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PREPARING FOR COLLEGE: THE EFFECTS OF HIGH SCHOOL SPEECH EXPERIENCE
ON CRITICAL THINKING, INFORMATION LITERACY, COMMUNICATION
APPREHENSION, AND COLLEGE PREPAREDNESS

Brian M. Rohman

107 Pages

The effects of the college-level basic communication course are well documented. However, a stand-alone, high school communication course is becoming a rare sight across the United States. This study seeks to examine educational outcomes of learning communication skills at the high school level on college freshman. Students enrolled in a college-level basic communication course were surveyed on factors such as critical thinking, information literacy, fake news identification, communication apprehension, and preparedness for college through speech preparation as well as grit. While few significant findings were found, implications for the study of communication at the high school level are examined.

KEYWORDS: communication education, K-12 education, critical thinking, information literacy, communication apprehension, grit

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BRIAN M. ROHMAN

A Thesis Submitted in Partial
Fulfillment of the Requirements
for the Degree of

MASTER OF SCIENCE

School of Communication

ILLINOIS STATE UNIVERSITY

2018

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APPREHENSION, AND COLLEGE PREPAREDNESS

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CHAPTER I: LITERATURE REVIEW

The pursuit of college education has shifted from an opportunity only available for a privileged few to a tangible possibility for many. With an increase in college attendance came a call for standardization and common educational goals. In 1917, a major shift in communication occurred as communication scholars broke off from the National Council of Teachers of English to form the Speech Communication Association (Berko, Morreale, & Cooper, 1998). High schools responded by adding elective, and eventually required, courses in speech communication to their curricula. In response to a call for standards, communication competencies have been created for entering and exiting college including audience analysis, message creation, and supporting a message (Rubin & Morreale, 2000). Additionally, the Association of American Colleges and Universities (2014) responded by outlining critical and creative thinking, information literacy, and written and oral communication as essential learning outcomes of the college experience. Despite many believing that writing can develop the same skills, the cultivation of oral communication skills better accomplishes the goal through the researching and writing of speeches for a variety of contexts and audiences.

High school students have been criticized by college professors and the public alike for not being college ready. *A Nation at Risk* called for standards to be created so that students across the United States would exit high school with the same set of skills (National Commission for Education Reform, 1983). As state and national standards focused on reading and mathematics (United States Department of Education, 2008), coupled with continued budget cuts in schools, additional coursework is thought to be able to be integrated into existing courses. As standards gained traction, the importance on the teaching of oral communication skills by qualified individuals dropped significantly. At the same time, a growing body of literature

emerged indicating that high school graduates are not ready to enter the academy. Standardized test scores are one measurement of college readiness. One study examined college preparedness among seniors in Texas using the SAT and ACT as indicators to find that only one third of high school seniors were prepared for college (Combs et al., 2010). Regardless of educational initiatives at the state and national levels, students still enter college underprepared for the rigors of advanced course work. While several interventions have focused upon reading and math, they have been found to be ineffective (Cabrera et al., 2003). If existing interventions have failed to be effective, a new direction needs to be taken.

A return to a required, stand-alone high school communication course provides the necessary preparation for students entering college. The efficacy of the college-level basic communication course is well documented (Dance, 2002; Hunt, Simonds, & Simonds, 2009). However, states have moved away from this model in K-12 education. In a survey of state departments of education, Hall, Morreale, and Gaudino (1999) found that at least half of states required oral communication to be included into the English curriculum with only two states requiring a separate course. While the graduation requirements had little change, as of 2012, only 21 states offered licensure to instructors of grades 7-12 in communication (Streiff, Morris, Weintraub, Wendt, & Wright, 2012). The result is that teachers are asked to instruct students on content that they are not highly qualified to teach (Dannels & Gaffney, 2009; Jennings, 2010; Streiff et al., 2012). Even in the states that require a separate communication course, consistency does not exist. For example, in Texas, Hanson (2008) found that a required stand-alone oral communication course intended for juniors and seniors is being offered in many districts as early as eighth grade. While a lack of consistency of teaching a high school basic communication

course currently exists, the return to the best practices of the teaching oral communication by qualified instructors may help students become more prepared for their collegiate experience.

The goal of the current study is to justify communication skills instruction at the K-12 level. Specifically, this study will explore the effect of having course work or extra-curricular experience in developing communication skills on critical thinking, information literacy, identifying fake news, communication apprehension, ability to prepare a speech, and an individual's level of grit. As the development and cultivation of these skills are essential to success in college and beyond, their investigation is essential to further justify the teaching of an oral communication class at the high school level. Following a review of the relevant literature and an explanation of the methods, results of the study, a discussion of the results, and implications of the study will be discussed.

The effects of communication instruction on other variables has been studied and documented at the collegiate level. However, several problems emerge if students only receive communication instruction after high school. Initially, high school instructors are able to have more contact time with students as classes meet every day. Additionally, students can see larger gains if they receive a similar intervention more than once throughout their academic career. Most problematically is that while enrollment numbers have increased at colleges and universities, there are still students that do not take course work beyond high school. An entire segment of the population will be denied access to skills with documented benefits. The current study examines the impact of K-12 communication experiences on several factors. Critical thinking, information literacy, and identification of fake news are all important elements for the development of learners and within a communication course the research process that goes into a speech encourages the development of those skills. A high school, or college-level, basic

communication course has tangible outcomes such as reduced communication apprehension and the enhanced ability to prepare a speech. Finally, because the process of a student confronting their fear can be transformational, their level of grit may be impacted through taking a communication course.

Communication Instruction Approaches by State

Communication instruction in high schools has evolved differently across the United States. Hall et al. (1999) highlighted the discrepancies in the requirement of communication instruction by surveying state boards of education across the United States. They found that different models for including communication instruction ranged from a stand-alone, required semester course to incorporating communication skills into English Language Arts classrooms. In a new era of the Common Core State Standards, little has changed as Streiff et al. (2012) found that most states do not even offer teacher licensure in communication separate from English. As a result, three basic models of state graduation requirements have evolved.

Initially, Texas is an excellent example of a state that still requires a stand-alone communication course. For all students entering ninth grade beyond the 2012-2013 school year, one half credit of speech communication is required prior to the completion of grade 12 (Texas Education Agency, 2015). In addition to other requirements, all students graduating from Texas high schools have contact with speech communication. While the goal is for those skills to be taught at the high school level, Texas schools have found a loophole. Hanson (2008) articulated that several schools require their students to complete their communication course prior to entering high school. While Texas does ensure students see exposure to communication skills prior to college, they may not be receiving the instruction in a manner that will allow them to apply it to college or their career.

A second model is exemplified in the state of Missouri. While there is nothing explicitly requiring districts to offer oral communication courses separate from English Language Arts courses, speech and debate courses can fulfill the four-year English requirement (Missouri Department of Elementary and Secondary Education, 2017). The decision to allow communication skills to count for a requirement is left up to individual school districts. Missouri still provides certification to grades 9-12 teachers in speech and theatre (Ashcroft, 2017). Communication courses in Missouri may not be universally mandatory, but they are still taught by highly qualified individuals. While Missouri may not be the best case scenario, students taking an oral communication course are likely receiving instruction from qualified individuals.

The state of Illinois is an unfortunate example of the third category of states. The state does not require oral communication courses, or even include communication skills outside of asking students to be able to write for a variety of purposes prior to graduation (Illinois State Board of Education, 2016). While schools across the state offer communication courses, they are often electives. Moreover, when speaking and listening skills are engaged in the English Language Arts classroom, they may not be taught by a highly qualified instructor. The Illinois State Board of Education (2017) lists the requirements for licensure for a license in English Language Arts to include 24 credit hours of English course work. Students that are being taught communication skills are instructed by individuals with little to no training in communication. The lack of qualifications in Illinois inspired the Illinois Communication and Theatre Association (2013) to adopt a position statement advocating for adequate qualification of teachers to include oral communication skills. While each example provides advantages and disadvantages, further research is necessary to prove the efficacy of communication skills on learning outcomes at the K-12 level.

In line with the concept that education decisions are left up to individual states, communication instruction looks different across several states. Texas represents a small group of states where a semester of oral communication instruction is required and certification in oral communication is still offered. A second group of states, including Missouri, is in transition where they still offer communication courses, which can explicitly count towards English Language Arts course work. However, the courses may not be required even though the states offer certification in oral communication. The first two groups represent a minority of states as less than 21 states offer a certification in speech communication (Streiff et al., 2012). Illinois represents the final group of states where communication courses are not explicitly stated in the state's graduation requirements, and there is not a separate certification for oral communication. The lack of attention on the basic communication course at the high school level presents a challenge as colleges and universities cannot know what their students know prior to taking a college-level basic communication course. With the discrepancy in state requirements and qualifications for instructors, colleges and universities are receiving students with vary levels of exposure to communication skills which may have an impact on other levels of preparedness as well.

Critical Thinking

A number of different outcomes are expected from the general education curriculum with the hopes of preparing students to be successful after college. Colleges and universities hope that their applicants are prepared to enter their institutions with a specific set of skills. The college admissions process focuses around identifying students that have essential skills that will set them up for success in college. Institutions will examine a student's academic background and information such as their SAT or ACT scores because they may predict a student's ability to be

successful in their first year in college (Kuh, Cruce, Shoup, Kinzie, & Gonyea, 2008). Those factors include the development of skills in critical thinking, information literacy, and source credibility. As these factors are all developed through communication instruction, they are relevant to the current study.

Regardless of the discipline, the development of critical thinking skills is essential to all educational outcomes. Critical thinking has long been a primary goal of higher education curriculum and instruction (Paul, 1995). Moreover, Paul suggested that critical thinking instruction needs to be specific to the discipline of instruction. Williams, Oliver, and Stockdale (2004) furthered Paul's claim by suggesting that the teaching of critical thinking skills should be housed within a specific content course. The pedagogy behind critical thinking is tested across the educational spectrum (Harris & Zha, 2017; Mazer, Hunt, & Kuzenkoff, 2007). Arum and Roska (2011) in their seminal work *Academically Adrift*, identified critical thinking as a key academic outcome that is being unfulfilled at the high school and collegiate level. Critical thinking remains an essential outcome within education. However, students are not developing transferrable skills in this domain within the status quo.

Finding a single definition of critical thinking eludes scholars. While some attempt to define critical thinking as a tangible skill, others approach it more as a concept (Moore, 2013). Paul (1995) defined critical thinking as "self-improvement (in thinking) through standards (that assess thinking)" (p. 91). One unifying feature of the definition of critical thinking is the ability to produce argumentation and analyze the arguments of others (Angelo, 1995; Williams et al., 2004). Others operationalize critical thinking to be based upon skill, not just a general set of concepts (O'Keefe, 1986). Critical thinking is difficult to define, but most definitions include the intellectual interaction between available resources and the ability to develop and analyze

argumentation. It is important to operationalize the concept of critical thinking in order to determine the efficacy of assessment.

The college-level basic communication course is an opportune time to train students in critical thinking skills because of the time spent on research, synthesis, and delivery of material. It is well documented that the basic communication course develops critical thinking skills in students (Hunt et al., 2009; Mazer et al., 2007; Spitzberg, 2011). The content evoked within the basic course affects the efficacy of critical thinking skill development. In fact, some suggest communication courses should be designed with a combination of critical thinking, argumentation, and public speaking development in mind (Carlgren, 2013). Through an intentional and deliberate curricular design of the basic communication course, instructors have the ability to develop and harness critical thinking skills within their students.

Students must be given the opportunities to develop critical thinking skills within the basic communication course. Communication already begins this endeavor as the act of concept mapping, such as outlining a speech, has been proven to significantly increase a student's critical thinking ability (Harris & Zha, 2017). Moreover, including a unit on persuasion may be the answer. Teaching students to make claims, support them, and providing a model for building argumentation enhances students' ability to critically think (Hunt et al., 2009). The instruction cannot be frivolously developed. Mazer et al. (2007) conducted a pre/post-test analysis of the standard critical thinking curriculum in a basic course and compared it to an intensive pedagogy. Their study found through curriculum enhancements, such as a glossary of key terms, enhanced self- and peer evaluations, and introduction to the Toulmin Argumentation Model, students were found to further develop their critical thinking skills. A focused oral communication curriculum,

regardless of academic level, allows for the development and expansion of critical thinking skills.

The development and implementation of an in-depth curriculum in communication allows for students to develop critical thinking skills. Hunt et al. (2009) argued that the development of critical thinking skills comes naturally from a basic communication course. As students are learning to evaluate sources and create arguments, they develop skills to become stronger critical thinkers. While curriculum is important, teacher-student interactions are also important. Students respond well to teachers that display positive emotions and aid in their development of cognitive processes such as critical thinking skills (Zhang & Zhang, 2013). While a structured curriculum is essential to the success of students developing critical thinking skills, instructors that approach their classroom with a positive attitude can make a difference as well. Unfortunately, not all students have access to these benefits. Several states do not require communication courses at the K-12 level. Additionally, budget cuts in schools lead to increased class sizes which then limits teacher interaction and individualized attention with students. Without a dedicated oral communication course, where the number of students is reasonably controlled, students are unable to access the benefits of developing critical thinking skills through communication.

The college level basic communication course is not the only setting in which students can learn speech skills and develop critical thinking skills. K-12 communication courses and co-curricular activities are also a great venue to learn skills. Allen, Berkowitz, Hunt, and Loudon (1999) conducted a meta-analysis of critical thinking research to find that learning communication skills brought on significant gains in critical thinking for students in any setting. Their study found that the students that are more immersed in learning communication skills,

such as a single semester course or a co-curricular speech and debate team, the more growth students saw in their critical thinking skills. Problematically, Jennings (2010) explained that high school English teachers are receiving little to no training in communication, which extends to the coaching of co-curricular speech and debate as well. Instructors of the high school basic communication course, as well as coaches of speech and debate teams, may not have a background that will allow them to be successful, which only hurts the development of students. While communication scholars believe that the college level basic communication course provides students with the opportunity to develop critical thinking skills, students may not have access to qualified teachers at the high school level to engage communication concepts. Meaningful gains could be amplified if students were to have communication training at a younger age from instructors qualified to provide communication instruction.

Information Literacy

The development of critical thinking skills is essential to developing a student with the ability to locate and discern information. Thus, the development of critical thinking has implications for a student's ability to ascertain information literacy skills. Information literacy has evolved as an important skill to develop in the 21st century. High school and college classrooms are filled with digital natives and need to develop skills that will allow them to be successful. Determining the credibility of a source is a vital skill to develop, especially when students often have preconceived notions about what makes a source credible (Angell & Tewell, 2017). While some high school students cultivate information literacy skills, it is likely to only occur in schools with an adequate amount of resources to pour into a library (Kovalik, Yutzey, & Piazza, 2013). Unfortunately, we live in an era of fake news. Students must be prepared to evaluate the difference between real and fake news (Mihailidis & Viotty, 2017). Information

literacy instruction has the potential to address the growing concern of adequately preparing digital natives for the real world.

Information literacy is another concept with a contested definition. The American Library Association (2000) defined it as “a set of abilities requiring individuals to recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information” (p. 2). This may include practical skills including finding resources as supporting material (Lupton, 2008), source credibility (Angell & Tewell, 2017), and independent learning (Williams & Coles, 2007). Instructors across a wide array of academic disciplines may disagree on what exactly information literacy is, but they can agree on the types of skills that should be engaged. While many traditional definitions focus on process and acquisition of knowledge tasks, many are calling for an expanded definition to include a synthesis of existing information (Forster, 2015). As the world continues to digitize, expanded definitions and instruction may be necessary to ensure the development of responsible producers and consumers of information.

