Assessing Undergraduate Business Students' Oral Communication Apprehension: Implications of Stakes and Situations

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Abstract

Modern businesses place a premium on employees' oral communication skills. Business schools are meant to develop future employees and leaders with the requisite skills for success. Industry representatives, however, consistently express dissatisfaction with business graduates' oral communication skills. There appears to remain a gap between business students' oral skills and marketplace demands. Research demonstrates that among many possible factors, oral communication apprehension (OCA) appears a significant contributor to ineffective oral communication. OCA may also significantly impede oral skills *development* by impacting the core aspects of spiral curriculum, an educational theory aimed at the processes of higher education. The PRCA-24, the most utilized OCA measurement tool, assesses individuals' trait-like OCA levels across common oral communication settings (e.g., public speaking, interpersonal, group, and meeting) as well as their context (e.g., state) OCA levels within each setting. This study examines whether OCA is significantly sensitive to situational variables and therefore operates as a state. If so, acquiring business students' situational OCA may benefit educators as complimentary data to PRCA-24 assessments. This study also examines business and non-business undergraduates' self-reported OCA levels across general public speaking, interpersonal, and group/meeting oral communication settings as well as those in respective high (and low) stakes situations meant to reflect the stress-inducing scenarios they will likely experience on the job after graduation. Results indicate OCA is significantly sensitive to situational variables (e.g., stakes). Results are discussed in the framework of providing more relevant measurements of business students' OCA levels to help educators fill the oral skills gap.

Table of Contents

List of Tables

Introduction

Communication has been critical to business for thousands of years (Hagge, 1989; Redding & Tompkins, 1988). Specifically, oral communication skills remain essential for success in today's dynamic, globalized, technologically advanced marketplace (Durocher, 2009; Haas, 2010; Papadopoulos & Heslop, 1993; Ramsey, 1994; Ricks, 1993; Russ, 2012; Terpstra & David, 1991; Victor, 1992). As a result, employers place a premium on oral communication skills in recruitment, selection, and promotion decisions (ACNielsen, 1998; Buckley, Peach, & Weitzel, 1989; Crosling & Ward, 2002; Gilsdorf, 1986; Harris, 1994; Henry, 1995; Ingbretsen, 2009; Kane, 1993; Morreale & Pearson, 2008; Pittenger, Miller, & Mott, 2004; Plutsky & Wilson, 2000; Scheetz & Stein-Roggenbuck, 1994; Thompson & Smith, 1992; Wardrope, 2002).

Many business school leaders and The Association to Advance Collegiate Schools of Business (AACSB) agree with the need to prepare business students for these oral communication demands in the modern workplace (Association to Advance Collegiate Schools of Business, 2010; English, Manton, Walker, & Brodnax, 2008; Wardrope, 2002). This agreement is reflected in business educators' inclusion of oral communication skills development in their programs (Ameen, Guffey, and Jackson, 2000; Knight, 1999; Russ, 2012; Sharp & Brumberger, 2013). Such inclusion makes curricular and pedagogical sense because communication is not only a specific set of skills, but also a central driver in the development of other critical skills (Hassall, Ottewill, Arquero, & Donoso, 2000). For instance, research demonstrates that oral presentation skills enhance students' critical thinking and development (Maes, Weldy, & Icenogle, 1997; Ulinski & O'Callaghan, 2002).

Business students also appear to agree with the importance of acquiring oral communication skills for employment (English, Manton, Sami, & Dubey, 2012; Gustafson,

Johnson, & Hovey, 1993; Maes, Weldy, & Icenogle, 1997; Swanson & Swanson, 1990; Ulinski & O'Callaghan, 2002). The importance of effective oral communication for all students is reflected in the UK Dearing National Committee of Inquiry into Higher Education's identification of communication as a, "key to the future success of graduates whatever they intend to do later in life" (Dearing, 1997, p. 133). Unfortunately, research indicates industry recruiters continue to be dissatisfied with business education, claiming business schools are not supplying competent communicators (Applebome, 1995; Azevedo, Apfelthaler, & Hurst, 2012; Business World, 2005; Gray, 2010; Job Outlook, 2003, 2011; Kemp, 2009; Porterfield, 2004; Stevens, 2007; Yates, 1983). With employers, business educators, and students agreeing on oral communication skills' importance in the workplace contrasted with employer's dissatisfaction with graduates' oral skills, a gap continues between business education and the marketplace.

There exists, however, little knowledge concerning impediments to improving students' oral communication skills (Hassall et al., 2000; Stanga & Ladd, 1990). Although there are likely many cultural, social, psychological, educational, and other factors that contribute to poor oral communication competency, this study examines a factor scholars have consistently documented to negatively influence oral communication - oral communication apprehension (OCA) (Byrne, Flood, & Shanahan, 2009; Gardner, Milne, Stringer, & Whiting, 2005; Hassall et al., 2000). Research indicates a negative relationship between moderate to high OCA and oral communication competency (Allen & Bourhis, 1992, 1996; Chesebro et al., 1992; Hassall et al., 2000; McCroksey, 1977; Rosenfeld, Grant, & McCroskey, 1995; Rubin, Rubin, & Jordan, 1997; Spitzberg & Cupach, 1984). When OCA's impact is coupled with its prevalence (e.g., high levels in 20% of the U.S. population and moderate levels in 50%), this phenomenon arguably deserves focus.

This author suggests OCA may also impede students from *acquiring* oral communication skills by impacting the foundational aspects of spiral curriculum. This theoretical perspective suggests learning best occurs when basic skills are acquired first, followed by increasingly challenging practice with expert feedback. OCA appears, however, to disrupt these essential learning stages. For example, reducing OCA may be a *prerequisite* to improving oral communication skills (Allen & Bourhis, 1996; Byrne et al., 2009; Hassall et al., 2000).

In light of OCA's prevalence and potential impact on oral skills education, it may help educators to acquire assessments of their students' OCA profiles (Byrne et al., 2009). In turn, this author argues that specific, marketplace-relevant OCA assessments are beneficial for educators. James McCroskey, the preeminent OCA scholar, never intended the widely used PRCA-24 to measure OCA in specific oral communication situations. While valuable, his trait-like conceptualization of OCA, along with the PRCA-24's general measurements, may not provide business educators the *situational* OCA assessments pertinent to their students' future employment that may prove valuable for business oral skills education.

Undergraduate business and non-business students were surveyed to acquire both their self-reported general OCA levels (e.g., PRCA-24 scores) and their self-reported OCA levels *within* high and low stakes oral communication situations mean to reflect workplace stakes. This study contributes to the OCA literature by demonstrating that business students' OCA levels are significantly sensitive to situational variables (e.g., stakes). In addition, this study contributes to business education by integrating these results with this author's explication of OCA's potential disruption of the spiral curricular educational process of developing oral skills, thereby demonstrating how providing business educators contextually (e.g., state) sensitive OCA assessments may assist them in better matching oral skills pedagogy to practice.

Related Literature

Oral Communication in Business

Significance.

People have been communicating in organizational settings for thousands of years (Hagge, 1989; Rawnsley, 1892). Modern business still relies on notions of effective oral communication culled from the days of Cicero and Aristotle (Hagge, 1989; Thomas, 1998). All throughout the recent twentieth and twenty-first centuries, oral communication has continued to play a central role in the effectiveness of organizations (Eckhouse, 1999; Finlay, Sartain, & Tate, 1954; Johnston, Reed, Lawrence, & Onken, 2007; Penrose, 1976; Thomas, 1998; Traweek 1954). "Oral communication is as integral to and as powerful in the workplace as it is in the societal life of humans," (Crosling & Ward, 2002, p. 45).

The new economy of the Information Age shifted the Industrial Age's focus of manufacturing durables to creating and exchanging information. More than 40% of the modern workforce is comprised of knowledge workers (Difrancesco & Berman, 2000) who engage in oral communication, the process by which information is created and exchanged. As such, oral communication facilitates reaching individual and organizational goals, including financial performance (Johnston, et al., 2007), job satisfaction and job performance (Falcione, McCroskey, & Daly, 1977; Pettit, Goris, & Baught, 1997; Pincus, 1986), organizational commitment (Putti, Aryee, & Phua, 1990; Varona, 1996), productivity (Clampitt & Downs, 1993), group productivity and satisfaction (Johnston, et al., 2007), managerial success (Bigelow, 1991; Rassmussen, 1991), and sales performance (Boorom, Goolsby, & Ramsey, 1998). For organizations to function efficiently, their members must communicate well (Crosling & Ward, 2002; Scott, McCroskey, & Sheahan, 1978; Smart & Featheringham, 2006).

While written and oral communication are both vital to business, this study focuses on the foundational aspects of *oral* communication for the workplace. This author also grounds the choice to focus on oral communication in the changing nature of business demands (Russ, 2012). Whereas educators used to equate "business communication" with writing (Glassman & Farley, 1979), Wardrope (2002) noted that the modern workplace suggests, "topics other than writing may be equally important for the business communication course" (p. 61). This shift towards equally addressing written and oral communication in business education (Russ, 2012) was first evident in the business communication education audit conducted by Wardrope and Bayless (1999). Although the marketplace that business educators prepare their students for is transforming rapidly, the need for business graduates to possess effective oral communication skills in the contemporary globalized, mediated, and dynamic business environment has not lessened.

Marketplace environment.

Technology, along with its remarkable pace of innovations, is a key driver of globalization and communication as businesses and people connect digitally across borders, cultures and economies. Communication technology is also becoming more portable, allowing people to transport and integrate work and leisure. These changes require that employees possess a much broader array of oral communication skills as they face the challenges and opportunities of mediated communication in the workplace (e.g., video conferencing, virtual teams, etc.) alongside traditional interactive settings (Haas, 2010). For purposes of scope, this thesis will not address mediated oral communication, instead focusing on the foundational oral communication skills required in *both* traditional and mediated settings. Whether people speak by Skype on video or in person, their interaction still relies on effective oral communication.

Settings: public speaking, interpersonal, and group.

There are three common settings in which people orally communicate: (1) public speaking (presentational); (2) interpersonal; and (3) group. While these settings are generalized in the human communication experience, "workplace oral communication … reflects the pervasive and powerful role of language and communication in human society" (Crosling & Ward, 2002, p. 43). Furthermore, since effective communication is arguably dependent on context and thereby embedded in a specific discourse community (Bizzell, 1989), this study addresses these three common settings within the workplace due to this study's focus on helping to close the gap between business oral skills education and marketplace demands. While businesses engage in mass communication to large audiences, again due to scope and the author's background, this thesis focuses on individuals' oral communication in organizational settings. Moreover, this author recognizes that speaking and *listening* are both vital aspects of oral communication necessary for the effective creation, exchange, and sharing of meaning.

Regarding public speaking, there still exist numerous situations in which business professionals are expected to address audiences, including conferences, annual and stakeholder meetings, sales presentations, and more. Many professional presentations are regarded as critical avenues for not only representing organizations, but also for managing the perceptions of the organizations' stakeholder audiences (Gardner & Avolio, 1998; Harvey, 2001).

Interpersonal oral communication skills also remain vital in mediated and non-mediated business interactions. For example, potential employees must exhibit these skills in the selection process to gain employment. Recruiters consider effective oral communication skills important for new graduates (Crosling & Ward, 2002; Gray & Murray, 2011), to some extent even more so than GPA (Ayres, et al., 1998). Once on the job, interpersonal skills are paramount for building

relationships and exchanging information and meaning (Acitelli, et a., 2003; Haas, 2010; McIntosh, Luecke, & Davis, 2008; McPherson, 1998; Smart & Featheringham, 2006). Oral interactions comprise 25%-50% of employees' workweek (McIntosh, Luecke, & Davis, 2008).

Well-coordinated teamwork, comprised partly of effective oral communication, is also an essential way that organizational strategy and decisions are developed, and performance and productivity are measured (Johnston, et a., 2007; Miller, 2003). Johnston et al. (2007) demonstrated that organizational outcomes, including profitability, are derived from effective interaction within group settings. Intertwined within the working of teams are formal and informal meetings, seen as essential nodes that comprise an organization's communication networks (Bargiela-Chiappini & Harris, 1997). Participating in meeting discussions is important for job success (Crosling & Ward, 2002). Historically, oral communication has been foundational to these interactive team processes that impact organizational results (Roby & Lanzetta, 1956; Ronken, 1951; Johnston et al., 2007).

Whether through speaking to an internal or external audience, or orally interacting with other individuals or groups, "oral communication pervades the workplace and … the jobs of business graduate employees" (Crosling & Ward, 2002, p. 46). In a survey of 24 companies' Human Resources personnel and recruitment coordinators, 95% perceived oral communication as important (or *very important*) for business graduates' promotion and job success, while 87% felt similarly concerning recruitment (Crosling & Ward, 2002). This prevalence and importance of speaking in modern business is another reason for this study's oral communication focus.

Industry requirements.

Many employers either identify and require oral communication competencies in job listings, or allow for the assumption they are required (Job Outlook, 2003, 2011). Employers

and educators have consistently reported for decades that oral communication skills are among the most important competencies business students should possess (ACNielsen, 1998; Azevedo, Apfelthaler, & Hurst, 2012; Buckley, Peach, & Weitzel, 1989; Carnavale, Gainer, & Meltzer, 1990; Crosling & Ward, 2002; Gilsdorf, 1986; Gray & Murray, 2011; Harris, 1994; Henry, 1995; Hildebrandt, Bond, Miller, & Swinyard, 1982; Ingbretsen, 2009; Kane, 1993; Martensen & Grønholdt, 2009; Morreale & Pearson, 2008; Peterson, 1997; Pittenger, Miller, & Mott, 2004; Plutsky & Wilson, 2000; Scheetz & Stein-Roggenbuck, 1994; Thompson & Smith, 1992; Van Horn, 1995; Wardrope, 2002).

The collaborative study, *Are They Really Ready for Work?* (The Conference Board, Corporate Voices for Working Families, the Partnership for 21st Century Skills, and the Society for Human Resource Management, 2006) compiled attributes of a successful employee for the 21st Century workplace. In this survey, executives from over 400 employers ranked oral communication as a vital attribute for employees. Research in the last two decades also supports the importance of oral skills for job search and career success (Krapels & Davis, 2003; Warner, 1995; Zaid & Abraham, 1994). Numerous business disciplines stress the need for oral communication skills including engineering and management science (McEwen, 1998; Norback & Hardin, 2005), marketing (Floyd & Gordon, 1998), finance (Tanner & Cudd, 1999), and accounting (Arquero, Hassall, Joyce, & Donoso, 2007; Gray, 2010; Lee & Blaszczynski, 1999; Siegel, 2000; Tanner & Totaro, 1998). Evidence suggests employers in all industries regard employees' communication skills as, or more, valuable than their technical skills (California State University, 2000; McPherson, 1998; Maes, Weldy, & Icenogle, 1997; Plutsky, 1996).

Business students' perspectives.

Employers expect business school graduates to be competent oral communicators. A survey of students, alumni, and business leaders showed students agreed with employers that communication skills were critical to successful job search (Gustafson, Johnson, & Hovey, 1993). Similarly, Swanson and Swanson (1990) demonstrated business alumni viewed their business communication education as significantly valuable. Around 15 years later, The Conference Board et al. (2006) study demonstrated that 93% of the college student respondents agreed with employers that communication is a "very important" attribute for a potential employee. More recently, in a comparison of the perceptions of undergraduates and graduates in business, English et al. (2012) indicated both groups ranked listening skills as the third highest of 26 attributes. Interestingly, they only ranked "oral expression" in the middle of those attributes.

Business educators' perspectives.

There exists a need across all industries for breadth in communication education and training (Wardrope, 2002). The governing body of many business schools, the American Assembly of Collegiate Schools of Business (AACSB), revised its standards in the mid-1990s to emphasize the importance of oral communication in the business curriculum (AACSB, 2007). A few years later, Wardrope (2002) surveyed 280 business department chairs concerning the significance of 34 oral and written communication skills. The skill, "Make Oral Presentations," virtually tied for the highest rated skill ($M = 4.46$ on 5-point scale), while nearly every interpersonal, group, and meeting oral skill was ranked as *important* or *very important*. Several years later, English et al.'s (2008) survey of AACSB-accredited business school deans generated 44 communication competencies they desired their business students to exemplify.

By the 1990's, numerous business schools began to incorporate some version of communication skills development in their degrees' curricula (Ameen, Guffey, & Jackson, 2000; Knight, 1999). Recently, business communication courses have not only become a staple in many undergraduate business curricula (Russ, 2012), but have also established themselves as important and integral components of those curricula (Du-Babcock, 2006).

Industry reaction.

Unfortunately, business schools have not been keeping pace with employers' demands for new employees' oral communication skills (Ayres, 2001; Gray, 2010; Job Outlook, 2003, 2011; Martensen & Grønholdt, 2009; Van Horn, 1995). Business schools have long been criticized for not building their students' oral communication skills (Applebome, 1995; Kemp, 2009; Yates, 1983). Byrne, Flood, and Shanahan (2009) point out the bulk of research suggests that, despite business schools' inclusion of business communication courses, their students' respective skills are often not improved (e.g., Fordham & Gabbin, 1996; Hassall, et al., 2000; Gardner, Milne, Stringer, & Whiting, 2005). Fortune 500 HR directors reported that business students lacked basic oral and written communication skills (Porterfield, 2004). It is interesting to note that while industry executives and recruiters often distinguish between oral and written communication skills when reporting specific criteria for employees to researchers, they also equally as often do *not* make that distinction, conflating verbal and written skills into the combined title of "communication skills." This author refers specifically to "oral skills" in this document only when the same distinction is made in the literature.

In 2005, the U.S. Department of Labor and Employment, through then Labor Secretary Patricia Thomas, appealed to universities to provide students with the necessary skills to match job vacancies in the U.S. economy, foremost of which were communication skills (Business

World, 2005). Several years later, 100 Silicon Valley employers reported they considered current graduates lacking in communication competencies, including oral communication, while expressing a strong desire for those competencies (Stevens, 2007). Employers cited college graduates' poor oral skills as the reason for their lack of collaborative abilities (Kemp, 2009).

Effective Oral Communication Skills: Oral Communication Competency

Scholars and industry practitioners have argued for many years that people's professional efficacy is linked to their ability to speak and write competently (Russ, 2012). Wiemann and Backlund (1980) analyzed the previous communication competency literature (e.g., Argyle & Kendon, 1967; Argyris, 1962; Dance & Larson, 1972; Duncan, 1968; Goffman, 1959; Hynes, 1971; Ruesch, 1957) to better understand the emerging concept:

> A variety of scholars … suggest that a relationship exists between an individual's ability to use the communication process and his ability to function in society. Accepting this … it may be argued that in order for a person to function effectively in society, that person needs to achieve a certain level of competence in … communication … termed communication competence (p. 186).

There are numerous verbal and nonverbal elements that comprise effective oral communication. The National Communication Association (NCA) dedicated numerous years of focus and resources to work with a host of scholars, practitioners, and organizations to compile an exhaustive list of these oral competency elements. For reasons of space and time, this study will only briefly summarize the NCA-supported findings.[1]

While the NCA-sponsored research identified many specific verbal and nonverbal elements of oral communication competency, the three main components of an effective oral

[1] For a detailed history and analysis of the components of oral communication competency, please refer to the NCA documents *Speaking and Listening Competencies for College Students (SLCCS)* (Morreale, Rubin, & Jones, 1998), and the *Competent Speaker Speech Evaluation Form (CSEF)* (Morreale, Rubin, & Jones, 1998). Both can be found at natcom.org.

communicator summarized by that research are knowledge, skills, and motivation. If, as the literature indicates, industry executives and recruiters desire effective oral communicators, it appears logical to this author and, as previously demonstrated, many business educators and students, that oral skills should be developed in business education. It would then equally stand to reason that in order to develop business students' oral communication competency in an educational setting, the students' knowledge, skills, and motivation concerning oral communication should be increased.

