more likely inferred as mot_diff than qual_diff]]]</p>	<p>"I think it was important [that he chose the side he wanted] because it made writing the paper a lot easier."</p>

Motivation and knowledge; Student describes how much knowledge or ideas for writing they have influences their motivation.

Mot\_Know

\*\*\*"It's not what someone told me I had to write about...It's like, it's like listening to music. If you just have it on shuffle and you're just getting a random song, every now and then that you don't-you get kind of bored. But then when you choose the songs that you want to listen to, then you get more excited. And you get more, um what's the word? You get more uh, you feel like you're more in control. And you have more control over what you're gonna be doing with it. You know, you can skip the song or you can play another one."

\*\*\*Q: Why do you think it's more difficult if you don't have a choice?

"Cause you're just kind of **forced** and it's ... usually the things you're **forced** into, you don't like. So it's 'I don't like it, that's why it's harder cause I don't like this.' "

Motivation and Autonomy; Student describes being able to be in control of their choice/destiny. Mot\_Auto can also show a lack of autonomy as in being forced. Key words to look for include, "free" "freedom" "control" "forced" (as in lack of autonomy).

Mot\_Auto

The below "quality" codes go beyond the motivation codes because to receive a "quality" code the quote must tie the topic to performance. Most of these comments occur in talking about choosing writing topics but there are instances where the speaker may be describing other types of choices. They may or may not be connecting motivation and quality. If they do, the statements should be dual-coded both as at least one motivation and at least one quality code. Typical words used to describe motivation-related codes include "better" "stronger" or refer to getting a better grade.

### Qual

Again, not a code just an explanation for the quality codes

\*\*\*I think so. 'Cause there's, there's certainly amendments that are more **interesting** than others. Like, no quartering of soldiers in houses-**would've been a really dull essay**...The longer amendments- Would've just been, I think uh, a bit more tedious to do (laughs)...So yeah. I think I definitely like having the choice. \*\*\*"And I got to write about well I want to replace him with Neil Armstrong. And so it was just really cool because it was a topic I cared about ...it was- I got to choose, you know, every aspect of how I was going to write that. Even though it was about a topic, like everybody wrote about the \$20 bill, I got to choose who I wanted on the \$20 bill, why I wanted them or if I wanted to change it or not. So I think like I got to incorporate a lot of what I cared about into it, **so it was better.**"

### Qual\_Int

Quality and Interest; Student ties together interest (or lack thereof) and the quality of writing/performance.

\*\*\*I think so. 'Cause there's, there's certainly amendments that are more interesting than others. Like, no quartering of soldiers in houses-would've **been a really dull essay**...The longer amendments- Would've just been, I think uh, **a bit more tedious to do** (laughs)...So yeah. I think I definitely like having the choice.

### Qual\_Diff

Quality and difficulty; Student connects the level of difficulty to the quality of performance.

Qual_Know	Quality and knowledge; Student connects choice and level of knowledge to quality of performance. This can include number of ideas.	"I knew a lot less about the Second Amendment than the proposal thing and I think that impacted the quality of the ideas." "I didn't get the part I wanted because I didn't have more ideas for that part, I had way more for the other one. But because of that, I had this thing, "Okay if I was in this position, how would I see it?" And it just made me grow because like I saw a whole new point of view of that situation. I know I just like- I don't know it just expanded my mind." Because it shows that even if you're not getting what you want, you can still make the most out of it which, I feel like is something that we're kind of lacking now-a-days. You know, it's just kind of being in control is nice, but being able to control what you're, given is also very important. "But I think it's the sign of a good writer when you can take a topic that you have absolutely no feelings towards and create something out of it." "I think it's [feeling good about her paper] more about (laughs) getting the side you wanted." "So definitely, having a choice helps. It also helps that you want it- you chose this topic. It wasn't given to you. You know? It's one of those things where then you've- you get into the confidence mode. Like this is what I wanted to write about. It's not what someone told me I had to write about." "I think if I had been forced to write about the side I didn't agree with, it would have been <b>a relief to be able to choose</b> . But I think because both times I got to write the way I wanted, I don- <b>It didn't really make too big of a difference.</b> "
NC_NewPercp	New Perceptions; This typically comes up when a student is describing benefits of no choice. Key words: "grow"	
NC_CantGet	Talk with Kristi: Benefit of no choice--not getting what you want. Resiliency?	
NC_Other	Other benefit of not having choice. E.g., being able to write about anything makes you a better writer.	
ChVsPref_Pref	Evidence for preference being more important than choice	
ChVsPref_Ch	Evidence for choice being important	
ChVsPref_Un	Evidence for choice vs preference being unclear; Perhaps the student goes back and forth between the two. Developing...	

APPENDIX J  
INTERVIEW PROTOCOL



## Interview Protocol

What is your major?

Outside of this class have you had experiences with special education?

Why are you taking SPE 222?

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What kinds of writing assignments have you had in other classes?

—MLFTC?

How do you feel about writing?

—Interest, enjoyment

—Recreation

How would you describe yourself as a writer?

—Confidence, affect

Do you feel different about writing in different settings?

—Different classes

—Online

—Recreation

—Job

---

How did the discussion portion go for you?

—How did you feel while talking with others?

—Were there differences on how discussion went based upon who you worked with?

—Did you have enough time?

—What did your groups talk about?

How did the writing portion go for you?

—How easy or difficult was it?

—How did you feel while writing?

—Do you think what happened in the discussion part make a difference on how the writing portion went for you?

—What do you think influenced your experience during the writing activity?

---

How do you think having a choice shaped your experience of the discussion activities?

How do you think having a choice shaped your experience of the writing activity?

Can you tell me about other writing assignments where you had some choice?  
—Composition courses

Can you tell me about other assignments where you had some choice?  
—Choice in books to review  
—Choice on what to answer on a test  
—Research topics

Do you like have choices in your assignments? Examples?

---

Had you visited the writing center before this assignment?  
—How many times?  
—Was it required for a class?

Can you tell me about your writing center experience with this assignment?  
—What happened?

Can you tell me how you and the tutor interacted?  
—What was he/she like?

What did you think of the tutor's feedback?  
—Helpful?

What did you think about the feedback form?  
—Did you agree with the tutor?  
—Have you made writing goals before? What was that like?

What did you think about going to the writing center as compared to editing yourself?