Information literacy is important in an age in which students have thousands of resources at their fingertips. High school students need to develop skills in information literacy to thoroughly assess the quality of those resources. The basic communication course has its own role to play due to the cultivation of research and presentation skills. Information literacy instruction can be improved through collaboration between classroom instructors and library professionals as well as several direct contact sessions between library professionals and students (Hunt et al., 2009; Natalle & Crowe, 2013). Meyer et al. (2008) provided an information literacy intervention where students received two in class contact sessions with a librarian in addition to a visit to the library. The researchers also included structured research logs into their intervention. Their pre/post-test design found that students that received the intervention had larger gains in

information literacy across the semester as compared to students that received a single contact session at the library. Even college students need structure as a means to build their skills.

Building effective information literacy pedagogy is essential to student success. Information literacy instruction needs to come from the collaborative effort of instructors and librarians (Herakova, Bonnet, & Congdon, 2017). Collaboration is essential to ensuring that classroom instructors and librarians are using the same, or similar, lexicon when describing the research process (Carter & Aldridge, 2016). One study (Natalle & Crowe, 2013) examined and assessed the pedagogy behind building information literacy skills in an upper level communication course. Over four semesters, they found that through collaborative assessment and reconstruction of the course, they could have meaningful change on student outcomes. Specifically, the researchers asked students to complete three tutorials prior to visiting the library, provided instruction after students had chosen a research topic, and both the librarian and the course instructor provided feedback on a research worksheet. Collaboration and adjustment to current practices are important to ensure students build and develop information literacy skills.

Librarians and instructors should work together to develop in-depth instruction of source selection and evaluation skills. The basic communication course provides an opportunity for this collaboration to take place. Students often believe sources are credible for four primary reasons: 1) based upon conventionally taught criteria, 2) questioning Wikipedia, 3) relying upon expertise, and 4) accepting sources as trustworthy because an authority figure indicates the source is credible (Angell & Tewell, 2017). Assignments in the basic course call on students to challenge those beliefs. Moreover, Carter and Aldridge (2016) warned that students need instruction that goes beyond a traditional checklist of indicators to evaluate the credibility of a source. They argued that students do not develop the ability to discern between sources without

in-depth instruction which includes questioning preconceived notions about a given source. The critical evaluation of sources that is required by the basic communication course can be beneficial in aiding students in becoming critical producers and consumers of information.

The basic communication course also provides multiple assignments for students to develop information literacy skills. Library instruction is essential, and needs to occur over time (Meyer et al., 2008; Natelle & Crowe, 2013). A single library session with a limited access to resources will not fully aid students. Kovalik et al. (2013) surveyed high school seniors at an upper-middle class school to determine their ability to use library resources to find and discern information. The researchers found that their continual library instruction allowed for high school seniors to feel confident in finding information for a research project. However, the authors found students would only visit the library once they had a topic and often would only make one visit. Without dedicated information literacy instruction, which a high school basic communication course could offer, students may enter college inadequately prepared for the rigors of college. A lack of continual information literacy instruction makes it difficult for students to be able to develop needed information literacy skills.

Identification of Fake News

While the development of critical thinking and information literacy skills are essential, a new threat has emerged for students to address. Unfortunately, traditional information literacy skills may not be sufficient to address this new threat. With the rise in fake news, students must be prepared to discern fake news from actual news. Digital natives interact with media online, but may not be taught needed skills to seek out accurate information. The ubiquitous spread of fake news drives the need for media literacy to produce critical consumers of news (Mihailidis & Viotty, 2017). Media literacy efforts need to redefine themselves for generations raised through

media. Teenagers engage in access to news through their physical and virtual social networks (Marchi, 2012). Moreover, the same age group does not hold source credibility in the same esteem as previous generations (Fisher, Magee, & Mohammed-Baksh, 2015). While digital natives have shifted their perceptions on information consumption, instruction has lagged behind. When building an effective 21st century skill set, it is vital that instruction is adapted to fit student needs.

The definition of fake news is hard to pinpoint. Holbert (2005) explained that fake news genre includes satirical news shows where a comedian is attempting to pass as a journalist. While this definition may have been sufficient in the past, the 2016 election cycle proved a different story to be true. Allcott and Gentzkow (2017) defined fake news as “news articles that are intentionally and verifiable false, and could mislead readers” (p. 213). Fake news has evolved into something far more harmful than satirical news. The spread of fake news should not be a surprise as a modern journalist has a need to publish as much content as quickly as possible online. The result is that journalists may not be as careful about engaging in the backstage work of verifying sources and ensuring their own credibility (Himma-Kadakas, 2017). Because of our ability and desire to have news the second it breaks, journalists have responded by trading in their traditional concept of integrity for popularity.

Media literacy has increased its importance as digital natives have entered secondary and higher education. The result is that information literacy has been combined in some circles with media literacy to create a cornerstone of a 21st century skill set (Wilson, Grizzle, Tuazon, Akyempong, & Cheung, 2013). Other researchers have taken this a step further. Gretter and Yadav (2016) suggested combining computational thinking with media and information literacy. Their argument was that students need to be able to critically evaluate information using a

process in order to become critical consumers and creators of information. A scientific and mathematical approach can allow students to see the intersection of skills they work hard to develop across a curriculum. With the development of a critical skill set, students may be able to better discern fake news from real news.

The increase in fake news availability and coverage has also encouraged educators to create frameworks to teach students skills to discern fake news from real news. Wineburg, McGrew, Breakstone, and Ortega (2016) developed strategies that target the development of skills to discern between fake and real news in middle school, high school, and college. They identified middle school skills to include social media analysis, an analysis of the comments section on an article, and identifying and discerning real news articles from advertisements on a media outlet homepage. The authors suggested that these skills should be refined at the high school level to include a deeper social media analysis, evaluation of evidence, and analysis of arguments. Moreover, at the college level, students should determine the reliability of specific websites, examine claims on social media, and conduct evaluations of articles (Wineburg et al., 2016). Through the development of essential skills, college students have access to essential skills to determine the difference between real and fake news.

While media literacy skills sound ideal for a student to learn, several issues exist. Wineburg et al. (2016) warned initially, students have to be taught at the middle school level in order to build upon those skills in high school. Without every single middle and high school being on board across the United States, this plan can easily fail. Finally, students that do not go on to college are not being afforded the opportunity to fully discern fake news from real news (Wineburg et al., 2016). While the outcomes for college students are clear, learning information literacy skills are needed at the high school level as not all students move on to college. Due to

the basic course providing opportunities to build research skills (Hunt et al., 2009), high school students need access to a similar course. Anderson and Rainie (2017) found through asking instructors and information literacy experts that the only way the identification of fake news will improve is through increasing the focus and funding of information literacy initiatives. Through increased support, practitioners of information literacy and source credibility can then tap into the scaffolding approach to ensure that students are not left behind.

One method of addressing this issue has been the rise of political fact-checking websites. Political fact-checking websites have become ubiquitous (Fridkin, Kenney, & Wintersieck, 2015). The authors continue to find in their analysis of an Ohio Senate campaign in 2012 that fact-checking websites are most effective when they prove that a claim in a negative ad is false. Moreover, Twitter is one platform where users will share links to a fact-checking website to correct friends and strangers alike on the social media platform. One study found through an analysis of data collected over three years that an individual is more likely to be influenced by one of their followers on Twitter that an initial post is incorrect as compared to a complete stranger (Margolin, Hannak, & Weber, 2017). Digital natives trust their social networks, both online and in person, to correct their misconceptions. Unfortunately, when misconceptions go unchallenged, fake news is allowed to thrive.

The current landscape of fake news warrants immediate attention. “At present, we worry that democracy is threatened by the ease at which disinformation about civic issues is allowed to spread and flourish” (Stanford History Education Group, 2016, p. 5). Instructors must reach an understanding of the students that need to develop skills in discerning fake from actual news because the knowledge is vital to curriculum development. Students often use preconceived notions of source credibility rather than actually evaluating a source (Angell & Tewell, 2017).

Knowing that students rely upon their preconceived notions, instructors and librarians can adapt their methods to aid students in making the essential determination between fake news and actual news. Herakova et al. (2017) suggested pairing student engagement in the research and writing process with directly applicable library concepts. They included a discussion of source credibility to ensure that students understood the true quality of sources as well as the reliability of their information. Building on the instruction of information literacy, the assessment of source credibility is vital in an era of fake news. Through intensive instruction, students will be able to adequately discern fake from real news. As students develop skills in critical thinking, they can become better consumers of information and have a stronger ability to discern fake news from real news.

Communication Apprehension

The basic communication course has situated itself within the general education curriculum to have student learning outcomes that can translate to other disciplines. Within the communication discipline, a goal of any basic communication course is to help students become confident public speakers. Often, becoming a better public speaker includes reducing an individual's fear towards speaking. Communication apprehension is "an individual's level of fear or anxiety associated with either real or anticipated communication with another person or persons" (McCroskey, 1993, p. 38). Extensive research has been done on communication apprehension in a variety of contexts. Communication apprehension varies based upon culture; collectivistic cultures report higher levels of apprehension than individualistic cultures (Hsu, 2004, 2007). Despite that finding, culture has been found to not affect an individual's willingness to communicate (Burroughs, Marie, & McCroskey, 2003). Some (Beatty, McCroskey, & Heisel, 1998; Hsu, 2004) suggest that communication apprehension is the result of biological and

environmental factors. Regardless of the causes, we know that communication apprehension is a reality and warrants the attention of communication scholars.

Acquiring oral communication skills at the high school level also has an impact on communication apprehension levels at the college-level. Dwyer, Carlson, and Dalbey (2003) surveyed college freshmen about their high school oral communication experience. Results found that students that learned oral communication skills in any course or co-curricular experience had lower levels of communication apprehension than their peers that did not learn oral communication skills in high school. Their study promotes that a stand-alone course is not necessary because as long as students have access to communication skills, their communication apprehension will decrease. However, communication instruction is more effective when provided by teachers that are highly qualified to provide the instruction (Dannels & Gaffney, 2009; Carlgren, 2013). Moreover, Jennings (2010) reported that as fewer states have communication certification, communication skills are increasingly taught and assessed in classrooms, as well as in co-curricular activities, by instructors with training in English, not communication. While many benefits to the reduction of communication apprehension exist, those benefits may be dwindling as the result of underqualified individuals teaching communication skills at the K-12 level.

Types of Communication Apprehension

Most individuals have some level of communication apprehension. Individuals experience communication apprehension in different interactions including in dyads, meetings, groups, and public speaking (McCroskey, 1970; McCroskey, Beatty, Kearney, & Plax, 1985). Public speaking results in the highest levels of anxiety. One study found that up to 70% of communication apprehension is influenced by public speaking (Richmond & McCroskey, 1998).

Instructors of high school and college-level basic communication courses need to be aware of the potential communication apprehension of their students. Moreover, part of this anxiety may originate as the result of a grade being attached to a public speech in a classroom (Butler, Pryor, & Marti, 2004). Regardless, public speaking based communication apprehension is a real concern that requires the attention of communication instructors.

Within communication apprehension, individuals experience their anxiety at various levels. Scholars generally categorize individuals as either having high communication apprehension or low communication apprehension. Individuals with high communication apprehension receive more attention as they are less likely to succeed academically and have higher levels of dropping out of college (Ericson & Gardner, 1992; McCroskey, Booth-Butterfield, & Payne, 1989). Culture is another factor that determines levels of communication apprehension. Initially, Hsu (2004, 2007) found that individuals in collectivist cultures usually have higher levels of communication apprehension than their individualistic peers. Moreover, comfort with language is also important. Richmond, McCroskey, McCroskey, and Fayer (2008) found that individuals have higher levels of communication apprehension when they are speaking in a second language. While their focus was on two entirely different languages, their findings may be extrapolated to students that feel they do not have an academic vocabulary within the college classroom. As a result, at-risk students may feel as if they do not possess the same language skills as their peers, leading to higher levels of communication apprehension.

Communication and At-Risk Students

The single semester basic communication course has implications for communication apprehension and academic performance. Initially, Butler et al. (2004) found that students in an honors section of a public speaking course had higher levels of communication apprehension

than students in a non-honors section. Despite this finding, high levels of communication apprehension are associated with lower levels of academic performance in college (Ericson & Gardner, 1992; McCroskey et al., 1989). At-risk student populations are particularly susceptible to dropping out of college. Moreover, at-risk college students are found to have significant different levels of communication apprehension based on gender. Lippert, Titsworth, and Hunt (2005) surveyed at-risk and not at-risk students on levels of communication apprehension, verbal aggression, and the supportive talk about school. Despite the expectation that all at-risk students would have higher levels of communication apprehension, their study found at-risk males have higher levels of communication apprehension than their non-at-risk counterparts while at risk females have lower levels of communication apprehension than their non-at risk counterparts. Gender differences do exist within communication apprehension.

Interventions

Regardless of its cause, communication apprehension can be reduced through a variety of interventions. The reduction in state based communication apprehension comes as the result of several, long term intervention methods. Methods include altering basic practices to change body sensations that trigger anxiety (McCullough, Russell, Behnke, Sawyer, & Witt, 2006), continual audience exposure (Finn, Sawyer, & Schrod, 2009), and leading students to identifying the cause of their apprehension and brainstorm treatment options (Finn, Sawyer, & Behnke, 2009). The interventions in communication apprehension all come as a result of all students, regardless of the intensity of their communication apprehension, participating. Students are able to engage longitudinal strategies to lower their levels of communication apprehension which allows for a greater likelihood of carrying those gains beyond the classroom.

Communication courses provide the opportunity for students to focus on the reduction of communication apprehension. The college level basic communication course is one intervention that has proven to be effective (Hunter, Westwick, & Haleta, 2013; Rubin, Rubin, & Jordan, 1997), even when examining hybrid versus traditional delivery style of the course (Strawser, Gaffney, DeVito, Kerckmar, & Pennell, 2017). While many interventions can be played out by individual instructors, the communication center takes the resources of an entire department. Dwyer, Carlson, and Kahre (2002) studied the impact of the communication center as an intervention. They were specifically interested in reduction in communication apprehension between high communication apprehension, moderate communication apprehension, and low communication apprehension across a single semester. Their results found that students that use the speech lab as a resource saw a reduction in communication apprehension regardless of the level of communication apprehension they experienced. Whether the communication center services the general student population, or an introductory communication course, tangible benefits exist to students.

Follow-up studies have supported that the more students use speech labs, the lower they perceive their communication apprehension to be at the conclusion of the course (Dwyer & Davidson, 2012). Unfortunately, discrepancies exist across campuses as to how communication centers are implemented. LeFebvre, LeFebvre, and Anderson (2017) surveyed the 96 known communication centers across the country. Out of the 47 respondents, almost all are housed in a communication department within their university. However, what is unknown is how many programs require their students to take part in the communication center process as a part of a basic course or other general education requirement. What has not been studied in detail is the high school communication experience of users of communication centers. What such a study

may find is that students with little to no communication training use the speech lab more frequently to make up for a lack of skills. Considering that individuals with high communication apprehension are more likely to drop out of college (Ericson & Gardner, 1992), students need the college-level basic communication course as well as adequate and mandatory supports to ensure their academic success. Since not every student attends college, high school students need to have a required communication course. The result may allow for at-risk students to see more success in college and their careers as they will have lower levels of communication apprehension as a result of taking the course.