Spiral Curriculum

There are numerous theoretical approaches and philosophies concerning education that focus on any of a number of aspects of the learning environment, including specific pedagogical practices, classroom culture, teacher-student interaction, problem-based activities, application and transfer of knowledge, and more. An increasingly important aspect of the learning environment that is related to educational philosophy is curriculum sequence (Alessi, 2002; Knight, 2001). Curricula have traditionally been viewed as either top down (e.g., begin education with big picture and work down to details) or bottom up (e.g., begin with details and work to broader picture) (Alessi, 2002). There is, however, a third theoretical approach to learning articulated by Jerome Bruner (1960, 1966, 1974, 1996) that sees curricula from a third perspective – "spiral." This author chose to focus on spiral curriculum because of its emerging use in, and unique relationship to, higher education. While this approach has seen increasing use and has been lauded and researched extensively, in practice it is likely very difficult for those in higher education to enact its elements in an ideal fashion.

Knight (2001) sees higher education as mainly concerning complex learning, which includes: long-lasting intellectual disputes; subtlety and nuance of concepts; significant amounts

of information to be organized, stored, and retrieved; and constantly emergent understandings of topics and disciplines. Mirroring other scholars (e.g., Alessi, 2002; Harden & Stamper, 1999; Hixson, Paretti, Lesko, & McNair, 2013), Knight (2001) views the expectation placed on higher education to develop student autonomy as compounding that complexity of learning and therefore highlighting, "curriculum scholars' view that curriculum is more than just content" (p. 369). Hixson, Paretti, Lesko, and McNair (2013) appear to agree, suggesting spiral curriculum:

> Shifts education from a model in which content comes first and application second to one in which learners are engaged in authentic ("real world") applications of knowledge at ever-increasing levels of complexity across a curriculum (p. 3).

Knight (2001) suggests that an implication from this idea that higher education is about complex learning is that curricula needs to be, "coherent and progressive" (p. 370) if it is to sustain such intricate learning. Knight argues that progression means curriculum should be designed so that initial encounters (e.g., for first-year students) are applicable to novices while final year encounters (e.g., for seniors) are likewise applicable to "experts-in-the-making" (p. 370). Furthermore, Dreyfus and Dreyfus (1986) argue that abundant practice is needed if learners are to fine-tune their initial achievements to become more adaptable and masterful. Jerome Bruner (1960, 1966, 1974, 1996), one of the leading figures in education, conceptualized spiral curriculum in a way that addresses these aspects of the complexities of higher education.

Spiral curriculum begins with acquiring basic, component skills, concepts, and ideas introduced at the onset of learning (Bruner, 1960, 1966). The basic skills concerning effective oral communication espoused by McCroskey (1984) and many other scholars would be acquired at this stage. These skills, concepts, and ideas are then revisited, practiced, and connected at increasing levels of difficulty. Each level of learning relies upon previous learning or

knowledge. Finally, these spiraling increases of complexity create broader learner comprehension and connections. Indigenous to all of these stages is the feedback and coaching of experts who can guide student practice to achieve competence or even mastery (Bruner, 1960, 1966, 1996; Harden & Stamper, 1999). In this way, learners develop as a result of interaction with not only the topical concepts, but also with instructors and other students (Bruner, 1974).

While spiral curriculum has seen widespread use, like many theoretical approaches to education and other disciplines, it is not without its detractors. For example, some scholars argue it is not best suited for developing mathematic skills (Jensen, 1990; Snider, 2004). Moreover, like most conceptualizations, Bruner's initial thoughts on spiral curriculum in 1960 advanced and changed by his 1996 edition of "The Process of Education" (Takaya, 2008). The overall foundational aspects of his educational approach, however, arguably remain the same. These foundational elements continue to be researched, refined, and leveraged, whether formally or informally, in numerous higher education disciplines, including engineering (Dibiasio et al., 1999; Lohani et al., 2005), medicine (Davis & Harden, 2003; Harden & Stamper, 1999; Jones & Oswald, 2001), healthcare management (Joyce, 2012), information technology (Bunch, 2009; Cantú & Farines, 2006), online learning (Masters & Gibbs, 2007), and, most significantly for this study, business (Alessi, 2002; Bailey, Oliver & Townsend, 2007; Erwee, 2004; Hallinger & Lu, 2011; Hixson et al., 2013) and teaching communication skills in multiple disciplinary settings (Harden, Davis, & Crosby, 1997; Healy, Matthews, Livingstone, & Foster, 1996; Jones, Higgs, De Angelis, & Prideaux, 2001; Yang, 2008).

Spiral curriculum has been demonstrated to increase students' learning of content, while also simultaneously increasing their skills and motivation for subject matter and learning (e.g., Cantu & Farines, 2006; Dibiasio, Clark, Dixon, Comparini, & O'Connor, 1999). As a result, it

appears a viable educational approach in higher education for increasing individuals' oral communication skills due to its positive influence on the foundational aspects of oral communication competency. With such an apparently effective educational approach for oral skills education available for, and utilized by, business educators and higher education, it would appear that business schools should be able to enact, or at least effectively assist, successful oral skills education. Unfortunately, as demonstrated earlier, a consistent and sizable, yet still undefined, oral skills gap exists between business education supply and industry demand.

Communication Apprehension.

There are likely many factors that can impact the expression or development of any of these main components of oral communication competency, including an individual's family of origin, culture, education, communication feedback, social relationships, prior employment experiences, and more. This author chose to focus on one measurable factor that appears to significantly affect not only individuals' oral communication *expression*, but also their *development* of all three oral competency core components (e.g., knowledge, skills, and motivation) within an educational system that reflects spiral curriculum. For decades, communication scholars have focused on this key, ubiquitous phenomenon that has been demonstrated to seriously degrade effective oral communication.

Communicating is not only a common experience, but also one of the most feared, especially oral communication. This fear is commonly referred to as communication apprehension (CA), or oral communication apprehension (OCA). For this study, the acronym OCA represents instances in the literature where "CA" refers to apprehension concerning oral communication versus writing apprehension (WA) (e.g., Daly & Miller, 1975). The following analysis of relevant literature will begin by reviewing OCA's foundational aspects, focusing

especially on OCA's three domains and their relationship to its impact on individuals' *expression* of their oral skills in the common oral communication settings (e.g., public speaking, interpersonal, and group/meeting). This review will then conclude by examining OCA's impact on the foundational aspects of spiral curriculum (e.g. skills, practice, and feedback), and therefore on individuals' *development* of oral communication knowledge, skills, and motivation.

Foundational aspects.

James McCroskey (1977), the preeminent OCA scholar, offered the most widely used definition of OCA as, "an individual's level of fear or anxiety associated with either real or anticipated communication with another person or persons" (p.78). McCroskey noted people with OCA express that anxiety through any one, or combination, of three dimensions by: (1) thinking negatively (*cognitive*); (2) avoiding, withdrawing from, remaining silent during, or ineffectively engaging in oral communication (*behavioral*); and (3) experiencing adverse physical effects (*physiological*). Glaser (1981) suggested that it is the cluster of these manifestations of OCA that produce the numerous and varying forms of the dysfunction.

Like many other scholars, McCroskey (1977) suggests individuals with moderate to high OCA can manifest these symptoms before, during, or after oral communication, or some combination of the three. McCroskey and Richmond (1987) also identified that people with moderate to high OCA exhibit three common behavior patterns: avoiding communication, withdrawing from communication, and/or disrupting (ineffective) communication.

As demonstrated earlier, the three main components of effective oral communication (communication competency) are knowledge, skills, and motivation. McCroskey's (1984) three elements of effective oral communication are similar to the components listed above: (1) the psychomotor *skills* involved; (2) *knowledge* of context-based behaviors; and (3) individuals'

comfort levels (*motivation*). Moreover, McCroskey posited that moderate to high levels of OCA often inhibit the effective development of these three elements. McCroskey and Richmond (1987) concluded the majority of OCA research consistently demonstrates people with moderate to high OCA are not only less willing to communicate (e.g., avoidance or withdrawal), but also less effective communicators. A decade later, Rubin, Rubin, and Jordan's (1997) study reconfirmed results of previous research (e.g., Chesebro et al., 1992; Rosenfeld, Grant, & McCroskey, 1995) that demonstrated an inverse relationship between OCA and communication competency (r = -29, $p < .001$).

Scholars agree that OCA manifests from a young age and can impact people throughout their academic, economic, and social lives. Summarizing early studies, McCroskey (1977) calculated *high* traitlike OCA to exist in 20% of people in general, including students, adults and senior citizens. In a later study based on 40,000 college students and 3,000 non-student adults, he reported a mean score for all participants of 65.5, which equates with moderate OCA. In turn, Burk (2001) confirmed MBA students had a similar mean OCA score compared to the general public (no *SD* reported). This author suggests, therefore, that business undergraduates likely have similar OCA levels compared to the general public, according to the PRCA-24.

This study focuses on two critical stages of undergraduates' development during which OCA can impede either the performance or development of their oral communication skills: (1) their education (Ayres, Keereetaweep, Chen, Edwards, 1998; Ayres, 2001; McCroskey & Andersen, 1976; Meyer-Griffith, Reardon, Hartley, 2009); and (2) job search (Ayres, Keereetaweep, Pao-En, & Edwards, 1998; Boorom, Goolsby, & Ramsey, 1998; McCarthy & Goffin, 2004; Thomas, G., Tymon, W., & Thomas, K. W., 1994; Winiecki & Ayres, 1999).

Concerning education, McCroskey (1977) revealed astounding study results suggesting students with high OCA levels: dropped required public speaking courses (50-70%) compared to those with low OCA (5-10%); seldom chose public speaking over interpersonal or group communication classes when given the choice; avoided interacting in class; when they did speak, offered less relevant comments; were lower producers of innovative ideas in groups; and prefer occupations that require less communication. OCA has also been demonstrated to negatively impact academic performance (McCroskey & Andersen, 1976; Bourhis & Allen, 1992).

In terms of OCA's impact on attempts to acquire work, Ayres et al. (1998) conducted three studies that demonstrated those with high OCA levels: engaged in negative self-talk before, during, and after interviews; rehearsed less for, and spoke less about, interviews; were perceived as less effective communicators and considered less suited for the position; and spoke less, engaged in less eye contact, and asked fewer questions. It should come as no surprise that people with high OCA are less successful than those with low OCA in job interviews (Ayres & Crosby, 1995). OCA has also been shown to impact career choice (Daly & McCroskey, 1975), and employer's recruitment decisions (Daly, Richmond, & Leth, 1979; Ayres & Crosby, 1995).

McCroskey (1977) noted most of the OCA-related research results agreed that individuals with high OCA are perceived less positively by others because of their ineffective *expression* of oral communication (e.g., performance). This appears to hold true in the workplace as well. Research has indicated that employees exhibiting high OCA in the workplace are viewed as less productive, less effective, and less likely to advance and excel (Bartoo & Sias, 2004; Richmond & Roach, 1992; Thomas, Tymon, & Thomas, 1994).

OCA has also been consistently acknowledged as an impediment to *developing* effective oral communication skills for the workplace (Aly & Islam, 2003, 2005; Hassall et al., 2000;

McCroskey, 1977, 1984; Ruchala & Hill, 1994; Winiecki & Ayres, 1999). This appears to be true not only in business education, but in the marketplace as well. Russ's (2012) recent review of the OCA literature revealed that previous research indicates adult individual learning preferences, which appear to be impacted by OCA, can influence their career choice, job competence, effectiveness as managers, and interpersonal interactions and relationships on the job (Armstrong & Anis, 2008; Baker & Kolb, 1993; Dwyer, 1998; Furnham, Jackson, & Miller, 1999; Kolb, 1984; Loo, 2002a, 2002b; Russ, 2012; Wyrick, 2003; Yamazaki, 2005).

Domains.

This author suggests that an explication of three domains in which OCA appears to operate is pertinent to this study and its discussion of OCA's impact on business students' oral skills expression and development. These three domains include: (1) individual differences; (2) differences *between* oral communication settings (e.g., public speaking, interpersonal, and group/meeting); and (3) differences *within* those oral communication settings.

Individual differences.

This author agrees with the majority of OCA research that indicates individuals differ substantially in terms of where, when, and to what degree, they exhibit OCA. During twenty years of oral skills education and training in higher education and the workplace, this author observed individuals who felt more comfortable speaking in front of large groups versus small groups, and vice versa. This author also heard from individuals who would rather speak with strangers rather than colleagues, and vice versa. The list of situations, audiences, amount of preparation, and more that contribute to individuals' varying OCA levels is expansive. This apparent array of situational variables driving individuals' OCA was an impetus for this study.

In order to understand the relevance and impact of situational variables on individuals' differences concerning OCA, it seems logical to discuss how OCA is conceptualized.

Conceptualization: multidimensionality

James McCroskey was the foremost OCA scholar for over 40 years. Due to his work, many scholars have a multidimensional concept of OCA (Dwyer, 2000; Russ, 2012). McCroskey (1977) characterized this dynamism of the OCA phenomenon from two perspectives similar to state and trait perspectives – context OCA and traitlike OCA. He viewed context (state) OCA as normal, especially in public speaking, because everyone experiences it at one time or another. Russ (2012) posits that this contextual perspective of OCA helps capture the varying levels of discomfort people experience when they communicate in different situations.

McCroskey (1977) also viewed OCA as "traitlike," a relatively enduring fear towards even common, non-threatening oral communication situations. An individual's traitlike OCA is a measurement of their *general* level of discomfort across communication settings (Russ, 2012). Russ points out, however, that McCroskey used the term "traitlike" to distinguish OCA from more permanent personality variables. McCroskey's non-dichotomous framework of contextual and traitlike CA helps explain how it is possible for someone to be very uncomfortable talking in one setting, yet completely comfortable in another (Russ, 2012).

Most researchers agree OCA is a person's anxiety before, during, or after oral communication in any one, or a combination, of public speaking, interpersonal, and group settings. As exists with many theoretical approaches to human phenomena, however, there is scholarly debate concerning the multidimensional conceptualization of OCA. That debate is beyond the scope of this thesis. This author will briefly summarize the theoretical paradigms that give rise to the conceptualization of OCA as a state anxiety that underpins this study.

Martin Zuckerman (1972) advanced the notion that valid measures of any state anxiety require sensitivity to contextual factors. Conversely, he posited that valid measures of any trait anxiety require stability and, therefore, must not change in response to contextual factors, similar to the variability in state anxiety. In agreement concerning OCA, Pate and Merker, 1978, saw "no inherent reason to suspect that all instances of [OCA] are brought to the situation. In some cases, the *situation* could give rise to or reinforce the apprehension" (p. 113). This notion led this author to study the impact of specific situations on business students OCA levels.

While the multidimensional conceptualization of OCA (e.g., as state *and* traitlike) appears relevant, valuable, and necessary for many applications, this author argues it may not be *sufficient* for business communication education. This may be due to the specific nature of workplace oral communication settings that may give rise (e.g., Pate and Merker, 1978) to increased levels of individuals' sensitivity to OCA. Combining the above arguments with this author's experience with learners and their significant individual OCA differences, this author argues that if individuals' OCA levels can be significantly altered by changing aspects of their oral communication settings (e.g., changing the stakes, which will be explicated shortly), then OCA is arguably a state anxiety. And if OCA is a state anxiety, then business educators may benefit from OCA assessments and subsequent reduction efforts targeted towards specific workplace oral communication settings that elicit greater apprehension. These more targeted assessments could potentially assist business educators to more strategically target student problem areas. For business educators, the devil may well be in the "apprehensional details."

Measurement: the PRCA-24.

Research indicates that it may help educators to acquire assessments of their students' OCA profiles (Byrne et al., 2009). McCroskey's (1977) Personal Report on Communication

Apprehension (PRCA) has been the most widely utilized tool by scholars for over 40 years. Rubin, Rubin, and Jordan (1997) pointed out that scholars have demonstrated its internal consistency and test-retest reliability (Beatty, 1994; Rubin & Graham, 1988; Rubin et al., 1990). Over time, as scholars used and tested his PRCA, McCroskey made revisions, resulting in the PRCA-24 (see Appendix B) (McCroskey, Beatty, Kerney, & Plax, 1985).

The PRCA-24 contains Likert-type statements concerning individuals' perceptions and feelings about their oral communication with other people in four settings (e.g., contexts): (1) public speaking; (2) group; (3) meeting; and (4) interpersonal. In addition to an overall score, subscales scores can be generated for each setting. The scores on the PRCA-24 range from 24-120. The mean score obtained from three sizable, national samples of students and adults is 65.5, which is considered moderate (Levine & McCroskey, 1990).

Like many measurement tools and scales that address human phenomena, the PRCA-24 has not been without controversy. Again, the majority of that scholarly debate is beyond the scope of this thesis. This author will briefly summarize only a few aspects of the PRCA-24 relevant to the argument that while proven, widely-used, valuable, and perhaps even *necessary* for assessing OCA, it may not be (nor was it intended to be) *sufficient* for the kinds of targeted, situational undergraduate business student assessments potentially useful for business educators.

Scholars (e.g., Beatty et al., 1978; Parks, 1980; Porter, 1981) have questioned the representativeness and generalizability of the instrument's items as indicators of OCA's assumed broad-based, trait-like nature (McCroskey, Beatty, Kearney, & Plax, 1985). In defending the PRCA-24, McCroskey (McCroskey et al., 1985) articulated the instrument's ties to the prevailing theoretical understanding that trait-like CA, while distinct from context CA, "should substantially predict the latter" (p. 167). According to McCroskey, therefore, if individuals score

high on their overall PRCA-24 score, they will score relatively high across the four subscales (e.g., *across-contexts*). Likewise, if individuals scores high on any subscale, they will score high in all subsequent situations (e.g., *within-context*). McCroskey and his colleagues' stressed they were concerned with the "associations between across-contexts predispositions and within-context predispositions … not on association between PRCA-24 scores with individuals' specific responses to a single communication encounter" (p. 167). This author suggests that business students' responses to "single communication encounters" that reflect the future workplace may prove valuable assessment *additions* to the PRCA-24 for business educators (see "Stakes").

Etiology and determinants.

In examining individual differences concerning OCA, it makes sense to include a review of what engenders and influences these differences. Throughout his early research years, McCroskey viewed OCA as a learned trait conditioned through family life. If an individual's OCA responds to counter-conditioning (Glaser, 1981), then it seems logical to assume the individual was conditioned towards that apprehension in the first place. McCroskey wrestled, however, with the reality that this perspective cannot account for differences between high and low OCA children from the *same* family. His review of research confirmed that while public speaking helped 75% of the students, 25% *increased* in anxiety. Twenty-two years later, Beatty, McCroskey and Heisel (1998) offered a deterministic theory of OCA, a dramatic departure from McCroskey's earlier reasoning. Again focused on traitlike OCA, Beatty, McCroskey and Heisel *re*-conceptualized OCA's etiology with a theory called "communibiology." This approach suggests all psychological processes, including those of OCA, depend on brain activity that is a product of genetic inheritance, relegating the environmental impact on traitlike OCA to minimal. Specifically, Beatty, McCroskey and Heisel (1998) viewed the bandwidth for environmental

impact on OCA at around 20%, with genetics accounting for around 80% based on the large number of empirical studies that indicate such a "ratio of genetic inheritance to environmental contribution … in the three basic personality dimensions" (p. 200).

As is the case with the conceptualizations and measurement of OCA, there is also considerable debate surrounding its etiology (e.g., Beatty, McCroskey & Heisel, 1998, Condit, 2000). Once again, this debate is beyond the scope of this thesis. Even if the communibiological theory of OCA is correct, and correct at the 80/20 level of nature vs. nurture influence, there would still remain 20% of individuals' OCA levels available for reduction efforts.

There appears to be some agreement, however, on several potential determinants to OCA. As a result of reviewing the communication, industrial and applied psychology, and organizational literature, Aly and Islam (2005) examined four factors that affect *business students'* OCA. They demonstrated that GPA, gender, job status, and years of experience are associated with the PRCA subscales individually and overall. Earlier, these same authors (Aly & Islam, 2003) demonstrated that exposure to study in the field of business made a difference in business students' communication abilities. In both instances, as in most other OCA studies, the researchers relied on PRCA scores to assess participants' OCA levels. This author is interested in how business students' specific oral communication experiences impact their OCA levels *relative to those specific settings*, in addition to their impact on more general PRCA-24 scores.

To test this idea, this author focused on the factor "experience" that appears to affect the commonly highest OCA-level subscale - public speaking (McCroskey, 1982). This author chose experience for several reasons. First, the other factors identified by Aly & Islam (2003) - GPA, gender, and job status - are not aspects of undergraduates that can realistically be used as bases for segregating higher education classrooms or learning experiences. In addition, experience has

also been poorly defined, or not defined at all, when examined in research (e.g., Aly and Islam, 2005; Ayres, 2001). This lack of conceptualization is the arena for one of this study's contributions - providing specific student experience levels and an initial exploration of how those experiences relate to their OCA levels (and vice versa) and their oral skills development.

