ANALYSIS OF POST-SECONDARY BUSINESS COMMUNICATION COURSES

FOR COOPERATIVE LEARNING PRACTICES

by

WILLIAM DORNER HARGRAVE

(Under the Direction of Wanda Stitt-Gohdes)

ABSTRACT

This study examined four aspects of a core course in business school curricula: (1) the mission and standards of the Association for the Advancement of Collegiate Schools of Business International (AACSB); (2) the mission statements of 40 schools and colleges of business (COB); (3) the syllabi for business communication courses at those schools; and (4) the instructor's manuals for four textbooks used in those courses. The study purported to determine to what extent those aspects recommend and support the pedagogy of cooperative learning.

The study examined static artifacts of each of the four aspects using computer-assisted text analysis (CATA). That mode of investigation was used to avoid the socially acceptable answers that are sometimes provided to surveys and interviews. The AACSB mission and standards as well as the COB mission standards were available online at their various websites. Electronic versions of the syllabi were solicited by email from the instructors. The instructor's manuals were provided by the textbook publishers to a neutral third party.

The lens for the investigation was Roger and David Johnson's statement of the elements of cooperative learning: positive interdependence; individual accountability; group processing; social skills; and face-to-face interaction. Those elements are known collectively as PIGSFACE.

The PIGSFACE elements provided the framework for the coding used in the CATA examination. The CATA program used AntConc 3.2.1, a program developed by Laurence Anthony, which revealed the presence of the keywords of coding and the surrounding context. The context enabled investigation to determine if the use of a keyword was actually indicative of the underlying action, principle, or sentiment.

The analysis revealed that AACSB espouses inculcation of teamwork and recommends certain aspects of social skills that encourage teamwork. Only 40% of the COB mission statements include inculcation of teamwork, but 70% mentioned social skills that support the goal. Positive interdependence, the primary nominative aspect of cooperative learning, was present in 92.5% of the syllabi. Other aspects were found – ranging from 95% mentioning aspects of individual accountability to 32.5% mentioning face-to-face interaction. All of the instructor's manuals included recommendation of the PIGSFACE elements to various degrees.

INDEX WORDS: Cooperative learning, Collaboration, Positive interdependence,
                Individual accountability, Group processing, Social skills, Face-to- face
                interaction, Syllabus, Mission statement, AACSB, Instructor's Manuals,
                Computer-assisted text analysis, Content analysis, Group, Team,
                Teamwork, Group work, Team work

ANALYSIS OF POST-SECONDARY BUSINESS COMMUNICATION COURSES

FOR COOPERATIVE LEARNING PRACTICES

by

WILLIAM D. HARGRAVE

BBA, University of Kentucky, 1968

MBA, Georgia State University, 1978

M.Ed., State University of West Georgia, 2000

Ed. S, State University of West Georgia, 2002

A Dissertation Submitted to the Graduate Faculty of the University of Georgia in Partial

Fulfillment of the Requirements for the Degree

DOCTOR OF EDUCATION

ATHENS, GEORGIA

2010

ANALYSIS OF POST-SECONDARY BUSINESS COMMUNICATION COURSES

FOR COOPERATIVE LEARNING PRACTICES

by

WILLIAM DORNER HARGRAVE

Major Professor: Wanda Stitt-Gohdes

Committee: Elaine Adams
Carl Huberty
John Schell
Desna Wallin

Electronic Version Approved:

Maureen Grasso
Dean of the Graduate School
The University of Georgia
May 2010

DEDICATION

This paper is dedicated to the memory of Judie Hargrave, the materfamilias of the Hargrave family, whose love of knowledge and beauty and whose beautiful knowledge of love were inspirations to us all.

ACKNOWLEDGMENTS

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER I

INTRODUCTION

When managers encourage it, it is called teamwork (Lakshman, 2006). When writers

engage in it, it is called collaboration (Collaborate! 2006). When professional students practice it,

it is called problem-based-learning (Dunlap, 2005). It is recommended by agencies accrediting

institutions of higher learning such as the Association for the Advancement of Collegiate

Schools of Business-International (AACSB, 2006). It is suggested by teacher educators as a

solution for everything from faculty fatigue to classroom management (Leighton, 2003). It is in

demand by employers: a survey of 200 job advertisements posted to newspapers in ten major

metropolitan areas reveals 67 references to teamwork as a requisite skill (North & Hargrave,

2006). When teachers implement it, it is called cooperative learning (Strom & Strom, 1999).

Teachers trained in the application of cooperative learning often apply the list of essential

elements of cooperative learning developed by David and Roger Johnson: positive

interdependence; individual accountability, group-processing, social (interpersonal and small-

group) skills; and face-to-face promotive interaction; (PIGSFACE; Johnson, Johnson & Smith,

2006). They also employ the practices suggested for group size, thoughtful group assignment,

accommodating physical venue, congruent instructional materials, and assignment of group roles

(Johnson, Johnson & Holubec, 1994).

Despite the prescription by educators, participation by academics, and buy-in by industry,

application of cooperative learning in post-secondary classrooms is often problematic. The

students who should be benefiting from it and embracing it often end up resenting it. In a survey

by Ford and Morice (2003), 32 of 68 students (47%) said they frequently encountered problems

with group assignments. Studies have found that high-achievers dislike group work (Bahar,

2003). Crews and North's (2000) assessment of team learning stated that "reasons for failure include internal competition, not recognizing team performance, no clear goals, no common cause, team approach is not appropriate for the situation, and negativity among group members" (p. 2).

The source of and solution to this disconnect are subjects of debate. A case can be made that the instruction preparatory to cooperative learning is often at fault (Gillies & Boyle, 2005; Vygotsky, 1978). Genovese (2005) contended that the incipient problem with cooperative learning is the same problem that has caused the failure of other educational innovations – a failure to consider individual differences. He compared cooperative learning with operant instruction techniques derived from Skinner's behaviorist psychology, and he cited research by Kazdin (1983) blaming the demise of operant instruction on client characteristics [individual differences] (Genovese).

This study purports to investigate the instruction related to cooperative learning in post-secondary business communication courses. It will examine the artifacts of preparation and implementation of cooperative learning using the aforementioned essential elements formulated by Johnson, Johnson, and various associates. Those artifacts of preparation and implementation including their techniques and practices will be studied in the curricular context ranging from the accrediting agency for respected colleges of business (AACSB) to the syllabus representing a contract of learning goals between the teacher and the student.

Teamwork is lauded by many as essential to success in all endeavors. Senge (1990) counts team learning as one of the five disciplines leading to a learning organization. Northouse (2004) mentions it 28 times in his widely read book on leadership. It often is assigned its own chapter in books dealing with organizational behavior (Dubrin, 2002; Pegels, 1995; Robbins,

2003). There is a large body of study of team actualization most often represented by B.W. Tuckman's (Tuckman & Jensen, 1977; Dubrin, Pegels). steps of *forming, storming, norming, and performing* Those steps have obvious correlates in the techniques and practices of cooperative learning: forming relates to group size and constitution; storming relates to role assignment and social skills; norming relates to face-to-face interaction and group processing; and performing relates to positive interdependence.

The Midcontinent Research for Education and Learning recognized cooperative learning as a research-proven strategy that works to increase student achievement. Of the nine strategies examined in that meta-analysis (identifying similarities; summarizing; reinforcing and recognition; homework and practice; nonlinguistic representations; cooperative learning; setting objectives; testing hypotheses; and cues and questions), cooperative learning has the highest effect size (0.73) of the strategies that focus on presentation of learning material (Marzano, Pickering & Pollock, 2001).

Notwithstanding the recent approbation of cooperative learning, it is not a recent development; it is a pedagogical technique practiced since time immemorial (Slavin, n.d.). Paired debates were an essential part of the curriculum in the Talmud over 3000 years ago ("Cooperative Learning," n.d.). The technique was evident as essential to the Lancastrian Monitorial Schools (ca. 1803) in which a master teacher taught and supervised monitors who in turn taught groups of ten or so boys (Ediger, 2000). It was first formalized in the 1920's in social psychological research (Williams, 1996). Its roots can be seen in John Dewey's belief that individuals should be educated as social beings and Piaget's recognition of the impact of social interaction (Ozmon & Craver, 1999). Perhaps the strongest connection with twentieth century educational philosophers is with Lev Vygotsky who felt that social interaction played a central

role in the development of cognition (1978). He posited that the helper in climbing the zone of proximal development was not necessarily the instructor – it could just as well be a "more capable peer" (Crain, 2000).

The current rise in pedagogical favor for cooperative learning began in the 1970s (Johnson, Johnson & Holubec, 1998a). The three most highly recognized, extant proponents are: Robert E. Slavin, whose Student Team Model centers on task structure, team composition and reward systems; Spencer Kagan, whose Structural Approach focuses on lessons as compositions of interlocking parts; and Roger and David Johnson, whose Student Team Learning holds social coherence as a desirable goal (Cooper, 2002). Slavin's research has centered on at-risk learners and "…preventing academic deficits from appearing in the first place" (n.d., ¶ 15). It has gained prominence as the philosophy of "Success for All" has burgeoned in America. However, his brand of cooperative learning is more attuned to specific curricula for learning disabled and mildly handicapped elementary students. Kagan has specialized in "structures." He has provided more than 100 such structures (Walters, 2000), which he describes as "a series of steps with a prescribed behavior at each step" (Kagan, 1990). The structures have a decidedly juvenile flavor to their names: Jigsaw, Numbered Heads Together, Roundrobin (sic), Corners, and Match Mine (Kagan). Although the underpinnings of his research and recommendations contain many of the same elements as those of Johnson and Johnson (i.e. teamwork skills and social skills), the Johnsons' approach is more appropriate for research in cooperative learning in a college of business. Johnson and Johnson are the only researchers of the trio to publish on cooperative learning at the college level (New Paradigms for College Teaching, 1997 and Active Learning: Cooperation in the College Classroom, 2006). Furthermore, they treat social coherence as

important in its own right rather than a side effect of academic achievement (Cooper, 2003). For those reasons, their model and terms are most appropriate for this research.