Other Factors Influencing Communication Apprehension

Communication apprehension is not a variable entirely independent of others. Communication apprehension and an individual's self-perceived communication competence have been found to have a negative relationship (Rubin et al., 1997). An individual with higher levels of communication apprehension has less confidence in their own competency as a communicator. Hodis and Hodis (2013) conducted a pre/post-test survey to test the relationship between communication apprehension, willingness to communicate, and self-perceived communication competence. Using multivariate latent growth modeling, they found that while communication apprehension accounted for 24% of the variance of change on an individual's willingness to communicate and self-perceived communication competence, it was not significantly impacted across a semester communication course. However, Hodis and Hodis suggested that the ability to gain or lose communication apprehension speaks to the responsibility instructors have to ensure students become more effective communicators through the basic communication course. Qualified instructors are a necessity for the basic communication course to be effective.

The individual instructor is not the only variable in play. Discrepancies in the format and content of the basic course exist (Morreale, Worley, & Hugenberg, 2010). Instructors are left to engage their students in classroom activities and assignments. Denker (2014) surveyed students taking a lecture hall style basic course through communication apprehension and their willingness to participate. She found that higher levels of communication apprehension affect public speaking more than an individual student's participation in class. Moreover, the type of assignment may also have a meaningful impact. Specifically, a speech delivered from a manuscript provides less anxiety than a speech given in the impromptu or extemporaneous style (Witt & Behnke, 2006). Assignment type and course structure has an impact on student levels of communication apprehension. The level of communication apprehension of the source of a message has an impact on the perceived credibility that message. Sources with higher communication apprehension have a negative impact on their own perceived credibility with their audience across interpersonal and organizational settings (Cole & McCroskey, 2003). Communication apprehension affects the speaker as well as the audience's perception of the speaker.

Communication and College Success

In addition to a reduction of communication apprehension, the basic communication course serves as a foundation for a student's college experience. Some students enter college with a similar public speaking experience housed within their high school curriculum. Regardless of the actual experience, colleges and universities have the daunting task at determining if applicants will be successful at their institution. Several indicators are commonly examined to predict college success. Most colleges and universities find their own way to determine whether students will be successful. A variety of precollege factors, including

ACT/SAT scores and academic achievement in high school, have direct effects on first year college performance (Kuh et al., 2008). However, once in college, those factors become limited. Beck and Davidson (2015) found that admissions data is only one piece of a larger puzzle. Through their quantitative analysis using the College Persistence Questionnaire, they found at-risk students can be identified through admissions data. This admissions data accounted for 32% of the variance of factors indicating success within the first year. Moreover, all students can benefit from being provided with proper support, which prevents attrition. Colleges have a duty to ensure success to their students.

The goal of any curriculum is for students to be able to transfer the cultivated skills outside of the course. Through engaging an entire semester of speech training at the high school level, students will gain exposure to public speaking. This exposure will help them be more prepared to give speeches in college and beyond. Pearson, Child, and Kahl (2006) collected self-reported preparation logs to determine if preparation time and activities had an impact on speech grades. They found that students that prepared more, specifically by practicing delivery skills, were more likely to earn better speech grades. Thus, we can conclude that students that have exposure to developing oral communication skills in high school will be better able to use their preparation time in the college-level basic communication course or for a speech that is to be given for a job or life event. Through the intervention of a high school communication course, students will be better prepared to give public speeches throughout their lives.

The high school experience clearly has an impact on what a student is able to accomplish in college. Student self-perception, teacher-student interactions, and family influences also determine the success of a student in college. Graboswki and Sessa (2014) surveyed college freshman at the beginning and end of their first semester on measures including family

involvement in education, teacher-student interaction, and student self-perception. Their analysis found significant interactions between their variables. Specifically, high levels of student-teacher interactions in the final year of high school have been found to have positive effects on student self-efficacy and later success in college. Smaller classrooms have a significant difference on teacher verbal immediacy behaviors as compared to large lecture hall sections of the basic communication course (Todd, Tillson, Cox, & Malinauskas, 2000). Class size has an impact upon the student perception of teacher verbal immediacy. As a communication course would encourage students to be in a smaller class with an instructor that encourages them to improve, the high school basic communication course will prepare students for first year college success. Clearly, students that take a high school communication course are better equipped to handle their first year of college than their counterparts with little to no oral communication experience.

At-Risk Students and Grit

An additional consideration in the college acceptance formula is the risk that students have of dropping out of college prior to graduation. At-risk students are a unique subset of the college bound population. Factors for at-risk youths range from poor socio-economic status to poor grades in the early years of high school (Marchetti, Wilson, & Dunham, 2016). Since at-risk students are often behind, interventions are essential to ensuring their future academic success. Keyes, Jacobs, Bornhors, Gibson, and Vostal (2017) provided an oral reading intervention to at-risk students in an urban elementary school. They contended that the success of their program was due to the requirement that students meet their goal multiple times prior to advancing to the next level. While the college-level basic communication course is excellent for students that reach college, many at-risk students are not offered the opportunity to take the course (Bowers, Sprott, & Taff, 2012). By including a high school level communication course, at-risk students

would have the opportunity to practice the skills of communication as well as help them develop those skills during high school.

At-risk students typically face more obstacles to academic success than their peers. Perseverance and grit are two terms often associated with at-risk students who achieve success. Grit has been defined as “perseverance and passion for long-term goals” (Duckworth, Peterson, Matthews, & Kelly, 2007, p. 1087). A growing line of research on grit has emerged, typically focused around populations including West Point Cadets and Scripps National Spelling Bee Competitors (Duckworth et al., 2007). That research has primarily relied upon measuring grit against other measures such as the Big Five Conscientious scales (Duckworth et al., 2007). From that initial study, Duckworth and Quinn (2009) built upon the original grit scale to come to a brief, two factor model highlighting effort and interest as the primary factors behind the development of grit. Other areas, such as the connection between grit and long term happiness (Von Culin, Tsukayama, & Duckworth, 2014), have also been explored. Grit clearly has some connection to perseverance, which may be linked to academic success.

The history of grit as a construct is brief, and has not come without criticism. Crede, Tynan, and Harms (2017) conducted a meta-analysis of existing grit literature. They found that grit may be another reading of perseverance. Additionally, while Duckworth and Quinn (2009) posited grit has two factors, Crede et al. suggested that effort has larger effects than interest. However, the researchers suggested that the construct be further investigated as grit is a common predictor of college retention and success. Harnessing the ability to develop grit within all students at the high school level could be beneficial. Hochanadel and Finamore (2015) suggested that if instructors could find a means to cultivate grit with their students, their students could be better prepared to overcome any challenge. The high school basic communication course could

provide an answer. Since students are facing a common fear when giving public speeches, the continued action of facing that fear may have the potential to build grit. Students have to build effort through their experience, building grit in the process.

Extracurricular involvement is essential to promoting long-term academic success. Learning communication skills in this realm is not unique. As students study communication skills in detail, their gains increase exponentially (Allen et al., 1999). Students that learn communication skills in the classroom and participate in communication extracurricular activities, such as speech and debate, will have better learned and applied critical thinking and communication skills. Extracurricular involvement is an additional way to prevent at-risk students from dropping out of high school. Marchetti et al. (2016) studied the effect of extracurricular participation on test scores of at-risk high school students. They found students from low socio-economic status households saw significant gains on standardized testing scores in mathematics and reading when they participated in extracurricular activities. While this study focused on all extracurricular activities, communication extracurricular activities can be just as impactful. It is logical to conclude that the support of a team environment, coupled with the balance of courses and an extracurricular speech or debate activity, cultivate grit in all students. With at-risk students, the developed grit is essential to their long-term academic success. When qualified teachers teach course content and expand upon it in an extracurricular setting, at-risk students can gain essential mentorship and skill development needed to be successful.

Need for Communication Education Research

Considering the various educational outcomes addressed in the basic communication course, research is essential to ensuring best practices in the classroom. Communication skills are desired by a variety of stakeholders. Training in communication skills is desired from the

academy to the work place. Business leaders routinely emphasize communication skills as among the most important for their employees to be successful (Hooker & Simonds, 2015). Moreover, popular publications are emphasizing training in communication skills as well. Researchers have conducted three content analyses of academic and popular press pieces to discover that communication skills are essential to the development of a 21st century skill set (Morreale, Osborn, & Pearson, 2000; Morreale & Pearson, 2008; Morreale, Valenzano, & Bauer, 2017). Overtime, the emphasis on the importance of communication skills in the work place has grown the most. Additionally, the Association of American Colleges and Universities (2014) identify oral communication skills as an essential tenant of their LEAP initiative. More recently, the Social Science Research Council released their Measuring College Learning in Public Speaking to emphasize that communication skills, including creating messages appropriate to the audience, purpose, and context and critically analyze messages (Broeckelman-Post & Ruiz-Mesa, 2017). With a wide variety of stakeholders, communication skills training should be ubiquitous.

Unfortunately, communication pedagogical research is lagging behind. Morreale, Backland, and Sparks (2014) explained the difference between communication pedagogy and instructional communication. Communication pedagogy examines the best methodology used to teach communication skills to students. Conversely, instructional communication research focuses around the role communication plays between teachers and students. Communication education research focuses on the latter, with hundreds of publications on interactions between teachers and students. However, far fewer publications exist discussing the best methodology to teach essential skills such as delivery, source citation, and persuasion techniques. In the third qualitative analysis of recent publications, Morreale et al. (2017) found plenty of evidence

indicating that communication skills are needed, but none that highlight the fact that communication skills should be taught to students. Communication scholars have focused their energies on highlighting skills in instructional communication with little effort or emphasis on pedagogical content knowledge.

Without a comprehensive understanding of communication pedagogy research, the entire discipline is at risk. Friedrich (2002) argued that communication scholars need to move beyond instructional communication research and focus on discovering the best practices in communication education. Prior to that, Book (1989) made the call for the development of a healthy line of research in communication education as well as advocacy at the K-12 level. If researchers failed to meet her call, she warned it would place the entire communication discipline at risk. Problematically, Hunt, Wright, and Simonds (2014) found that 25 years after Book's seminal call, the line of research still did not exist. Without a comprehensive understanding of the benefits and needs fulfilled by communication courses, colleges and K-12 institutions will not see the benefit to communication scholarship that is witnessed on a daily basis by communication researchers and practitioners.

The high school classroom may have the ability to provide additional benefits that the college classroom cannot. The single semester speech course, especially when paired with a speech lab experience (Dwyer et al., 2002), has the ability to help students decrease their communication apprehension and increase their experience with public speaking. While high school classrooms do not have a lab environment, they do have the ability to have more intensive instruction. A typical high school course meets every day. Daily meetings can allow instructors of high school communication courses to provide support systems for their students that college instructors are unable to provide. Moreover, the stand-alone course may be the better option.

Jennings (2010) contended that schools are incorporating speaking and listening into English curricular rather than holding a stand-alone course. Tackling English and communication skills in one course presents challenges to adequately teaching and assessing those skills (Kahl, 2014). The intensive instruction offered in the high school setting may allow for stronger effects if communication skills are taught on their own for a single semester, rather than being sprinkled throughout a four-year English curriculum.

Common Core

The implementation of the Common Core State Standards (CCSS) has been met with resistance from a variety of education stakeholders. Casey (2016) provided a critique of a Common Core lesson on the Gettysburg Address. His main argument was the lesson lacks questions that engage the background and past experiences of learners. The resources made available to implement Common Core are limited in their scope of application to the classroom. However, the Common Core is just a set of standards, not a specific curriculum, as the standards do not dictate any specific lessons that should be taught by teachers (Common Core State Standards Initiative, 2017b). However, this creates a major barrier to including communication skills within the English curriculum. Wright, Rohman, Horn, Meyer, and Simonds (2018) found that the Common Core clearly articulates 171 speaking and listening objectives, but provide no means on how to teach them. As Jennings (2010) explained there are fewer, highly qualified teachers of communication in high school classrooms, unqualified teachers need guidance on how to teach these skills that simply does not exist. Moreover, the speaking and listening standards at the high school level are divided into two categories: comprehension and collaboration and presentation of knowledge and ideas (Common Core State Standards Initiative, 2017a). The focus of these two areas allow for communication scholars to highlight the role of

communication across the high school curriculum. All students need to be able to develop their discussion and presentation skills as outlined by the CCSS.

Due to the lack of research on best pedagogical practices of communication, the CCSS provide an opportunity for communication scholars to be a pivotal part of the discussion of speaking and listening standards. The English Language Arts' strand of the CCSS exists as literacy standards for all disciplines. Zygouris-Coe (2012) argued that the CCSS forces each discipline to be aware of literacy strategies, such as reading, writing, and speaking, within their discipline. The adoption of the CCSS provided an opportunity for communication scholars to work in other disciplines to ensure instructors know and understand how to assess speaking and listening within their own content. Moreover, Strawser (2015) argued that the adaptation of the Common Core State Standards, and their reliance on communication pedagogy across the curriculum, provides an opportunity for communication scholars to "help with the development of assessment measures and rubrics specifically related to Communication Education" (p. 47). Communication scholars should take advantage of this opportunity to ensure students are able to properly learn and be assessed upon communication skills across disciplines.

Communication across the Curriculum

While teaching oral communication skills at the K-12 level is beneficial, doing so in a stand-alone course could bring additional benefits to high school students. Following the lead of writing across the curriculum, communication across the curriculum has become a popular endeavor (Dannels, 2001). The risk exists for oral communication skills to be taught incorrectly by individuals that do not have adequate training (Dannels & Gaffney, 2009). When developing a communication across the curriculum program, it is essential that communication skills are implemented by communication faculty (Morreale, Shockley-Zalabak, & Whitney, 1993).

Dannels and Gaffney argued that encouraging the teaching of communication skills across the curriculum runs the risk of establishing the idea that anyone can teach the content. If just unqualified instructors are allowed to teach communication skills, the skills may be taught or assessed improperly.

Of course, it is vital for students to learn research and public speaking skills. Using a specific, research based tool kit, teachers can be given the resources needed to include communication in their classrooms. Through the use of such a tool kit, students will be more prepared to lead their communities (Mercer, Warwick, & Ahmed, 2017). However, the risk arises that those skills will not be properly taught or assessed. Kahl (2014) conducted six focus group interviews with high school seniors in a Midwestern district. He found that despite expectations that students complete outlines and present speeches, they were not given adequate instruction on how to complete the assignment nor were they adequately assessed on public speaking skills. While communication scholars are fully aware of the tangible benefits that exist to students learning communication skills, a lack of qualified instructors using research driven pedagogy is not the exception, but the reality. Students are not receiving the help they need because the instructors that they are entrusting to provide adequate instruction and assessment of their skills are unable to do meet that expectation.

Research Questions and Hypotheses

The college-level basic communication course has been proven to have several key outcomes. Among those outcomes includes an improvement in critical thinking skills (Dance, 2002; Hunt et al., 2009; Mazer et al., 2007). Considering that high school students are already learning speaking and listening skills, they should be well on their way to becoming better critical thinkers. However, if students have more exposure to a set of communication skills, then

they will become deeper critical thinkers (Allen et al., 1999). From this, the following hypothesis is advanced:

H₁: Students that take a communication course in high school will have higher levels of self-reported critical thinking than their peers that do not.

Information literacy is another essential outcome of the college-level basic communication course. The relationship built between instructors and librarians is essential to ensuring students are able to develop their skills (Herakova et al., 2017; Natalie & Crowe, 2013). The basic course allows for that interaction, especially when the course is positioned as a general education requirement (Hunt et al., 2009; Meyer et al., 2007). The interaction between instructor and librarian allows for students to develop their information literacy skills. Since the learning outcomes of the college-level basic course can reasonably be expected to mirror the same course at the high school level, the following hypothesis is proposed:

H₂: Students that take a communication course in high school will have better developed, self-reported information literacy skills than their peers that do not.