Between oral communication settings.

People with any levels of OCA can experience it in any one, or combination, of public speaking, interpersonal, and group settings. Although there are some differences between group and meeting oral communication, this author combines them into a singular setting because of their similarity. This author has seen first-hand what the literature has consistently demonstrated for decades – there are significant differences in people's OCA levels between the common settings. While this author has seen individuals high and low in every setting, the literature suggests that individuals have the overall highest OCA in public speaking settings and lowest in interpersonal settings (Byrne et al., 2009; Connell & Borden, 1987; McCroskey, 1982; Rubin, Rubin, & Jordan, 1997; Ruchala & Hill, 1994).

These trends seem to hold true for business students as well, although the bulk of OCA research in business education has centered on accounting students (e.g., Arquero, Hassall, Joyce, & Donoso, 2007; Borzi & Mills, 2001; Byrne et al., 2009; Crosling & Ward, 2002; Elias, 1999; Fordham & Gabbin, 1996; Simons, Higgins, & Lowe, 1995; Stanga & Ladd, 1990; and more). While understanding individuals' general OCA derived from their overall PRCA-24 scores may be valuable for business educators, the apparent diversity of OCA levels between oral communication settings may be equally valuable.

Undergraduate business students study and develop towards specific career fields and functions they hope to enact in the workplace. As mentioned earlier, since public speaking,

interpersonal, and group/meeting oral communication settings occur in, and are vital to, the workplace, preparing business students for *all of them* makes sense in light of the increasingly complex oral communication demands of the marketplace. Furthermore, this author argues that also assessing and understanding business students' OCA levels *between* these settings provides more relevant data upon which to design, deliver, and assess oral skills educational programs. That is not, however, where this argument ends.

Within oral communication settings.

While these OCA assessments *between* settings are arguably valuable, this author suggests there is one more aspect of business students' OCA assessment potentially necessary for better educational targeting. Returning to this author's focus on, and conceptualization of, OCA as a state, this study's central purpose is to examine whether or not undergraduates' business students' OCA levels show significant sensitivity to workplace-reflective oral communication scenarios *within* the public speaking, interpersonal, and group/meeting settings.

Stakes.

The bulk of the PRCA-24's early development was conducted exclusively with college students. In fact, the initial instrument was called the PRCA-College, followed by the PRCA, then PRCA-20, and finally PRCA-24 (Smith, Nelson, & Smeltzer, 1994). Criticism of this student focus, similar to the criticism of the public speaking focus (e.g., Porter, 1981), was partly responsible for the PRCA-24's expansion to group and interpersonal communication contexts.

As noted earlier, the PRCA-24 items ask study participants to respond to statements regarding their feelings concerning the four oral communication settings. While college students and adults may score similarly, they may operationalize the items and contexts *differently.* This author suggests undergraduate business students may respond significantly differently to PRCA-

24 subscale items than they would if those general items were tied to specific communication encounters similar to those they would encounter in the workplace, yet still within the same subscale. Having not yet entered the professional workforce (e.g., for most), undergraduates likely do not, and cannot, pull from such professional experiences when answering the PRCA-24 items. For example, when responding to the interpersonal oral communication PRCA-24 subscale item, "Ordinarily I am very calm and relaxed in conversations," undergraduates probably rely on experiences that include casual, social interpersonal communication situations amongst friends, family and classmates. These reflections may produce significantly different responses than if they considered interviews for jobs before graduation, which are also interpersonal communication settings. This author suggests that some of the oral communication settings undergraduates reflect on when responding to the PRCA-24 may elicit apprehension, but perhaps not as much as "higher stakes" settings similar to those encountered on the job.

This author suggests neither the overall nor the dimensional PRCA-24 scores alone, or combined, give business educators sufficient situational data concerning their students' potentially highly variable OCA in present (academic) and future (professional) settings. Moreover, this author suggests some settings, especially in the workplace, may have more importance than others, which in turn may catalyst higher OCA levels than those recorded by the PRCA-24 subscale scores. Due to the PRCA-24's utility and prevalence for over 40 years in the OCA research landscape, this author suggests combining scores from that instrument with more workplace-reflective situational OCA scores to offer more detailed OCA assessments for business educators. With this in mind, this study tested whether individuals' OCA levels change in response to changing oral communication situational *stakes*. With the preceding review of literature concerning OCA, this author suggests the following hypotheses and research questions:

Hypotheses.

H1a: There is no significant difference between business and non-business undergraduates' overall PRCA-24 scores.

H1b: There is no significant difference between business and non-business undergraduates' PRCA-24 dimensional scores.

H1c: There will be a significant difference among business undergraduates' PRCA-24 dimensional scores such that public speaking will be the highest and interpersonal the lowest.

H2a: Business undergraduates' exposure to high/low-stakes scenarios will produce significant differences within each high/low stakes dimension, with public speaking as the most significantly different.

H2b: High-stakes dimensional settings will produce significantly higher undergraduate apprehension scores when compared to their respective PRCA-24 dimensional scores.

Research questions.

RQ1: Are undergraduates' overall and dimensional PRCA-24 scores impacted by exposure to respective overall (e.g., general) and dimensional oral communication experiences?

RQ2: Are undergraduates' high-stakes dimensional scores impacted by exposure to respective high stakes dimensional oral communication experiences?

RQ3: Are undergraduates' overall or dimensional PRCA-24 scores impacted by exposure to oral communication skills course(s)?

RQ4: Are undergraduates' high-stakes dimensional scores impacted by exposure to oral communication skills course(s)?

RQ5: Are undergraduates' PRCA-24 public speaking dimensional scores impacted by exposure to courses that include presentation experience(s)?

RQ6: Are undergraduates' high-stakes public speaking dimensional scores impacted by exposure to courses that include presentation experience(s)?

RQ7: Do undergraduates who make use of public speaking course alternatives have higher PRCA-24 overall or dimensional scores than those who do not?

RQ8: Do undergraduates who make use of public speaking course alternatives have higher apprehension scores on the three high-stakes dimensions than those who do not?

Impact on spiral curriculum.

The foundational elements of spiral curriculum essential to learning are: (1) acquisition of component skills first; (2) repeated, increasingly challenging practice; and (3) expert coaching and feedback. This author suggests OCA presents unique and difficult challenges for educators concerning each of these foundational elements. "Research indicates that the extent to which CA affects individuals determines both the effectiveness of their communication skills and the efficacy of efforts devoted to their development" (Hassall et al., 2000, p. 99).

Component skills.

Beginning with the acquisition of component skills, OCA likely throws a proverbial wrench in the normal mechanisms of skill-building curricula. Scholars have suggested that individuals' OCA must be addressed and reduced *before* their oral communication skills can be developed (Allen & Bourhis, 1996; Hassall et al., 2000, McCroskey, 1984). Specifically, scholars are beginning to suggest that low OCA students can receive oral communication skills development whereas moderate to high OCA students need to first address their apprehensions before skills development can begin (Hassall et al., 2000). Gardner et al.'s (2005) study

demonstrated exposing high OCA students to experiences to improve component oral communication skills is likely to *increase* students' anxiety and thereby detract from their learning and development.

Practice and feedback.

The second and third foundational elements of the spiral curriculum theory are inexorably linked. As learners are offered increasingly challenging opportunities to practice, those incremental advances in complexity are made possible through the expert feedback and coaching afforded at each successive stage. Unfortunately, the unique nature of OCA makes this progressive spiral of practice and feedback difficult to achieve concerning oral communication skills for several reasons.

The first reason, as Gardner et al. (2005) noted, is that exposing students with moderate to high OCA to oral communication situations without first addressing their apprehension may *increase* their apprehension. These results reflect research done over 30 years prior (e.g., McCroskey et al., 1970; McCroskey, 1977). This makes practicing oral skills a delicate matter. Although the OCA research concerning treatment is inconclusive (see "Implications for Future Research") a slowly growing consensus amongst scholars suggests it may be necessary to match reduction techniques or programs to individuals' respective situational OCA (Dwyer, 2000; Russ, 2012). Knowing more situational assessments of business students' OCA may be necessary to avoid placing particular students in anxiety-inducing oral communication settings.

The second reason for OCA's negative impact on oral skills development relates to the avoidance aspect of individuals' OCA. As demonstrated numerous times throughout this review, individuals with high OCA will often look for ways to avoid entering oral communication settings that cause them fear. In this way, undergraduate business students with high OCA may

be partly doing educators job for them (e.g., in terms of targeting oral skills classes for students with low OCA) by avoiding courses with oral communication skills components.

As mentioned earlier, expert feedback and coaching are essential partners to practice in order to achieve effective learning. OCA arguably presents challenges to business educators' ability to give targeted feedback for several reasons. First is the increasing need for larger class sizes (Campbell, Mothersbaugh, Brammer, & Taylor, 2001; De Giorgi, Pellizzari, & Woolston, 2012; Geske, 1992; Guseman, 1985; Monks & Schmidt, 2010; VanderMey, 2009). With larger classes, it is understandably difficult for business educators to include oral skills as a part of the class due to the time it takes for students to engage in public speaking, interpersonal, and group/meeting oral communication interactions and presentations. Class time is a precious commodity necessary to achieve discipline and department academic goals. As enrollments and class sizes increase, and classroom time decreases, business educators likely have their hands full accomplishing core business subject education. This leaves little time for oral skills development, especially in terms of the feedback needed from instructors.

In addition, business educators, like those in other academic disciplines, are experts in their respective academic areas. They are likely not highly trained in reducing OCA nor increasing oral competency. This likely lack of training places a threshold on the feedback they are able to provide students. With these complexities of teaching oral communication in the modern business classroom, along with the unique ways OCA impedes the spiral curricular process, the higher education environment appears to be moving in the opposite direction from supplying marketplace demands. This study attempts to assist business educators in closing that gap by: (1) providing situational student OCA assessments; and (2) explicating OCA's impediments to *expressing* oral skills as well as *developing* oral communication competency.

Methodology

Participants

This study contains two participant groups from a business school and its parent university in the southeastern United States: (1) undergraduate business degree students (n = 312) from the college of business; and (2) undergraduate non-business students (n = 196) from various other degree programs within the same parent university, (overall undergraduate study population, N = 508, 53.3% of whom were female). Non-business students were chosen to contrast their OCA levels with those of business students, as well as to gain a larger overall undergraduate student participant pool.

Recruitment.

Business students.

The business students who participated in this study were recruited through one of three processes. The first recruitment process included an IRB-approved recruitment email sent to all undergraduate senior business majors in the college of business asking for their voluntary participation. No compensation or academic credit was offered to these students. This process yielded 46 business student participants. The second recruitment process included an IRB-approved recruitment email sent out to undergraduates of various majors, including some in business, signed up for voluntary participation in the Communication department's research participation system. This process yielded 56 business student participants. These students received course credit for their participation in this study, one of numerous studies from which they could choose to receive credit. The third process included an IRB-approved recruitment email sent to undergraduates (n = 450) enrolled in a specific Management course in the school of business that includes business and non-business majors. This process yielded 210 business

student participants. Students were offered one activity point credit for their voluntary participation. This course offers several alternative activities for acquiring activity points, one of which was participation in this study.

Non-Business students.

The non-business students were recruited through the same second and third processes explained in the prior section, yielding 96 and 100 students respectively. These students were offered the same pertinent participation credit or activity point to their respective course.

Procedures

All aspects of this thesis study were undertaken under IRB approval.

Surveys.

The hypotheses and research questions were tested and explored through online surveys administered to undergraduates. All undergraduates that agreed to voluntarily participate in this study did so by clicking the link provided in the recruitment email. The link connected the participants to a Qualtrics online survey (see Appendix A). After reading the online consent form that described the study and the voluntary, anonymous nature of participation, participants either clicked "I agree" to the give their consent and began the survey or clicked "I disagree," at which time the system took them to the end of the survey. Upon completion of the survey, which took anywhere from 10-15 minutes, those students who participated read a debriefing statement and submitted their responses. Students' full names were requested in order to reward applicable course credit for those students in the Management course as well as those in the Communication department's research participation system. These names were removed from accompanying data and, after credit was awarded, were deleted from record.

Materials

Surveys.

The survey was administered in Qualtrics, an online survey tool. The survey included: (1) the PRCA-24 instrument (see Appendix B); (2) high and low stakes scenarios; and (3) items concerning oral skills experience. Participants responded to 69 individual items overall.

Oral Communication Apprehension

The focus of this study is the apprehension that individuals feel around oral communication situations and its subsequent impact on their oral communication competency. This apprehension can be felt before (e.g., in anticipation of), during, or after a public speaking, interpersonal, or group/meeting oral communication event. The most common and tested measurement tool for assessing OCA is the PRCA-24.

PRCA-24.

The PRCA-24 contains 24 Likert-type statements on a five-point scale, ranging from strongly agree to strongly disagree, that concern individuals' oral communication apprehension (OCA). There are six items for each of the four oral communication settings (e.g., subscales): (1) public speaking; (2) group; (3) meeting; and (4) interpersonal. In addition to an overall score, subscales scores can be generated. The overall scores range from 24-120, with 24-55 considered low apprehension, 55-83 moderate apprehension, and 83-120 high apprehension.

Stakes.

Following their responses to the PRCA-24 instrument, the participants were given one of three high and low stakes scenarios in a randomized fashion by the Qualtrics system in order to ensure random, yet equitable, groups of respondents for each scenario. The three scenarios were public speaking, group/meeting, and interpersonal to align with the PRCA dimensional settings

(subscales). Combining the PRCA group and meeting settings (subscales) made sense for several reasons. First, the group and meeting subscales are very similar. In addition, most meetings occur in groups and often consist of members of groups or teams who already work together in some fashion. Finally, this author desired to have as many business and non-business student participants in each high and low stakes scenario as possible, and keeping group and meeting subscales separate would have meant a further reduction of respondents per scenario.

This author chose to ask the undergraduate participants to choose *recent*, *specific* oral communication scenarios with high (and low) stakes to produce data that provided OCA levels more relevant to workplace-reflective settings than the PRCA-24 was designed to acquire. The PRCA-24's items ask respondents to respond to statements concerning a variety of generalized oral settings. These generalized settings require participants to reflect upon feelings that are not tied to specific oral events. As argued previously in the review of related literature, students may rate their apprehension concerning specific high and low stakes public speaking, group/meeting, and interpersonal oral communications scenarios significantly different than they would within the respective unspecified dimensional settings on the PRCA-24. This could have significant implications for business education by adding more situational-based (e.g., workplace-reflective) business students' OCA assessments to established assessments (e.g., PRCA-24).

This author chose slightly different items for the dimensional high and low stakes scenarios than their respective counterparts on the PRCA-24 subscales. Using PRCA-24 items throughout would obviously allow for later identical comparison between the high and low stakes setting (subscale) scores and the PRCA-24 setting (subscale) scores. The nature of the research questions and hypotheses, however, required making a choice, as is often the case in research design decisions, in favor of certain study benefits over certain costs. This study was

undertaken to explore whether undergraduates, especially business majors, possess significantly different OCA levels *within and across* specific oral communication settings.

This author suggests that this design decision led to results that augment McCroskey's (1977, 1984, 1987) OCA assessment conceptualizations and instrument – the PRCA-24. McCroskey claimed that individuals with context OCA (moderate to high PRCA-24 dimensional scores) do not differ *within* dimensions, while those with trait-like OCA (moderate to high overall PRCA-24 score) do not differ *across* dimensions. Recall that McCroskey's (McCroskey et al., 1985) focus was not on an, "association between PRCA-24 scores with individuals' specific responses to a single communication encounter" (p. 167). This author, however, posits that adding assessments concerning specific high stakes oral communication situations business students will likely face in the workplace may be a beneficial compliment to the PRCA-24 for business educators as they design the necessary and appropriate educational programs to help students competently meet those workplace communication demands. Therefore, in order to accurately compare OCA scores within and across high and low stakes dimensions (e.g., similar to the PRCA-24's public speaking, interpersonal, group, and meeting), this study's design required the same items *within* each high and lows stakes scenario.

The PRCA-24 uses six items per each of the four dimensional settings (subscales). These six items, however, are not the same for each setting. If this author were to use the same six items from each PRCA-24 dimensional subscale for each of the respective high and low stakes scenarios, they could potentially not hold together in the same way *across* these newly designed, unproven scenarios as they do across subscales within the PRCA-24. In addition, the wording of each statement that precedes the high and low stakes scenarios (examples listed below) could cause some of the language of the PRCA-24 items to not apply. For example, several PRCA-24

items include language that deals with meeting new people in interpersonal or group settings. The specific scenarios the participants chose, however, when responding to the high and low stakes items may not have included new acquaintances or group meeting members.

With this in mind, it made more sense to pull the *essential elements* from the PRCA-24 items for each dimensional setting in order to best replicate those items while still preserving the realism of the respective scenarios chosen by the respondents. Those essential elements included: (1) tension and nerves; (2) calm and relaxation; and (3) fear. These affective questions were recreated for the high and low stakes scenarios in order to obtain the respondents apprehension similar to how it is captured on the PRCA-24.

As a result, only the three *matching* items between both the interpersonal and public speaking high stakes and PRCA-24 subscales (e.g., the fear, tension and nerves, and calm and relaxation affective items) were calculated to create new high stakes subscales with the following reliable alpha coefficients: (1) the new *high stakes interpersonal* dimension subscale ($\alpha = .798$); and (2) the new *high stakes public speaking* dimension subscale ($\alpha = .871$). When conducting the paired t-test concerning H2b, only the same 3 items on the respective PRCA-24 interpersonal and public speaking subscales were calculated for appropriate statistical comparisons. These new two and three-item PRCA subscales also produced reliable alpha coefficients (interpersonal, $\alpha = .733$; public speaking, $\alpha = .824$).

Furthermore, only two matching items between the high stakes group/meeting subscale and the PRCA-24 group and meeting subscales could be used. This was due to both the number of repeat inverse-worded items on the PRCA-24 group and meeting subscales as well as the use of like and dislike items in the PRCA-24 group subscale that appear in no other PRCA-24 subscale. The two matching items (e.g. tension and nerves, and calm and relaxation) were

calculated to create a new high stakes group/meeting subscale (α = .835). When conducting the paired t-test concerning H2b (see Results), the new 2-item high stakes group/meeting was compared to the PRCA-24 group and meeting subscales separately in order to compare like-sized subscales (e.g., 2-item high stakes to 2-item PRCA-24). In order to conduct these two paired sample t-tests between the high stakes group/meeting and the PRCA-24 respective dimensions, again only the respective same two items on the PRCA-24 group and meeting subscales were calculated for appropriate statistical comparisons. These new PRCA subscales also produced reliable alpha coefficients (group, α = .739; meeting, α = .887).

This author also noted that, in addition to affective items, there are a few outcome-oriented items on the PRCA-24, including: "My thoughts become confused and jumbled when I am giving a speech"; "Certain parts of my body feel very rigid and tense while giving a speech"; and, "When giving a speech, I get so nervous I forget facts I really know." While these particular items only appear in the public speaking subscale, this author, because of the measurement issues mentioned earlier, choose to include a relevant version of them within the newly created high and low stakes scenarios. This decision allowed for an arguably richer, more detailed assessment by including both affective and outcome responses. Subsequently, due to constraints of survey length, this decision also sacrificed the ability to reverse some of the fear, nerves, and relaxation items, as is done on the PRCA-24 instrument.

The result of these decisions was a seven-item subscale used identically across all high and low stakes scenarios for the purpose of reliably comparing within and across high/low stakes scenarios, as well as allowing for relatively reliable comparisons between the high stakes dimensions and their respective PRCA-24 counterparts. In all cases, the high/low subscales produced reliable alpha coefficients: high stakes interpersonal (α = .798); low stakes

interpersonal (α = .844; high stakes group/meeting (α = .835); low stakes group/meeting (α = .721); high stakes public speaking (α = .871); low stakes public speaking (α = .883).

High and low stakes public speaking.