Although most instruction on the implementation of cooperative learning suggests incorporation of those techniques and practices (Holtfreter & Holtfreter, n.d.a.; Leighton, 2003; Thompson & Chapman, 1994; Walker, 1996), little of the assessment of group learning specifically records whether those instructional techniques and implementation practices have been followed. Genovese's (2005) contention that failure to consider individual differences leads to the demise of educational innovations prompts consideration of those cooperative learning techniques and implementation tactics correlated with positive perception of group learning.

Purpose Statement

The purpose of the current study will be to investigate the use of cooperative learning in post-secondary business communication classes. In order to understand its place in the curriculum and pedagogy, it is necessary to delineate the place of group effort in the mission statements and objectives of colleges, schools, and departments of business (hereafter referred to as schools of business). The structure defining the instruction will be examined for evidence of the essential elements of Johnson and Johnson: positive interdependence; face-to-face promotive interaction; individual accountability and personal responsibility; social skills; and group-processing (PIGSFACE). Evidence of those elements will be drawn from inspection of AACSB standards; survey of goals, objectives and mission statements by schools of business; examination of syllabi; and analysis of the instructor's manuals for textbooks used in the classes. Content analysis of the elements found in the various levels of the structure will be used to identify commonality and similarity between and among the areas.

Conceptual Framework

The conceptual framework that underpins this study began with Kurt Koffka and his colleague Kurt Lewin. It was refined by Lewin's protégé Morton Deutsch, and is encapsulated in the essential elements of cooperative learning advocated by David and Roger Johnson.

Kurt Koffka (Morgan, 2003), one of the founders of the Gestalt school of psychology, conceived of groups as dynamic wholes with varying degrees of interdependence. That concept was further developed by his colleague, Kurt Lewin, as field theory, which evolved into social interdependence theory (Johnson & Johnson, 1999). Lewin's precursor theory of intrinsic motivation (as cited in Johnson & Johnson, 1989) contends that a state of tension in an individual motivates movement toward the accomplishment of desired goals. Together with his colleague, Helen Block Lewis (Johnson & Johnson, 1989), Lewin concluded that the same sort of motivating tension exists in collaborative endeavor. Further, Lewin (Smith, 2001) posited that the essence of a group is the interdependence among members that results in the group being a "dynamic whole" so that a change in any member changes the whole group.

Morton Deutsch (1993) built on Lewin's field theory in developing his renowned study of conflict resolution. Deutsch (Lindskold, Betz & Walters, 1986) generalized his concept into a "crude law of social relations," which posits that "A cooperative atmosphere, on the other hand, induces perceived similarity, trust, open communication, flexibility, concern for the other, emphasis on mutual interests, and attraction between the parties" (p. 99). In describing the positive interdependence that is the outcome of that cooperative atmosphere, Deutsch (Tjosvold, 1973) observed that positive interdependence is the goal situation in which members are oriented toward others and encourage them to perform effectively.

That positive (promotive) end of Deutsch's continuum of interdependence is the basis for Johnson and Johnson's cooperative learning. Johnson and Johnson (Johnson, Johnson & Holubec, 1998a) have reduced their prescription for effective cooperative learning to five elements that support Deutsch's outcomes of a cooperative atmosphere.

Positive interdependence, wherein all parties benefit (win/win) is the objective and the lodestar of the whole process.

Individual accountability promotes trust among the members.

Group processing enhances concern for other members and emphasis on mutual interests.

Social skills such as interpersonal and small-group skills contribute to perceived similarity and emphasis on mutual interests.

Face-to-face promotive interaction encourages open communication and attraction between the parties.

The components that define and describe the conduct of post-secondary business communication courses will be examined using the PIGSFACE framework noted above. Is positive interdependence under any of its pseudonyms espoused by AACSB, the schools of business, the authors of the textbooks, and the instructors for the courses? Is individual accountability promoted and planned by the same stakeholders? Do they enable and encourage post facto consideration of the learning and the process that led to it? Do AACSB and the schools of business consider training in social skills part of their responsibility, and do the authors and instructors plan for that training? Do the stakeholders promote and plan for face-to-face meetings to incubate the desired endgame of positive interdependence? Those broad inquiries will be addressed in the research questions named in the next section.

Research Questions

The study will be guided by the following research questions:

1. To what extent do the guidelines of the sanctioning body for collegiate schools of business (AACSB) recommend the inclusion of team-building instruction?

2. To what extent do the subject schools of business subscribe to team-building as a goal, objective, or mission component?

3. What evidence of planning for instruction in the essential elements of cooperative learning (PIGSFACE) is present in the syllabi of courses in post-secondary business-communication?

4. Does the mention of positive interdependence, which is the strongest indicator of the pedagogy of cooperative learning, appear in syllabi with the subject matter on communication foundations, basic correspondence, major reports, presentations, or employment communication?

5. What evidence of instructional material about the essential elements of cooperative learning (PIGSFACE) is present in the instructor's manuals for the selected textbooks for post-secondary business-communication courses?

6. Does the mention of positive interdependence, which is the strongest indicator of the pedagogy of cooperative learning, appear in instructor's manuals of examined textbooks with the subject matter on communication foundations, basic correspondence, major reports, presentations, or employment communication?

7. What is the comparative frequency of mention of positive interdependence in syllabi vis-à-vis mention of positive interdependence in instructor's manuals for examined textbooks?

Significance of Study

Group work is used in classrooms ranging from pre-school to medical school. The broad question addressed by this study is whether the group work used in business communication classes qualifies as cooperative learning as described by the foremost theorists in the field. Specifically, this study will disclose how the accrediting agency, AACSB, values teamwork and to what degree accredited schools of business include that value in their mission statements. The study will also examine artifacts of instruction, syllabi and instructor's manuals, that provide evidence of what instruction is planned.

Content analysis has been chosen as the analytical device best suited for this study because it is "empirically grounded, exploratory in process, and predictive or inferential in intent" (Krippendorf, 2004, p. xvii). Computer-assisted content analysis allows the contemplation of larger bodies of text because that text is often available in electronic format, as is the case for all of the specified areas. The relevant content that the analysis is expected to reveal in the AACSB guidelines and in the mission statements for schools of business is advocacy of training for teamwork. The relevant content that the analysis is expected to identify from the syllabi and instructor's manuals is the essential elements of cooperative learning, PIGSFACE, as described by David Johnson, Roger Johnson, and their many associates.

Proof positive of adherence to those elements is not possible through this proposed content analysis, nor would it be possible through surveys of instructors and administrators, but this method avoids the likelihood of socially acceptable answers that give lip service while belying the effective pedagogy.

The information revealed in this study will provide insight for two segments of academia. The students of cooperative learning will see if and how the PIGSFACE elements are

incorporated in a regimen of practical learning: business communication courses are the usual platform for teaching the "soft skills" necessary for success in business. The instructors of business communication will see if this pedagogy is suggested by their administrators, recommended by the authors in the field, and practiced by their peers. They will also see if and how this pedagogy incorporates essential elements of education for life. In the final analysis, based on the artifacts examined, the study provides evidence to what extent true cooperative learning is happening in the business communication course that were examined. That evidence is presented in table form as descriptive statistics of the aspects mentioned above (PIGSFACE) and the research questions.

CHAPTER II

REVIEW OF RELATED LITERATURE

The purpose of the current study is be to investigate the use of cooperative learning in post-secondary business communication classes. In order to understand its place in the curriculum and pedagogy, it is necessary to delineate the place of group effort in the mission statements and objectives of colleges, schools, and departments of business (hereafter referred to as schools of business). This chapter reviews literature related to the major theories of cooperative learning, the application of those theories, the practices that support those theories, the evidence that those theories are in play, and the relation of those theories to the strategic missions of schools of business.

Cooperative learning by its various names has been an important part of civilization since man began to walk upright. One of the earliest benchmarks of man's evolution was cooperation in the hunt for large game such as mammoths and large carnivores – only through group effort could they bring them down (Gore, 1996; M. Snipes, personal communication, November 4, 2008). Today's hunters and gatherers of Wall Street and Main Street not only pursue their goals as teams of analysts, accountants and economists ("Best analysts," 2006), but they also learn how to pursue those goals through cooperative learning (Holtfreter & Holtfreter, n.d. a) . Cooperative learning is not just a vague, innate way of muddling through life with one's mates and learning during the journey; it can and should be a designed pedagogical practice. The Association for the Advancement of Collegiate Schools of Business (AACSB), most schools of business, and many business communication instructors recognize the importance of teamwork for business-school graduates (Perrigo, 1994). This chapter reviews literature that (a) bears out the importance of teamwork and its relationship to cooperative learning, (b) traces the history of

cooperative learning as a pedagogy from ancient to modern times, (c) documents the elements and practices of cooperative learning, and (d) provides evidence that its effectuation can be examined using content analysis of the syllabi and instructor's manuals used in business communication courses.