The ability to discern fake news from real news is a skill that warrants attention. Students must leave the academy with the ability to correctly identify fake news (Mihailidis & Viotty, 2017). Paul (1995) suggests that a major element of critical thinking is also engaging students in the ability to identify biases in news. Through the development of critical thinking and information literacy skills in a high school basic communication course, students may hone their ability to identify fake news sources. Because of the overlap in skills developed in the high school communication classroom, the subsequent following research question is raised:

RQ₁: What impact does a high school communication course have on a student's self-reported ability to identify fake news sources?

Another important factor addressed by basic communication sources is communication apprehension. Communication apprehension is a reality for all, but can be crippling for individuals with high communication apprehension (Ericson & Gardner, 1992; Lippert et al., 2005). The college-level communication course has been known as an effective intervention to lower levels of communication apprehension (Dwyer et al., 2002; Hunter et al., 2013; Rubin et al., 1997). Thus, the following hypothesis is posited:

H₃: Students that take a high school oral communication course have lower levels of self-reported communication apprehension than students that did not.

Knowing and understanding factors that lead to college success are vital to helping students be successful in college and beyond. Factors such as ACT/SAT scores (Kuh et al., 2008) and level of grit (Crede et al., 2017; Duckworth et al., 2007) provide data on success beyond high school. Despite grit being a contested construct, Crede et al., suggested that the research into grit should be conducted on more representative populations. Given that success beyond high school is dependent on high school and college data, including courses took in high school, a series of research questions are posed:

RQ₂: What impact does taking a high school communication course have on a student's self-reported level of grit?

RQ₃: What impact does taking a high school communication course have on a student's perceived future speech preparation?

Critical thinking and information literacy have been documented to be addressed within the basic communication course (Hunt et al., 2009). Essentially, students that have the ability to critically think, will also be more likely to be information literate. The identification of fake news is inherently embedded in the development of information literacy (Mihailidis & Viotty,

2017). If students develop strong information literacy skills, it is logical to conclude they will be able to discern the difference between fake and real news. Considering the relationship between critical thinking and information literacy and between information literacy and the identification of fake news intersect, the following research questions are posed:

RQ4: What relationship exists between critical thinking and information literacy?

RQ5: What relationship exists between information literacy and the ability to identify fake news?

CHAPTER II: METHODS

Participants

The sample consisted of 119 students at a large Midwestern university in the Spring 2018 semester. However, 11 individuals (9.2%) did not fill out demographic information at the end of the survey. The sample was comprised of 91 (76.5%) female and 17 (14.3%) male participants. The mean age was 19.38 ($SD = 3.58$), ranging from 18 to 54 years old. Participants primarily identified themselves as Caucasian (70.6%), followed by Hispanic (7.6%), bi-racial/mixed (5.0%), African-American (2.5%), Asian/Pacific Islander (1.7%), international (1.7%), Native American (.8%), and other (.8%). In terms of year in school, most participants identified as freshman (64.7%), followed by sophomore (10.9%), senior (8.4%), and junior (6.7%).

In terms of speech experience in the high school classroom, 30.3% of participants were required to take a semester-long speech course, 24.4% were required to give presentations without a course designed to teach them how to give those presentations, 11.8% had one unit of speech in one English class, 9.2% had a unit of speech each year in one English class, 8.4% had the opportunity to take a semester-long elective speech course, and 6.7% did not take a course that focused on teaching communication skills. Only nine participants (7.6%) had some form of extra-curricular speech experience while 99 (83.2%) had none. In terms of where the participants attended high school, most attended a public high school in Illinois (78.2%), followed by a private/prep school in Illinois (8.4%), a charter school in Illinois (.8%), public schools in Wisconsin (.8%), Minnesota (.8%), and Missouri (.8%), and a private/prep school in Nigeria (.8%).

Procedures

Participants were recruited using a research board where completion of surveys may earn students extra-credit in a communication course. The convenience sample was collected using the research board because of the vast array of experiences needed to make necessary comparisons in this study. Specifically, students, currently enrolled in a college level basic communication course were targeted for the survey. The survey was administered during the first three weeks of the Spring 2018 semester to avoid any undue influence from the basic communication course on the results. Participants reviewed an informed consent prior to completing in the survey. They had the option to leave the survey at any time, if they felt uncomfortable because of any of the items. The survey was administered electronically using the Qualtrics software platform. The survey included scales on critical thinking, information literacy, identification of fake news, communication apprehension, speech preparation, and grit.

Following the completion of the scales, participants responded to a battery of demographic questions including gender, age, high school oral communication experience and their instructor's experience, extra-curricular speech experience, and type of high school attended. The type of high school oral communication experience was broken into six categories based upon the practices of high schools in Illinois. The sample included 36 participants that took a required communication course in high school, 10 participants that had the opportunity to take an elective communication course, 11 participants that had one unit of communication each year in one English class, 14 participants that had a single unit of communication in one English course, 29 participants that no formal classroom communication training but were required to give presentations, and eight participants that had no formal classroom communication training in any form. The goal was to create comparative categories to test the impact of the intensity of

communication training on the scales utilized in the study. Moreover, students that had a required or elective communication course were asked about the experience and educational background of their instructor to provide the opportunity to compare the instructor experience on outcome measures. All participants were asked if they had some type of public speaking extra-curricular experience to determine if outside of the classroom training has an impact on outcome measures. Finally, the type of high school attended was broken up into public, private, and charter schools inside or outside of Illinois. As the type of school attended may have a difference in resources available, the type of school could affect the type of instructors and training students have experienced. The overall goal of the survey was to examine the possible experiences that participants may have had and compare their experience in communication with the outcome measures covered across each scale.

Measures

Critical Thinking

The Critical Thinking Self-Assessment (CTSA) functions as a self-assessment of critical thinking (Mazer et al., 2007). The scale asked participants to read a scenario and consider professionally-produced articles, stories, videos, books, speeches, or sermons that were designed to persuade the participant to believe something. From there, they were given a 17-item scale developed by Mazer et al. where each item is measured on a 5-point Likert scale from 1 (*never*) to 5 (*always*). Items included “I can tell when there are logical holes in the reasoning that is supposed to connect a conclusion and the reasons being used to support that conclusion,” “When I evaluate someone else’s line of thinking, I consider their arguments rather than just deciding whether I agree with their conclusions,” and “I enjoy thinking through an issue and coming up with strong arguments about it.” The alpha reliability for the original scale was .87 (Mazer et al.,

2007). As the scale was used in prior critical thinking research, factor analysis was not conducted. The alpha reliability of the scale used in this study was .81.

Information Literacy

Information literacy can be measured in a variety of manners. While some have measured information literacy through a direct test of knowledge and skills (Meyer et al., 2008), a different method is to measure self-perception of information literacy skills. Kuhlthau, Turock, George, and Belvin (1990) outlined a survey instrument for measuring self-perception of the research process. As the instrument was initially used prior to the ubiquitous adoption of technology use in libraries, their items were adapted for the purposes of this study. Items that previously asked about use of the card catalog or other antiquated library resources were updated to reflect conducting research in the 21st century. The 20-item scale was measured on a 5-point Likert scale from 1 (*never*) to 5 (*always*). Sample items from the information literacy scale include “I have a clear focus for my topic before using library resources,” “I take detailed notes from every source of information I look at,” and “I ask the librarian for advice on exploring a topic.” Kuhlthau et al. did not report an alpha reliability coefficient. As the scale had been used in prior information literacy research, factor analysis was not conducted. The alpha reliability for this study was .78.

Fake News Identification

Current analyses of fake news do not rely upon survey instruments. Most studies have focused around content analyses of online interactions (Margolin et al., 2017) and creating models for instruction (Wineburg et al., 2016). A scale to measure self-perceptions of a participant’s ability to identify fake news was created for the present study. Questions were generated that focused around the participant’s self-reported ability to identify fake news, to call

out examples of fake news they see on social media, and their overall familiarity with the concept of fake news. As research has been done to examine these areas (Margolin et al.), self-reported items were developed to fit the needs of the current study. The initial scale consisted of 18 items to test student's perception of their ability to identify fake news and credible sources. The items were measured on a 5-point Likert scale from 1 (*strongly disagree*) to 5 (*strongly agree*).

In the initial exploratory factor analysis (EFA), six items were eliminated iteratively due to not meeting a 50/30 factor loading criteria. Costello & Osborne (2005) suggest that any factor that has a loading of more than .50 and less than .30 are sufficient to accept in the factor structure. At that point, an additional item was removed because the factor was double loading across two factors. Four more items were removed iteratively due to not meeting the 50/30 factor loading criteria as well. Both the KMO measure (.726) and Bartlett's Test [$\chi^2 = 271.50 (21), p < .001$] were acceptable. Two factors had eigenvalues greater than 1.00, which was confirmed by the scree plot. The two-factor solution, the first factor consisting of four items and the second factoring consisting of three items, collectively explained 54.62% of the variance. See Table 1 for factor loadings.

The first factor explained 38.59% of the variance with a 2.70 eigenvalue. The second factor explained 16.03% of the variance with a 1.12 eigenvalue. The first factor, labeled as *Fake News Discernment* subscale one, contained four items including "Generally, I feel confident in my ability to discern fake news from real news" and "I can easily identify a fake news source." The second factor, which was renamed *Correction* subscale two, contained three items including "I correct friends when they cite a fake news source" and "I correct friends more than total strangers when they cite a fake news source." The overall, two-factor solution produced an

overall alpha reliability of .78. The first four items that comprised the *Fake News Discernment* subscale one ($\alpha = .77$) and the three items that comprised the *Correction* subscale two ($\alpha = .79$) produced respectable reliabilities.

Table 1

Identification of Fake News Scale

Survey Item	Discernment	Correction
1. Generally, I feel confident in my ability to discern fake news from real news.	<u>.837</u>	.133
12. I am confident in my ability to determining the credibility of a source.	<u>.783</u>	.162
11. I can easily identify a fake news source.	<u>.590</u>	.252
3. I do not feel confident in my ability to tell the difference between fake and real news. [Recoded]	<u>.517</u>	.082
5. I correct friends when they cite a fake news source.	.168	<u>.949</u>
6. I correct friends more than total strangers when they cite a fake news source.	.191	<u>.651</u>
9. I do not correct friends when they cite a fake news source. [Recoded]	.115	<u>.616</u>
Eigenvalue	2.70	1.12
% of Variance	38.59	16.03
Cronbach's Alpha	.77	.79

Note. Underlined factor coefficients show acceptable factor loadings for the corresponding items and factors. Items that are not underlined did not load on the corresponding factor.

Communication Apprehension

The reduction of communication apprehension as a result of the basic communication course is well documented (Hunter et al., 2013; Rubin et al., 1997; Strawser et al., 2017). The Personal Report of Communication Apprehension (PRCA-24) is a measure that focuses on trait-like communication apprehension and has evolved as a reliable measure (McCroskey, 1970; McCroskey, Beatty, Kearney, & Plax, 1985). The PRCA-24 is a 24-item scale that measures communication apprehension in four domains: group, meeting, dyad, and public speaking. Each domain is a measure of communication apprehension within a specific communication interaction. The subscales each ask six questions concerning communication in that specific area. The items are rated on a 5-point Likert scale from 1 (*strongly disagree*) to 5 (*strongly agree*). Items include “Generally, I am comfortable while participating in group discussions,” “I am very calm and relaxed when I am called upon to express an opinion at a meeting,” “Ordinarily I am very calm and relaxed in conversations,” and “I feel relaxed while giving a speech.” This scale has been unaltered from its original state due to its extensive previous use. Participants that score below a 51 on the total scale have very low communication apprehension. A score of between 51 and 80 represents average communication apprehension. Scores above 80 represent high levels of communication apprehension. A score on the group scale (items 1-6) of below 11 indicates low communication apprehension in group communication situations. Scores of below 13, 11, and 14 for Meeting (items 7-12), Interpersonal (13-18), and Public (19-24) communication respectively also indicate low communication apprehension. The alpha reliability of this scale is .97 (McCroskey et al., 1985). While the score for each scale was calculated, only the total communication apprehension score was used to run additional statistical tests. The alpha reliability of the PRCA-24 in this study was .94.

Speech Preparation

A learning outcome of most college-level basic communication courses is to prepare students to be better public speakers (Morreale et al., 2010). A true gauge of the effectiveness of high school communication courses on college preparation is the transfer of skills from high school to college. A speech preparation scale was developed where students are prompted to consider a speech that they have given since the end of high school through the time of taking this survey. Since a high school oral communication course would allow students to understand the process in creating a speech, the survey items asked participants to reflect upon their topic selection, ability to prepare, confidence in preparation, and what delivery style they employed for the speech. An initially 12-item scale was developed to be measured on a 5-point Likert scale from 1 (*strongly disagree*) to 5 (*strongly agree*).

In the initial EFA, one item was eliminated iteratively due to not meeting the 50/30 factor loading criteria. The second item was removed due to problematic wording within the scale. Three more items were removed iteratively due to not meeting the 50/30 factor loading criteria. Two remaining items were retained that violated the 50/30 factor loading criteria as removing the next item would have eliminated the remaining factor structure. Both the KMO measure (.684) and Bartlett's Test [$\chi^2 = 298.98 (21), p < .001$] were acceptable. Two factors had eigenvalues greater than 1.00, which was confirmed by the scree plot. The two-factor solution, the first factor consisting of four items and the second factoring consisting of three items, collectively explained 52.65% of the variance. See Table 2 for factor loadings.

The first factor explained 38.34% of the variance with a 3.10 eigenvalue. The second factor explained 14.30% of the variance with a 1.48 eigenvalue. The first factor, labeled as *Speech Confidence* subscale one, contained four items including "I have a high interest in giving

speeches” and “I felt confident delivering the speech.” The second factor, which was renamed *Topic Interest* subscale two, contained three items including “I felt passionate about the topic of the speech” and “I did not care for the topic of the speech.” The overall, two-factor solution produced an overall alpha reliability of .77. The first four items that comprised the *Speech Confidence* subscale one ($\alpha = .81$) and the three items that comprised the *Topic Interest* subscale two ($\alpha = .67$) produced very good, and minimally acceptable reliabilities.

Table 2

Speech Preparation Scale

Survey Item	Confidence	Topic
10. I have little interest in giving speeches. [Recoded]	<u>.858</u>	.168
11. I have a high interest in giving speeches.	<u>.790</u>	-.091
1. I felt confident delivering the speech.	<u>.655</u>	.222
7. I did not feel confident in the delivery of my speech. [Recoded]	<u>.525</u>	.323
8. I did not care about the topic of the speech. [Recoded]	.261	<u>.773</u>
2. I felt passionate about the topic of the speech.	.305	<u>.635</u>
6. I delivered the speech with little or no preparation. [Recoded]	-.071	<u>.513</u>
Eigenvalue	2.68	1.00
% of Variance	38.34	14.30
Cronbach's Alpha	.81	.67

Note. Underlined factor coefficients show acceptable factor loadings for the corresponding items and factors. Items that are not underlined did not load on the corresponding factor.

Grit

A variety of factors indicate college preparedness. The grit scale created by Duckworth et al. (2007) and refined and shortened by Duckworth and Quinn (2009) was used. The Grit-S scale consists of eight items rated on a 5-point Likert scale from 1 (*not like me at all*) to 5 (*very much like me*). The items make up two subscales. The *Consistency of Interest* sub-scale asks questions such as “I often set a goal but later choose to pursue a different one,” and “I have difficulty maintaining my focus on projects that take more than a few months to complete.” The *Perseverance of Effort* sub-scale asks questions such as “I finish whatever I begin,” and “Setbacks don’t discourage me.” The alpha reliability for the grit self-assessment is .83 (Duckworth & Quinn, 2009). Considering that Duckworth & Quinn reported their factor structure, and it has been used for an entire line of grit research, the initial factor structure was accepted. The alpha reliability for the Grit-S scale for this study was .75.