Participants who received these scenarios were asked to, "Please think of the most recent solo presentation you gave in the past few years that was ***very important*** to you (i.e., the stakes were high - whether for a class, conference, business, job, organization, etc.). Please respond with your level of agreement or disagreement to the following statements concerning how you felt during that recent, important "high-stakes" solo presentation."

Following this high stakes public speaking scenario, the same participants were asked to, "Please think of a ***different*** recent solo presentation you gave in the past few years that was ***not*** very important to you (i.e., the stakes were low - whether for a class, conference, business, social organization, hobby group, wedding or family get-together, etc.). Please respond with your level of agreement or disagreement to the following statements concerning how you felt during that recent "low-stakes" solo presentation." In all cases, the italics and bold reflect survey formatting.

High and low stakes group/meeting.

Participants who received this scenario were asked to, "Please think of the most recent group meeting you had in the past few years that was ***very important*** to you (i.e. the stakes were high - whether for a critical class group project, an investment team meeting, a leadership meeting of an organization, at your job, etc.). Please respond with your level of agreement or disagreement to the following statements concerning how you felt during that recent important ("high stakes") group meeting."

Following this high stakes group meeting scenario, the same participants were asked to, "Please think of the a ***different*** recent group meeting you had in the past few years that was ***not***

very important to you (i.e. the stakes were low - whether for a class group project meeting, a social organization meeting, a volunteer meeting, a study abroad meeting, any causal meeting, etc.). Please respond with your level of agreement or disagreement to the following statements concerning how you felt during that recent "low stakes" group meeting."

High and low stakes interpersonal.

Participants who received this scenario were asked to, "Please think of the most recent interview you had in the past few years that was ***very important*** to you (i.e., the stakes were high - whether for an internship, job, scholarship, organization, etc.). Please respond with your level of agreement or disagreement to the following statements concerning how you felt during that most recent, important "high-stakes" interview."

Following this high stakes interpersonal scenario, the same participants were asked to, "Please think of a ***different*** recent interview you had in the past few years that was ***much less*** important to you (i.e., the stakes were low - whether for an internship, job, scholarship, organization, student or hobby group, research interview, volunteer interview, etc.). Please respond with your level of agreement or disagreement to the following statements concerning how you felt during that less important, "low stakes" interview."

An interview was chosen for the interpersonal scenario because this author argues that, while interviews are high stakes interpersonal encounters, they are likely not the kind of interpersonal encounter that students likely think of when answering the general items in the interpersonal subscale on the PRCA-24. While students may have some interviewing experience, they have far more interpersonal experience with family and friends. This author posits that when asked to consider attitudes and apprehensions towards general, non-specific interpersonal scenarios, undergraduates likely reflect upon and recall those interpersonal

communication encounters most common to their daily experience. This same argument could be made for including a conflict management situation, performance review, or any other more common adult professional interpersonal scenarios that are not likely to be "top of mind" for an undergraduate college student. While knowing undergraduates' general OCA levels as assessed by the PRCA-24 has significant value, this author argues there is additional, complimentary value relevant to business communication education in knowing how they feel (or predict they may feel) before, during, or after more high stakes professional settings (e.g., interviews) that reflect the kinds of interpersonal oral communication situations encountered in the marketplace.

Manipulation checks.

The manipulation check item immediately followed the high/low stakes items and consisted of asking participants to, "Please click and drag the slider until you see the appropriate number on the dial that reflects the importance of this interview, group meeting, or presentation for you. (0 = No Stakes at All, 10 = Very High Stakes)." In order to demonstrate the manipulation check was effective, a t-test comparing high and low stakes study participant groups was performed. Results indicate a significant difference in all three high and low stakes scenarios: high stakes interpersonal (interview), $t(166) = 50.54$, $p < .001$ versus low stakes interpersonal (interview), $t(166) = 27.60$, $p < .001$ high stakes group/meeting, $t(170) = 53.34$, $p < .001$ versus low stakes group/meeting, $t(170) = 22.36$, $p < .001$; high stakes public speaking, $t(169) = 49.92$, $p < .001$ versus low stakes public speaking, $t(169) = 24.98$, $p < .001$.

Finally, this author chose to randomize the three high and low stakes scenarios in order to keep the overall survey at an appropriate length to avoid participant burn out and retention issues. Requiring every undergraduate to respond to all three high and low stakes scenarios, in addition to the other items in the survey, would have added 36 questions to each survey. This

decision sacrificed the ability to acquire overall high and low stakes scores across dimensions for comparison to overall PRCA-24 scores. This was an acceptable cost due to this author's focus on OCA as a state

Determinant.

Experience.

As discussed in the literature review, Aly and Islam (2005) noted that a student's experience was the least significant of several determinants impacting business students' OCA. Their study, however, involved two issues encountered often in the OCA literature relevant to student OCA assessment that this study looks to examine. The first issue involves a lack of conceptualizing and acquiring specific information from respondents that is linked to specific events and settings to reduce cognitive bias in respondents. This is reflected in Aly and Islam's operationalization of "years of experience" (p. 100), which they equate and acquire with a single survey item, "Number of years of work experience" (p. 103). This author argues that the type of work typically experienced by undergraduates (e.g. part-time jobs, summer work, etc.) is not likely to be comparable to future, post-graduation professional employment with arguably higher stakes oral communication situations. In addition, the years of work experience for many undergraduates likely includes a wide variety of part-time and full-time roles and job functions that may, or may not, span all of the four oral communication settings. Measuring specific oral skills experience may potentially yield more relevant results for business educators.

Aly and Islam (2005), like most scholars, used PRCA-24 scores to compare the various determinants in their study. As discussed previously, the PRCA-24 does not, nor was it intended to, account for various high and low stakes oral communication settings within the four dimensional settings. While Aly and Islam found experience to be the least (and barely)

significant determinant of business students' OCA, this author argues that this may not be the case if business students' specific oral experience levels are acquired versus those with little operationalization. Furthermore, specific and dimensionally relevant experience levels may allow for more accurate measurements of the impact of experience on business students' OCA when analyzed against the specific "stakes" oral communication scenarios discusses earlier.

This study, therefore, examined five distinct areas of undergraduates' experience in relevant oral communication settings and decisions, including: (1) undergraduate participants' overall and dimensional *general* oral communication experience; (2) undergraduate participants' overall and dimensional *high stakes* oral communication experience; (3) undergraduate participants' oral communication skills *course(s)* experience; (4) experience in business and non-business course(s) that include *oral presentation*(s); and (5) experience *avoiding taking course(s)* with public speaking or similar solo presentation requirements.

- *(1) General oral communication experience.*

Undergraduates' general oral communication experience was calculated by summing the students' responses to survey items that asked for their experience in public speaking, interpersonal, group, and meeting settings (e.g., experience in the four PRCA-24 oral communication subscales). These survey items included a 7-point Likert-type response scale (see Appendix A, Question 7.1). This experience level was chosen because it represents participants' self-reported levels of general experience in the four oral communication settings.

- *(2) High stakes oral communication experience.*

Undergraduates' overall high stakes oral communication experience was calculated by summing their response to three statements concerning their experience in each of the three respective high stakes dimensional oral communication settings (e.g., recall that in the high and

low stakes dimensions, group and meeting are combined). Each of the three high stakes scores was acquired through the participants' responses to one statement per three respective dimensions, each of which was also a 7-point, Likert-type scale response (see Appendix A, Question 7.1). This level of experience was chosen because this study questioned whether experience in specific high stakes oral communication settings predicts perceived levels of OCA in those respective settings.

- *(3) Oral communication skills course(s) experience.*

Undergraduates' oral communication skills course(s) experience was calculated by summing the number of courses focused on oral skills development chosen by each respondent from a multiple choice list of five such courses offered at the parent university (see Appendix A, Question 8.1). The five communication courses offered as potential responses on the list represent the exhaustive list of communication courses offered by the parent university that directly relate to, and attempt to build, oral communication skills addressed in the four PRCA-24 dimensional subscales. This specific level of experience was chosen in order to better understand the relationship between oral communication skills training and OCA levels.

- *(4) Oral presentation course(s) experience.*

Undergraduates' (business and non-business) oral presentation course(s) experience was calculated by summing their responses to four separate survey questions concerning their experience in solo and group oral presentations in both business and non-business courses (see Appendix A, Questions 8.2, 81, 8.3, 82). Scores were attributed according to the number of such courses they had taken, with higher courses equating with higher experience levels. This level of experience was acquired for several reasons. The first is undergraduates at this university and business school have opportunities to experience public speaking in courses outside of the

typical Communication courses that teach presentational skills. In addition, having undergraduate student scores for both business and non-business course(s) oral presentation experience allow this author the ability, post-thesis, to examine the amount of oral presentation experience business students (at this university) are afforded versus non-business students. When combined with the more detailed student OCA assessments posited by this study, this data could prove valuable to extensions of this study by helping business educators evaluate the efficacy of their efforts to give business undergraduates more experience in giving presentations.

- *(5) Experience taking alternative courses (avoiding).*

Undergraduates' experience with avoiding (e.g., navigating around) courses with public speaking or similar solo presentation requirements was acquired by asking the respondents, "Have you ever navigated around having to take a Public Speaking or similar class at ***name of university*** (i.e. - one in which you would likely be required to orally present) by taking an alternative class, using some form of prior credit from high school or another institution, or similar alternative?" (see Appendix A, Question 8.4). This avoidance experience was chosen because, as indicated earlier in the review of literature, public speaking ranks as the most apprehensive of the oral communication dimensions. In addition, as noted by McCroskey and other scholars, one of the most common behaviors of those with high OCA levels is to avoid oral communication situations.

Table 1. Constructs Table

Oral Communication Apprehension (OCA)	PRCA-24 PS = .824 PRCA-24 INT = .733 PRCA-24 GRP = .739 PRCA-24 MTG = .887	The anxiety an individual feels concerning actual or anticipated oral communication with other people. This apprehension can occur before, during, or after one or more of four settings: 1) **public speaking**; 2) **interpersonal** interactions; 3) **group i**nteractions; and 4) **meeting** interactions. The PRCA-24 instrument is the most commonly used and tested tool for assessing individuals' OCA levels across and within the four settings. For this study, group and meeting are combined when used for purposes of direct comparison with the high/low stakes group/meeting settings (see below). The alpha coefficients pertain to reliability of the paired down PRCA-24 settings (e.g., dimensions), again for comparison purposes.
Stakes	High Stakes PS = .871 Low Stakes PS = .883 High Stakes INT = .798 Low Stakes INT = .844 High Stakes GM = .835 Low Stakes GM = .721	This study operationalized "stakes" as the level(s) of importance of an oral communication event for individuals within three settings: 1) **public speaking** (PS); 2) **interpersonal** (INT); and 3) **group/meeting** (GM) (e.g., these are combined due to their similarity). For study purposes, an interview was chosen as a specific interpersonal oral communication event, a presentation for a specific public speaking event, and a group meeting for a specific group/meeting event. Participants were asked to recall specific high and low stakes examples of one of those three settings (randomized) from their own experiences.
Experience		Experience was operationalized along five areas of undergraduates' experience in relevant oral communication settings and decisions: 1) **general overall oral experience** (e.g., the aggregate of their oral communication experience across the four settings); 2) **overall and dimensional high stakes experience** (e.g., their aggregate and individual experience within and across the three high stakes settings); 3) **oral communication skills course(s) experience** (e.g., the number of courses they have taken that focus on oral skills development); 4) **experience in business and non-business course(s) that include oral presentation(s);** and 5) **experience in avoiding** (e.g., navigating around) taking courses with presentation requirements.

Results

For the results below, if business or non-business students are not explicitly identified, assume that the results for these undergraduate sub-populations in this study are not significantly different than the overall undergraduate population used to the calculate results.

H1a hypothesized no significant difference between undergraduate business and non-business students' overall PRCA-24 scores. To test this, an independent two-sample t-test was conducted. The results showed no significant difference in the scores for undergraduate business students (M = 63.30, SD = 14.13) and non-business students (M = 63.42, SD = 15.69), t (506) = .093, p = .93 (see Table 2). According to the PRCA-24, most undergraduate business students, like other population groups, have moderate OCA. Thus, H1a was supported.

Table 2. Students' Overall PRCA-24 OCA Scores

	n	***M***	***SD***	***p***
Business Students	**312**	**63.3**	**14.13**	**-0.93**
Non-Business Students	*196*	*63.42*	*15.69*	

H1b hypothesized no significant difference between undergraduate business and non-business students' *dimensional* PRCA-24 scores. To test this hypothesis, a one-way between subjects ANOVA was conducted to compare undergraduate business and non-business participants along each of the four PRCA-24's dimensions (see Table 3). The results showed no significant difference between undergraduate business and non-business students across all four PRCA-24 dimensions: (1) interpersonal [F(1, 506) = 1.47, p = .23]; (2) public speaking [F(1, 506) = .21, p = .65]; (3) group [F(1, 506)) = .92, p = .34]; and (4) meeting [F(1, 506) = .98, p = .32]. Similar to H1a, the PRCA-24 results indicate that business students are just as apprehensive as other students within the four settings. Thus, H1b was supported.

Table 3. Descriptive Statistics Concerning Students' PRCA-24 Dimensional OCA Scores

		n	*M*	*SD*	*p*
PRCA Interpersonal (INT)	**Business**	**312**	**14.37**	**4.11**	
	Non-Business	*196*	*13.91*	*4.21*	*0.23*
PRCA Public Speaking (PS)	**Business**	**312**	**19.04**	**4.83**	
	Non-Business	*196*	*18.83*	*5.58*	*0.65*
PRCA Group (GRP)	**Business**	**312**	**14.8**	**4.42**	
	Non-Business	*196*	*15.19*	*4.48*	*0.34*
PRCA Meeting (MTG)	**Business**	**312**	**15.09**	**4.45**	
	Non-Business	*196*	*15.5*	*4.66*	*0.32*

As indicated by the body of OCA research, more people are apprehensive about public speaking than the other three oral communication settings, with interpersonal as the least apprehensive setting. To confirm this is similar for business students, H1c hypothesized there will be a significant difference among business undergraduates' PRCA-24 dimensional scores such that public speaking will be the highest and interpersonal the lowest. To test this, a paired-samples t-test was conducted to compare business undergraduates' four PRCA-24 dimensional scores (see Table 4). The most significant difference in scores was between public speaking and the three other dimensional settings, in all of which public speaking was significantly higher: (1) interpersonal (M = 14.37, SD = 4.11) and public speaking (M = 19.00, SD = 4.83), t (311) = -15.98, $p < .001$; (2) group (M = 14.80, SD = 4.42) and public speaking (same), t (311) = -15.04, $p < .001$; and (3) meeting (M = 15.09, SD = 4.44) and public speaking (same), t (311) = -14.11, $p < .001$. These results indicate business students are, similar to the general U.S. population, significantly more apprehensive about public speaking than the other settings. In addition, the results indicate, again similar to the rest of the population, amongst the four PRCA dimensions, business students are least apprehensive about interpersonal oral communication settings.

Table 4. Comparison of Business Students' PRCA-24 Dimensional OCA Scores

		n	*M*	*SD*	*p*
Pair 1	**PRCA Interpersonal**	312	14.37	4.11	< .001
	PRCA Group	312	14.8	4.42	
Pair 2	**PRCA Interpersonal**	312	14.37	4.11	< .001
	PRCA Meeting	312	15.09	4.44	
Pair 3	**PRCA Interpersonal**	312	14.37	4.12	< .001
	PRCA Public Speaking	312	19.05	4.83	
Pair 4	**PRCA Group**	312	14.8	4.42	< .001
	PRCA Meeting	312	15.09	4.44	
Pair 5	**PRCA Group**	312	14.8	4.42	< .001
	PRCA Public Speaking	312	19.04	4.83	
Pair 6	**PRCA Meeting**	312	15.09	4.44	< .001
	PRCA Public Speaking	312	19.04	4.83	

RQ1 asked whether the amount of student participants' self-reported experience in the PRCA overall and dimensional (subscale) settings moderates their respective overall and dimensional (subscale) PRCA scores. To examine this research question, several linear regression analyses were conducted. The first linear regression examined the relationship between student participants' overall oral communication experience (e.g., their overall experience score across the four dimensions, see Appendix A for the experience measurement items) and their overall PRCA-24 score. The results indicate that overall participant experience levels significantly predict overall apprehension levels ($R^2 = .180$, $F = 111.14$ $p < .001$). In addition, the results for the dimensional linear regressions indicate that participants' PRCA dimensional experience significantly predict their respective PRCA dimensional scores: interpersonal ($R^2 = .125$, $F = 72.10$, $p < .001$); public speaking ($R^2 = .129$, $F = 75.09$, $p < .001$); group ($R^2 = .117$, $F = 66.88$, $p < .001$); and meeting ($R^2 = .146$, $F = 86.22$, $p < .001$).

Table 5. Descriptive Statistics and Correlation Matrix for Students' Overall PRCA-24 OCA Scores and Three Experience Factors (**Business Students** / *Non-Business Students*)

	M	SD	n	M	SD	n	PRCA Overall	Overall Exper	Navigate/ Avoid	Oral Skills Course Exp
PRCA Overall	**63.30**	**14.13**	**312**	*63.43*	*15.59*	*196*		*-.39*	*-.25*	*-.09*
Overall Experience	**21.49**	**3.80**	**312**	*22.50*	*3.25*	*196*	**-.46**		*.15*	*.12*
Navigate\ Avoid	**1.78**	**.42**	**312**	*1.73*	*.44*	*196*	**-.144**	**.20**		*.16*
Oral Skills Course Exp	**.9712**	**.47**	**312**	*1.18*	*.82*	*196*	**.05**	**-.03**	**.148**	

Table 6. Descriptive Statistics and Correlations for Business Students' Dimensional PRCA-24 OCA Scores and PRCA-24 Dimensional Experience

	M	SD	n	PRCA PS	PRCA INT	PRCA GRP	PRCA MTG
PRCA PS Exp	**4.97**	**1.32**	**312**	**-.34**	**-.22**	**-.28**	**-.31**
PRCA INT Exp	**5.88**	**1.16**	**312**	**-.02**	**-.39**	**-.28**	**-.26**
PRCA GRP Exp	**5.63**	**1.09**	**312**	**-.13**	**-.39**	**-.36**	**-.39**
PRCA MTG Exp	**5.01**	**1.34**	**312**	**-.24**	**-.25**	**-.31**	**-.44**

Table 7. Descriptive Statistics and Correlations for Non-Business Students' Dimensional PRCA-24 OCA Scores and PRCA-24 Dimensional Experience

	M	SD	n	PRCA PS	PRCA INT	PRCA GRP	PRCA MTG
PRCA PS Experience	*5.21*	*1.26*	*196*	*-.39*	*-.05*	*-.18*	*-.17*
PRCA INT Experience	*6.10*	*1.02*	*196*	*-.10*	*-.27*	*-.19*	*-.26*
PRCA GRP Experience	*6.02*	*.87*	*196*	*-.21*	*-.24*	*-.37*	*-.25*
PRCA MTG Experience	*5.17*	*1.39*	*196*	*-.21*	*-.15*	*-.24*	*-.31*

RQ2 asked whether the amount of student participants' self-reported experience in *high stakes* dimensional settings (e.g., three total – public speaking, interpersonal, and group/meeting combined) moderates their respective high-stakes dimensional apprehension scores (e.g., again, the same three modified dimensions). Recall that, due to survey length constraints, student participants only responded to one of the three high (and low) stakes dimensions. Therefore, overall (e.g., across high/low stakes dimensions) high or low stakes scores could not be obtained, nor were they desired at this time. To examine this research question, several linear regression analyses, similar to RQ1, were conducted comparing each of the three high and low stakes experience level scores. The results for all students indicate that two areas of high stakes experience, public speaking (R^2 = .061, F = 10.902, $p \leq .001$) and interpersonal (R^2 = .036, F = 6.118, p = .01), significantly predicts respective high stakes oral communication setting apprehension, while high stakes group/meeting experience (R^2 = .006, F = 1.027, p = .31), does *not* significantly predict respective apprehension levels. Interestingly, *non-business* students experience in high stakes public speaking did not significantly predict their apprehension in those respective settings, although it approached significance (R^2 = .048, F = 3.43, p = .07).