Importance of Teamwork

Cooperative learning in its street clothes is good old-fashioned teamwork. Management scholars and educators alike often use the terms *cooperation, collaboration*, and *teamwork* interchangeably (Dubrin, 2002; Guffey, 2008; Johnson, Johnson & Holubec, 1994, 1998a, 1998b; Robbins, 2003). Under whatever idiom, it is often included as a component in schemes for quality management. Lakshman (2006) includes teamwork and participation as one of the three core principles of total quality management in his prescription for effective leadership for quality (2006). Mellat-Parast and Digman (2008), in their research on the interface of quality management with strategic alliances, considered cooperative learning as the link between control elements and process improvement. In his seminal work on systems, Senge (1990) included team learning as one of the five disciplines of a learning organization. Senge held that it requires thinking insightfully about complex issues, capacity for innovative, coordinated action, and fostering other teams. Robbins (2003, p 101) distinguished a nuance of difference between work groups, which he described as operating in silos of responsibility, and work teams, which "generate positive synergy through coordinated effort". He held that whatever the team's composition – problem-solving, self-managed, cross-functional, or virtual – teams outperform individuals in multi-faceted tasks . In a description of work teams in action, Montebello and Buzotta (1993) listed examples where companies that developed teams realized improved quality (30% of respondents), and improved productivity (24% of respondents). Those improvements

were accompanied by improvements in job satisfaction for the employees (65% of the reporting firms) and customer satisfaction (57% of the reporting firms).

Mission statements, the corporate escutcheons of the 21st century, often include *teamwork* as part of the strategy for success. Over the years, researchers have found that corporations that include *teamwork* in the mission tend to be more successful than those that do not (Bart, 1998; Williams, 2008).The value of teamwork to employers is also evidenced in analysis of employers and their advertising. Even more than the technical skills that are easily presumed to be vital, employers require the ability to work in teams or groups (Hartman, Bentley, Richards, & Krebs, 2005). In a survey of Memphis employers, 85% of the respondents named teamwork as an important attribute for new hires (Waits, 2003). *Teamwork* is the most mentioned interpersonal-skills requisite in employment advertisements for college graduates, and 82.5% of 200 advertisements examined included interpersonal skills as a requirement (Hargrave, North, & Worth, 2008).

Teamwork Linked to Cooperative Learning

Educators recognize the value of cooperative learning in preparing students for productive roles in society (Hackbert, 2004; Lewis, 2007; Walters, 2000). Instructors often use the clear relationship between cooperative learning and the desired job skill of teamwork as an inducement for both the pedagogy and the subject (Walters). Not all disciplines have used cooperative learning equally; Becker (1997) decried the fact that cooperative learning techniques are absent in virtually all economics courses. Hackbert (2004) recommends team organization in all phases of the life cycle of an enterprise – from founding to maturity. Hackbert contends, "Collaborative learning activities can increase learners' understanding and teamwork competence" (p. 40). Public/Private Ventures, a non-governmental organization whose program

areas include employment and in-school initiatives, recommends the establishment of work-like tasks and the teams to complete them (Lewis, 2007).

The term *team* actually appears in many definitions of cooperative learning: cooperative learning is a successful teaching strategy in which small *teams* … improve their understanding of a subject (AbiSamra, 2001); cooperative learning is an instructional paradigm in which *teams* of students work on structured tasks … (Johnson, Johnson, & Smith, 2006); Cooperative learning is situated within the social constructivist paradigm. Students work on projects or problems in *teams* with both personal and *team* accountability for conceptual understanding (Virginia Tech, 2008).

Tuckman's model offers a succinct (and highly memorable) plan for team development (Guffey, 2008). The stages are defined: *forming* – orientation, testing and dependence; *storming* – resistance to group influence and task requirements; *norming* – openness to other group members; *performing* – therapeutic function resulting in constructive action; and *adjourning*-disengagement (Tuckman, 1965). [Note that *adjourning* was added to Tuckman's model subsequent to the 1965 *Training and Development* article.] Those stages naturally parallel the essentials of cooperative learning espoused by David and Roger Johnson (Johnson et al. 1998a): *positive interdependence* – a sentiment of "sink or swim together"; *individual accountability* – the element that circumvents early-stage dysfunction; *social skills* – the interpersonal competencies that enhance compatibility; *face-to-face promotive interaction* – actually functioning as a team that fosters the success of all members; and *group processing* – self evaluation at conclusion of task. It is meaningful to note that Tuckman's model ends with a result of positive interdependence, while the scheme offered by Johnson, Johnson, and Holubec presupposes a state of positive interdependence. Despite its importance to the successful

implementation of cooperative learning, researchers have found that not much attention is paid to the fundamentals of team-building (Abrami & Chambers, 1994).

Development of Cooperative Learning as Pedagogy

Cooperative learning has roots in some of the earliest and most important educational foundations. As a pedagogical technique, it has been practiced since time immemorial (Slavin, 1995, p. ix). Paired debates were an essential part of the curriculum in the Talmud over 3000 years ago ("Cooperative Learning," n.d.). The technique is evident as essential to the Lancastrian Monitorial Schools (ca. 1803) in which a master teacher taught and supervised monitors who in turn taught groups of ten or so boys (Ediger, 2000). Relevant research such as the social loafing/coordination effect described by Ringelmann (1861-1931) preceded its formalization in the 1920's as a field of social psychological research (Williams, 1996). Its core can be seen in John Dewey's belief that individuals should be educated as social beings and in Piaget's recognition of the impact of social interaction (Ozmon & Craver, 1999). Perhaps the strongest connection with twentieth century educational philosophers is with Vygotsky (1978) who felt that social interaction played a central role in the development of cognition . He posited that the helper in climbing the zone of proximal development (ZPD) was not necessarily the teacher – it could just as well be a "more capable peer" (Crain, 2000). Lou et al. (1996) offered these reasons for using *within-class groups* [their term for group learning that is not necessarily based on cooperative learning precepts]: (a) allow more time for teacher to provide remediation or enrichment, (b) allow adjustment of learning objectives according to group level of ability, (c) provide time for in-group rehearsal, (d) promote cooperative effort as opposed to competitive, incentive effort, and (e) provide a milieu for learning and practicing social skills. Their meta-analysis of studies of within-class groups (1996) examined use of homogeneous groups

compared with heterogeneous groups and use of within-class groups versus whole-class instruction; description of the studies and the effect sizes computed are reported later in this review.

Johnson and Johnson. Johnson et al. (1998b) trace the modern development of cooperative learning and its core premise positive interdependence from Kurt Koffka, one of the founders of the Gestalt School of Psychology, who proposed the concept of dynamic groups in which interdependence could vary. Koffka's colleague, Kurt Lewin, further developed the idea of interdependence in his pioneering work on field theory (Greathouse, 1997). In turn, Lewin's protégé, Morton Deutsch, developed a theory of goal interdependence in which individuals operate in an individualistic, competitive, or cooperative manner (Tjosvold, 1984).Tjosvold defined Deutsch's states of interaction: in cooperation, goals are positively connected; in individualistic relations, goals are not connected; and in competition, goals are mutually exclusive. Deutsch (as cited in Johnson & Johnson, 1989, p 59) "hypothesizes that an implication of the positive interdependence inherent in cooperative situations is that 'responsibility forces' are generated by the knowledge that one's achievement affects the outcomes of groupmates and, therefore individuals will exert more effort to achieve and expect their groupmates to do likewise".

David and Roger Johnson with numerous other researchers including Edythe Johnson Holubec and Karl A. Smith (hereafter referred to in text as Johnson and Johnson) have taken the Koffka/Lewin/Deutsch core of positive interdependence (cooperation) and build on it to develop the other essentials of cooperative learning. On its face, *individual accountability* might appear to be contradictory of the premise of positive interdependence, but Johnson and Johnson explain its requirement with reference to the dictum from early Massachusetts settlers: "If you do not

work, you do not eat" (1999, p. 80). They also expand the concept of individual accountability to include sharing the information and the responsibility for progress with the group (Johnson et al., 1998a, Johnson & Johnson, 1999). *Social skills* (small group and interpersonal) are the skills required for the group to function well. Johnson, Johnson, and Holubec (1998a) maintain that leaders should emphasize these skills equally with job-performance skills; they include collaborative skills such as leadership, decision-making, trust-building, communication, and conflict-management skills. *Face-to-face promotive interaction* gives substance to the core concept of positive interdependence. In this stage, team members provide each other with assistance and needed resources – equally important is the opportunity to challenge decisions and provide feedback (Johnson & Johnson, 1999). Although the skills of *group processing* should be developed in the instruction for social skills, Johnson and Johnson (1998a) consider them important enough to be mentioned as a separate element. They suggest that the group processing should be formally scheduled and recorded (for effect if not for archives). They recommend that the processing should include four parts: feedback – descriptive and specific; reflection – questions that ask, "Did everyone help each other learn"; improvement goals; and celebration (Johnson, Johnson & Holubec, 1998b). Disciples of the Johnson and Johnson school of cooperative learning refer to these essential elements with the inelegant and slightly stretched acronym PIGSFACE (Positive interdependence, Individual accountability, Group processing, Social skills, and Face-to-face promotive interaction).

Slavin. Other cooperative-learning scholars subscribe to slightly different tenets. Slavin (1995), who has promoted the process of Student Teams Achievement Divisions from his base at Johns Hopkins University, offers a list of characteristics present in his cooperative structures that does not differ greatly from Johnson and Johnson's essential elements. The characteristic of

group goals focuses on the concrete side of positive interdependence. Where Johnson and Johnson refer to the sentiment, he refers to the results. Slavin specifies *individual accountability* much the same as Johnson and Johnson. He recommends *equal opportunity for success* and explains it as a unique facet of his structures that provides an equal opportunity to contribute. *Team competition* seems out of place in the cooperative learning environment, but he explains it as "us[ing] competition between teams as a means of motivating students to cooperate within teams" (Slavin, p.12). *Task specialization* is explained as assigning a unique job to each member; it seems like a variation on individual accountability. *Adaptation to individual needs* again sounds like a variation on individual accountability. In comparing Slavin's characteristics with Johnson and Johnson's elements, it is important to remember that he designed 11 (as of 1990) tightly defined structures while they have three or four models that are adaptable depending on the subject, the situation and the instructor.