Data Analysis

For both the first and second hypotheses, the categorical independent variable of high school communication experience were compared with the continuous dependent variables of the CTSA and informational literacy scales respectively. Thus, a one-way analysis of variance (ANOVA) was calculated for each hypothesis. To test the first research question concerning fake news and source credibility, the categorical independent variable of high school communication experience was compared with the continuous dependent variable of the fake news scale. The data were analyzed using a one-way ANOVA.

Examining the third hypothesis, which examines communication apprehension, the categorical independent variable of the type of high school communication experience was compared with the continuous dependent variable of the PRCA-24. Again, a one-way ANOVA

was conducted to analyze the data. Finally, in testing research questions two and three, the categorical independent variable of high school communication experience was compared with the continuous dependent variables of the Grit-S scale and the speech preparation scale respectively. A one-way ANOVA was conducted to analyze the data. Bivariate correlations were run between scales to answer the remaining research questions. In order to determine the statistical significance of results, alpha will be set to .05 for all procedures. All existing scales were tested for reliability and newly developed scales were also subjected to EFA.

An outlier was identified based on age. One participant reported their current age to be 54 years old, but other responses for this participant were within normal ranges. To screen for the potential impact of the outlier, data were run that omitted the outlier from the sample and no new significant results emerged. Ultimately, the outlier was not removed from the data reported.

CHAPTER III: RESULTS

Data were aggregated and statistical tests were conducted using SPSS-24. All scales used 5-point Likert response options. Each scale was summated, averaged, and treated as a univariate variable, with the exception of the PRCA-24, which was summated using the scale laid out by McCroskey (1993). The range on the PRCA-24 was 24 to 120. While four different subscales for the PRCA-24 exist, tests were only run on the entire, summated scale. Test results are detailed in this chapter.

Critical Thinking

A one-way ANOVA was conducted to test the first hypothesis to compare the impact of high school oral communication experience on an individual student's self-reported critical thinking ability. Descriptive statistics are displayed in Table 3. A higher mean score indicates a higher level of self-reported critical thinking. Results of the one-way ANOVA showed that the effect of high school oral communication experience on self-report critical thinking was not significant, $F(5, 102) = .51, p = .76, \eta^2 = .02$. As the results were not significant, no further statistical tests were examined at the univariate level. Thus, the first hypothesis was not confirmed.

Information Literacy

A one-way ANOVA was conducted to test the second hypothesis to compare the impact of high school oral communication experience on an individual student's self-reported level of information literacy. Descriptive statistics are displayed in Table 4. A higher mean score indicates that the participant had a higher self-reported level of information literacy. The one-way ANOVA showed that the effect of high school oral communication experience on self-report information literacy was significant, $F(5, 102) = 2.45, p = .03, \eta^2 = .10$. A post hoc

Bonferroni test revealed that the only significant difference between groups was found between taking a required oral communication course ($M = 3.49, SD = .38$) and having the option to take an elective oral communication course ($M = 3.08, SD = .50$), with the students that took a required oral communication course having a higher level of self-reported information literacy than students that had an option to take an elective oral communication course, $p = .04$, 95% CI [.00, .82]. The rule of thumb for confidence intervals (CI) is that there should not be a zero between the lower and upper bound CI's. Thus, the second hypothesis was supported, but only in comparing individuals that took a required oral communication course with those that has the option to take an elective course.

Table 3

Descriptive Statistics of the Critical Thinking Scale

Classroom Oral Communication Experience	<i>N</i>	<i>M</i>	<i>SD</i>
I was required to take a semester-long speech course.	36	3.62	.352
I was able to take a semester-long elective speech course.	10	3.65	.226
I had a unit of speech each year in one English class.	11	3.50	.640
I had one unit of speech in one English class.	14	3.75	.231
I was required to give presentations, but did not take a course that taught me how to deliver those presentations.	29	3.66	.332
I did not take a course the focused on teaching me communication skills.	8	3.67	.670

Note: Higher mean scores indicate greater critical thinking ability.

Identification of Fake News

A one-way ANOVA was conducted to test the first research question to compare the impact of high school oral communication experience on an individual student’s self-reported ability to identify fake news. Descriptive statistics are displayed in Table 5. A higher mean score indicates that a participant has a higher level of self-reported ability to identify fake news. The one-way ANOVA showed that the effect of high school oral communication experience on self-report identification of fake news was not significant, $F(5, 102) = 2.03, p = .08, \eta^2 = .09$. As the results were not significant, no further statistical tests were examined at the univariate level. The first research question was not supported.

Table 4

Descriptive Statistics of the Information Literacy Scale

Classroom Oral Communication Experience	<i>N</i>	<i>M</i>	<i>SD</i>
I was required to take a semester-long speech course.	36	3.49	.38
I was able to take a semester-long elective speech course.	10	3.08	.50
I had a unit of speech each year in one English class.	11	3.37	.55
I had one unit of speech in one English class.	14	3.34	.29
I was required to give presentations, but did not take a course that taught me how to deliver those presentations.	29	3.30	.28
I did not take a course the focused on teaching me communication skills.	8	3.18	.33

Note. A higher mean score indicates a greater level of self-reported information literacy.

Communication Apprehension

A one-way ANOVA was conducted to test the third hypothesis to compare the impact of high school oral communication experience on an individual student's self-reported level of communication apprehension. Descriptive statistics are displayed in Table 6. Due to the summation formula for the scale, the range of the PRCA-24 is 24 to 120. A higher mean score indicates that a participant has a higher level of communication apprehension. The one-way ANOVA showed that the effect of high school oral communication experience on self-report communication apprehension was not significant, $F(5, 102) = 1.68, p = .14, \eta^2 = .07$. As the results were not significant, no further statistical tests were examined at the univariate level. The third hypothesis was not supported.

Table 5

Descriptive Statistics of the Fake News Identification Scale

Classroom Oral Communication Experience	<i>N</i>	<i>M</i>	<i>SD</i>
I was required to take a semester-long speech course.	36	3.60	.59
I was able to take a semester-long elective speech course.	10	3.37	.54
I had a unit of speech each year in one English class.	11	3.32	.67
I had one unit of speech in one English class.	14	3.05	.62
I was required to give presentations, but did not take a course that taught me how to deliver those presentations.	29	3.36	.68
I did not take a course the focused on teaching me communication skills.	8	3.71	.59

Note. A higher mean score indicates a greater level of self-reported ability to identify fake news.

Speech Preparation

A one-way ANOVA was conducted to test the second research question to compare the impact of high school oral communication experience on an individual student’s self-reported speech preparation ability. Descriptive statistics are displayed in Table 7. A higher mean score indicates that a participant is more confident in their ability to prepare a speech. The one-way ANOVA showed that the effect of high school oral communication experience on their self-reported level of speech preparation ability was not significant, $F(5, 102) = .09, p = .99, \eta^2 = .005$. As the results were not significant, no further statistical tests were examined at the univariate level. The second research question was not supported.

Table 6

Descriptive Statistics of the Communication Apprehension Scale

Classroom Oral Communication Experience	<i>N</i>	<i>M</i>	<i>SD</i>
I was required to take a semester-long speech course.	36	68.78	13.55
I was able to take a semester-long elective speech course.	10	78.30	20.05
I had a unit of speech each year in one English class.	11	70.73	15.25
I had one unit of speech in one English class.	14	76.79	18.33
I was required to give presentations, but did not take a course that taught me how to deliver those presentations.	29	74.48	14.59
I did not take a course the focused on teaching me communication skills.	8	62.63	14.04

Note. A higher mean indicates greater levels of communication apprehension.

Grit

A one-way ANOVA was conducted to test the third research question to compare the impact of high school oral communication experience on an individual student's self-reported level of grit. Descriptive statistics are displayed in Table 8. A higher mean score indicates that a participant has a higher level of grit. The one-way ANOVA showed that the effect of high school oral communication experience on self-report level of grit was not significant, $F(5, 102) = .55, p = .73, \eta^2 = .02$. As the results were not significant, no further statistical tests were examined at the univariate level. The third research question was not supported.

Table 7

Descriptive Statistics of the Speech Preparation Scale

Classroom Oral Communication Experience	<i>N</i>	<i>M</i>	<i>SD</i>
I was required to take a semester-long speech course.	36	3.19	.70
I was able to take a semester-long elective speech course.	10	3.34	.87
I had a unit of speech each year in one English class.	11	3.27	.60
I had one unit of speech in one English class.	14	3.24	.80
I was required to give presentations, but did not take a course that taught me how to deliver those presentations.	29	3.19	.67
I did not take a course the focused on teaching me communication skills.	8	3.27	.61

Note. A higher mean score indicates a greater level of self-reported ability to prepare a speech.

Correlations among Scales

In testing the fourth research question, a bivariate correlation was run to assess the relationship between self-report critical thinking ability and self-report level of information

literacy. Critical thinking demonstrated a moderate, positive, association with one’s level of information literacy, $r(110) = .264, p = .005$. The more an individual perceives themselves to be a critical thinker, the more that individual believes they have a high level of information literacy as well. The fourth research question is supported. In testing the fifth research question, a bivariate correlation was run to assess the relationship between self-report information literacy ability and self-report ability to identify fake news. Self-reported information literacy ability is not significantly related to the ability to identify fake news, $r(108) = .105, p = .27$. The fifth research question is not supported. A full list of correlation statistics is available in Table 9.

Table 8

Descriptive Statistics of the Grit-S Scale

Classroom Oral Communication Experience	<i>N</i>	<i>M</i>	<i>SD</i>
I was required to take a semester-long speech course.	36	3.22	.56
I was able to take a semester-long elective speech course.	10	3.20	.73
I had a unit of speech each year in one English class.	11	3.09	.70
I had one unit of speech in one English class.	14	3.19	.56
I was required to give presentations, but did not take a course that taught me how to deliver those presentations.	29	3.33	.52
I did not take a course the focused on teaching me communication skills.	8	3.47	.58

Note. A higher mean score indicates a higher level of grit.

While the existing body of research did not suggest the existence of other relationships between scales, the bivariate correlations that were run for this study suggest other interesting

findings. Initially, grit has a positive, moderate relationship with critical thinking, $r(113) = .307$, $p = .001$, and a positive, weak relationship with information literacy, $r(110) = .212$, $p = .02$. As a person develops a higher level of grit, they are able to also become better critical thinkers and develop information literacy skills. On the other hand, grit has a negative, weak relationship with communication apprehension, $r(106) = -.235$, $p = .01$. The negative relationship makes sense because if an individual has a lower level of communication apprehension, then they probably developed more grit to reach that point.

Table 9

Summary of Intercorrelations, Means, and Standard Deviations for Scales

Measure	1	2	3	4	5	6
1. Grit-S	-	-	-	-	-	-
2. CT	.307**	-	-	-	-	-
3. IL	.212*	.264**	-	-	-	-
4. SP	.151	.179	.169	-	-	-
5. FN	-.057	.273**	.105	-.062	-	-
6. CA	-.235*	-.246*	-.258**	-.474**	-.031	-
<i>M</i>	3.23	3.64	3.34	3.21	3.43	71.97
<i>SD</i>	.57	.38	.39	.68	.64	15.61

Note. For all scales, a higher mean indicates a more extreme response in the direction of the variable. Grit-S = Grit-S Scale; CT = Critical Thinking Self-Assessment; IL = Information Literacy Self-Assessment; SP = Speech Preparation; FN = Fake News Identification; CA = PRCA-24. ** $p < .01$; * $p < .05$

Additionally, critical thinking has a positive, moderate relationship with the identification of fake news, $r(108) = .273, p = .004$. Logically, if an individual is better able to think critically, then they should be able to discern fake news from real news. This conclusion is supported by the bivariate correlation. The last significant finding is that communication apprehension has a negative, weak relationship with critical thinking, $r(106) = -.246, p = .01$. Additionally, communication apprehension has a negative, moderate relationship with information literacy, $r(106) = -.258, p = .007$, and speech preparation, $r(106) = -.474, p < .001$. As an individual has a higher level of communication apprehension, they have lower levels of grit, critical thinking, information literacy, and ability and confidence to deliver a speech.

While the research questions and hypothesis for this study were largely not supported, a number of interesting findings emerged. Specifically, the relationship among the variables indicates that there are commonalities among them. These findings need to be further examined to determine their true meaning.

CHAPTER IV: DISCUSSION

The goal of this study was to examine the impact of high school oral communication experiences on a number of factors that gauge college preparedness and success. The specific variables examined included: critical thinking, information literacy, fake news identification, ability to prepare a speech, communication apprehension, and grit. Bivariate correlations were also run to determine what relationship the variables had with one another. The study yielded non-significant results in most of the statistical tests. While there were few significant findings, it is still important to examine the meaning and reasoning behind the non-significant findings as well.

Summary of Findings

At face-value, the findings of the present study indicated that high school communication experience did not affect most of the variables examined. However, this study presented only a snapshot of individuals that attend a large Midwestern university who were recruited as a convenience sample through a research board. Individuals that did not attend college or are at a two-year institution were not sampled. Moreover, the current study only employed quantitative methods to collect data. The findings need to be viewed skeptically as the results cannot be generalized to a broader student population.

Critical Thinking

The first hypothesis posited there would be a significant relationship between the high school oral communication experience of a student and their self-reported level of critical thinking. The one-way ANOVA indicated that there is no significant relationship between a student's high school oral communication experience and self-reported critical thinking ability. The first hypothesis was not supported. This is inconsistent with existing research, including

Allen et al. (1999) who suggested that the more exposure a student has to communication instruction, the higher level of critical thinking ability that is developed. Others (Hunt et al., 2009; Mazer et al., 2007; Spitzberg, 2011) suggested a similar trend with students in the college level basic communication course. However, another explanation may exist. Considering that all of the mean scores were indicating higher levels of critical thinking across various levels of oral communication instruction, the construct is being addressed outside of just the communication classroom. As more high school courses push the development of critical thinking skills, communication may not be the only area of exposure for students.

However, if the body of literature is correct, then teaching communication skills, specifically through the exploration of persuasion, could be the answer to cultivating critical thinking skills (Dance, 2002; Hunt et al., 2009; Mazer et al., 2007). Moreover, communication could be the discipline that is best suited to house critical thinking skills within a specific content course (Williams et al., 2004). Students in K-12 education may be receiving instruction on the cultivation of critical thinking skills across their curriculum. Moreover, capturing data from second semester college freshman may be enough to suggest that the experience of higher education can cultivate further critical thinking ability, even if they have not taken a course in communication. Examining participants that are in their first semester of college could better examine and explain the impact of communication instruction at the high school level on college preparation.

Information Literacy

The second hypothesis suggested that there would be a significant relationship between a student's high school communication experience and their level of information literacy. The one-way ANOVA and follow up post hoc test indicated that a significant difference does exist

between taking a required oral communication course and taking an oral communication elective course on a student's level of information literacy. The second hypothesis is supported in those conditions. As the basic communication course has a key role to play with the development of information literacy (Hunt et al., 2009; Meyer et al., 2008; Natalie & Crowe, 2013), the logical conclusion is that a mandatory communication course in high school would yield similar results. As instructors at the high school level are looking for best practices, they may turn to their colleagues at the college and university level for guidance. As a result, the high school required class would work to develop information literacy skills among their students.