*Table 8. Descriptive Statistics and Correlation Matrix for Students' High Stakes Public Speaking Dimensional OCA Scores and Three Experience Factors (***Business Students***, Non-Business Students)*

	M	SD	n	M	SD	n	High Stakes PS	High Stakes PS Exper	Navigate/ Avoid	Oral Skills Course Exp
High Stakes PS	**20.68**	**4.78**	**100**	*20.97*	*5.63*	*70*		*-.25*	*-.13*	*-.02*
High Stakes PS Experience	**4.55**	**1.35**	**100**	*4.73*	*1.61*	*70*	**-.32**		*.001*	*.15*
Navigate\ Avoid	**1.86**	**.35**	**100**	*1.70*	*.47*	*70*	**-.09**	**.14**		*.21*
Oral Skills Course Experience	**.94**	**.53**	**100**	*1.09*	*.86*	*70*	**.21**	**.03**	**.12**	

*Table 9. Descriptive Statistics and Correlation Matrix for Students' High Stakes Interview (e.g., Interpersonal) Dimensional OCA Scores and Three Experience Factors (***Business students***, Non-Business Students)*

	M	SD	n	M	SD	n	High Stakes INT	High Stakes INT Exper	Navigate/ Avoid	Oral Skills Course Exp
High Stakes INT	**20.01**	**4.47**	**109**	*18.78*	*5.02*	*58*		*-.45*	*-.24*	*.07*
High Stakes INT Experience	**4.11**	**1.51**	**109**	*4.24*	*1.76*	*58*	**-.09**		*.01*	*.15*
Navigate\ Avoid	**1.74**	**.44**	**109**	*1.76*	*.43*	*58*	**-.03**	**-.01**		*.03*
Oral Skills Course Experience	**.99**	**.40**	**109**	*1.26*	*.76*	*58*	**-.04**	**-.05**	**.15**	

*Table 10. Descriptive Statistics and Correlation Matrix for Students' High Stakes Group/Meeting Dimensional OCA Scores and Three Experience Factors (***Business students***, Non-Business students)*

	M	SD	n	M	SD	n	High Stakes Grp/Mtg (GM)	High Stakes GM Exper	Navigate/ Avoid	Oral Skills Course Exp
High Stakes GM	**17.95**	**4.85**	**103**	*19.25*	*5.37*	*68*		*-.19*	*-.22*	*-.02*
High Stakes GM Experience	**4.63**	**1.13**	**103**	*4.82*	*1.29*	*68*	**-.20**		*-.09*	*.001*
Navigate\ Avoid	**1.74**	**.44**	**103**	*1.76*	*.43*	*68*	**.15**	**.04**		*.18*
Oral Skills Course Experience	**.98**	**.48**	**103**	*1.21*	*.82*	*68*	**.08**	**.04**	**.21**	

RQ3 asked whether the amount of student participants' self-reported oral communication skills course(s) experience moderates their overall or dimensional PRCA-24 scores. To examine this research question, several linear regression analyses were again conducted. The first linear regression conducted examined the relationship between student participants' oral communication skills course(s) experience and their overall PRCA-24 score. The results indicate that student participants' oral communication skills course(s) experience do not

significantly predict overall PRCA apprehension scores (R^2 = .001, F = .284 p = .59). In addition, the results for the dimensional linear regressions indicate that students' oral skills course(s) experience also do not significantly predict their respective PRCA dimensional scores: interpersonal (R^2 = .003, F = 1.601, p = .21); public speaking (R^2 = .001, F = .30, p = .586); group (R^2 = .007, F = 3.510, p = .06); and meeting (R^2 = .001, F = .413, p = .52).

Table 11. Descriptive Statistics and Correlations for Business Students' PRCA-24 Dimensional OCA Scores and Three Experience Factors

	M	SD	n	PRCA PS	PRCA INT	PRCA GRP	PRCA MTG
Overall Presentational Course Experience	**11.96**	**5.61**	**312**	**-.10**	**.04**	**-.02**	**-.11**
Navigate/Avoid	**1.78**	**.42**	**312**	**-.05**	**-.14**	**-.15**	**-.12**
Oral Skills Course Experience	**.97**	**.47**	**312**	**.13**	**.03**	**-.02**	**.01**

Table 12. Descriptive Statistics and Correlations for Students' PRCA-24 Dimensional OCA Scores and Three Experience Factors

	M	SD	n	PRCA PS	PRCA INT	PRCA GRP	PRCA MTG
Overall Presentational Course Experience	*12.48*	*5.58*	*196*	*-.13*	*.01*	*-.05*	*.10*
Navigate/Avoid	*1.73*	*.44*	*196*	*-.19*	*-.24*	*-.22*	*-.17*
Oral Skills Course Experience	*1.18*	*.82*	*196*	*-.06*	*-.12*	*-.16*	*.03*

RQ4 asked whether the amount of student participants' self-reported oral communication skills course(s) experience moderates their high-stakes dimensional apprehension scores (e.g., again, the three dimensions with combined group/meeting). To examine this research question, several linear regression analyses were conducted to examine the relationship between student participants' oral communication skills course(s) experience and their high-stakes dimensional apprehension scores. The results indicate that student participants' oral communication skills course(s) experience do *not* significantly predict any of their apprehension levels in the three high stakes oral communication settings: (1) public speaking (R^2 = .008, F = 1.368, p = .24); (2)

interpersonal (R^2 = .006, F = .952, p = .33), and group/meeting (R^2 = .005, F = .930, p = .34). Interesting to note here is that the impact of business students' oral communication skills course experience approached significance (R^2 = .030, F = 3.006, p = .086).

RQ5 asked whether undergraduate students' self-reported business and non-business course(s) presentational experience moderates their PRCA-24 public speaking dimensional score. To examine this research question, a linear regression analysis was conducted to examine the relationship between self-reported presentational experience scores and PRCA-24 public speaking subscale scores. The results indicate that students' presentational experience scores significantly predict their PRCA-24 public speaking subscale apprehension scores (R^2 = .013, F = 6.726, p = .01). These results indicate that the more students orally present, the less apprehensive they may become, according to the PRCA-24.

RQ6 asked whether undergraduate students' self-reported business and non-business course(s) presentational experience moderates their high stakes public speaking dimensional scores. To examine this research question, a linear regression analysis was conducted to examine the relationship between self-reported presentational experience scores and high stakes public speaking apprehension scores. The results indicate that students' presentational experience scores do *not* significantly predict their high stakes public speaking dimensional apprehension scores (R^2 = .013, F = 2.262, p = .13).

Table 13. Descriptive Statistics for Business Students' PRCA-24 Dimensional OCA Scores and Their Experience in Courses Which Include Group Presentations

	M	SD	n	PRCA PS	PRCA INT	PRCA GRP	PRCA MTG
Group Presentation Course Experience	**6.41**	**3.37**	**312**	**-.08**	**.04**	**-.01**	**-.08**

Table 14. Descriptive Statistics for Business Students' PRCA-24 Dimensional OCA Scores and Their Experience in Courses Which Include Solo Presentations

	M	SD	n	PRCA PS	PRCA INT	PRCA GRP	PRCA MTG
Solo Presentation Course Experience	**5.54**	**2.81**	**312**	**-.11**	**.02**	**-.03**	**-.13**

RQ7 asked whether undergraduates who self-reportedly make use of public speaking course alternatives have significantly higher PRCA-24 overall or dimensional scores than those who do not do so. This question examines the relationship between avoidance behavior and OCA levels as measured by the PRCA-24. To examine the first half, an ANOVA was conducted to compare undergraduate student participants' self-reported avoidance with overall PRCA-24 scores. The results indicate students who reported making use of alternatives have significantly higher overall PRCA-24 scores ($M = 68.26$, $SD = 15.75$) compared to students ($M = 61.82$, $SD = 14.03$) who have not avoided [$F(1, 506) = 1.791$, $p < .001$].

To examine the second half of this question, four one-way between-subjects ANOVAs were conducted to compare undergraduates' avoidance of courses containing public speaking with their respective dimensional PRCA-24 scores. The results indicate in all four cases, students who avoided courses with public speaking elements had significantly higher overall PRCA-24 scores than students who did not avoid such courses (see Table 5): (1) interpersonal – students who avoid ($M = 15.51$, $SD = 4.24$) versus students who do not ($M = 13.78$, $SD = 4.04$) [$F(1, 192.81) = .138$, $p < .001$]; group - students who avoid ($M = 16.39$, $SD = 4.79$) versus students who do not ($M = 14.50$, $SD = 4.23$) [$F(1, 182.44) = .138$, $p < .001$]; meeting - students who avoid ($M = 16.37$, $SD = 4.66$) versus students who do not ($M = 14.90$, $SD = 4.43$) [$F(1, 192.75) = .205$, $p = .002$]; public speaking - students who avoid ($M = 20.00$, $SD = 5.50$) versus students who do not ($M = 18.64$, $SD = 4.97$) [$F(1, 185.54) = 3.291$, $p = .01$].

Table 15. Students' PRCA-24 Dimensional OCA Scores and Their Avoidance Experience

	Avoid?	*n*	*M*	*SD*	*p*
PRCA Interpersonal	**yes**	121	15.51	4.24	< 0.001
	no	387	13.78	4.04	
PRCA PublicSpkg	**yes**	121	20	5.5	0.01
	no	387	18.64	4.97	
PRCA Group	**yes**	121	16.39	4.79	< 0.001
	no	387	14.5	4.23	
PRCA Meeting	**yes**	121	16.36	4.77	0.002
	no	387	14.89	4.33	
PRCA Overall	**yes**	121	68.26	15.75	< 0.001
	no	387	61.82	14.03	

Table 16. Descriptive Statistics for Students' PRCA-24 Dimensional OCA Scores and Three Experience Factors (**Business Students** / *Non-Business Students*)

	M	SD	n	M	SD	n	PRCA PS	PRCA INT	PRCA GRP	PRCA MTG	Overall Pres Exp	Nav/ Avoid	Oral Skills Course Exp
PRCA-PS	**19.05**	**4.83**	**312**	*18.83*	*5.58*	*196*		*.42*	*.46*	*.59*	*-.13*	*-.19*	*-.06*
PRCA INT	**14.37**	**4.11**	**312**	*13.91*	*4.21*	*196*	**.34**		*.59*	*.67*	*.01*	*-.24*	*-.12*
PRCA GRP	**14.80**	**4.42**	**312**	*15.19*	*4.48*	*196*	**.42**	**.59**		*.70*	*-.05*	*-.22*	*-.16*
PRCA MTG	**15.09**	**4.44**	**312**	*15.49*	*4.66*	*196*	**.43**	**.58**	**.70**		*-.10*	*-.17*	*.03*
Overall Present Course Exp	**11.96**	**5.61**	**312**	*12.48*	*5.45*	*196*	**-.10**	**.04**	**-.02**	**-.11**		*-.11*	*.09*
Navigate/ Avoid	**1.78**	**.42**	**312**	*1.73*	*.44*	*196*	**-.05**	**-.14**	**-.15**	**-.12**	**-.17**		*.16*
Oral Skills Course Exp	**.97**	**.47**	**312**	*1.18*	*.82*	*196*	**.13**	**.03**	**-.02**	**.01**	**-.04**	**.15**	

RQ8 asked whether undergraduate students who self-reportedly make use of public speaking course alternatives have significantly higher apprehension scores on the three high stakes dimensions than those who do not make use of such alternatives (e.g., again recall that meeting and group are combined). This research question examines the relationship between

potential avoidance behavior and OCA apprehension levels as measured by this thesis study's high stakes scenarios. To examine this question, three one-way between-subjects ANOVAs were conducted to compare undergraduate student participants' potential avoidance of courses that contain public speaking with their respective high stakes dimensional scores. The results indicate in all three cases, students who used public speaking alternative courses had *no significantly higher* high stakes dimensional apprehension scores than students who did not make use of such courses (see Table 17): (1) interpersonal – students who avoid (M = 9.65, SD = 2.54 versus students who do not (M = 9.84, SD = 2.54) [$F(1, 165) = .184$, $p = .66$]; group/meeting - students who avoid (M = 5.72, SD = 1.79) versus students who do not (M = 5.89, SD = 1.84) [$F(1, 169) = .014$, $p = .60$]; public speaking - students who avoid (M = 15.79, SD = 4.49) versus students who do not (M = 15.47, SD = 3.26) [$F(1, 100) = .104$, $p = .75$].

Table 17. Students' High Stakes Dimensional OCA Scores and Their Navigating Experience

	Avoid?	*n*	*M*	*SD*	*p*
High Stakes Inter	**yes**	42	9.65	2.54	0.66
	no	125	9.84	2.53	
High Stakes Group/Meeting	**yes**	43	5.72	1.79	0.60
	no	128	5.89	1.84	
High Stakes Public Speaking	**yes**	36	15.79	4.49	0.75
	no	134	15.47	3.26	

H2a hypothesized that business undergraduate students' exposure to high and low stakes oral communication scenarios (public speaking, group/meeting, and interpersonal) will produce significant difference within each scenario, with public speaking being the most significantly different. To test this hypothesis, a paired-samples t-test was conducted to compare the undergraduate student participants' high and lows stakes scores within each of the high/low stakes dimensional scores (see Table 18). Recall that for this hypothesis testing, the full seven-

item high/low stakes scale was used (e.g., versus the 2 and 3-item scales used in all other instances when comparisons are made to PRCA-24 scores).

The results indicate that business undergraduate student's apprehension levels were significantly different between the high stakes and low stakes scenarios within each high/low stakes dimension: (1) high stakes public speaking scenario (M = 20.68, SD = 4.78) versus low stakes public speaking scenario (M = 16.11, SD = 4.92), t (99) = 9.87, $p < .001$; (2) high stakes group/meeting scenario (M = 17.95, SD = 4.85) versus low stakes group/meeting scenario (M = 12.90, SD = 4.34, t (102) = 11.99, $p < .001$; and (3) high stakes interpersonal (interview) scenario (M = 20.01, SD = 4.47) versus low stakes interpersonal (interview) scenario (M = 16.50, SD = 5.28), t (108) = 7.16, $p < .001$). While the non-business students' results are similar, one interesting difference is their apprehension levels in the high stakes interpersonal scenario (e.g., specifically – interview) (M = 18.78, SD = 5.02, $p < .001$). As seen above, the results also indicate that the difference between high and low stakes within a scenario is most significant in the public speaking setting. Thus, H2a is supported.

Table 18. Business Students' High and Low Stakes Within-OCA-Dimensions Comparison

		n	***M***	***SD***	***p***
Pair 1	**High Stakes INT (7 item)**	109	20	4.47	< 0.001
	Low Stakes INT (7 item)	109	16.5	5.27	
Pair 2	**High Stakes Group/Meeting (7 item)**	103	17.95	4.85	< 0.001
	Low Stakes Group/Meeting (7 item)	103	12.9	4.34	
Pair 3	**High Stakes Public Speaking (7 item)**	100	20.68	4.78	< 0.001
	Low Stakes Public Speaking (7 item)	100	16.11	4.92	

H2b hypothesized that high-stakes *dimensional* settings will produce significantly higher business undergraduates' OCA scores when compared to their respective PRCA *dimensional* scores. To test this hypothesis, a paired-samples t-test was conducted to compare the business undergraduates' high stakes dimensional scores with their respective PRCA-24 dimensional scores (see Table 19). Recall that for testing this hypothesis, new subscales with fewer items but reliable alphas were created for both the PRCA-24 and the high stakes scenarios that reflected their matching items. The results indicate undergraduate business student's high stakes dimensional apprehension scores were significantly higher than their respective PRCA-24's dimensional scores, except on the public speaking dimension: (1) high stakes interpersonal (interview) dimension (M = 9.95, SD = 2.35) versus the PRCA-24 interpersonal dimension (M = 7.21, SD = 2.07), t (108) = 10.65, p < .001; (2) high stakes group/meeting dimension (M = 5.57, SD = 1.78) versus the PRCA-24 group dimension (M = 4.84, SD = 1.54), t (102) = 4.56, p < .001; (3) high stakes group/meeting dimension (M = 5.57, SD = 1.78) versus the PRCA-24 meeting dimension (M = 4.89, SD = 1.70), t (102) = 3.94, p <_.001; (4) high stakes public speaking dimension (M = 10.52, SD = 2.49) versus the PRCA-24 interpersonal dimension (M = 10.47, SD = 2.31), t (99) = -.966, p = .34. Thus, H2a is only partially supported.

Table 19. Comparison of Business Students' High Stakes and PRCA -24 Dimensional Scores

		n	***M***	***SD***	***p***
Pair 1	**High Stakes INT**	109	9.95	2.35	< 0.001
	PRCA INT	109	7.21	2.07	
Pair 2	**High Stakes Group/Meeting (7 item)**	103	5.57	1.78	< 0.001
	PRCA Group	103	4.84	1.54	
Pair 3	**High Stakes Group/Meeting**	103	5.57	1.78	< 0.001
	PRCA Meeting	103	4.89	1.7	
Pair 4	**High Stakes Public Speaking**	100	10.47	2.31	0.34
	Low Stakes Public Speaking	100	10.67	2.5	

Discussion

Based on the review of literature presented earlier, oral communication skills remain critical to modern business. Unfortunately, business schools do not seem to be adequately supplying the effective oral communicators that employers demand. According to this study's results, oral communication apprehension (OCA), demonstrated by previous research to negatively impact individuals' oral communication competency, appears to remain prevalent in undergraduate business students (e.g., the majority have moderate or higher OCA levels). As also noted earlier, since reducing OCA may be a *prerequisite* to improving oral communication skills (Allen & Bourhis, 1996; Byrne et al., 2009; Hassall et al., 2000), assessing business students' OCA levels may help educators design and deliver more effective oral skills communication education (Byrne et al., 2009). Business educators prepare and develop business students for success in the modern marketplace. This study's results indicate that the higher the stakes of an oral communication situation (e.g., like an interview), the higher the business students' OCA levels. This author argues this additional knowledge is relevant and complimentary to PRCA-24 assessment data and potentially vital for business educators.

It is also important to note the link between performance and OCA. Numerous studies suggest a relationship between OCA and communication competency (CC), including those mentioned earlier that demonstrate students and academic success and interviews along with employees and recruitment, retention, promotion, positive perception in the workplace and more. Rubin, Rubin, and Jordan (1997) address this link in their examination of the relationship between OCA and CC. Their study results support the inverse relationship between OCA and CC, especially the scarcity of respondents in their high OCA/High CC and low OCA/low CC groups. Interesting to note are Rubin and Graham's (1988) significant correlations between

OCA and CC for two types of assessed competence, self-reported and objective observer. While the correlation was significant for both types of CC, self-reported measures of CC were more highly related to self-reported OCA than observer measures were related to self-reported OCA.

Rubin, Rubin, and Jordan (1997) do, however, suggest salient factors that may mediate the relationship between OCA and CC, especially amongst undergraduate students, including: academic longevity (i.e., CC appears to decrease in some students sophomore year yet increases again in junior and senior years); academic major (i.e., highly apprehensive students may choose majors which require significantly less oral communication); knowledge gained in class; experience, which they suggest may reduce "conspicuousness and other causes of OCA" (p. 112); and self-efficacy that may influence students' efforts to achieve their communication goals as well as allow for successful experiences that could, in turn, potentially increase their willingness to communicate

The survey results concerning H1a, H1b, and H1c indicate undergraduate business students have the same OCA levels as their peers and the general population, especially when it comes to public speaking. When viewed under the lens of this study's alternative high/low stakes method of measuring OCA, however, undergraduate students may have *higher* levels of OCA in specific workplace reflective settings compared to their OCA levels concerning those same general settings as indicated by the PRCA-24 instrument. In addition, while business students are most apprehensive in public speaking settings similar to their peers and the general public, their OCA levels in high stakes interpersonal, group, and meeting settings may also be higher than general situations in those same settings as previously predicted by the PRCA-24.

A specific example from this study's results may help to illustrate this author's central argument. When measured by this study's high/low stakes scales, business students have

significantly higher OCA levels in high stakes interviews than non-business students. While the PRCA-24 may indicate a business student has low levels of OCA in "general" interpersonal oral communication situations, this indication may not be a sufficient analysis of workplace-situated interpersonal OCA levels for business students. In aggregate, these results suggest undergraduate business students may experience OCA at higher levels and in more settings (related to work) than originally estimated. This is arguably critical information for business educators to have so that, along with the results concerning oral communication experience, they can better target curricular and pedagogical decisions to student realities. For example, if business educators possessed more accurate assessments of their students OCA levels concerning specific workplace-reflective oral communication situations, then pre and post measures of those specific OCA levels would help business educators better evaluate the success of their programs.