    Kagan. Spencer Kagan (1994) has chosen to promote cooperative learning through publishing material for use in elementary grades. Kagan's four basic principles (1994) are similar to Johnson and Johnson's essential elements although he presents them in a sequence more suited to younger students. *Simultaneous interaction* promotes more verbal action on the part of students as does face-to-face promotive interaction. *Positive interdependence* is defined in the same frame as Johnson and Johnson; he refines it for the younger subjects in terms of equal reward. Kagan's *individual accountability* can take the form of reward accountability – based on students awareness of contribution to a composite score, or task accountability – based on student individual contribution to a piece of work. *Equal participation* differs from Johnson and Johnson's essential elements as it structures the learning to assure simultaneous interaction.

Michaelsen. As Kagan's framework for cooperative learning diverges due to its target application to elementary pupils, Michaelsen's framework diverges due to its target application with post-secondary students. He asserts (Michaelsen, Knight & Fink, (eds.), 2004)) that a team-based class will change in three ways: (a) the primary focus will be learning how to *use* key concepts rather than just being familiar with them. (b) the teacher will need to design and manage the learning process rather than just dispense information. (c) the students will be answerable for initial acquisition of knowledge in order to work effectively with teammates rather than being passive recipients of the knowledge. The four principles that Michaelsen espouses (Kreie, Headrick & Steiner, 2007) are (a) create well-formed teams, (b) hold individuals accountable, (c) plan team assignments, and (d) provide prompt feedback. Seen through the lens of his assumptions about the team-based class, it is apparent that those principles are similar to Johnson and Johnson's essential elements. Well-formed teams are ones that, owing to their responsibility for acquisition of knowledge, accept positive interdependence. In both models, there is a requirement for individual accountability. Planning team assignments is a function imposed on both the teacher and the students in their face-to-face promotive interaction. Prompt feedback is another function shared by students and teacher – it is the catalyst of group processing.

There are other scholars who have framed theories about cooperative learning – notably Elliott Aronson (1978), and Yael and Shlomo Sharan (1980). Their omission from this digest of theorists is a concession to conciseness - not an indication of disrespect of their contributions to the field.

Application of Cooperative Learning

There is a consistent theme of theory as to how cooperative learning should be practiced in PIGSFACE and the other guidelines presented above. The application of that theory is not always as transparent. Sometimes it is passed off with a facile cliché such as "In Cooperative Learning, learners must work together in order to succeed." (Cooperative learning, 2008, ¶1). Some scholars deny the need for a given element – Pegels (1995) contends "In short, as part of the maturation process, people learn to adapt themselves to the small group environment" (p. 57). That sentiment would deny the need to train practitioners in social skills. However, the four major theorists described above have cogent instructions for applying their theories.

Johnson and Johnson. Johnson and Johnson suggest that positive interdependence is inbuilt by making the reward of interdependence apparent – the individuals must "perceive they can attain their goal if and only if their groupmates attain their goals" (Johnson & Johnson, 1999, p. 29). The teacher's task is threefold: to explain how they will help one another; to supplement the positive goal interdependence with palpable rewards or recognition; and to foster peer support and encouragement for learning (Johnson & Johnson).

On the surface, it might seem that cooperative learning does not provide for the tracking that today's empirically focused administration demands: "Standardized testing easily trumped the romantic notion, briefly revived in the 1960's, that schools should enhance children's growth, development, cooperative instincts, or other intangible, hard-to-measure qualities " (Reese, 2005, p. 9). On the contrary, effective cooperative learning adds a dimension to learners' assessments. Johnson et al. (1998a) recommend structuring individual accountability by first assessing the performance of each individual member. The next step, to provide context for that assessment, is sharing the results of individual and the group – an act that encourages celebration when

warranted, remediation when necessary, and redistribution of responsibilities as required. The last step in individual accountability is to ensure that the members hold each other accountable for the group's success.

The suggestions of Johnson, Johnson, and Holubec (1994) for the attainment of effective social skills reflect their roots in elementary education as evidenced by the instructions to "use quiet voices" (p. 9:1), and "stay with your group" (p. 9:3). In a synopsis (Johnson, Johnson, & Smith, 2006) more attuned to post-secondary students this prescription is offered:

To coordinate efforts to achieve mutual goals students must

(1) Get to know and trust each other

 (2) Communicate accurately and unambiguously

(3) Accept and support each other

(4) Resolve conflicts constructively. (p. A:28)

Johnson et al. (1994) note that those social skills are achieved in four levels: forming, functioning, formulating, and fermenting.

Those social skills lay the groundwork for group processing, which Johnson et al. (1998a) define as "Reflecting on a group session to (a) describe what member actions were helpful and unhelpful and (b) make decisions about what actions to continue or change" (p. G:3). The action plan suggested to implement group processing is (a) ensure each student receives effective feedback, (b) encourage reflection on the part of each student, (c) help students set goals for improvement both individually and as a group, and (d) encourage celebration (1994).

The last element, face-to-face promotive interaction, may invite emphasis on the physical aspect "face-to-face." Indeed, in his lectures, Roger Johnson describes the ideal group meeting as "eye-to-eye, face-to-face, and knee-to-knee" (W. D. Hargrave, personal observation, July 26,

2007; Johnson et al., 2006).Those aspects are easy to recognize and employ. Promotive interaction requires more explanation (Johnson & Johnson, 1999):

> Promotive interaction is characterized by individuals providing each other with efficient and effective help and assistance, exchanging needed resources such as information and materials and processing information more efficiently and effectively, providing each other with feedback in order to improve subsequent performance, challenging each other's conclusions and reasoning in order to promote higher-quality decision making and greater insight into the problems being considered, advocating the exertion of effort to achieve mutual goals, influencing each other's efforts to achieve the group goals, acting in trusting and trustworthy ways, being motivated to strive for mutual benefit, and establishing a moderate level of arousal characterized by low anxiety and stress . (p. 82)

*Slavin .*Robert Slavin focuses on the use of *Student Teams – Achievement Divisions* (STAD) in describing the application of cooperative learning theory. STAD is explained more fully in the section on elements of cooperative learning. In explaining group goals, Slavin (1995) submits that there must be motivation to learn, motivation to encourage groupmates to learn, and motivation to help groupmates learn. That three-pronged motivation will lead to elaborated explanations, peer modeling, cognitive elaboration, peer practice, and peer assessment and correction. He suggests that individual accountability should be mixed with group measurement for best effect: "if students value doing well as a group, and the group can only succeed by ensuring that all group members have learned the material, then the group members will be motivated to teach each other" (Slavin, p. 42). When Slavin refers to equal opportunities for success, the context is the team and achieving success is defined as contributing to the team's success. The resulting assessment may seem contrived, but, to Slavin, the end result of solidarity

justifies the means. Team competition was used as a motivator in early versions of STAD
(Slavin). Task specialization is another accommodation to STAD and other cooperative-learning
designs such as Jigsaw – it involves assigning a unique subtask to each group member (Slavin).
Slavin, a strong proponent of cooperative learning as a vehicle for inclusion of special students,
designed two cooperative learning models to adapt to individual needs.

Kagan. At first blush, Spencer Kagan's (1994) concept of simultaneous interaction,
which calls for all students talking at once, seems like a proposal for the tower of Babel. In
practice, it allows a multiplier effect for participation of students. The classroom discussion is
not limited to 10 minutes divided by 20 students: 30 seconds per student. With Kagan's plan, the
discussion time is shared by ten groups of two: 5 minutes per student. Kagan explains positive
interdependence in much the same way as do Johnson and Johnson: a gain for one member of the
team is a gain for all members. He takes a different approach from the Johnsons in providing for
individual accountability. He distinguishes between *reward accountability* in which the team
grade is figured based on individual scores, which are revealed to all members, and *task
accountability* in which each student is accountable to the group for his or her individual portion
of the project (1994). Kagan stresses that individual accountability should not be limited to
formative or summative examinations – it should be pursued on a day-to-day basis by in-class
question-and-answer drills. Equal participation in Kagan's scheme takes promotive interaction
from a sentiment to an activity: he prescribes activities that ensure turn-taking, division of labor,
and participation by all.

Michaelsen. Michaelsen's approach to cooperative learning is different from that of the
theorists already presented primarily because it was developed to teach post-secondary students
rather than primary students (Kagan, 1994) or the whole range K-16 (Johnson and Johnson,

1999). It is also different in that, at each step, it suggests an action and then justifies that action with theory. The other theorists presented in this review espouse a piece of theory and then suggest action that should achieve desired results. The action of properly forming and managing teams is the best way to provide for group cohesiveness, equitable distribution of member resources, and diversity (Michaelsen et al., 2004). All of those attributes contribute to positive interdependence. The action of making students accountable involves requiring individual preparation for group work and corroborating through tests and other assessments (Michaelsen et al.). Students are further held to accountability by peer assessment and team assessment (Michaelsen et al.). Michaelsen et al. describe the action of providing appropriate group assignments as central to avoiding most problems in group work. "In most cases, assignments that require groups to make decisions and enable them to report their decisions in a simple form, will usually generate high levels of group interaction [positive interdependence]" (Michaelsen et al., p. 33). Frequent and immediate feedback, Michaelsen's fourth principle, is not only a watchword for all levels and venues of education (Cooper et al. (eds.), 2003; Hathaway, 1990; Hunter, 1967; Marzano et al., 2001), but they are also at the core of true cooperative learning as represented in the call from Johnson et al. (1998a, 1998b, 2006) for group processing, Slavin's (1995) group measurement component of individual accountability, and Kagan's (1994) reward accountability. Michaelsen et al. (2004), however, take feedback to the nth degree, and provides for it before teamwork in the form of individual pretests, and after teamwork that is structured for complex decisions presented in simple format.