Problematically, the significant difference existed between a required and elective communication course. Two possible explanations exist. First, as a required course, the curriculum would work to justify its place within the wider English curriculum. The instructor may emphasize information literacy skills and collaborate with a librarian or other media specialist to develop curricula. The collaborative relationship between instructors and librarians is essential to the development of information literacy skills (Carter & Aldridge, 2016; Herkeva et al., 2017; Natalie & Crowe, 2013). Second, an elective course may focus more on the delivery of speeches and the development of theory. Since the course is being taken in addition to, rather than in place of, other courses in English, the elective communication course would not have the same burden to prove its place within the curriculum. Instructors are allowed to teach more of what they want rather than ensuring that students are learning necessary skills. Unfortunately, the result is that instructors are not giving the same attention to developing essential skills in information literacy that students are clearly not developing elsewhere.

Communication instruction is not the only place within the high school curriculum that students are receiving meaningful instruction. The implementation of the CCSS may provide the

answer. The writing strand of the English Language Arts CCSS includes the development of research skills (Common Core State Standards Initiative, 2017a). As K-12 schools are adapting their curriculum to meet state standards, an emphasis on information literacy skills is mandated. If the results of this study are inaccurate, then a single semester course in communication may be the answer to ensuring that students are cultivating information literacy skills; thus, allowing a school to meet state standards as well.

Identification of Fake News

The first research question examined the relationship between a student's high school oral communication experience and their self-reported ability to identify fake news sources. While the initial one-way ANOVA did not produce significant results, the contrast table indicated a significant difference in a student's ability to identify fake news between participants that took a required high school oral communication course and participants that had one unit of speech in one English course. English curriculum that focuses more on communication skills throughout a student's four years, rather than just one unit in one year, may have more structured information literacy units. In-depth communication curriculum may have more longitudinal information literacy instruction, which will help students become more effective at identifying fake news sources (Wineburg et al, 2016). With the exception of the group of participants that only have one unit of speech in an English course, the scores of all other groups seem to be trending towards a higher level of ability to identify fake news. A generation of digital natives may be able to develop these skills with only minimal assistance from their classroom teacher and media specialist.

A mediating factor that may have influenced the results of the current study would be that participants were in their second semester of college. Based upon the sequencing of course work

at the university used in this study, it can be assumed that the participants in this study have also taken an introduction to English composition course that would include information and media literacy strategies. As information literacy, and as an extension identification of fake news, instruction needs to occur over time (Meyer et al., 2008; Natelle & Crowe, 2013; Wineburg et al., 2016), it can be concluded that information literacy scores of second semester college freshmen would be cultivated throughout their first semester course work. Surveying high school seniors or first semester college freshmen may be able to yield significant results between the levels of experience in oral communication at the high school level.

Communication Apprehension

The third hypothesis posited that a relationship exists between a student's high school oral communication experience and a student's self-reported level of communication apprehension. The hypothesis was not supported. Initially, the results seem to contradict the existing body of literature on communication apprehension (Hunter et al., 2013; Rubin et al., 1997; Strawser et al., 2017). The college level basic communication course has been known to reduce levels of communication apprehension among students. Strawser et al. even suggested that a reduction in communication apprehension, as a result of the basic communication course, occurred regardless of the delivery method of the course. Moreover, Dwyer et al. (2003) suggested that the gains in reduction of communication apprehension, as a result of a high school oral communication course, should hold up with college freshmen. The results of this study do not negate the existing body of literature, but they do highlight that longevity of an intervention to reduce communication apprehension may not exist.

However, the results of the present study mirror the warning of Hodis and Hodis (2013), who suggested that the basic communication course may not be a sufficient intervention to see

long-term reductions in communication apprehension. Specifically, the authors were not able to definitively observe significant gains or losses in communication apprehension over the course of a single semester. Hodis and Hodis suggested that the specific instructor has the largest impact on the increase or reduction in communication apprehension for each student. As instructors of communication skills are becoming less qualified in the high school setting (Jennings, 2010), students may be set up for failure more than success.

Following the existing body of literature, students could greatly benefit from having a single course that emphasizes the development of oral communication skills. A couple of barriers existed in the present study. The present sample was unable to capture students that did not continue their education or attended a two-year college. Participants were also in their second semester of college. The first semester of college may have already had an impact on their level of communication apprehension. Moreover, while at-risk students may have been a part of the sample, they could not be identified. Lippert et al. (2005) found that communication apprehension levels are higher in male at-risk students; thus potentially causing them to drop out of school. Considering individuals with higher levels of communication apprehension are more likely to drop out of college (Ericson & Gardner, 1992; McCroskey et al., 1989), this subset may show significant differences from individuals that have already made it through their first semester of college at a four-year university.

Speech Preparation

The second research question asked if a relationship exists between a participant's high school oral communication experience and their self-reported level of speech preparation. No significant difference between the high school oral communication experience groups existed. This study contradicts existing research suggesting that the speech type can affect

communication apprehension (Witt & Behnke, 2006), and that anxiety around speaking impacts a student's ability to deliver a public speech (Denker, 2014). It can be concluded that through intensive oral communication instruction, a student would understand the type of speech they should deliver to be successful. The most surprising finding was that the group that had not had any training in oral communication felt the most prepared to give speeches.

While the goal of the timing of this study, the first three weeks of the semester, was to mitigate any influence of the college level basic communication course on the findings, the impact may have been felt. During the first three weeks of the semester, students are already giving small speeches and participating in class discussion and activities. Through these informal presentations, students may be able to become more comfortable with the process of preparing informal speeches, such as the situation posed to participants in their instructions. While findings were inconclusive, the construct of speech preparation warrants further investigation as a concept. Many of the items inspired by the body of literature were eliminated through factor analysis. A study that focused only on the ability of students to prepare and give speeches could provide a better look at how the high school oral communication experience influences college students.

Grit

The third research question asked if a relationship exists between a participant's high school oral communication experience and their self-reported level of grit. Once again, no significant relationships emerged between the levels of high school oral communication experience. The construct of grit has not been compared to communication skill development. The current study does answer the call of Crede et al. (2017) to conduct grit research on different populations and in different contexts. Considering that grit has primarily been studied in

restricted populations, such as West Point Cadets and Scripts Spelling Bee participants (Duckworth et al., 2007; Duckworth & Quinn, 2009), testing grit in a general collegiate setting fulfills the call of Crede et al. to examine the construct of grit in a variety of backgrounds. However, as this study was unable to examine individuals that are not attending a single, four-year university, the study of grit should not be ignored in future research.

Moreover, the mean grit scores did indicate that the lowest scores came from individuals that have had communication skills as a part of an English course. Research demonstrates that instructors may be able to help students cultivate grit to overcome challenges they face (Hochanadel & Finamore, 2015). Consider the significant, negative correlation between grit and communication apprehension. If a student is able to overcome their anxiety associated with communication, then they have to develop a higher sense of grit and vice versa. However, if instructors are underqualified and prepared to teach communication concepts, they may not be garnering enough attention in the English curriculum. Students that could benefit the most from a high school communication course may not have access to it, thus preventing them from achieving needed academic growth that would prepare them for college.

Correlations

The fourth research question examined the correlation between the participant's self-reported level of critical thinking and information literacy. The bivariate correlation indicated that a positive, moderate relationship exists. As an individual's ability to critically thinking increases, it makes logical sense that their ability to develop information literacy skills would also increase. These findings are consistent with existing literature on these constructs in the basic communication course (Hunt et al., 2009; Mazer et al., 2007; Meyer et al., 2008) and beyond (Angell & Tewell, 2017; Carter & Aldridge, 2016). These findings make logical sense. If

an individual is able to cultivate the ability to critically evaluate information, then that same individual would be able to develop skills in finding information to synthesize together into a written or oral presentation.

However, only a moderate relationship emerged between critical thinking and information literacy. Another possibility is the potential for instructors to work with media specialists to plan instruction (Herakova et al., 2017). Perhaps the reason that the relationship is only moderate is because educators do not develop the skills in tandem with one another. Instead, they may be taught in isolation of one another. If students are able to clearly see the connection between these two constructs, the relationship may strengthen.

The fifth research question examined the relationship between a participant's self-reported level of information literacy and their ability to identify fake news. No significant relationship exists between information literacy and ability to identify fake news. These findings are not consistent with existing literature (Anderson & Rainie, 2017; Mihailias & Viotty, 2017; Wilson et al., 2013). As individuals develop information literacy skills, they are not also developing skills in their ability to identify fake news. Information literacy instruction needs to advance to include fake news information (Mihailias & Viotty). Until this relationship emerges, educational institutions are doing a disservice to students of all ages.

While a connection between information literacy and identification of fake news was expected, the lack of a significant relationship may point to a disconnect within information literacy training. A major roadblock may be the current design of media literacy training within general information literacy. Holbert (2005) defined fake news to include satirical news. The current landscape of fake news has vastly changed. If the findings of this study are correct, then instructors and media specialists need to reevaluate their instruction.

Correlations were run to compare each of the measures to one another. One finding that emerged was the significant, negative relationship that emerged between communication apprehension and other measures including critical thinking, information literacy, speech preparation, and grit. A negative relationship with these variables makes sense. The lower an individual's level of communication apprehension, the higher their score on each measure. The relationship is most obvious between communication apprehension and speech preparation. Witt and Behnke (2006) suggested that communication apprehension is related to the method of speech delivery. If an individual has lower communication apprehension, then the same individual has a better idea of which delivery style to choose, thus being better able to prepare a speech that they can successfully execute.

Moreover, the significant, negative relationship between communication apprehension and critical thinking suggests that an individual that has a lower level of communication apprehension has a higher ability to critically think. The basic communication course has been shown to reduce levels of communication apprehension (Hunter et al., 2013; Rubin et al., 1997; Strawser et al., 2017) and increase levels of critical thinking ((Hunt et al., 2009; Mazer et al., 2007; Spitzberg, 2011). While the relationship between these two constructs has not been widely examined, it makes sense that they have a significant relationship. If an individual has a lower level of anxiety in any communication setting, they are more likely to be able to commit thought to ideas and concepts around them. Reducing communication apprehension may be a key factor in the development of core educational outcomes, such as critical thinking.

In tandem with critical thinking, a negative relationship between communication apprehension and information literacy was discovered. Beyond just the reduction in communication apprehension, the importance of the college level basic communication course

and the development of information literacy skills is evident (Hunt et al., 2009; Meyer et al., 2008; Natale & Crowe, 2013). Searching for information is a process that often requires communication with an instructor or librarian. As a result, if an individual has high communication apprehension, they are already at a disadvantage in the research process. The significant, yet negative, relationship between communication apprehension and level of information literacy is a logical conclusion. An individual that has less anxiety surrounding communication experiences will be able to seek out the resources they need in order to see success in the research process.

Finally, the significant, negative relationship between communication apprehension and grit is logical as well. Duckworth and Quinn (2009) labeled the subscales of the Grit-S scale the *Consistency of Effort* and the *Perseverance of Interest*. As individuals overcome their communication apprehension, it would take effort and perseverance. Essentially, grit would have to be developed to overcome this huge hurdle. Furthermore, individuals that naturally have lower levels of communication apprehension may have additional confidence. Lower levels of anxiety and higher levels of confidence would allow those individuals to naturally develop a higher level of grit. Grit's relationship with communication apprehension warrants further investigation.

Implications

The lack of significant findings within this study does not mean that the results should be ignored or be taken at face value to suggest high school communication courses are ineffective. In fact, when examining insignificant results, there could be several explanations as to why significant differences between the type of high school oral communication experience did not emerge. Additionally, the design of this survey was simplistic in nature with the goal of capturing a snapshot of students at a convenient time for the study. The reality is that any issue

that is studied in the field of education is complex because of all of the potential mediating factors that could not be considered through the current study. The implications of this study must be examined on a variety of levels including high school curriculum choices, college level basic communication course choices, and the justification for teaching communication at the high school level.

Initially, the state of communication education at the high school level needs to be considered. Since education decisions are made at the state level, a lack of consistency in communication standards and instructor qualifications exist. Essentially, three different types of states exist. Texas represents the first group of states where students are required to take an oral communication course in addition to their English courses by a highly qualified communication teacher (Texas Education Agency, 2015). Missouri represents the second group of states where oral communication courses may be taken as a part of the English curriculum, but they have to be taught by highly qualified individuals (Ashcroft, 2017; Missouri Department of Elementary and Secondary Education, 2017). Illinois represents the third group of states where an oral communication course is not covered within the state's graduation requirements and there is no communication certification for instructors (Illinois State Board of Education, 2013). The conceptual framework for the division of groups on the independent variable of type of high school oral communication experience was derived from these state differences. Without consistency in instruction across the country, a one-size fits all argument to justify the teaching of a required, semester-long oral communication course is going to be difficult to identify, defend, and measure.

While communication has declared ownership over the instruction of critical thinking at the collegiate level, it is being taught in other disciplines at the high school level. Williams et al.

(2004) suggested that critical thinking skills should be housed within a specific content course. As communication has the potential to develop these skills, the justification for teaching communication skills at the collegiate level has been bolstered through the inclusion of critical thinking skills. The argument in support of an oral communication course teaching critical thinking skills has been articulated and accepted on the collegiate level. If the results of the current study are correct, then students are receiving critical thinking instruction from at least one discipline other than communication. If the results are incorrect, then an oral communication course, focused around the cultivation of critical thinking skills, may just be what is needed in high school classrooms around the United States. The development of the argument contending that oral communication courses develop critical thinking skills also needs to include the development of information literacy skills. The current study found a significant, positive relationship between critical thinking and information literacy. If other disciplines are picking up the slack on teaching critical thinking skills, then the relationship between critical thinking and information literacy may be one answer to bolster the argument.

The current study suggests a disconnect between a required and an elective high school oral communication course, at least within the instruction of information literacy skills. The existing literature suggested that a semester oral communication course would improve the information literacy skills of students (Meyer et al., 2008). However, this study found a significant difference between participants that took a required course or had the option to take an elective course on the information literacy scale. If the difference truly exists within the development of the curriculum, instructors should not have a difference in the content covered between an elective and required course. The only difference that should appear is in how the instructor approaches the course understanding that elective students have chosen to be in the

course while required students have to take the course. However, it is possible that the participants had the option to take an elective communication course in high school but did not take it. The significant difference could reflect participants that did not take an oral communication course would not have had instruction on information literacy strategies to the same degree as their peers that took a required oral communication course.

Definitions of fake news must be updated, and the development of skills to identify fake news must be included within high school curriculum. Several definitions follow Holbert (2005) to define fake news to be what an individual would view on a satirical news program or news website. While that definition may have been adequate in 2005, it no longer is. While some are attempting to update the definition to include news that is maliciously intended to mislead an audience (Allcott & Gentzkow, 2017), one paper is not enough. If high school and college curricular are going to commit to including the development of the ability to identify fake news, then instructors need to be armed with a definition of fake news that fits the existing reality of their students.

Regardless of the discipline that engages it, the ability to identify fake news has to be included within the high school and college curriculum. The best strategy for executing this feat would be to incorporate media literacy into our existing information literacy practices to prepare students to become informed citizens. McGrew, Ortega, Breakstone, and Wineburg (2017) found through assessments of civic online reasoning, evaluation of evidence, and seeking information, that middle school, high school, and college students need improvement in their media literacy skills. Media literacy, and using that literacy to identify fake news, is a cornerstone of 21st century literacy strategies (Wilson et al., 2013). Students also need to develop skills to discern fake news from actual news (Mihailidis & Viotty, 2017). The content of a high school level basic

communication course can effectively combine information literacy with media literacy to better prepare students to become critical consumers of media regardless of if a student attends college or not. “If [students] take all information at face value without considering where it comes from – democratic decision-making is imperiled” (McGrew et al., 2017, p. 7). Clearly, the implications of the present study go far beyond the realm of the classroom and threaten the core of an educated citizenry which is necessary to have a successful democracy. A single semester of a required oral communication course, that focuses on critical thinking, information literacy, and media literacy skills, can fill a large gap in the existing high school curriculum.