Domains (Individual Differences, Between, and Within Oral Communication Settings)

Equally important and integral to this discussion is how this study's results shed light on how OCA is conceptualized. The high/low stakes survey items asked students to recall specific, highly variable oral communication situations according to levels of importance (e.g., high and low stakes). The participants' apprehension levels showed significant variability *within* each of three oral communication setting (e.g., OCA levels rose as stakes increased). These results concerning H2a indicate that business students' OCA levels are significantly sensitive to situational variables, thereby indicating OCA demonstrates the characteristics of a state construct. While the PRCA-24 has proven valid as a measurement of the mean levels of individuals' aggregate (traitlike) and general subscale OCA levels, these results indicate significant volatility of scores within a range (e.g., subscale). Such results support this author's argument that OCA operates as a state, at least when changing stakes are involved.

The results concerning H2b demonstrate that students' high stakes dimensional OCA scores were significantly higher than their respective PRCA-24 dimensional scores, with the exception of public speaking. These results indicate that undergraduate student self-reported OCA levels may be different concerning specific high-stakes oral communication events compared to their respective dimensional scores on the PRCA-24. Moreover, this author posits that many workplace oral communication settings carry higher stakes than most daily social interactions. With this in mind, the situational variability of stressful, critical oral communication situations (e.g., like those stakes commonly found at work) support the author's argument that business educators may be wise to prepare their students for those high stakes oral settings. For oral skills education, this preparation begins with, as does any good gap analysis, specific assessment of exactly where the students are apprehensive, as those are likely the places where their oral communication competency will suffer the most. This author suggests that the most important oral business interactions often come with the most stress, a combination that likely contributes to ineffective workplace communication, which can result in missed sales, unsigned contracts, negative turn-over functionality, and other company woes.

A potential explanation for the non-significant difference for the public speaking dimension may simply be that 15% or so of undergraduates, as is true of most of the population, are highly apprehensive around most public speaking scenarios. This may suggest a public speaking OCA threshold or plateau past which measurement becomes moot. Contrastingly, this study's undergraduate participants' public speaking dimensional OCA levels were significantly lower for low stakes public speaking versus high stakes public speaking scenarios. In other words, even the highly apprehensive students were significantly less apprehensive in low stakes

public speaking scenarios. In the very least, perhaps business educators could endeavor to help their students approach high stakes settings as if they were low stakes in order to reduce OCA.

Accurate conceptualization and measurement of OCA appear necessary prerequisites for effective reduction efforts, including the efforts of undergraduate business educators. If, as this study suggests, business students' situational OCA can be more accurately measured by assessing specific workplace-reflective oral communication settings in addition to PRCA-24 assessment, then leveraging that information for student development is paramount. "Knowing an individual's communication apprehension could help individuals who are interested in assessing and/or improving communication, either in education or business" (Smith, Nelson, & Smeltzer, 1994).

Education (Impact on Spiral Curriculum)

McCroskey himself posited that OCA,

> "Must be considered a central concern of any instructional program concerned with more effective communication as a targeted outcome, whether the program is labeled a program in communication competence or a program in communication skill. Basic competencies and basic skills cannot be separated from the problem of high CA" (p. 37).

Scholars continue to assume, as they did in the early decades of the OCA concept (Beatty et al., 1978), that individuals' OCA scores generated by the PRCA-24 reflect their actual OCA levels (e.g., construct validity). While this assumption may hold true for a general understanding of individuals' "traitlike" OCA, it may not hold up when comparing the construct validity of OCA levels (as measured by the PRCA-24) and actual workplace situational OCA levels.

Beatty et al. (1978) noted OCA scores generated by the PRCA-24 are deemed suitable for classifying people for not only studies, but for any subsequent educational or anxiety intervention or reduction programs. In fact, McCroskey (1970) originally developed the PRCA-

24 as part of research he had been conducting on the effects of OCA reduction techniques. Recalling the PRCA-24's intended design to measure general traitlike and overall subscale OCA levels, this study's results suggest scholars' historical use of the PRCA-24 may not be providing sufficient *situational* measurement of business students' OCA levels necessary for effective apprehension reduction and subsequent oral skills development. This is not an attack on the PRCA-24 itself because, as mentioned earlier, McCroskey never designed the scale to reflect and assess individual oral communication scenarios. In light of this reality, this study compliments and supplements the work of James McCroskey, the PRCA-24 instrument, and OCA literature.

As discussed earlier, the three foundational elements of spiral curriculum essential to effective learning are: (1) acquisition of basic, component skills first; (2) repeated, increasingly challenging practice; and (3) expert coaching and feedback. Unfortunately, OCA appears to disrupt and manifest with significant variability across and within oral communication settings. "Research indicates that the extent to which CA affects individuals determines both the effectiveness of their communication skills and the efficacy of efforts devoted to their development" (Hassall et al., 2000). This apprehension presents difficult challenges for educators concerning each of these foundational elements of spiral curriculum. In response, this study provides results that may assist OCA reduction efforts in higher educational settings.

Component oral skills and oral communication apprehension.

Beginning with the acquisition of component skills, OCA appears to significantly impede the mechanisms of skill-building curricula. Scholars conclude that individuals' OCA must be addressed and reduced *before* their oral communication skills can be developed (Hassall et al., 2000, McCroskey, 1984). Specifically, more scholars are beginning to suggest that students with low OCA levels (e.g., scores < 65) can receive oral communication skills development whereas

moderate to high OCA students (e.g., scores $\geq$ 65) need to first address their apprehensions before skills development can begin. Gardner et al.'s (2005) study demonstrated exposing high OCA students to lessons and experiences that attempt to improve component oral communication skills could actually *increase* those students' anxiety and thereby detract from their learning and development.

This may explain this study's results surrounding RQ3 and RQ4 that examine whether or not students' oral communication skills course experience moderates their OCA as measured by either the PRCA-24 or the high stakes scenarios. Concerning RQ3, the results indicate that oral communication skills courses are not effective in reducing undergraduate student's OCA in *each of the four* settings. Potentially more compelling are the results concerning RQ4 that indicate undergraduate oral communication skills classes may not lessen students' apprehension in high stakes situations where those skills are perhaps needed most. These results make sense, however, when viewed through the lens of the challenges OCA presents to foundational oral skills development. It is likely that a significant number of students in those classes have moderate to high OCA, the reduction of which is likely not the focus of those courses.

In light of the prevalence of OCA amongst business students, more specific assessment of their situational OCA levels prior to enrollment may be necessary first steps in designing discipline, major, and individual plans of study. As a result, a key decision for business educators may be whether or not to offer separate classes for students with moderate to high OCA or teach oral communication skills to those students within the same class in a way that includes OCA reduction efforts (Connell & Borden, 1987; Ruchala & Hill, 1994).

Avoidance and spiral curriculum

This study's results indicate that a fair number of undergraduates (30%) may be partly doing the educators' job (suggested in the last paragraph) for them by avoiding courses with oral communication skills components. As is often the case in this study's survey, the *combination* of the PRCA-24 scale results and the stakes scenarios scales' results potentially tell a more compelling story than the PRCA-24 results would alone.

RQ7 dealt with the relationship between students who made use of public speaking course alternatives and their OCA scores as measured by the PRCA-24. These results indicate that students with significantly higher OCA are more likely to, and do, avoid courses with oral presentation requirements. More importantly, this appears the case for not only those with high aggregate scores, but also for those with high scores in each PRCA-24 dimension. These results indicate the possibility that the success rates of any courses including or requiring oral communication skills may not include the impact of the students with the highest OCA levels. One could make the argument that this avoidance is beneficial because it ensures the majority of students in an oral skills development class are those with low OCA. If scholars are correct, only students with low OCA can benefit from oral skills development. On the other hand, one could argue the ones who don't show up for oral skills development are the ones that need it the most.

RQ8, on the other hand, dealt with the same relationship as measured by the stakes scenarios. These results indicate, in stark contrast to those measured by the PRCA-24, that undergraduates who avoid courses with oral presentation requirements do *not* have significantly higher OCA in *any* of the three high stakes scenarios compared to those who do not avoid such courses. These results may indicate that students avoid or navigate around oral presentation skills classes for reasons other than apprehension. One alternative explanation could be students

who avoid or navigate around such courses already feel competent as speakers. Another explanation could include students with alternative course credits that fulfill those requirements. Under such conditions, oral communication skills may be missing the *low* OCA students who are best positioned to benefit from that specific skill development. Either way, if nearly one out every three students navigate around oral communication skills training, the opportunities for spiral curriculum's next two elements, practice and feedback, are diminished.

Practice and Oral Communication Apprehension.

The second and third foundational elements of the spiral curriculum theory are inexorably linked. This theory suggests that as students are offered increasingly challenging opportunities to practice, those incremental advances in complexity are made possible through the expert feedback and coaching afforded at each successive stage. This author posits, supported by previous research, that the unique nature of OCA makes this progressive spiral of developing practice and feedback difficult to achieve for oral communication skills for several reasons.

The first reason, as Gardner et al. (2005) noted, is that exposing students with moderate to high OCA levels to oral communication situations without first addressing the apprehension may *increase* their apprehension. This makes practice a delicate matter. Although the OCA research concerning treatment is inconclusive (see "Implications for Future Research"), an emerging idea in the literature suggests it may be necessary to match reduction techniques or programs to individuals' respective situational OCA levels (Ayres et al., 1998; Dwyer, 2000; Russ, 2012). Therefore, knowing more specific assessments of business student's situational OCA scores may be necessary to avoid placing students with high OCA in anxiety-inducing oral communication settings. In addition, this refined assessment may also help educators conduct, coach, and evaluate present courses with oral interactions and presentations more strategically.

This author is not suggesting it is feasible or necessary to measure undergraduates' OCA in every possible oral communication setting. Rather, in light of the survey results, it may make sense to identify *categories* of typical, significant, and specific workplace oral communication situations within the four dimensions that elicit heightened OCA levels (e.g., a high stakes entry-level job interview for interpersonal, or a high stakes B2B sales presentation for public speaking). In this way, business educators could assess their students according to OCA categories relevant to their particular academic disciplines as well as career and industry goals. In turn, oral skills assessment and OCA reduction approaches could be identified, delivered, and evaluated based on these more accurate and relevant OCA measurements and thereby potentially delivered to students in aggregate or departmental groups analogous to their specific needs.

This study's results support this notion of targeting practice opportunities to specific OCA levels and settings. As indicated by the PRCA-24 measured results concerning RQ1, the more students have general oral communication experience and practice overall and in the four oral communication settings, the less apprehensive they will (perceive themselves to) be overall as well as generally within those respective settings. In this way, PRCA-24 assessments start business educators down the road of places to start building general, foundational skills.

More specifically, the results concerning RQ2 indicate that the more *high stakes* interpersonal and presentational experience and practice undergraduates can obtain (e.g., job interviewing or presenting in high stakes situations), the less apprehensive they will be about those respective settings. These results represent a significant and novel contribution of this study as they offer potentially more relevant direction for targeting business educators' oral communication efforts. In addition, the results indicated undergraduate students' experience in high stakes group/meeting settings does *not* lessen their apprehension about those settings. This

result is equally significant and novel and is diametrically opposed to the PRCA-24 measured results. This result could have significant impact on business oral skills education due this author's first-hand knowledge of the prevalence of group presentations in the majority of business courses at numerous Western business schools (specifically in the U.S. and U.K.).

The previous results reflect student oral communication experience levels obtained through items that asked the students for general experience in the four oral communication settings. RQ5 and RQ6, however, specifically obtained student public speaking experience levels through items that asked them for the *number of courses* they had taken that included solo or group presentations. The results for RQ5 indicate that the more students orally present, the less apprehensive they become about doing so, according to the PRCA-24. On the other hand, results for RQ6 indicate that additional oral presentation practice does not lessen *high stakes* oral presentation apprehension. These results are another indication that the PRCA-24, while necessary, may not be sufficient for the OCA assessments needed by business educators.

According to this study's results considering the various practice and experience settings and their subsequent varying impact on students' OCA, practice may not necessarily make perfect if it is not *specifically targeted*. In addition, as difficult as it may seem to provide students with moderate to high OCA the proper relevant opportunities for practice, it may prove equally troublesome to give them the right feedback during practice.

Expert feedback, coaching and oral communication apprehension.

As mentioned earlier, expert feedback and coaching are essential partners to practice in order to achieve effective learning. OCA may also present challenges to educators' ability to give targeted, valuable feedback for several reasons. The first reason is highlighted by this study's results that suggest that high levels of situational OCA may be common for business

students (and undergraduates in general). It may also be the case that students do not recognize the impact their OCA levels have on their oral communication delivery. This argument is supported by the relationship between the students' self-reported confidence and apprehension (e.g., nerves, fears, etc.) levels in the high stakes scenarios. While students' OCA levels rose significantly in the high stakes scenarios and decreased significantly in the low stakes scenarios, their confidence levels *remained the same*.

In addition, the majority of students reported favorable outcomes from both high and low stakes scenarios as well as a consistent belief, even in the high stakes settings, that they clearly communicated despite their significantly increased self-reported nerves. This could be a response bias, or it could be an optimism that obstructs students' ability to recognize OCA's damaging effects on oral communication skills. If the latter is the case, business students may potentially disagree with critical challenges to their oral skills and thereby disregard expert feedback and coaching. These results suggest that business educators may need to put on their CEO hats in addition to their instructor hats in order to give students constructive, yet realistic, feedback concerning the efficacy of the oral communication aspects of their presentations. This feedback may need to include, if it does not already, verbal and non-verbal oral delivery grades and comments along with those concerning presentational content. In addition, considering how to structure and deliver that feedback may require intentionality and strategy on the part of business instructors in order that the message gets through to the students.

One possible means of overcoming potential student bias towards the impact of their OCA on their performance may be the use of experts for evaluating the delivery component of student presentations. One example of where experts might be leveraged is the use of communication labs prior to business student presentations. Business undergraduates commonly

work in groups towards developing proposals for local businesses culminating in a presentation to that "client" as a capstone experience to their course. Business instructors could send their student groups to a Communication Department (or similar) sponsored lab for help in preparing for, and practicing the delivery of, these important presentations. The business students would be ale to acquire not only more practice, but do so while also receiving more in-depth coaching on the expectations and best practices of professional group presentations for business proposals. This feedback could include aspects of not only the organization and delivery of the students' ideas, but also critical evaluations of how they communicate and collaborate through their group processes to achieve results prior to arranging and delivering them.

In addition, while clients likely give some feedback to these student groups, instructors could encourage and assist clients to offer more formalized (i.e., based on rubrics and previously established guidelines) feedback that included realistic assessments of the organization and oral delivery aspects of the individuals and the group. In other words, clients could be encouraged to give the students frank assessments of how their delivery stacks up against professional expectations.

These examples address group and presentational oral communication. A similar use of experts for interpersonal communication could be for mock interviews. While career services professionals likely offer valuable feedback for students concerning their interviewing skills, it would likely also benefit students to experience a mock interview with a professional recruiter who could offer feedback previously coordinated with instructors to include frank and targeted evaluations of the students' oral communication.

Another final potential reason for OCA's impact on the ability of business educators to give expert feedback and coaching is its complex nature. Business students, as is likely true of

other populations, can demonstrate significant volatility in their OCA levels between and within various oral communication situations, as is evidenced by this study's results. If it is difficult for Communication scholars to assuage the impact of OCA and agree on reduction efforts, imagine the level of difficulty for business faculty who likely lack analogous training, especially in the areas of OCA and communication competency. While it is likely that business faculty, like most people, "know it (effective oral communication) when they see it," their efforts and approaches to OCA reduction and communication competency development do not appear highly coordinated to this author at this time.

While better OCA assessment seems a logical and potentially beneficial area of focus for business educators, this author suggests a word of caution in this area as well. This type of pre-assessment of business students, while potentially more targeted and beneficial, could lead to treating OCA as an "accommodation" not unlike numerous other such accommodations addressed in education. This could have costs and benefits associated with such a labeling.

On the one hand, the PRCA-24 and other more specialized OCA assessment measures could provide business educators powerful tools for helping to identify highly apprehensive students (concerning oral communication) for placement into special educational sections, courses, programs, or tracks. This may prove beneficial for targeted educational interventions. On the other hand, this labeling could backfire and result in students feeling awkward or degraded by the use of such "special" labeling and accommodating. There is also the potential that such grouping could deny the apprehensive students peer role models of competent communication, isolating those who are highly nervous into apprehensive-filled classrooms. Conversely, perhaps students with high OCA may feel more comfortable around similarly apprehensive peers in a class that requires presentations and increased interpersonal and group

interactions. These are the types of potentials costs and benefits that educational scholars can hopefully help address within an interdisciplinary approach.

Limitations

The foremost limitation of this study is its incipient use of newly constructed oral communication setting subscale items to measure situational OCA (e.g., high and low stakes). While these items exhibited reliable alpha coefficients and were based exclusively on the PRCA-24's items as starting points, more refinement is likely needed before reliable and tested subscales can be enacted and used for situational OCA measurement and assessment.

In addition, this study was conducted at one business school within a large, public university in the southeastern United States. The surveys need to be replicated at additional business schools of varying sizes, locations, educational philosophies, and more. In addition, this author's assumptions, especially in areas concerning business educators, need to be tested.

Recommendations for Future Research

This author suggests that the most pressing issue surrounding OCA research is the need for theory building. This author argues the time has come for a "Kuhnian" (1962) paradigm shift in how scholars conceptualize and measure OCA. It would appear that individuals' *mean* OCA levels have not decreased since the construct was first measured nearly 50 years ago. This signifies that scholars may not have provided educators adequate resources for identifying, assessing, and reducing OCA. For many years, scholars have gone back and forth on how to conceptualize OCA, with most reflecting McCroskey's multidimensional context and trait-like perspective. In turn, the majority of OCA research results are based on PRCA-24 measurements. In this way, the bulk of OCA research and assessment has identified and approached this apprehension with generalized tools in generalized settings. While there appears value in using

these tools and assessing general traitlike OCA tendencies, for educators, the more specific the assessment, the more targeted the educational efforts and evaluations for process improvement.

The result of all of this ambiguity, complexity, and lack of scholarly agreement surrounding OCA is a significant lack of guiding research. OCA has bounced around as a concept to a subsuming construct with no overarching theoretical boundaries or paradigmatic lens to hold it, and the research around it, in place. In turn, there exists no central, cohesive, proven model for educators to base their curricular or pedagogical strategies, decisions, and behaviors. When responding to arguments against his communibiological explanation for OCA's etiology, McCroskey (Beatty et al., 1998) himself admitted that his conceptualization was, "by no means complete, but then theories and paradigms are never complete" (p. 212).

The confusion and disagreement surrounding OCA stands in stark contrast to the research and collaborative understandings concerning communication competency. As reviewed in the related literature, what makes a competent communicator and the requisite oral communication skills that accompany such competency have a long, detailed, collaborative scholarship history with resulting foundational rubrics and guidelines that educators from all disciplines have assimilated for years. It appears the Communication field knows how to build effective communicators, but do not know how to remove a major obstacle, OCA, in order to do so.

Although the situation looks dire, it appears that the Communication discipline also has a unique opportunity. For many years a strange step-child of numerous disciplines like Psychology and Sociology from which it borrowed to engender its seminal studies, Communication has an opening to step forward and return the favor. For decades scholars have been championing the advancement of Communication Across the Curriculum (CXC) and Communication In the Disciplines (CID) (Cooper, 1985; Dannels, 2001; Dannels & Housley

Gaffney, 2009; Ediger, 2011; Jankovich & Powell, 1997; Morreale, Shockley-Zalabak, 1993; Reiss, Selfe, & Young, 1999; Steinfatt, 1986, Tuleja & Greenhalgh, 2008).