In summation, the four theorists whose work has been digested here fit comfortably under the umbrella of Johnson and Johnson's PIGSFACE elements. Their suggestions for effectively implementing cooperative learning are not identical, nor are they contradictory. In part, the

differences in theory and technique result from their different target audiences. Further examination of their work reveals what techniques contribute to the effective practice of cooperative learning.

Elements of Cooperative Learning

The PIGSFACE elements prescribed by David and Roger Johnson et al. (1998a, 1998b, 1999, 2006) provide a suitable taxonomy for organizing discussion of the techniques that the theorists listed above and their many disciples believe contribute to effective practice of cooperative learning. In order to provide a cogent recapitulation, this portion of the review presents the techniques starting with those that enhance positive interdependence and conclude with those that support individual accountability.

Positive Interdependence. Positive interdependence is considered the cornerstone element by Johnson and Johnson who have built on Deutsch's work (Johnson and Johnson, 1998a).It is described as the capstone element by other theorists such as Tuckman (1965) who considered the relationship a result of effective team interaction rather than a precondition. It bridges the competing needs of belonging and independence (Strahm, 2007). Johnson, Johnson, and Holubec (1998a) propose that positive interdependence can be achieved through one or more of these nine paths:

(1) Goal interdependence – the familiar "win-win"

(2) Reward interdependence – a more palpable version of interdependence

(3) Resource interdependence – limit material to necessitate cooperation by members

(4) Role interdependence – each role depends on accomplishment of other roles

(5) Identity interdependence – use of an icon such as team name

(6) Environmental interdependence – members kept in proximity to one another

(7) Fantasy interdependence – imagine dire consequences or fanciful reward

(8) Task interdependence – one step at a time

(9) Outside enemy interdependence – focus is on outdoing another team.

Not all of those nine paths would be deemed appropriate for post-secondary business communication classes. Crews and North (2000) observe that students need their own space and may be resentful of enforced proximity (i.e. environmental interdependence). Older, non-traditional students are likely to resent identity-builders and fantasy-construction as sophomoric. The two aspects contributing to positive interdependence that are most consistently apparent in the literature are group/team size and group/team composition (e.g. Johnson et al., 1998a; Johnson et al. , 2006; Strom & Strom, 2002; Strom & Strom, 2003; Michaelsen, Knight & Fink, 2004; Rassuli & Manzer, 2005; Tuckman, 1965; and Marzano et al., 2001).

Recommended group size depends largely on the milieu and the structure of the activity. Johnson et al. (1998a) recommend considering these four factors: time limits – the shorter the time available the smaller the group; experience of the students with cooperative learning – the more experienced groups may be larger; age of the students – as with experience, the older groups may be larger; and the materials available for the task. Lou et al (1996) recommended groups of 3-4 members based on their meta-analysis of within-class grouping. The basic index used to calculate effect size was mean of experimental group minus the mean of the control group divided by the pooled standard deviation (PSD). PSD was used because it is more stable and provides a better estimate of the population variance than that of the control group standard deviation alone (Lou et al.). Marzano et al (2001) digested the findings of Lou et al. on group size in the following table, which shows these effect sizes for groups compared to control groups using whole-class learning: a positive effect size of +0.22 for groups of 3-4; a positive effect size

of +0.15 for pairs; and a negative effect size of -0.02 for groups of 5-7.

Table 1: Size of Groups – Effect Size (Compared with Whole-Class Learning)

Group Size	No. of Effect Sizes Examined	Average Effect Size	Percentile Gain
Pairs	13	.15	6
3-4 members	38	.22	9
5-7 members	17	-.02	-1

The above effect sizes are related primarily to achievement, but also to student attitudes and self-concept. No optimal effect size was offered in the accompanying analysis, but the conclusion was, "Small teams of three to four members seem more effective than larger groups" (Lou et al., 1996, p. 451). Echoing the considerations of milieu suggested by Johnson et al. (1998a), Lou et al. posited that group composition should consider the nature of the task and the time available for its completion. In the discussion of the factors affecting their meta-analysis, Lou et al. noted that the instruction might have been manipulated when the within-class group treatment was administered. Lou et al. also conjectured that some group formation might have been perverted by reluctance of the teachers to identify students as low achievers. Bacon, Stewart, and Silver (1999) recommended that the team should be kept as small as possible in order to avoid *social loafing (*less industrious members leave all the work to more industrious members), diminished identifiable contributions, and problems from coordinating a large number of team members.

Slavin's (1995) structured cooperative learning , Student-Teams Achievement Divisions (STAD) and Team-Games – Tournaments (TGT) call for teams of four members (if there are unassigned students, some teams will be increased to five members). He plans for reading groups to be pairs of dyads (four pupils total). Slavin does not offer a pedagogical rationale for the number four, but it is the only practical option for some of the tightly prescribed activities. Owing primarily to his principle of simultaneity, Kagan (1994) recommends groups of four. His rationale is "…during pair work in a team of three, one student is left out, violating the equality principle. A team of five reduces the opportunity for equal participation compared to a team of four. Leaving any one student out violates the equal participation principle" (p. 111). Michaelsen, Fink and Knight (2004) suggest that the size of the groups depends largely on the size of the class but that, on the premise that team-based learning assignments involve highly challenging intellectual tasks, a group size of five to seven is best. Although student preference is not always the best guide for instruction, in this case, students seem to agree with the experts. Rassuli and Manzer (2005) conducted a study of college students who were familiar with team learning and found that students with favorable opinions of the pedagogy preferred teams of 3.9 members and students who disliked the pedagogy preferred teams of 4.8 members. From the designers to the participants, the consensus is that groups of 3-5 are best for cooperative learning.

The question of group composition does not yield such a straightforward answer. In the context of cooperative learning and forming groups, composition is primarily viewed through the lens of homogeneous versus heterogeneous. Seventeen years ago, when Watson, Kumar, and Michaelsen (1993) investigated the impact of cultural diversity on interaction, process, and performance, most of the findings seemed to recommend homogeneous groups. The study was conducted with 36 groups over a period of four months; there was approximately 40 hours of

interaction in that time. They found that culturally homogeneous groups performed better than culturally diverse groups in number of alternatives generated, group process effectiveness, accurate identification of problem, and quality of solutions. The culturally diverse groups outperformed the culturally homogeneous groups only in the measure of range of perspectives. [It is interesting to note that toward the end of this longitudinal study the measures of effectiveness were all trending to converge - indicating that the differences diminished with maturation.] Johnson et al. (2006) advocate heterogeneous groups "In heterogeneous groups students tend to engage in more elaborative thinking, give and receive more explanations, and engage in more frequent perspective-taking in discussing material, all of which increase the depth of understanding, the quality of reasoning, and the accuracy of long-term retention" (p. 2:5). The method they suggest most often for forming heterogeneous groups is random assignment – the variations on that method are numerous ranging from birth date to favorite sport to type of book preferred (W.D. Hargrave, personal observation, July 24, 2007). Although Johnson et al. (2006) suggest stratified random assignment (i.e. one of each with specific interests or skills) in some learning situations, they warn against sending the wrong message if demographic characteristics are used in making the assignments.

In a more recent article, Michaelsen et al. (2004) suggest evaluating the assets (e.g. work experience, other relevant course work, international perspective) and liabilities of the students and using that information to make team assignments. In Slavin's (1984, 1995) signature cooperative learning technique, Student Teams – Achievement Divisions (STAD), teams are formed heterogeneously based on ability, gender, and ethnicity. Slavin also suggests that teams be rearranged every five or six weeks or at the end of a grading cycle. Kagan (1990) considers the equal participation principle in composition as well as in size – that is, every aspect of

formation should have the end goal of maximizing participation. His recommendation is to maximize heterogeneity: "The heterogeneous team is a mirror of the classroom, including, to the extent possible, high, middle, and low achievers, boys and girls, and an ethnic and cultural diversity" (Kagan, 1994, p. 4:1). Kagan also posits that heterogeneity of achievement levels enhances peer tutoring and contributes to classroom management.

The meta-analysis by Lou et al. (1996) only considered homogeneity/heterogeneity in terms of ability – that is a homogeneous group would contain all high achievers, all low achievers, or all middle achievers, and a heterogeneous group would have a mixture. No consideration was given to gender or any other demographic factor. The study examined 20 analyses and considered 13 analyses in computing the measure of achievement. The study treated heterogeneous groups as control on the premise that everyday classes are heterogeneously composed. Marzano et al. (2001) digested the findings in Table 2.