The current study may also provide guidance for the development of curriculum focused around the identification of fake news. This study served as an exploratory test of a self-assessment survey tool, as prior research on fake news relied mostly on content analyses of social media networks and other sources on the Internet (Fridkin et al., 2015; Margolin et al., 2017). The two subscales, which had respectable reliability coefficients examined the ability to discern fake news from real news and the level of comfort of correcting fake news within social media networks. Conceptually, these two areas should be the focus of the development of fake news instruction. Models of instruction, such as Wineburg et al. (2016), should be developed to aid instructors across all levels of education prepare their students to be critical consumers of media.

The concept of speech preparation needs further examination. The existing body of literature is lacking compared to other concepts. Few studies (Cole & McCroskey, 2003; Morreale et al., 2010; Witt & Behnke, 2006) even fully engage the concept. Moreover, the survey tool that was developed for the current study failed to adequately measure speech preparation as originally intended. No significant results emerged in the comparison of speech

preparation to the high school oral communication experience of a participant, at least partially, because the scale was not sufficient. Future research should reexamine speech preparation on the conceptual level before applying it to future communication research.

Grit is another concept that warrants further attention as a result of this study. While some researchers are confident in the ability of the grit construct (Duckworth et al., 2007; Duckworth & Quinn, 2009), others are more skeptical. Through their meta-analysis, Crede et al. (2017) called for more diverse research into grit as a concept. The current study was an attempt to do just that. Grit's role in the communication classroom would make logical sense as the work that would be done to give speeches outside of the comfort zone of a student, the more grit they would be able to develop. The significant, negative relationship of grit and communication apprehension suggests that grit should be further examined in the context of the communication classroom.

A lack of longevity of the impact of communication instruction may explain the non-significant results of the current study. Communication apprehension is an excellent example of a variable that has been proven to decrease as a result of the college-level basic communication course (Hunter et al., 2013; Rubin et al., 1997; Strawser et al., 2017). Dwyer et al. (2003) was even able to prove that a high school oral communication course predicted communication apprehension levels at the college level. However, the current study seems to negate those findings. Hodis and Hodis (2013) warned that the individual instructor could mitigate gains in the reduction of communication apprehension and that longitudinal gains were not guaranteed. The current study only examined students after they had completed an entire semester of college and after they had come out of high school with an instructor that may not be highly qualified to teach communication. Additionally, the variety of student experience and exposure to

communication instruction make accurately measuring their experience difficult. Applying this logic to the other variables, it is reasonable to conclude that, without longitudinal data, the effects of the high school communication course may have existed, but diminished before the participants of this study took the survey.

The reduction in communication apprehension may be a larger piece of the puzzle than the existing body of research has been able to suggest. Most studies on communication apprehension examine what causes higher levels of communication to exist (Hsu, 2004; 2007) or interventions on how to reduce levels of communication apprehension (Hunter et al., 2013; Rubin et al., 1997; Strawser et al., 2017). Through correlation analysis, it was found that level of communication apprehension has a significant, negative relationship with critical thinking, information literacy, speech preparation, and grit. If instructors can create experiences for students to reduce their general anxiety towards communication from an early age, then it may be easier for students to develop other essential skills that have been outlined by the CCSS (Common Core State Standards Initiative, 2017a), the Association of American Colleges and Universities' (2014) LEAP initiative, and the Social Science Research Council recommendations (Broeckelman-Post & Ruiz-Mesa, 2017) at both the high school and college level.

The implications of this study are even larger if we examine them through the lens of current standards at the high school and collegiate level. Initially, we no longer know how communication skills are being taught at the high school level. While the development of the basic communication course at the college and university level has become widely studied, high school instructors do not have the same resources available to them. Couple the lack of resources with the roll-out of the Common Core State Standards and the lack of a required, separate communication course across the country, communication experts have lost control over what is

taught at the high school level. Essentially, The CCSS require communication skills to be taught at the high school level (Common Core State Standards Initiative, 2017a), but an instructor does not have to be an expert, or even highly qualified, to teach them. States, such as Illinois, have adopted the CCSS as the guiding principles for their high school classrooms. Unfortunately, the education regulators in those states have not moved to ensure that highly qualified individuals are available and trained to teach skills that are required through the standards of the state.

The lack of qualified individuals teaching communication skills may explain the lack of significant results in the current study. Jennings (2010) warned that unqualified individuals may be entering the classroom to teach communication skills and coach speech and debate teams. The lack of significant results across most of the hypothesis and research questions suggests that we are now seeing the results of the lack of expertise in the classroom. While students are seeing gains in being prepared for college, the results of this study make it clear that we cannot claim that these gains come as a result of a high school communication course. Communication experts need to reevaluate the justification of the high school communication course as well as how those skills are taught at the high school level.

Further complicating the issue is that the unqualified, high school instructors do not have a resource of research backed best practices to employ in the high school setting. Cassandra Book (1989) made the case for more pedagogical research to be conducted to ensure that when communication instructors are teaching communication skills, we have research to support practices and strategies to best teach the content. Others (Dance, 2002; Hunt et al., 2014) have extended this call with the understanding that a discipline that relies upon research should ensure that its content is taught using research based best practices. While the CCSS demand the inclusion of communication skills within the high school curriculum, states that have adopted

these standards are doing a disservice to their schools. Instructors are being set-up for failure because the standards are demanding the inclusion of concepts where a limited scope of research exists to justify the best practices to teach it.

Even more problematic for the communication discipline is the fact that the roll out of standards is encouraging the instruction of them by unqualified individuals. Communication scholars generally agree that communication concepts should be taught by instructors with disciplinary training (Dannels & Gaffney, 2009; Kahl, 2014; Morreale et al., 1993). The lack of significant findings suggests that proponents of communication across the curriculum, regardless of the instructor, are correct in that anyone can teach the skills of our discipline. Moreover, the idea behind the CCSS (Common Core State Standards Initiative, 2017a), the Association of American Colleges and Universities' (2014) LEAP initiative, and the Social Science Research Council recommendations (Broeckelman-Post & Ruiz-Mesa, 2017) is that the skills identified by these groups should be taught across the curriculum. As Dannels and Gaffney warned, teaching communication skills across the discipline establishes the idea that anyone can teach those skills. While standards have championed the inclusion of communication at the high school and college level (Strawser, 2015), those same standards have placed the instruction of communication in jeopardy as well. Communication experts must continue to stress that communication skills, just like the content and skills of every other discipline, must be taught by highly qualified individuals.

Regardless of the problem with standards, they are here to stay. The result is that basic course directors and high school communication instructors have their own role to play in developing communication curricular at both levels. Currently, overlap exists between the two course. Wright et al. (2018) deconstructed the CCSS and applied the existing curriculum of a

high school and college level basic communication course. The authors found through their content analysis that about 40% of the standards were covered at both levels. If the results of this study are correct, then curriculum development must return to the drawing board. However, if the results of this study are inaccurate, the overlap between the two courses must be eliminated as students that go beyond high school may have already covered those essential concepts. Regardless, basic course directors and high school faculty must work together to re-imagine the basic communication course at each level.

Limitations

Regardless of how carefully a study is designed, limitations on the results of the study exist. Often the design of a study provides limitations to the way in which the results can be interpreted. The current study employed a simple design where participants were recruited as a convenience sample, asked to respond to a series of self-reported scales, and finally answer some basic demographic variables. The independent variable was the high school oral communication experience broken into six different categories. The study only examined students in their second semester of college at one data point. While the sample was large enough to generalize the results, the data collected do not represent the longevity of the results.

The first limitation of the current study is the sample of participants. The sample was large enough for the findings of this study to be generalizable to the general population. However, several issues with the sample exist. The participants are all students at one, large Midwestern university that had completed a semester of college. With the variables measured in this study, a single semester of college may be enough to be a mediating factor, erasing any difference high school instruction may have on the measures. The sample was collected as a convenience sample, resulting in female participants being oversampled as well as white

students. A follow-up study should be conducted examining a random sample of participants that are chosen, so that the sample is larger and representative of the general population.

Moreover, the sample excludes individuals from a variety of backgrounds that may have allowed for significant results to emerge. The entire sample came from one four-year university. Students that do not graduate high school, students that graduate and go onto a two-year community college or technical school, and students that did not survive their first semester of college were not able to be surveyed. In examining the mean scores for the dependent variables, no category within the independent variable had a mean score of less than three on a 5-point Likert scale. The students that were excluded from the study may have told a vastly different story than just the members of the sample that was collected. While the completion of a high school diploma and attending a four-year institution seem to be expected by all students, not all are afforded the opportunity to continue their education beyond high school.

Additionally, the convenience sample was recruited through a research board where students are given extra credit for completing surveys. Some participants that took the survey were further than one semester into college. Others were enrolled in a special section of the basic communication course designed for teacher education majors. Considering that the participants that were actually surveyed may have a different life experience than was the goal of this survey, the results of the current study may be inaccurate. A research design that could sample students at the conclusion of their high school career may provide a more accurate snapshot at the true impact their level of oral communication experience has on the outcomes measured in this study. Collecting data at the end of high school could also help students accurately track their high school oral communication experience. As a result, researchers could identify the category of the independent variable that best suits each participant.

Some participants in the current study were not eligible to take the survey. As participants were recruited using a research board, some individuals took the survey even though they were not currently enrolled in the college-level basic communication course. One participant reported their current age to be 54 years old. Clearly, an individual that is 54 years old may have more life experience and as a result test differently on the measures in this study. Data were run that eliminated the outlier from the sample and no new significant results emerged. Other explanations for a lack of significant results may have been simply survey fatigue. The survey instrument consisted of 108 items. Considering that participants were taking the survey to earn extra credit for a communication course, their investment in adequately answering such a long survey may have limited the ability for useful data to be found.

The variables in the current study do little to address the full picture of communication skills that employers want to see in their employees. The justification of the college-level basic communication course uses many of the variables that were measured in this study including critical thinking, information literacy, and communication apprehension. Peer-reviewed journals and popular press pieces continue to emphasize a need for strong communication skills to be a productive member of the workforce and society (Morreale et al., 2017). Moreover, business leaders have identified skills such as speaking extemporaneously, audience analysis, and establishing credibility to be essential in the workplace (Hooker & Simonds, 2015). While the variables in the present study are important to developing a well-rounded student and have been studied at the college level, other skills that are directly addressed in a high school or college-level basic communication course are not addressed. Without addressing those factors, the findings of this study only demonstrate a fraction of the role a communication course can play in the life of a student.

Another complication with the sample is that only nine of the 109 participants that filled out demographic information had some type of extra-curricular speech experience. The more immersed an individual is within the study of communication, specifically through the extra-curricular speech and debate activity, the higher their level of critical thinking (Allen et al., 1999). Additionally, speech lab experiences can reduce levels of communication apprehension (Dwyer et al., 2002). Considering the correlation between critical thinking, communication apprehension, and the other dependent variables, examining the extra-curricular involvement component should have yielded significant results. A sample that has more participants with such experience would allow for the examination of the impact of extra-curricular speech experience on these same college outcomes.

Moreover, the design of the independent variable may have prevented significant findings from emerging in the first place. The independent variable asked participants to identify their high school oral communication experience based on six categories including taking a required course, having an optional elective course, units of speech across multiple English courses, a single unit of speech in one English course, being required to give presentations without training, and no training in communication skills. These categories were determined based upon the curricular realities within a single state. While most participants attended high school in that state, they may have misunderstood the question, not remembered their own experience with communication, or misinterpreted the phrasing of the response options. Due to a lack of clarity in the answer options, participants may have misidentified themselves. As a result, the findings of this study may not be as accurate as they could have been with clearer response options.

The number of participants identifying themselves within each type of high school oral communication experience was also inconsistent across the sample. During data analysis, the six

categories were collapsed to three with the goal of having balanced numbers of participants in each category. However, collapsing those categories obscured the significant finding in information literacy because the categories of required communication course and elective communication became one category. Due to the range in sample size for each category of the independent variable, statistical power may not be sufficient for significant results to emerge. However, the results also demonstrated no indication of a Type II error either. One indicator of a Type II error would be a large effect size statistic. Across all of the one-way ANOVA tests, the effect sizes were low. While the statistical power within this study may have been low, nothing in the results of the study suggested that the results were inaccurate.

The conceptualization of the scales utilized in this study may have presented problems with the findings as well. Information literacy is an excellent example. The scale used from Kuhlthau et al. (1990) conceptualized information literacy as the ability to utilize library resources. While that is one important element of information literacy, it ignores other important factors such as timeliness, credibility, and bias of researched sources. By only examining the variables in a limited manner, the results are unable to demonstrate the full extent to which participants are truly versed in that variable. For the present study, the self-report scale was selected due to the length of the survey and for ease of analyzing results. A research design where information literacy is the only variable could use a variety of methods to more holistically assess information literacy.

A final limitation in the design of the current study was that the scales used were all self-reported and perception scales. While content specific and practice scales exist for the variables that were tested, the one-time capturing of data made those scales less desirable for use. One such test existed for information literacy. Meyer et al. (2008) tested the information literacy

ability of participants in a pre/post-test design. Thus, the researchers found that their information literacy intervention worked because of the content test. The newly developed scales for fake news identification and speech preparation are the first of their kind. Specifically, the speech preparation scale was not ideal. The final scale violated loading criteria on the EFA and only produced minimally acceptable reliabilities on the second subscale. By only asking participants what they think about their ability to execute a skill is different than asking them to demonstrate that same skill. The scales used in the present study may not have actually measured the concept that they were intended to measure.

Future Research

As with any research study, this should only be the beginning. The current study examined relationships between several variables and a participant's high school oral communication experience. While some variables, such as critical thinking (Mazer et al., 2007), information literacy (Meyer et al., 2008), and communication apprehension (Dwyer et al., 2003) have been researched within the context of a basic communication course, others have not. In many ways, this study should act as a pilot study for examining the impact of high school oral communication skills on grit, speech preparation, and the identification of fake news. As a result, several areas of future research emerge.

Additionally, future research should focus on the high school setting instead of the college setting. Out of the research pooled together for this study, only a few (Dwyer et al., 2003; Kahl, 2014; Kovalik et al., 2013) examined the high school setting specifically. While colleges may have different requirements and approaches from one campus to the next, the liberal arts education usually has the goal of preparing a well-rounded student. On the other hand, high school classrooms differ substantially. Even within the field of communication, states take vastly

different approaches such as that of Texas (Texas Education Administration, 2015), Missouri (Missouri Department of Elementary and Secondary Education, 2017), and Illinois (Illinois State Board of Education, 2013). The approaches, and subsequent argument, to including oral communication in the classroom setting will never have a one-size fits all approach. Research directly in the high school setting will give communication experts more ammunition to justify the teaching of the course at the high school level. Surveying high school students at the end of their high school career could also make a future study more experimental in nature as participants would be easily identified based upon the structure of communication curriculum at the school that they attended. While high school students are not as easily accessible as college students, we cannot know what is best practice if we are not looking at high school classrooms.

Considering the simplistic design of the current study, future research should attempt to measure the same, or at least similar, variables with a different research design. In addition to surveying students at the end of their high school career, the design should be more experimental in nature. Perhaps the independent variable of high school oral communication experience could be simplified to two categories concerning whether they did or did not have oral communication coursework. The independent variable may also need to clarify whether or not an individual that had the opportunity to take an elective communication course actually took it or not. Moreover, examining an entire group of individuals that had extra-curricular speech and debate experience versus a group that had none would be beneficial as well. Regardless of how the independent variables are measured, the participants in the sample need to be expanded to beyond just individuals at one four-year university. Individuals that did not go onto community college or that are currently at a community college would provide new insight into the relationship between high school oral communication experience and the measures within this study.