Communication across the curriculum (CXC) is, at its very essence, "instructional support for teaching communication practices in non-communication classrooms" (Dannels, 2001, p. 144). A little over a decade ago, Dannels pointed out how CXC is becoming part of the national conversation, noting that scholars have demonstrated that many disciplines are facing industry calls for them to prepare their students to meet the *specific* communication tasks they will confront in each in the contemporary workplace (Black, 1994; Brennan, 1997; Clyne, 1996; Katz, 1993; Kovacs, 1993; Machlis & Colucci, 1996; Pabbati & Rathod, 1995). If employers are still dissatisfied with business graduates oral communication skills, what discipline stands better poised to help business educators than Communication? International scholars have been recently collaborating to test CXC programs, including models for undergraduate business programs (Tuleja and Greenhalgh, 2008). The iron appears hot to strike.

Communication scholars, however, may not need to face this difficult challenge alone. If there are likely biological, sociological, psychological, and other such factors that lead to higher levels of OCA in individuals, then it stands to reasons that an interdisciplinary approach to conceptualizing, assessing, and reducing OCA is in order. This author suggests several initial disciplines for communication scholars, instructors, and departments to collaborate with and support in order to potentially help close the oral skills gap for industry. The first disciplines are Psychology, Human Development, and Neurology. If OCA likely needs to be reduced before skills development can occur, scholars from these disciplines would appear best poised to help better understand the complex nature apprehension. It would likely benefit educators if Psychology and Human Development researchers could begin to map and outline how these

apprehensions are formed and thereby diminished. In addition, continued research by neurological scholars could help define the "communibiological" bandwidth around which other scholars must contextualize and ground an understanding of how people acquire OCA.

The second discipline positioned for collaboration is Business. If organizational scientists could better map out the specific workplace oral communication situations for which it is most necessary to prepare their students, they could assist business educators to prioritize and focus efforts towards developing students' skills for those specific areas. In addition, organizational scientists may also help educators by better explicating the distinct nuances necessary for successful and effective professional oral communication settings. For example, it may be beneficial to discover the best mixture of professionalism and polish on the one hand, and natural style on the other when making sales presentations. Moreover, explicating how that mixture changes for various industries and types of clients could prove beneficial as well for business educators.

Finally, the Education discipline could assist business educators by taking the data and assessments mentioned above from Psychology and Business and helping to strategize, design, and match instructional pedagogy and curricular models to practice. An example of this kind of cross-departmental (e.g. CXC) collaboration can be seen between Communication and Engineering departments like the one at this author's university that resulted in the creation of an "Engineering Communication Center."

But no amount of collaboration or strategic and tactical oral communication educational assistance, across curriculums or within disciplines, will be effective without first rigorously testing the conceptualizations, theoretical frameworks, and resultant measurement tools common in OCA research. Unfortunately, the literature on OCA treatment and reduction is inconclusive

and replete with mixed results. Glaser (1981) reviewed the first 15 years of OCA literature, focusing on the three main OCA reduction models: (1) cognitive modification (CM) with cognitive therapy (CT); skills (behavioral) training (ST); and systematic desensitization (SD) for conditioned (physiological) anxiety. Unfortunately, she uncovered no accrual or increase in understanding how to treat people with high OCA (Glaser, 1981).

Exploring ways to reduce OCA in accounting students a decade later, Stanga and Ladd's (1990) consideration of these same methods suggests their continuing popularity. Later, in 1997, Robinson conducted a national survey of basic public speaking course instructors' treatment techniques for students with high OCA. Robinson's (1997) list of the major OCA reduction techniques and their frequency of use (see Glaser, 1981 prior paragraph) revealed a fourth technique - "visualization" (p. 193). The majority of studies involved in testing these reduction techniques used the PRCA-24 to assess participants' pre and post OCA levels. Again, while the PRCA-24 may be necessary, it may not be sufficient for business educators' needs.

Perhaps what is needed to push OCA theory building forward is an exhaustive meta-review and analysis of the OCA literature, from conceptualization to treatment. This thesis contributes a small, yet significant, piece of the path forward. By demonstrating the situational variability of OCA in high stakes situations, this study provides business educators complimentary OCA assessment (e.g. to the PRCA-24) in a sensible category of oral communication workplace-reflective settings relevant for future business school graduates. There is a need for more such categories to be examined that business schools can leverage towards designing, refining, and targeting their business oral communication skills education.

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Appendix A. Student Survey

COMM Research System Thesis Survey

Q1.1 [redacted] Informed Consent for Participants in Research Projects Involving Human Subjects Project: Communicating in Various Situations [redacted] I. Purpose of this Research/Project This study is being undertaken to increase our understanding of undergraduate students and how they feel about communicating in various situations. There are anywhere from 100-300 students potentially taking this survey. II. Procedures After reading and agreeing to the parameters of this online consent form, you will proceed to the survey in which you will be asked to respond to a series of questions and statements. At the end of the survey you will then be asked for some basic demographic information. III. Risks There are no risks associated with this research more than you encounter in everyday life. IV. Benefits The primary benefit associated with this study is helping researchers identify more about undergraduate students enrolled in business courses and how they feel about communicating in various situations. No promise or guarantee of these benefits has been made to encourage you to participate. V. Extent of Anonymity and Confidentiality All participants will remain anonymous for this study. No names will be associated with the study, data, or results in any way. Finally, if you agree to participate, you will be asked for your name and course section at the end of the survey in order to be able to assign you the research participation credit allowed in exchange for taking the survey. Once this information is recorded for the purposes of allocating this credit, all identifying information will be separated from the survey data. Your anonymity is guaranteed. VI. Compensation You will, upon completion of your participation, receive 1 hour of Research Participation credit allocated to the course through which you arranged your participation. VII. Freedom to Withdraw You are free to withdraw from this study at any time without penalty. If you choose to withdraw, you will not be penalized by reduction in points or grade in your corresponding course for which you have signed up for this research. If you withdraw, you will be given pro-rated credit for your participation. You are free to not answer any question you choose. VIII. Participants' Responsibilities I voluntarily agree to participate in this study. If I do so, I have the following responsibilities: 1) To give agreement with this Consent Form by choosing "I Agree." 2) To answer the questions in the subsequent survey to the best of my ability. IX. Subject's Permission I have read the Consent Form and conditions of this project. I have had all my questions answered.

Q1.2 I hereby acknowledge the above and give my voluntary consent.

- ❍ I Agree (1)
- ❍ I Disagree (2)

If I Disagree Is Selected, Then Skip To End of Survey

Q1.3 Should I have any pertinent questions about this research or its conduct, and research subjects' rights, and whom to contact in the event of a research-related injury to

the subject, I may contact: [redacted]

Q2.1 Thank you for agreeing to participate in this study concerning undergraduate and how they feel about communicating in various situations. Please take the time to consider each question and statement below carefully and provide an honest answer. Your participation is completely confidential and your identity will never be attached to your responses.

Q3.1 Please read each statement very carefully as some are framed in a positive way and some are framed in a negative way, and then click on the level of disagreement or agreement that best expresses your honest assessment of yourself.

	Strongly Disagree (1)	Disagree (2)	Undecided (3)	Agree (4)	Strongly Agree (5)
I dislike participating in group discussions. (1)	❍	❍	❍	❍	❍
Generally, I am comfortable while participating in group discussions. (2)	❍	❍	❍	❍	❍
I am tense and nervous while participating in group discussions. (3)	❍	❍	❍	❍	❍
I like to get involved in group discussions. (4)	❍	❍	❍	❍	❍
Engaging in group discussion with new people makes me tense and nervous. (5)	❍	❍	❍	❍	❍
I am calm and relaxed while participating in group discussions. (6)	❍	❍	❍	❍	❍
Generally, I am nervous when I have to participate in meetings. (7)	❍	❍	❍	❍	❍
Usually, I am calm and relaxed while participating in meetings. (8)	❍	❍	❍	❍	❍

I am very calm and relaxed when I am called upon to express an opinion at a meeting. (9)	❍	❍	❍	❍	❍
I am able to express myself at meetings. (10)	❍	❍	❍	❍	❍
Communicating at meetings usually makes me uncomfortable. (11)	❍	❍	❍	❍	❍
I am very relaxed when answering questions at a meeting. (12)	❍	❍	❍	❍	❍
While participating in a conversation with a new acquaintance, I feel very nervous. (13)	❍	❍	❍	❍	❍
I have no fear of speaking up in conversations. (14)	❍	❍	❍	❍	❍
Ordinarily, I am very nervous and tense in conversations (15)	❍	❍	❍	❍	❍
Ordinarily, I am very calm and relaxed in conversations. (16)	❍	❍	❍	❍	❍
While conversing with a new	❍	❍	❍	❍	❍

acquaintance, I feel very relaxed. (17)					
I'm afraid to speak up in conversations. (18)	❍	❍	❍	❍	❍
I have no fear of giving a speech. (19)	❍	❍	❍	❍	❍
Certain parts of my body feel very tense and rigid when giving a speech. (20)	❍	❍	❍	❍	❍
I feel relaxed while giving a speech. (21)	❍	❍	❍	❍	❍
My thoughts become confused and jumbled when I am giving a speech. (22)	❍	❍	❍	❍	❍
I face the prospect of giving a speech with confidence. (23)	❍	❍	❍	❍	❍
While giving a speech, I get so nervous I forget facts I really know. (24)	❍	❍	❍	❍	❍

Q4.1 Please think of the most recent interview you had in the past few years that was very important to you (i.e., the stakes were high - whether for an internship, job, scholarship, organization, etc.). Please respond with your level of agreement or disagreement to the following statements concerning how you felt during that most recent, important "high-stakes" interview.

Q4.2 I felt no fear.
- ❍ Strongly Disagree (1)
- ❍ Disagree (2)
- ❍ Neither Agree nor Disagree (3)
- ❍ Agree (4)
- ❍ Strongly Agree (5)

Q4.3 I felt confident.
- ❍ Strongly Disagree (1)
- ❍ Disagree (2)
- ❍ Neither Agree nor Disagree (3)
- ❍ Agree (4)
- ❍ Strongly Agree (5)

Q4.4 I felt tense and nervous.
- ❍ Strongly Disagree (1)
- ❍ Disagree (2)
- ❍ Neither Agree nor Disagree (3)
- ❍ Agree (4)
- ❍ Strongly Agree (5)

Q4.5 I felt calm and relaxed.
- ❍ Strongly Disagree (1)
- ❍ Disagree (2)
- ❍ Neither Agree nor Disagree (3)
- ❍ Agree (4)
- ❍ Strongly Agree (5)

Q4.6 I got so nervous I forget to mention some important facts that I really knew.
- ❍ Strongly Disagree (1)
- ❍ Disagree (2)
- ❍ Neither Agree nor Disagree (3)
- ❍ Agree (4)
- ❍ Strongly Agree (5)

Q4.7 I believe my nerves showed enough that the person(s) I was speaking with could likely see that I was nervous.

- ❍ Strongly Disagree (1)
- ❍ Disagree (2)
- ❍ Neither Agree nor Disagree (3)
- ❍ Agree (4)
- ❍ Strongly Agree (5)

Q4.8 I expressed myself and my ideas very clearly.

- ❍ Strongly Disagree (1)
- ❍ Disagree (2)
- ❍ Neither Agree nor Disagree (3)
- ❍ Agree (4)
- ❍ Strongly Agree (5)

Q4.9 Please click and drag the slider until you see the appropriate number on the dial that reflects the importance (low vs. high stakes) of this interview for you. (0 = No Stakes at All, 10 = Very High Stakes)

- ❍ 0 (0)
- ❍ 1 (1)
- ❍ 2 (2)
- ❍ 3 (3)
- ❍ 4 (4)
- ❍ 5 (5)
- ❍ 6 (6)
- ❍ 7 (7)
- ❍ 8 (8)
- ❍ 9 (9)
- ❍ 10 (10)

Q4.10 Was the outcome favorable (i.e. - were you offered the internship, job, scholarship, organizational membership, etc)?

- ❍ Yes (1)
- ❍ No (2)

Q4.11 Please think of a different recent interview you had in the past few years that was much less important to you (i.e., the stakes were low - whether for an internship, job, scholarship, organization, student or hobby group, research interview, volunteer interview,

etc.). Please respond with your level of agreement or disagreement to the following statements concerning how you felt during that less important, "low stakes" interview.

Q4.12 I felt no fear.
- ❍ Strongly Disagree (1)
- ❍ Disagree (2)
- ❍ Neither Agree nor Disagree (3)
- ❍ Agree (4)
- ❍ Strongly Agree (5)

Q4.13 I felt confident.
- ❍ Strongly Disagree (1)
- ❍ Disagree (2)
- ❍ Neither Agree nor Disagree (3)
- ❍ Agree (4)
- ❍ Strongly Agree (5)

Q4.14 I felt tense and nervous.
- ❍ Strongly Disagree (1)
- ❍ Disagree (2)
- ❍ Neither Agree nor Disagree (3)
- ❍ Agree (4)
- ❍ Strongly Agree (5)

Q4.15 I felt calm and relaxed.
- ❍ Strongly Disagree (1)
- ❍ Disagree (2)
- ❍ Neither Agree nor Disagree (3)
- ❍ Agree (4)
- ❍ Strongly Agree (5)

Q4.16 I got so nervous I forget to mention some important facts that I really knew.
- ❍ Strongly Disagree (1)
- ❍ Disagree (2)
- ❍ Neither Agree nor Disagree (3)
- ❍ Agree (4)
- ❍ Strongly Agree (5)

Q4.17 I believe my nerves showed enough that the person(s) I was speaking with could likely see that I was nervous.

- ❍ Strongly Disagree (1)
- ❍ Disagree (2)
- ❍ Neither Agree nor Disagree (3)
- ❍ Agree (4)
- ❍ Strongly Agree (5)

Q4.18 I expressed myself and my ideas very clearly.

- ❍ Strongly Disagree (1)
- ❍ Disagree (2)
- ❍ Neither Agree nor Disagree (3)
- ❍ Agree (4)
- ❍ Strongly Agree (5)

Q4.19 Please click and drag the slider until you see the appropriate number on the dial that reflects the importance (low vs. high stakes) of this interview for you. (0 = No Stakes at All, 10 = Very High Stakes)

- ❍ 0 (0)
- ❍ 1 (1)
- ❍ 2 (2)
- ❍ 3 (3)
- ❍ 4 (4)
- ❍ 5 (5)
- ❍ 6 (6)
- ❍ 7 (7)
- ❍ 8 (8)
- ❍ 9 (9)
- ❍ 10 (10)

Q4.20 Was the outcome favorable (i.e. - were you offered the internship, job, scholarship, organizational membership, student or hobby group membership, volunteer position, etc)?

- ❍ Yes (1)
- ❍ No (2)

Q5.1 Please think of the most recent group meeting you had in the past few years that was very important to you (i.e. the stakes were high - whether for a critical class group project, an investment team meeting, a leadership meeting of an organization, at your job, etc.).

Please respond with your level of agreement or disagreement to the following statements concerning how you felt during that recent important ("high stakes") group meeting.

Q5.2 I felt no fear.
- ❍ Strongly Disagree (1)
- ❍ Disagree (2)
- ❍ Neither Agree nor Disagree (3)
- ❍ Agree (4)
- ❍ Strongly Agree (5)

Q5.3 I felt confident.
- ❍ Strongly Disagree (1)
- ❍ Disagree (2)
- ❍ Neither Agree nor Disagree (3)
- ❍ Agree (4)
- ❍ Strongly Agree (5)

Q5.4 I felt tense and nervous.
- ❍ Strongly Disagree (1)
- ❍ Disagree (2)
- ❍ Neither Agree nor Disagree (3)
- ❍ Agree (4)
- ❍ Strongly Agree (5)

Q5.5 I felt calm and relaxed.
- ❍ Strongly Disagree (1)
- ❍ Disagree (2)
- ❍ Neither Agree nor Disagree (3)
- ❍ Agree (4)
- ❍ Strongly Agree (5)

Q5.6 I got so nervous I forget to mention some important facts that I really knew.
- ❍ Strongly Disagree (1)
- ❍ Disagree (2)
- ❍ Neither Agree nor Disagree (3)
- ❍ Agree (4)
- ❍ Strongly Agree (5)

Q5.7 I believe my nerves showed enough that the person(s) I was speaking with could likely see that I was nervous.

- ❍ Strongly Disagree (1)
- ❍ Disagree (2)
- ❍ Neither Agree nor Disagree (3)
- ❍ Agree (4)
- ❍ Strongly Agree (5)

Q5.8 I expressed myself and my ideas very clearly.

- ❍ Strongly Disagree (1)
- ❍ Disagree (2)
- ❍ Neither Agree nor Disagree (3)
- ❍ Agree (4)
- ❍ Strongly Agree (5)

Q5.9 Please click and drag the slider until you see the appropriate number on the dial that reflects the importance (low vs. high stakes) of this interview for you. (0 = No Stakes at All, 10 = Very High Stakes)

- ❍ 0 (0)
- ❍ 1 (1)
- ❍ 2 (2)
- ❍ 3 (3)
- ❍ 4 (4)
- ❍ 5 (5)
- ❍ 6 (6)
- ❍ 7 (7)
- ❍ 8 (8)
- ❍ 9 (9)
- ❍ 10 (10)

Q5.10 Was the outcome favorable (i.e. - the meeting was successful/productive)?

- ❍ Yes (1)
- ❍ No (2)

Q5.11 Please think of the a different recent group meeting you had in the past few years that was not very important to you (i.e. the stakes were low - whether for a class group project meeting, a social organization meeting, a volunteer meeting, a study abroad meeting, any causal meeting, etc.). Please respond with your level of agreement or

disagreement to the following statements concerning how you felt during that recent "low stakes" group meeting.

Q5.12 I felt no fear.
- ❍ Strongly Disagree (1)
- ❍ Disagree (2)
- ❍ Neither Agree nor Disagree (3)
- ❍ Agree (4)
- ❍ Strongly Agree (5)

Q5.13 I felt confident.
- ❍ Strongly Disagree (1)
- ❍ Disagree (2)
- ❍ Neither Agree nor Disagree (3)
- ❍ Agree (4)
- ❍ Strongly Agree (5)

Q5.14 I felt tense and nervous.
- ❍ Strongly Disagree (1)
- ❍ Disagree (2)
- ❍ Neither Agree nor Disagree (3)
- ❍ Agree (4)
- ❍ Strongly Agree (5)

Q5.15 I felt calm and relaxed.
- ❍ Strongly Disagree (1)
- ❍ Disagree (2)
- ❍ Neither Agree nor Disagree (3)
- ❍ Agree (4)
- ❍ Strongly Agree (5)

Q5.16 I got so nervous I forget to mention some important facts that I really knew.
- ❍ Strongly Disagree (1)
- ❍ Disagree (2)
- ❍ Neither Agree nor Disagree (3)
- ❍ Agree (4)
- ❍ Strongly Agree (5)

Q5.17 I believe my nerves showed enough that the person(s) I was speaking with could likely see that I was nervous.

- ❍ Strongly Disagree (1)
- ❍ Disagree (2)
- ❍ Neither Agree nor Disagree (3)
- ❍ Agree (4)
- ❍ Strongly Agree (5)

Q5.18 I expressed myself and my ideas very clearly.

- ❍ Strongly Disagree (1)
- ❍ Disagree (2)
- ❍ Neither Agree nor Disagree (3)
- ❍ Agree (4)
- ❍ Strongly Agree (5)

Q5.19 Please click and drag the slider until you see the appropriate number on the dial that reflects the importance (low vs. high stakes) of this interview for you. (0 = No Stakes at All, 10 = Very High Stakes)

- ❍ 0 (0)
- ❍ 1 (1)
- ❍ 2 (2)
- ❍ 3 (3)
- ❍ 4 (4)
- ❍ 5 (5)
- ❍ 6 (6)
- ❍ 7 (7)
- ❍ 8 (8)
- ❍ 9 (9)
- ❍ 10 (10)

Q5.20 Was the outcome favorable (i.e. - the meeting was successful)?

- ❍ Yes (1)
- ❍ No (2)

Q6.1 Please think of the most recent solo presentation you gave in the past few years that was very important to you (i.e., the stakes were high - whether for a class, conference, business, job, organization, etc.). Please respond with your level of agreement or disagreement to the following statements concerning how you felt during that recent, important "high-stakes" solo presentation.