Table 2: Homogeneous Versus Heterogeneous Grouping – Effect Sizes

Ability Level of Students	No. of Effect Sizes (ESs)	Average ES	Percentile Gain
Low Ability	4	-.60	-23
Medium Ability	4	.51	19
High Ability	5	.09	3

As shown in the above table, students of low ability perform worse (effect size -.60) when placed in homogeneous teams (i.e. all low ability). Medium ability students seem to benefit

most from the homogeneous group (effect size +.51). The high ability students showed a slight positive effect from placement in homogeneous groups (+.09). In contrast, Butterfield and Bailey (1996) examined 14 self-selected groups and 15 socially engineered groups of four members each. The members of the socially engineered groups were selected based on readily discernible attributes such as sex, national origin, race, and major field of study. The subjects completed three ranking tasks involving both cognitive evaluation and judgment; after completing the tasks individually, they were grouped and developed group rankings on the same subjects. The answers were evaluated as to diversity using Kendall's Coefficient of Concordance (as cited in Butterfield & Bailey, 1996). The socially engineered groups produced a more diverse set of individual inputs. In summation, strong cases are made for homogeneous groups and for heterogeneous groups. It is largely a case of apples versus oranges. The theorists and studies that proponed homogeneous groups measured achievement for the most part. The proponents of heterogeneous groups lauded their ameliorative effect on critical thinking, peer interaction, and social skills.

Group Processing. Most models of cooperative learning begin with positive interdependence or a similar stage and end with group processing. It is only rational that a group cannot process its activity and accomplishments (or lack thereof) until it takes those steps from forming to adjourning. Stahl's (1994) digest of the essential elements of cooperative learning treats group processing as primarily an endgame activity in which the students reflect on how well they achieved their goal, how they helped each other, what positive behaviors they practiced, and what will make them more successful in their next endeavor. Group processing is not limited to education. It is the equivalent of Senge's discipline of dialogue: "… a free-flowing of meaning through a group, allowing the group to discover insights not attainable individually"

(Senge, 1990, p. 10). It is of prime consideration in the development of new technology such as virtual teams (Geister, Konradt & Hertel, 2006). Group processing is the core of the final stage of Tuckman's group development model; he added it under the quasi-rhyming term adjourning when he and Jensen reviewed the model in 1977 (Tuckman & Jensen, 1997). An understanding of that endgame processing should underpin the explanation of the intermediate steps.

Johnson et al. (1998a) list the four purposes of group processing as (a) improve continuously the group's work, (b) increase individual accountability, (c) reduce complexity of the learning process, and (d) error-proof the process. It is interesting that the first purpose mentioned is also one of the precepts of W. Edwards Deming's total quality management – continuous improvement (Schermerhorn 2004). That points to the cyclical nature of both processes – only through reviewing the past can its problems be avoided and its successes repeated. While Johnson et al. (1999) identify positive interdependence as the theoretical root of cooperative learning, they offer more advice on individual accountability in their implementation instructions than any of the other precepts (Johnson & Johnson, 1994, 1999; Johnson et al., 1998a, 1998b). In the group-processing stage, attention is focused on each member's contribution to the synergy of the group (1998a). The value of group processing is boosted when the learning process is streamlined (1998a) – the participants can "tell the forest from the trees" when the complexity is reduced. Finally, after the unity of the group is established, the group identifies detriments and impediments to its process and moves to eliminate them. Johnson et al. (1998a) propose that in order to achieve those purposes, the teacher must provide the grist for the mill of processing. First, the teacher must provide feedback and see to it that the groups provide feedback to each other and to the teacher. Second, the teacher must ensure that students analyze

and reflect on that feedback. Third, the teacher should help individuals and teams set goals for improving the quality of their work. Fourth, the instructor should encourage celebration.

Michaelsen, Fink, and Knight (1997) assay feedback as the most important element of group processing as do the other theorists (Johnson et al., 1998a; Kagan, 1994; Slavin, 1995), but they take feedback a step further by suggesting its use to build cohesiveness throughout the process. They (Michaelsen et al., 2004) promote the use of the Readiness Assessment Process (RAP), which consists of an individual pretest on assigned readings followed immediately by a team test with discussion. After the instructor provides graded feedback, the group has the opportunity to submit written appeals. Those appeals contribute to the corrective instruction delivered by the teacher.

Slavin (1991b) takes the path of actively engineering group processing into his brand of cooperative learning rather than laying the groundwork and encouraging it; for example, he considers thoughtful rewards a highly effective stimulus for reflection. In his scheme, feedback is provided in the form of grades, albeit grades that have been carefully explained and pre-planned (Slavin, 1999). That treatment of group processing is consonant withSlavin's basic tenet that students should be asked to learn something rather than do something. "When the group is asked to do something rather than learn something, the participation of less able students may be seen as interference rather than help" (Slavin, 1991a, p. 77).

Kagan (1994) also suggests a platform of assessment for group processing. The final step in his prescribed structures is an evaluation of the learning or task achievement rather than an evaluation of the process through which it was achieved. He does, however, advocate positive steps for developing social skills that contribute to group processing; those are reviewed later in this report. The group- processing step is not by any means limited to elementary school students

(the focus of Kagan's and Slavin's work). Strahm (2007, p. 69) conducted a survey with mature

pre-university students and found that they perceived group processing as beneficial, "… group

processing encouraged students to hone their social and organizational skills, namely, listening,

staying on task, participating and communicating" .

Social Skills. Social skills, which include interpersonal skills and small-group skills, are

the foundation for group processing. They are not only a component of cooperative learning,

they are also perceived by some as a raison d'être for the entire pedagogy. Noddings (1989)

made the following observation.

> John Dewey (1902) recommended that children be encouraged to work in small groups
>
> because he believed that intelligence is developed socially. He also believed that students
>
> need the experience of working together if they are to gain an appreciation of democratic
>
> processes and the skills required to participate in them (1916). Dewey's recommendations
>
> reflect several broad purposes for using small groups: cognitive development, social/
>
> democratic development, and moral development. (p. 608)

Indeed, in the eyes of the principal theorists, development of social skills is a major

benefit of cooperative learning. Kagan (1994) makes a case for its contributions to cross-ethnic

relations and self-esteem as well as academic achievement. Johnson and Johnson have used it as

(a) a foundation for a program in combating bullying (2006), (b) for a program in promoting

peacemaking (1995), and (c) for teaching the value of controversy in the classroom (1995).

Johnson et al. (1994) contends that the social skills are developed over the four levels of team

building: forming, functioning, formulating, and fermenting. In order to inculcate the skills in the

students, the first step is to show the student the need for the skill, which might be done through

interviewing, case study, or role-playing. Next, the instructor should ascertain that the students

really grasp the concept by requiring a definition in their own words or by constructing a "looks like/sounds like" T-chart. The third step is to provide a practice situation wherein they can demonstrate mastery of the skill. After providing feedback to the students on their use of the skill, the instructor should follow the fifth step of ensuring that the students persevere in application of the skill (Johnson et al., 1994).

Where Johnson and Johnson (1999) provide great detail in their description of how social skills should be included, Slavin (1995) only alludes to them as artifacts of dysfunction and prescribes a "tincture of time":

> The primary solution for this problem is time. Some students will be unhappy about their team assignments initially, but when they get their first team scores and realize that they really are a team and need to cooperate to be successful, they will find a way to get along (p. 141)

As in group processing, Slavin's (1999) emphasis is on the teacher's evaluation rather than the group's introspection. Likewise, Kagan does not provide for formal instruction in social skills; instead, he relies on his structured approach which models and reviews the practice of social skills (Strahm, 2007).

Kagan (1994) extols the benefits of social skills as enhanced self-esteem, improved self-direction, a more favorable feeling for the class, and increased cognitive and affective role-taking abilities. Those benefits are realized by what he calls a "will to cooperate" that is a result of teambuilding, appropriate task and reward structures, and careful use of group grades (Kagan, 1994).

Michaelsen et al. (2004), whose target is college students, rely on informed structuring of the groups and in-depth consideration of their tasks to minimize problems evolving from any

lack of social skills. Although he does not explicate the formative steps of group activity, he makes the point that the facts should speak for themselves: "Finally, part of the effect of group work is believing that the benefits outweigh the costs" (Michaelsen et al., p. 20).

According to social scientists outside the realm of education, the social skills developed in this process have advantages beyond enhanced learning. Tinto (1993) studied freshman interest groups and coordinated studies programs, which were highly successful in improving retention. He found that they used a large element of cooperative learning in the freshman experience. In his assessment of the group learning, Tinto made a point that is often ignored in other studies – the advantage is not just a matter of *getting to know* one's teammates, equal advantage lies in *being known by* them and their networks. Singh (1991) also found that prejudice is reduced by the pursuit of common goals and that the beneficial effect is increased when sanctioned by institutional support – two central elements of cooperative learning.

Face-to-Face Promotive Interaction. Social skills make a large contribution to the effectiveness of cooperative interaction. So does the physical environment in which that interaction takes place. Anyone who has taught in a traditional classroom appreciates the advantages and rewards of in-person presentation. There is no substitute for the nonverbal feedback provided by reading discovery in raised eyebrows or defensiveness in crossed arms (Guffey, 2008). Although 96 % of the largest (post-secondary) institutions deliver instruction online to 3.2 million students (Allen & Seaman, 2006), not one of the four major theorists headlined in this review has addressed that challenge in any depth. This portion of the review is written with the presumption that physical proximity is generally available for the business communication class. The reality that the class may be in an online (distance education) environment is addressed in the section on practices. Although the physical aspects of the milieu

may be more apparent, the techniques to promote and support one another are arguably the more important aspect of this element. Each of the theorists offers detailed suggestions, if not lock-step edicts, of how their brand of cooperative learning should be carried out. Those course and lesson designs are the blueprints for promotive interaction.