Fake news research must be expanded to help digital natives better navigate the online world. While the current study laid the groundwork for the development of self-report scales, students need instruction to develop their skills in identifying fake news from real news. McGrew et al. (2017) utilized a research design where participants were shown one example of a real news source and one example of a fake or sponsored news source. Future research should build upon the work of McGrew et al., in the high school setting, to adequately assess whether students have developed skills to identify fake news. Once research models have been created and implemented, the next step is to follow the call of Wineburg et al. (2016) to create models to teach students how to identify fake news from real news. Future research must continue to not only assess student skills, but also to ensure that educators are prepared to help students develop their skills as well.

After expanding the size and scope of the sample, future research should hope to examine longitudinal effects of any basic communication course on the variables in this study, especially communication apprehension. Several researchers have called for expanded research on the variable(s) within their study (Crede et al., 2017; Hodis & Hodis, 2013). Often, for convenience, researchers will only capture data at one, or maybe two points in time. With complex variables, such as critical thinking, information literacy, identification of fake news, speech preparation, communication apprehension, and grit, an individual's level may ebb and flow over time. Examining these variables over the series of years could demonstrate the longevity, or lack thereof, of a basic communication course at the high school or college level. The results of such a study could prove to bolster the argument for the inclusion of a basic communication course into the curriculum of a high school or college across the country.

With the current state of communication education in the United States, communication pedagogy research must occur. With the loss of certification, juxtaposed with the Common Core still emphasizing communication skills, unqualified instructors are currently teaching students communication skills without knowing the best strategies to teach the content of a communication course (Jennings, 2010). Recently, the Central States Communication Association has launched a journal called *Communication Pedagogy* where the goal of the journal is to publish communication research focused on the best practices in the field. While this is a landmark achievement, it does not answer the calls of Book (1989) and Hunt et al. (2014) for a commitment to researching communication pedagogy. If the field as a whole fail to answer these calls, the instruction of communication skills, outlined in the CCSS, LEAP, and SSRC standards, will continue to deteriorate.

Furthermore, the pivotal role of communication apprehension warrants further investigation. When comparing the relationship between variables, communication apprehension had a significant relationship with critical thinking, information literacy, speech preparation, and grit. Communication apprehension has already been examined from a variety of perspectives and with a variety of variables. The current study suggests that research on communication apprehension may need to continue. Rather than simply focusing on the efficacy of an intervention (Hunter et al., 2013; Rubin et al., 1997; Strawser et al., 2017), future research should examine communication apprehension as a mediating variable within larger contexts. Perhaps the strongest argument to make for justifying the inclusion of an oral communication course at any level would be the reduction in communication apprehension and its ability to improve a student's overall academic performance.

Finally, the development of scales done in this study suggests that both the concepts of identification of fake news and speech preparation require more research. These occur in two different manners. First, the identification of fake news scale seems to be ready for future research. The current study generated a multidimensional scale with respectable reliabilities for the overall scale as well as each subscale. However, speech preparation presented a vastly different narrative. The final solution did not have a strong factor structure. The EFA final solution was not ideal, and the reliability for the *Topic Interest* subscale two was only minimally acceptable. Several items that were eliminated as a part of the EFA were problematic as they went against the conceptualization of the scale as a result of Witt and Behnke (2006) which examined the speech delivery style and its impact on communication apprehension. Future research needs to reexamine the structural concept of speech preparation and develop a new scale to test it.

The scales of the current study were also all self-perception scales. Future research should focus on the development of content based scales for each variable rather than relying solely on self-perception scales. The first step is locating the competency of a given concept. While communication apprehension (McCroskey, 1993) and grit (Duckworth et al., 2007) have concrete conceptualizations, critical thinking, information literacy, the identification of fake news, and speech preparation all have contested definitions. The first step to establishing a content-based scale would be to identify the content competency of each concept (Dance, 2002). Having a content based scale would also mean that the execution of the study may have to happen before and after a specific intervention rather than just a one-time data collection at any point in time. Regardless, if future research was able to use a stronger study design, examine

each variable in a more careful manner, and use stronger scales, the results could be beneficial to the justification of the basic communication course across the board.

Conclusion

As communication education in the high school classroom continues to erode, and as extra-curricular speech and debate budgets continue to crumble, justifying the teaching of oral communication at the high school level is essential. While this study found few significant results, the lack of significant findings spoke volumes. The findings of this study largely conflicted with the existing body of literature, which suggested that a high school oral communication course would have significant effects on critical thinking, information literacy, identification of fake news, communication apprehension, speech preparation, and grit. In fact, the only significant finding from the current study emerged between a required oral communication course and having the option to take an elective communication course on the information literacy scale. While this study was not without its flaws, the dismal state of communication education at the high school level may suggest that other disciplines have stepped in to pick up the slack left by a communication course.

Some significant findings did occur when examining the relationship between the dependent variables. Significant, positive relationships emerge between critical thinking and information literacy, critical thinking and grit, and information literacy and grit. Communication apprehension was significantly and negatively related to critical thinking, information literacy, speech preparation, and grit. The relationship between these variables has implications for how they are approached in the classroom setting. While each variable may have been examined on its own, through our new knowledge of their relationship, future research can focus on these interactions in the classroom setting. Instructors can also plan instruction that develops critical

thinking and information literacy as an example. The most interesting finding is the relationship between communication apprehension and four other variables. Perhaps communication apprehension should be studied as a mediating variable with other classroom outcomes.

Communication apprehension may be the gateway to improving skills across the curriculum.

Since the release of *A Nation at Risk* (National Commission for Education Reform, 1983), the landscape of education has changed dramatically. A call to improve upon the level of education of a country is not inherently a bad concept. Unfortunately, the reality has been the attack of all fields not within the STEM field, including communication. While modern standards, such as the CCSS, LEAP, and SSRC communication competencies all have a goal of returning the focus onto communication skills, they may be too little too late. Jennings (2010) warned of a lack of qualified communication teachers entering the classroom as a result of the *No Child Left Behind Act*. Unfortunately, this study demonstrates that the outcome measures that have been proven to be effective at the university level may not be translating to the high school level in the same way.

The lack of consistency across states also does not help the argument that has been made. Hall et al. (1999) found at least half of all states required communication to be included in their curriculum, but only two states required a separate stand-alone course. Problematically, Streiff et al. (2012) found that only 21 states offered licensure in communication. Regardless of the approach taken, whether it be the Texas, Missouri, or Illinois models of communication education, most states do not have highly qualified teachers in the communication classroom. The current study hoped to illuminate and bolster the best argument to make for creating consistency across the United States. The largely non-significant results prove that the calls of Book (1989) and Hunt et al. (2014) must be answered. Research should be conducted to ensure

that the state of communication education in the K-12 setting no longer fades away into the darkness. Instead, the communication community must take a stance, much like the communication scholars that broke away from the National Council for the Teachers of English (Berko et al., 1998). The standards are calling for it, the people are calling for it, now communication scholars must also call for strong communication education at all levels of academia.

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APPENDIX: SURVEY INSTRUMENT

Grit-S Scale

Directions: Here are a number of statements that may or may not apply to you. There are no right or wrong answers, so just answer honestly, considering how you compare to most people. Rate each statement on a scale from 1 (*not like me at all*) to 5 (*very much like me*).

1. I have been obsessed with a certain idea or project for a short time, but later lost interest. [R]
2. I have difficulty maintaining my focus on projects that take more than a few months to complete. [R]
3. I often set a goal but later choose to pursue a different one. [R]
4. New ideas and projects sometimes distract me from previous ones. [R]
5. I finish whatever I begin.
6. Setbacks don't discourage me.
7. I am a hard worker. I don't give up easily.
8. I am diligent. I never give up.

Critical Thinking Self-Assessment (CTSA)

Directions: Think about times when you have seen or heard professionally-produced articles, stories, videos, books, speeches, or sermons that were designed to persuade you to believe something. Consider only those times when you paid attention. Using these recollections, and recollections about your own writing and speaking, please answer the following questions as honestly as you can. Rate each statement on a scale of 1 (*never*) to 5 (*always*).

1. When I read or hear items like those described above, I am able to get the point.
2. I am able to follow a fairly complex line of argument, so that I can tell which things are offered in support of which other things, and how it's all supposed to fit together.
3. After reading or hearing someone's line of argument on an issue, I can give an accurate, detailed summary of how the line of argument went.
4. I feel confident about deciding whether it is reasonable to believe a piece of evidence or a reason used in support of a conclusion.
5. I can tell when there are logical holes in the reasoning that is supposed to connect a conclusion and the reasons being used to support that conclusion.
6. I know how to tell the difference between a credible and non-credible source of information or ideas.
7. I look for the hidden assumptions that are often present in an argument.
8. When I read reliable statistics that show two factors rise and fall together, I recognize that it doesn't necessarily mean one caused the other.
9. When I evaluate someone else's line of thinking, I consider their arguments rather than just deciding whether I agree with their conclusions.
10. I know how to go about deciding how strong an argument really is.
11. I am able to come up with acceptable reasons or evidence to support my conclusions when I write or give organized oral presentations.

12. When I write an essay or give a talk I try to respond carefully to possible significant objections to my positions.
13. I am able to construct an organized, logical argument that stays on topic.
14. When I present an argument for a position, other people can follow what I'm saying
15. When there are good arguments for contrary views on a subject, I know how to evaluate them and come up with the best conclusion.
16. I am willing to talk the time and make the effort to think through an argument carefully before deciding what I think about it.
17. I enjoy thinking through an issue and coming up with strong arguments about it.

Speech Preparation Scale

Directions: For the next set of questions, consider a speech you have given since the end of high school. The speech could have been for a course, a special occasion, or any other setting. Rate the statements below on a scale from 1 (*strongly disagree*) to 5 (*strongly agree*).

1. I felt confident delivering the speech.
2. I felt passionate about the topic of the speech.
3. I delivered the speech from memory.
4. I delivered the speech using prepared notes.
5. I delivered the speech from the written manuscript.
6. I delivered the speech with little or no preparation.
7. I did not feel confident in the delivery of my speech. [R]
8. I did not care for the topic of the speech. [R]
9. The topic of the speech was chosen for me. [R]
10. I have little interest in giving speeches. [R]
11. I have a high interest in giving speeches.
12. I prefer to give speeches where I choose the topic.

Information Literacy Scale

Directions: Consider a topic you researched for a project last semester or a topic you would like to study this semester. Assume you have already selected the topic. The questions below will ask you to reflect upon the research process regarding that topic. Please rate each statement on a scale of 1 (*strongly disagree*) to 5 (*strongly agree*).

1. I have a clear focus for my topic before using library resources.
2. I find it helpful to talk to friends and family about my topic.
3. My thoughts about my topic change as I conduct further research.
4. I like to find a list of sources I will need first and then read them.
5. The library has the resources I need.
6. A focus for my topic emerges as I gather more information.
7. The information that I find at the beginning of a search is confusing and doesn't fit in with what I know.
8. I take detailed notes from every source of information I look at.
9. I ask the librarian for direction in locating materials in the library resources.
10. A search is completed when I no longer find new information.

11. All the sources of information I need are available through the library's website.
12. A search is completed when I find enough information.
13. I talk to people who know about my topic.
14. I become more interested in a topic as I gather information.
15. The information I need is in unexpected places in the library's resources.
16. I make several trips to the library to research a topic.
17. I am successful in using library resources.
18. I ask the librarian for advice on exploring a topic.
19. I ask the librarian for assistance in identifying materials.
20. I need materials other than books.

Fake News Scale

Directions: The next section examines fake news and source credibility. Rate the statements below on a scale of 1 (*strongly disagree*) to 5 (*strongly agree*).

1. Generally, I feel confident in my ability to discern fake news from real news.
2. When I see suspicious news appear in my social media feed, I compare the information with sources I know to be reputable.
3. I do not feel confident in my ability to tell the difference between fake news and real news. [R]
4. I do not confirm information I read from news sources. [R]
5. I correct friends when they cite a fake news source.
6. I correct friends more than total strangers when they cite a fake news source.
7. Generally, I am troubled by the influence fake news has.
8. I correct total strangers more than friends when they cite a fake news source. [R]
9. I do not correct friends when they cite a fake news source. [R]
10. I do not worry about the influence of fake news. [R]
11. I can easily identify a fake news source.
12. I am confident in my ability to determine the credibility of a source.
13. Sources that lack an author or date are credible. [R]
14. I feel unsure whether or not a source is credible. [R]
15. Sources that clearly identify an author and publication date are credible.
16. I often confuse the difference between fake news and real news. [R]
17. After seeing the same or similar information across several sources, I am confident in the credibility of the information.
18. I blindly trust some sources, regardless of the information they publish. [R]

PRCA-24

Directions: The following 24 statements concern feelings about communicating with others. Please indicate the degree to which each statement applies to you from 1 (*strongly disagree*) to 5 (*strongly agree*).

1. I dislike participating in group discussions.
2. Generally, I am comfortable while participating in group discussions. [R]

3. I am tense and nervous while participating in group discussions.
4. I like to get involved in group discussions. [R]
5. Engaging in a group discussion with new people makes me tense and nervous.
6. I am calm and relaxed while participating in group discussions. [R]
7. Generally, I am nervous when I have to participate in a meeting.
8. Usually, I am comfortable when I have to participate in a meeting. [R]
9. I am very calm and relaxed when I am called upon to express an opinion at a meeting.[R]
10. I am afraid to express myself at meetings.
11. Communicating at meetings usually makes me uncomfortable.
12. I am very relaxed when answering questions at a meeting. [R]
13. While participating in a conversation with a new acquaintance, I feel very nervous.
14. I have no fear of speaking up in conversations. [R]
15. Ordinarily I am very tense and nervous in conversations.
16. Ordinarily I am very calm and relaxed in conversations. [R]
17. While conversing with a new acquaintance, I feel very relaxed. [R]
18. I'm afraid to speak up in conversations.
19. I have no fear of giving a speech. [R]
20. Certain parts of my body feel very tense and rigid while giving a speech.
21. I feel relaxed while giving a speech. [R]
22. My thoughts become confused and jumbled when I am giving a speech.
23. I face the prospect of giving a speech with confidence. [R]
24. While giving a speech, I get so nervous I forget facts I really know.

Demographic Items

1. What is your sex? (Male, Female, other, prefer not to answer)
2. What is your year in school? (First-year, Sophomore, Junior, Senior, Graduate Student)
3. What is your race/ethnicity? (African American, Native American, Caucasian, Hispanic, Bi-racial/Mixed, Asian/Pacific Islander, Other)
4. Which of the following best describes your classroom experience in high school? (I was required to take a semester-long speech course, I was able to take a semester-long elective speech course, I had a unit of speech each year in an English class, I had one unit of speech in one English class, I was required to give presentations, but received little to no instruction on how to delivery those presentations, I received no instruction on communication skills.)
5. If yes to previous question, did the instructor seem like an expert in that content area? (yes, somewhat, no)
6. If yes to question 5, what was the instructor's primary educational background? (English, Communication, Both, Other, I don't know)
7. In high school, I participated in an extra-curricular speech experience including: (Check all that apply: speech team, debate team, 4-H, American Legion Speech contest, other, none).
8. What type of high school did you attend? [public school in Illinois, private/prep school in Illinois, charter school in Illinois, public school outside of Illinois in (text box), private/prep school outside of Illinois in (text box), charter school outside of Illinois in (text box answer)]
9. What year did you graduate? (text/number box answer)