Q6.2 I felt no fear.
- ❍ Strongly Disagree (1)
- ❍ Disagree (2)
- ❍ Neither Agree nor Disagree (3)
- ❍ Agree (4)
- ❍ Strongly Agree (5)

Q6.3 I felt confident.
- ❍ Strongly Disagree (1)
- ❍ Disagree (2)
- ❍ Neither Agree nor Disagree (3)
- ❍ Agree (4)
- ❍ Strongly Agree (5)

Q6.4 I felt tense and nervous.
- ❍ Strongly Disagree (1)
- ❍ Disagree (2)
- ❍ Neither Agree nor Disagree (3)
- ❍ Agree (4)
- ❍ Strongly Agree (5)

Q6.5 I felt calm and relaxed.
- ❍ Strongly Disagree (1)
- ❍ Disagree (2)
- ❍ Neither Agree nor Disagree (3)
- ❍ Agree (4)
- ❍ Strongly Agree (5)

Q6.6 I got so nervous I forget to mention some important facts that I really knew.

- ❍ Strongly Disagree (1)
- ❍ Disagree (2)
- ❍ Neither Agree nor Disagree (3)
- ❍ Agree (4)
- ❍ Strongly Agree (5)

Q6.7 I believe my nerves showed enough that the person(s) I was speaking with could likely see that I was nervous.

- ❍ Strongly Disagree (1)
- ❍ Disagree (2)
- ❍ Neither Agree nor Disagree (3)
- ❍ Agree (4)
- ❍ Strongly Agree (5)

Q6.8 I expressed myself and my ideas very clearly.

- ❍ Strongly Disagree (1)
- ❍ Disagree (2)
- ❍ Neither Agree nor Disagree (3)
- ❍ Agree (4)
- ❍ Strongly Agree (5)

Q6.9 Please click and drag the slider until you see the appropriate number on the dial that reflects the importance (low vs. high stakes) of this interview for you. (0 = No Stakes at All, 10 = Very High Stakes)

- ❍ 0 (0)
- ❍ 1 (1)
- ❍ 2 (2)
- ❍ 3 (3)
- ❍ 4 (4)
- ❍ 5 (5)
- ❍ 6 (6)
- ❍ 7 (7)
- ❍ 8 (8)
- ❍ 9 (9)
- ❍ 10 (10)

Q6.10 Was the outcome favorable (i.e. - the audience responded positively to your presentation)?

- ❍ Yes (1)
- ❍ No (2)

Q6.11 Please think of a different recent solo presentation you gave in the past few years that was not very important to you (i.e., the stakes were low - whether for a class, conference, business, social organization, hobby group, wedding or family get-together, etc.). Please respond with your level of agreement or disagreement to the following statements concerning how you felt during that recent "low-stakes" solo presentation.

Q6.12 I felt no fear.

- ❍ Strongly Disagree (1)
- ❍ Disagree (2)
- ❍ Neither Agree nor Disagree (3)
- ❍ Agree (4)
- ❍ Strongly Agree (5)

Q6.13 I felt confident.

- ❍ Strongly Disagree (1)
- ❍ Disagree (2)
- ❍ Neither Agree nor Disagree (3)
- ❍ Agree (4)
- ❍ Strongly Agree (5)

Q6.14 I felt tense and nervous.

- ❍ Strongly Disagree (1)
- ❍ Disagree (2)
- ❍ Neither Agree nor Disagree (3)
- ❍ Agree (4)
- ❍ Strongly Agree (5)

Q6.15 I felt calm and relaxed.

- ❍ Strongly Disagree (1)
- ❍ Disagree (2)
- ❍ Neither Agree nor Disagree (3)
- ❍ Agree (4)
- ❍ Strongly Agree (5)

Q6.16 I got so nervous I forget to mention some important facts that I really knew.
- ❍ Strongly Disagree (1)
- ❍ Disagree (2)
- ❍ Neither Agree nor Disagree (3)
- ❍ Agree (4)
- ❍ Strongly Agree (5)

Q6.17 I believe my nerves showed enough that the person(s) I was speaking with could likely see that I was nervous.
- ❍ Strongly Disagree (1)
- ❍ Disagree (2)
- ❍ Neither Agree nor Disagree (3)
- ❍ Agree (4)
- ❍ Strongly Agree (5)

Q6.18 I expressed myself and my ideas very clearly.
- ❍ Strongly Disagree (1)
- ❍ Disagree (2)
- ❍ Neither Agree nor Disagree (3)
- ❍ Agree (4)
- ❍ Strongly Agree (5)

Q6.19 Please click and drag the slider until you see the appropriate number on the dial that reflects the importance (low vs. high stakes) of this interview for you. (0 = No Stakes at All, 10 = Very High Stakes)
- ❍ 0 (0)
- ❍ 1 (1)
- ❍ 2 (2)
- ❍ 3 (3)
- ❍ 4 (4)
- ❍ 5 (5)
- ❍ 6 (6)
- ❍ 7 (7)
- ❍ 8 (8)
- ❍ 9 (9)
- ❍ 10 (10)

Q6.20 Was the outcome favorable (i.e. - the audience responded positively to your presentation)?

- ❍ Yes (1)
- ❍ No (2)

Q7.1 Please rate your amount of experience with the following situations. Consider "high-stakes" to mean the situations were very important to you and the results mattered significantly (perhaps on a more formal, professional, or academic level). Consider "low-stakes" to mean the situations were very casual and the outcomes or results were not critical.

	Very Inexperienced (1)	Inexperienced (2)	Somewhat Inexperienced (3)	Neutral (4)	Somewhat Experienced (5)	Experienced (6)	Very Experienced (7)
Public Speaking (i.e. you have stood before a group of people the size of a classroom or larger and presented). (1)	❍	❍	❍	❍	❍	❍	❍
Communicating in groups (i.e. you have communicated and collaborated in group projects with several others on a team). (2)	❍	❍	❍	❍	❍	❍	❍
Communicating in meetings. (You have been a part of meetings where your input was	❍	❍	❍	❍	❍	❍	❍

considered necessary and valuable). (3)							
Interpersonal Communication. (You have communicated with another person to achieve results - student-teacher conversations, colleagues in an organization, boss at work, interviews, etc.). (4)	❍	❍	❍	❍	❍	❍	❍
High-stakes interview(s). (5)	❍	❍	❍	❍	❍	❍	❍
Low-stakes interview(s). (6)	❍	❍	❍	❍	❍	❍	❍
High-stakes group project(s). (7)	❍	❍	❍	❍	❍	❍	❍
Low-stakes group project(s). (8)	❍	❍	❍	❍	❍	❍	❍
High-stakes meeting(s). (9)	❍	❍	❍	❍	❍	❍	❍
Low-stakes meeting(s). (10)	❍	❍	❍	❍	❍	❍	❍

High-stakes solo speeches or presentations (11)	❍	❍	❍	❍	❍	❍	❍
Low-stakes solo speeches or presentations (12)	❍	❍	❍	❍	❍	❍	❍

Q8.1 Please place a check in the box next to each Communication course that you have taken here at Virginia Tech. Please choose any and all that apply.

- ❑ COMM 2004 - Public Speaking (1)
- ❑ COMM 1014 - Introduction to Communication Studies (2)
- ❑ COMM 1016 - Communication Skills (3)
- ❑ COMM 3124- Interpersonal Communication (4)
- ❑ COMM 3164 - Group Process and Presentations (5)
- ❑ Other (6)

Q8.2 How many business courses have you taken that require solo presentations? (an approximate answer is fine)

- ❍ 0 (1)
- ❍ 1 (2)
- ❍ 2 (3)
- ❍ 3 (4)
- ❍ 4 (5)
- ❍ 5 (6)
- ❍ 6 (7)
- ❍ 7 (8)
- ❍ 8 (9)
- ❍ 9 (10)
- ❍ 10+ (11)

Q81 How many NON-business courses have you taken that require solo presentations? (an approximate answer is fine)

- ❍ 0 (1)
- ❍ 1 (2)
- ❍ 2 (3)
- ❍ 3 (4)
- ❍ 4 (5)
- ❍ 5 (6)
- ❍ 6 (7)
- ❍ 7 (8)
- ❍ 8 (9)
- ❍ 9 (10)
- ❍ 10+ (11)

Q8.3 How many business courses have you taken that require group presentations? (an approximate answer is fine)

- ❍ 0 (1)
- ❍ 1 (2)
- ❍ 2 (3)
- ❍ 3 (4)
- ❍ 4 (5)
- ❍ 5 (6)
- ❍ 6 (7)
- ❍ 7 (8)
- ❍ 8 (9)
- ❍ 9 (10)
- ❍ 10+ (11)

Q82 How many NON-business courses have you taken that require group presentations? (an approximate answer is fine)

- ❍ 0 (1)
- ❍ 1 (2)
- ❍ 2 (3)
- ❍ 3 (4)
- ❍ 4 (5)
- ❍ 5 (6)
- ❍ 6 (7)
- ❍ 7 (8)
- ❍ 8 (9)
- ❍ 9 (10)
- ❍ 10+ (11)

Q8.4 Have you ever navigated around having to take a Public Speaking or similar class at VT (i.e. - one in which you would likely be required to orally present) by taking an alternative class, using some form of prior credit from high school or another institution, or similar alternative?

- ❍ Yes (1)
- ❍ No (2)

Q9.1 Please indicate your primary undergraduate business major from the drop down list below. If you have a second major, please indicate that in the next question. If you are NOT a business major, please choose "Other" for now. Please choose only one answer here.

- ❍ Accounting & Information Systems (1)
- ❍ Business Information Technology (2)
- ❍ Economics (3)
- ❍ Finance (4)
- ❍ Hospitality & Tourism Management (5)
- ❍ Management (6)
- ❍ Marketing (7)
- ❍ Other (8)

Q9.2 If you indicated "Other" for your primary major in the question above, please type the exact name of that undergraduate major below.

Q9.3 If you have a second major, please indicate that here. If your second major is not in business, please choose "other" - you will have a chance to indicate that exact major in the next question. If you do not have a second major, please choose "NA" (not applicable)

- ❍ Accounting & Information Systems (1)
- ❍ Business Information Technology (2)
- ❍ Economics (3)
- ❍ Finance (4)
- ❍ Hospitality & Tourism Management (5)
- ❍ Management (6)
- ❍ Marketing (7)
- ❍ Other (8)
- ❍ NA (9)

Q9.4 If you indicated "Other" for a second major in the question above, please type the exact name of that undergraduate major below.

Q9.5 Gender

- ❍ Male (1)
- ❍ Female (2)

Q9.6 Based on your cumulative credits to date, what is your present academic class standing?

- ❍ Freshman (1)
- ❍ Sophomore (2)
- ❍ Junior (3)
- ❍ Senior (4)
- ❍ Other (5)

Q9.7 Is English your first language?

- ❍ Yes (1)
- ❍ No (2)

If Yes Is Selected, Then Skip To End of Block

Q9.8 If you answered "No" to the previous question concerning English as your first language, how comfortable are you speaking English in casual settings?

- ❍ Very Uncomfortable (1)
- ❍ Uncomfortable (2)
- ❍ Somewhat Uncomfortable (3)
- ❍ Not Sure (4)
- ❍ Somehwat Comfortable (5)
- ❍ Comfortable (6)
- ❍ Very Comfortable (7)

Q9.9 If you answered "No" to the previous question concerning English as your first language, how comfortable are you speaking English in professional settings?

- ❍ Very Uncomfortable (1)
- ❍ Uncomfortable (2)
- ❍ Somewhat Uncomfortable (3)
- ❍ Not Sure (4)
- ❍ Somehwat Comfortable (5)
- ❍ Comfortable (6)
- ❍ Very Comfortable (7)

Q83 Your Full Name (for credit purposes only)

Q84 Please list your Instructor's last name and COMM course name (or number, i.e. COMM 2004, etc.) for the course to which you would like to apply your research participation credit.

Q10.1 PLEASE BE SURE TO CLICK THE NEXT ARROW ON THE BOTTOM OF THIS BOX TO COMPLETE THE SURVEY AND SUBMIT YOUR ANSWERS!! "Thank you so much for your participation in this important study concerning undergraduate students. We are asking undergraduate students enrolled in this course just like you to take part in this study. All participants are taking part in much the same way. We expect that the findings of this study will help us understand more about undergraduate students and their apprehension and comfort levels across various communication situations. We kindly request you to help us maintain experimental validity by not talking about this study with your friends or classmates until everyone has had a chance to participate in the study. Once again, thank you for your participation. If you have any further questions, or would like to find out about results of this study, please feel free to contact me – Steve Matuszak (matuszak@vt.edu)." Please click on the small arrows below to submit your survey.

Appendix B. PRCA-24

Personal Report of Communication Apprehension (PRCA-24)

DIRECTIONS: This instrument is composed of twenty-four statements concerning feelings about communicating with other people. Please indicate the degree to which each statement applies to you by marking whether you **strongly agree (1-SA), agree (2-A), undecided (3-U), disagree (4-D), or strongly disagree (5-SD).**

Work quickly; record your first impression.

Question	Response				
1. I dislike participating in group discussions.	1 - SA	2 - A	3 - U	4 - D	5 - SD
					5 – SD
3. I am tense and nervous while participating in group discussions.	1 - SA	2 - A	3 - U	4 - D	5 - SD
					5 - SD
5. Engaging in a group discussion with new people makes me tense and nervous.	1 - SA	2 - A	3 - U	4 - D	5 - SD
					5 - SD
7. Generally, I am nervous when I have to participate in a meeting.	1 - SA	2 - A	3 - U	4 - D	5 - SD
					5 - SD
9. I am very calm and relaxed when I am called upon to express an opinion at a meeting.	1 - SA	2 - A	3 - U	4 - D	5 - SD
					5 - SD
11. Communicating at meetings usually makes me uncomfortable.	1 - SA	2 - A	3 - U	4 - D	5 - SD
					5 - SD
13. While participating in a conversation with a new acquaintance, I feel very nervous.	1 - SA	2 - A	3 - U	4 - D	5 - SD
					5 - SD
15. Ordinarily I am very tense and nervous in conversations.	1 - SA	2 - A	3 - U	4 - D	5 - SD
					5 - SD
17. While conversing with a new acquaintance, I feel very relaxed.	1 - SA	2 - A	3 - U	4 - D	5 - SD
					5 - SD
19. I have no fear of giving a speech.	1 - SA	2 - A	3 - U	4 - D	5 - SD
					5 - SD
21. I feel relaxed while giving a speech.	1 - SA	2 - A	3 - U	4 - D	5 - SD
					5 - SD
23. I face the prospect of giving a speech with confidence.	1 - SA	2 - A	3 - U	4 - D	5 - SD
24. While giving a speech I forget facts I really know.	1 - SA	2 - A	3 - U	4 - D	5 - SD

Personal Report of Communication Apprehension Scoring

SCORING: Compute subscores for four communication contexts–group discussions, meetings, interpersonal conversations, and public speaking– and an overall communication apprehension (CA) score. Strongly agree=1 point, agree=2 points, undecided=3 points, etc.

Scores on the four contexts (groups, meetings, interpersonal conversations, and public speaking) can range from a low of 6 to a high of 30. Any score above 18 indicates some degree of apprehension.

Sub scores	Scoring Formula
Group discussion	18+scores for items 2, 4, and 6; – scores for items 1, 3, and 5
Meetings	18+scores for items 8, 9, and 12; – scores for items 7, 10, and 11
Interpersonal conversations	18+scores for items 14, 16, and 17; – scores for items 13, 15, and 18
Public speaking	18+scores for items 19, 21, and 23; – scores for items 20, 22, and 24

To determine your overall CA score, add together all four sub scores.

Your score should range between 24 and 120. If your score is below 24 or above 120, you have made a mistake in computing the score. Scores between **83 and 120** indicate a high level of communication apprehension. Scores between **55 and 83** indicate a moderate level of communication apprehension. Scores between **24 and 55** indicate a low level of communication apprehension.

Appendix C. IRB 13-297 Approval Letter

VirginiaTech

Office of Research Compliance
Institutional Review Board
2000 Kraft Drive, Suite 2000 (0497)
Blacksburg, VA 24060
540/231-4606 Fax 540/231-0959
email irb@vt.edu
website http://www.irb.vt.edu

MEMORANDUM

DATE: April 1, 2013

TO: John C Tedesco, Steven Matuszak, Kevin D Carlson, Marlene M Preston

FROM: Virginia Tech Institutional Review Board (FWA00000572, expires May 31, 2014)

PROTOCOL TITLE: Steve Matuszak Master Thesis - Student Surveys

IRB NUMBER: **13-297**

Effective April 1, 2013, the Virginia Tech Institution Review Board (IRB) Chair, David M Moore, approved the New Application request for the above-mentioned research protocol.

This approval provides permission to begin the human subject activities outlined in the IRB-approved protocol and supporting documents.

Plans to deviate from the approved protocol and/or supporting documents must be submitted to the IRB as an amendment request and approved by the IRB prior to the implementation of any changes, regardless of how minor, except where necessary to eliminate apparent immediate hazards to the subjects. Report within 5 business days to the IRB any injuries or other unanticipated or adverse events involving risks or harms to human research subjects or others.

All investigators (listed above) are required to comply with the researcher requirements outlined at:

http://www.irb.vt.edu/pages/responsibilities.htm

(Please review responsibilities before the commencement of your research.)

PROTOCOL INFORMATION:

Approved As:	**Expedited, under 45 CFR 46.110 category(ies) 7**
Protocol Approval Date:	**April 1, 2013**
Protocol Expiration Date:	**March 31, 2014**
Continuing Review Due Date*:	**March 17, 2014**

*Date a Continuing Review application is due to the IRB office if human subject activities covered under this protocol, including data analysis, are to continue beyond the Protocol Expiration Date.

FEDERALLY FUNDED RESEARCH REQUIREMENTS:

Per federal regulations, 45 CFR 46.103(f), the IRB is required to compare all federally funded grant proposals/work statements to the IRB protocol(s) which cover the human research activities included in the proposal / work statement before funds are released. Note that this requirement does not apply to Exempt and Interim IRB protocols, or grants for which VT is not the primary awardee.

The table on the following page indicates whether grant proposals are related to this IRB protocol, and which of the listed proposals, if any, have been compared to this IRB protocol, if required.

Appendix D. IRB 13-343 Approval Letter

VirginiaTech

Office of Research Compliance
Institutional Review Board
North End Center, Suite 4120, Virginia Tech
300 Turner Street NW
Blacksburg, Virginia 24061
540/231-4606 Fax 540/231-0959
email irb@vt.edu
website http://www.irb.vt.edu

MEMORANDUM

DATE: April 17, 2013

TO: John C Tedesco, Steven Matuszak, Kevin D Carlson, Marlene M Preston

FROM: Virginia Tech Institutional Review Board (FWA00000572, expires May 31, 2014)

PROTOCOL TITLE: Communication Apprehension - MGMT 3304 Students

IRB NUMBER: **13-343**

Effective April 17, 2013, the Virginia Tech Institution Review Board (IRB) Chair, David M Moore, approved the Amendment request for the above-mentioned research protocol.

This approval provides permission to begin the human subject activities outlined in the IRB-approved protocol and supporting documents.

Plans to deviate from the approved protocol and/or supporting documents must be submitted to the IRB as an amendment request and approved by the IRB prior to the implementation of any changes, regardless of how minor, except where necessary to eliminate apparent immediate hazards to the subjects. Report within 5 business days to the IRB any injuries or other unanticipated or adverse events involving risks or harms to human research subjects or others.

All investigators (listed above) are required to comply with the researcher requirements outlined at:

http://www.irb.vt.edu/pages/responsibilities.htm

(Please review responsibilities before the commencement of your research.)

PROTOCOL INFORMATION:

Approved As:	**Expedited, under 45 CFR 46.110 category(ies) 7**
Protocol Approval Date:	**April 1, 2013**
Protocol Expiration Date:	**March 31, 2014**
Continuing Review Due Date*:	**March 17, 2014**

*Date a Continuing Review application is due to the IRB office if human subject activities covered under this protocol, including data analysis, are to continue beyond the Protocol Expiration Date.

FEDERALLY FUNDED RESEARCH REQUIREMENTS:

Per federal regulations, 45 CFR 46.103(f), the IRB is required to compare all federally funded grant proposals/work statements to the IRB protocol(s) which cover the human research activities included in the proposal / work statement before funds are released. Note that this requirement does not apply to Exempt and Interim IRB protocols, or grants for which VT is not the primary awardee.

The table on the following page indicates whether grant proposals are related to this IRB protocol, and which of the listed proposals, if any, have been compared to this IRB protocol, if required.