Johnson et al. (1998a) start their checklist for group observation with the point that the students should be facing one another with chairs pulled closely together . Even in large groups of fifty or more, the Johnson brothers provide for face-to-face orientation (W. D. Hargrave, personal observation). The description they offer of an ideal group is a good list of positive nonverbal signals: smiles, open gestures, forward leaning, touch, tonality, eye contact, and nodding head (Johnson et al., 1998a, p. 6:17). They make the point that even when circled groups are not possible (e.g. theater style lecture halls and accounting classrooms with swing seats and fixed tables), some of the advantages can be achieved with "turn to your neighbor" and other dyadic activities (Johnson et al., 1998a). Promotive interaction has many pieces as enumerated in the section on application of cooperative learning. The key to its application is the term "promotive," which is defined as "Actions that assist, help, encourage, and support the achievement of each other's goals" (Johnson et al., 1998b).

Johnson et al. (1989a) do not leave promotive interaction to chance or consider it a natural consequence of social skills. They provide for it in the structure of the cooperative lesson frameworks that they recommend such as *group investigation*, in which tasks are divided and assigned at the onset and results synthesized in the culmination (Johnson et al., 1989a), *book-ends*, which is used to prepare for and synthesize films and demonstrations (Johnson et al., 2006), and *one-minute papers* written in pairs to focus their attention and provide feedback to the instructor (Johnson et al., 2006). Johnson and Johnson suggest many other designs for

cooperative learning; the three mentioned above only provide a sampling. Beyond the structure of the activities, they suggest different formations of groups for different learning objectives: formal cooperative learning groups are formed for a specific undertaking that may last a few minutes or a few days; informal cooperative learning groups are formed to focus attention on learning material and last for less than one class period; and base groups are carefully formed to provide a variety of ability and outlook as well as to provide support and assistance over the course of a semester or quarter.

The use of task structure to achieve cooperative learning is the hallmark of Kagan whose textbook (1994) contains 47 pages on theory and background and 283 pages of activities interlaced with instructive rationale. Indeed, Kagan's trademark concept of simultaneous interaction depends on gathering face-to-face to promote each other's learning. Most of Kagan's activities provoke promotive interaction: *Turn -4-Thought* includes a "paraphrase and praise" step in which one student answers and another student restates and lauds that answer; *Numbered Heads Together,* in which the students confer to make sure each member knows and understands the answer to a question posed to the group; and *Rotating Review* which takes the promotive interaction to an intergroup plane. Kagan offers dozens of other activities many of which focus on the aspect of promotive interaction.

Slavin (1995) stresses that teams are more motivated when their goal is to do better than their past performance (interdependence) than when their goal is to do better than another team (competition) and that motivation is enhanced when rewards are linked to team performance, as in Student Team-Achievement Divisions (STAD). Although the benefits of STAD may be achieved at a distance (i.e. not face-to-face), its success is reliant on promotive interaction, which provides the reason to take each other's work seriously (Slavin). Slavin does not promote his

own detailed designs for cooperative learning, as do other theorists. Beyond his STAD, which can be applied in a myriad of situations, he recommends and incorporates Aronson's Jigsaw (Slavin, 1995) to provide promotive interaction.

Michaelsen et al. (1997) stresses the importance of a face-to-face aspect of interaction less than the other theorists do, although he recognizes the importance of the group dynamics. The issues that he feels will detract from the group's interaction and lead to social loafing are (a) reluctance to participate in some members - shyness, (b) desire to dominate in some members - boldness, (c) fear of looking dumb due to lack of content knowledge, (d) concern for their own image as either excessively demanding or compliant, (e) low desire for group to succeed, and (f) task design that leads to completion by one member while others look on. Michaelsen suggests a "rule of thumb" that will help avoid the issues listed above: "… assignments increase group cohesiveness (and, over time, eliminate social loafing) when they require members to make a concrete decision based on the analysis of a complex issue" (p. 6). He promotes the use of his Readiness Assurance Process (RAP), which was described briefly in the section on group processing. Even more important than immediate feedback is the give-and-take developed in the process of taking the team-effort posttest (Michaelsen et al.). It is interesting to note that Michaelsen et al. decries group term papers as the worst project for group work because they are less likely to provoke promotive interaction and more likely to promote social loafing:

> Because writing is inherently an individual activity, the rational way to accomplish the overall task is to divide up the work so that each member independently completes part of the assignment (usually the part that he or she already knows the most about). As a result, there is seldom any significant discussion after the initial division of labor, and feedback

is generally unavailable until it is too late to create either individual accountability or meaningful comparisons with other groups. (Michaelsen et al., 1997, p. 7)

All of the headlined theorists include mechanisms that purport to lead the students to promotive interaction. Most of them provide caveats similar to Michaelsen's warning above for designs that do not work. Another common trait is the advice that the teacher should act as a "guide by the side" and allow the students to work out their own problems as much as possible (Johnson et al., 1998a; Johnson et al., 2006; Kagan, 1994; Michaelsen et al., 2004; Slavin, 1995). That advice is one of many suggestions for education as a whole that is fully subscribed to in the pedagogy of cooperative learning.

Individual Accountability. The value and implementation of the essential elements reviewed heretofore are largely without argument. It is easier to share ideas when the members are face-to-face, and those ideas will be more welcome when they are supportive. Social skills are good, and a social situation like a group is a good place to teach them. Group processing allows the continuous review recommended by Deming and other management gurus (Pegels, 1995). Only positive interdependence may be a little hard to process because it gainsays the concept of American rugged independence. The last element, however, seems an outright contradiction – if the work is done as a group, how can the individuals be held accountable? These headlined theorists and others have spent much of their energy and ink explaining how that contradiction is overcome or avoided.

Johnson and Johnson define individual accountability as "The measurement of whether or not each group member has achieved a group's goal. [It is] assessing the quality and quantity of each member's contributions and giving the results to all group members" (1995, p. 237). The key word that appears throughout their treatment of individual accountability is "assessment."

They contend that assessment rendered to the whole group prevents "hitch-hiking" (aka social loafing) and serves to make the members stronger in their own right (Johnson & Johnson, 1996). Johnson et al. posit that in the absence of individual accountability members reduce their efforts and are more likely to be redundant in those efforts. The diminution of (perceived) responsibility also leads to a lack of group cohesiveness. They (Johnson et al., 1994) explain that the sense of responsibility is best developed through a process of self-monitoring and suggest the use of simple checklists (e.g., what I did well, how I need to improve, etc.) to guide it. Associating the concept of responsibility with accountability resolves much of the worrisome apparent contradiction. The accountability is focused inward to the group - not to some outside entity such as the teacher or board of review.

> The purpose of cooperative groups is to make each member a stronger individual in his or her own right. Individual accountability is the key to ensuring that all group members are in fact strengthened by learning cooperatively. After participating in a cooperative lesson, group members should be better prepared to complete similar tasks by themselves. (Johnson & Johnson., 1999, p. 81)

Johnson and Johnson (1995) suggest the use of these six practices to build individual accountability into the learning:

1. Keep the size of the group small. That makes it more difficult for any one member to "hide."

2. Give individual tests to each student.

3. Give random oral examinations. Select one student to report orally for the group.

4. Observe each group for equal contribution to thought process.

5. Assign one member as checker to ascertain rationale of group answers.

6. Have students engage in simultaneous explaining (i.e. teach each other). (p. 81)

These practices are illustrated in the activities suggested in their book for cooperative learning for college classes (Johnson et al., 2006). In *Question-and-Answer Pairs,* students read the assignment and prepare questions to ask one other classmate. *Progress Checks* are short quizzes that are first taken individually, and then with a partner, if there is time, they are taken a third time as a group; at each review, the rationale for the answers is explored. *Book Ends* is an activity used with a video or demonstration. The teacher prepares questions on the subject that will set expectations and help the students organize their thoughts. After the video or demonstration, the teacher provides another set of questions for review and retention. *Report to the Class* is a flexible activity that can be appended to most classroom activities In that activity, one member is chosen at random to report the findings determined consensually by the group. In a college context, Johnson et al. (2006) suggest that the instructor should disclose the criteria before an assignment is undertaken, assess the performance of each individual by that criteria, and provide feedback of that assessment to the group; that allows the group to celebrate or remediate as appropriate and reassign tasks if redundancy is apparent.

That sort of preplanning is deemed the most important part of cooperative learning by Michaelsen et al., (1997). He contends that problems such as a single dominating member, group inability to stay focused, and failure of small group energy to transfer to whole-class discussions are the result of poorly conceived group tasks. His rule of thumb, requiring members to make a concrete decision based on complex analysis, not only relates to promotive interaction, it also provides a target for group tasks. The singular decision allows crucial feedback much quicker than a complex assignment that takes days or weeks of work (e.g. group term papers); such

immediate feedback reduces tension within the group (Michaelsen, 1997). Although Michaelsen

supports rewarding group success, he does not believe in including group performance in the

grading system; instead, he believes in providing social validation by scrutiny and comment from

peers in other groups. Grades should be awarded based on individual effort because, absent some

sort of peer evaluation, individual grades for group effort may lead to social loafing and because

students have very different conceptions of what an acceptable grade is (Michaelsen et al., 1997).

In Michaelsen's RAP system there is individual accountability in the form of a grade on the

initial test over assigned readings, and there is a group element to the grade based on the group

test (1997; a chart of RAP is included in Appendix A). Each of Slavin's cooperative learning

schemes ends with group reward for group achievement of some sort (1995). In STAD, the

group reward is for improvement in the team's total grade. In Teams-Games-Tournaments

(TGT), the group reward is for the team that wins the tournament. In Team Accelerated

Instruction (TAI), academically stratified teams coach each other and receive a reward based on

team level of achievement although the different teams are completing different tasks. However,

the only grades that are recorded are the grades earned individually by the students – the group

rewards are for extrinsic motivation (Slavin, 1984). Most of Kagan's numerous scripted

exercises contain cooperative elements interspersed with other learning activities (Cooper, 2003).

He includes individual accountability in those activities in one of three ways: each student is

graded individually, each student is responsible for a unique portion of the project or

presentation, or the group is not allowed to proceed to the next learning center until all members

finish the present task (Kagan, 1994). It should be noted that not all of Kagan's cooperative-

learning activities purport to provide for individual accountability.

Strom and Strom (2002) have synthesized the concepts of individual accountability and provided a link to the practice of cooperative learning with this three-pronged prescription for student accountability:

1. Every student should make contributions to their team. However, no student can be held responsible for the behavior of his or her peers….When this premise is applied to group learning, the students are more motivated to cooperate because they are judged on the basis of individual teamwork skills and personal test performance.

2. Community college faculty should share some responsibility with students for the evaluation of group learning.… However, faculty are not the best evaluators of what happens in groups because they are seldom around to witness the interaction process.

3. Students also need to learn self-evaluation so they can make the adjustments needed in a complex environment characterized by over-choice and a labor market where knowing how to collaborate is seen as essential. (2002, pp. 317-318)I

Indicators and Practice of Cooperative Learning

It is obvious from the review of the theories that not all of the theorists feel the same way about the elements of cooperative learning. Notably at odds are Michaelsen and Johnson and Johnson regarding the element of social skills. Where Johnson and Johnson feel that training in those skills is essential – Michaelsen feels that students will come to the class with necessary social skills. Where Slavin strongly propones groups of four – Johnson and Johnson suggest the smaller the better – and Michaelsen makes a credible case for five to seven members. There is a sizeable body of literature that describes cooperative learning in the aspects of application, empirical research, and implementation techniques. Because the literature often includes more

than one of the aspects, this section is organized by the PIGSFACE elements. This organization

lends itself to the investigative purpose of the study.

   Positive interdependence. Many authors have written about this element without calling it

by that name, so reading an article cited in this subsection might not reveal the term, but the

concept is included. Abrami and Chambers (1994) used Johnson and Johnson's Classroom Life

Instrument (CLI) to measure perceptions of eighth-grade geometry students. They concluded that

social support from the teacher and fellow students was moderately related to perceptions of

positive interdependence, but social interdependence factors were less important predictors of

student learning than was student self-esteem.

   Tjosvold (1984) argued that goal interdependence is supportive of understanding, social

interaction, and productivity in organizations. He supported his argument citing Deutsch's 1949

writings (as cited in Tjosvold, 1984): in cooperation, persons perceive their goal attainments as

positively related; in competition, persons perceive their goals as negatively linked; in

individualization, persons perceive their goals as unrelated. As already noted, Tuckman's model

(1965) ended with therapeutic function, his brand of positive interdependence, implying that it is

an outcome of the team process rather than a prerequisite.

   Johnson and Johnson (1999) provided a table comparing cooperative, competitive, and

individualistic social interdependence by nine characteristics: fate, benefit, time perspective,

identity, causation, rewards, motivation, attribution, and celebration. That table is reproduced in

Appendix B. Positive interdependence is most affected in how the groups are formed and in what

tasks are assigned.

   The teacher is most able to inculcate positive interdependence in the formation of the

group. He or she may allow the groups to form their own groups, assign groups randomly, or

assign groups according to characteristics that provide either homogeneous or heterogeneous composition (Johnson et al., 1998a). Another readily observable aspect of group formation is its duration – will the group stay together for one class period or the entire term. The third aspect of forming the group, which is patently in the control of the teacher, is the size of the group (Johnson et al., 2006).

The question of group composition turns on a plethora of variables in a wide variety of settings. This review deals with gender, academic major, academic ability, socially engineered heterogeneity, and computer-assisted instruction. Sormunen-Jones, Chalupa, and Charles (2000) examined the differences in group productivity related to academic major, gender, choice of work group, and gender composition of work group. The data was gathered using a questionnaire to determine gender, academic major, choice and composition of group, and an evaluation form designed to measure the output of the collaborative work groups. The task completed by the work groups was a SWOT analysis (strengths, weaknesses, opportunities, and threats) of an individual company in the context of its industry. The conclusion was that groups consisting of all one gender and groups consisting of an even mix of genders perform better than gender-exception groups (groups with just one member of a gender and the remainder of opposite gender). There was no finding of significant effect related to academic major or student choice of work team.

Butterfield and Bailey examined 14 self-selected groups and 15 socially engineered groups of four members each. The socially engineered groups were composed based on readily discernible attributes such as sex, national origin, race, and major field of study. The subjects completed three ranking tasks involving both cognitive evaluation and judgment; after completing the tasks individually, they were assigned to groups and developed group rankings on

the same subjects. The answers were evaluated as to diversity using Kendall's Coefficient of Concordance. The socially engineered groups produced a more diverse set of individual inputs. Noddings (in Lou et al., 1996) noted a negative aspect of heterogeneous groups: "When the task is a typical academic one and groups are heterogeneously formed, the group members often turn to the most capable student for help" (p. 427).

Using a Delphi Technique questionnaire, Chung and Lo (2006) identified seven dimensions of teamwork competences: interpersonal communication; goal setting and performance management; planning and task coordination; conflict resolution; characteristics of the team members; the formation and execution of cooperative and innovative ideas; and the problem-solving proficiency of the team. They conducted an experiment with a quasi-experimental design (pre-test/post-test) to determine if there was a difference in teamwork competence related to homogeneous or heterogeneous group formation (based on curriculum scores). Using t-test analysis, they determined that there was no significant difference detected in the seven dimensions of teamwork competences for the post-test scores between the homogeneous and heterogeneous groups. In their limitations, Chung and Lo offered that the insignificant differences might be explained by (a) short duration (10 weeks) of experimental teaching was not long enough, and (b) students in Taiwan are not often taught this way and are not used to cooperating with other team members (2006).

When computers are part of the learning experience, the formation of the group is arguably even more important than in the traditional classroom. Brush (1997) conducted an experiment with 44 fifth-grade students engaged in computer-assisted instruction. He formed groups of homogeneous/high-ability, homogeneous/low-ability, and heterogeneous pairs and tested for time-on-task (engagement) and performance on post-test assessment. He found

heterogeneous pairs to be more engaged than low-ability homogeneous pairs, but less engaged than high-ability homogeneous pairs. He also found that heterogeneously paired students performed slightly better on the posttest, but that the difference was not statistically significant.

Heterogeneous composition of groups is the norm in the corporate world. In a brief study of Thermos's application of the team concept in new product development, Rao (1993) lauded the wisdom of forming a heterogeneous group that was extended beyond the company to include vendors and consultants. The Thermos plan also incorporated a standard of corporate teams that could be applied in cooperative-learning teams – leadership revolving according to requisite expertise. Peters (in Montebello & Buzotta, 1993) suggested three approaches to forming teams. When combining tasks, smaller tasks are brought together to create more meaningful and palpable objectives. Jobs are no longer isolated activities – they are results. His second approach is to create client relationships, in which the teams function together to serve the interest of an internal or external client. The third approach is vertical loading of responsibilities and controls, that is the controls of the team are assigned to the entity with best knowledge of the controls – the team itself. Each of those approaches is best served by a heterogeneously composed team (Montebello & Buzotta, 1993).

Pfaff and Huddleston (2003) acknowledge that, despite the academic and social benefits of cooperative learning, not all students are enamored of the process. They note that how the group is composed is not as important as the fact that the group knows how and why it was composed that way. (A description of Pfaff and Huddleston's study is found in the section on group tasks.)

Chung and Lo's observation that their experiment may have been too short is consistent with Michaelsen's suggestion (2004) that teams should work together over the entire term. Other

theorists and practitioners whose students are post-secondary or older recommend longer

association of the groups (Becker, 1997; Holtfreter & Holtfreter, n.d. b; Maier & Keenan, 1994).

Feichtner and Davis (cited in Pfaff & Huddleston, 2003) suggest that keeping the group together,

even when the members are engaged in individual work, allows the greatest chance of success.

Rassuli and Manzer (2005) conducted a survey with 180 students in six economics principles

classes using a Likert type scale to assess their perceptions of team learning. Their multivariate

analysis of student perceptions led to the recommendation, "It appears that the longer and greater

involvement with team activities, the higher the chances for the realization of its positive

contribution to team learning" (Rassuli & Manzer, 2005, p. 25).

The size of the team is largely related to the task- at-hand, the time to accomplish it, and

the experience of the members with cooperative learning (Johnson et al., 1998a). As described in

the introduction to this section, attention to those factors prescribes a broad range of sizes.

Johnson and Johnson suggest many ad hoc groups that call for dyads (e.g. Turn to Your

Neighbor, Read and Explain Pairs; Johnson, Johnson et al., 1998a). Kagan generally

recommends groups of four on the basis of his simultaneity principle, but increases that to

accommodate the number of pieces of the Jigsaw puzzle (1994). Slavin (1995) recommends

teams of four for his signature Student Teams-Achievement Divisions, which are suggested as

particularly appropriate for lessons with precise objectives such as mathematical computations

and science concepts. Michaelsen et al. (2004) assumes students with at least a modicum of team

experience; more importantly, he assumes complex tasks calling for the variety of skills only

available in larger groups. Therefore, his ideal group is of five to seven members.

Rassuli and Manzer's (2005) analysis of team perceptions (described above) found a

correlation of nonparticipation problems with teams having more than four members. The

stepwise discriminant analysis yielded a negative value indicating that the students prefer a smaller team.

Not all research agrees with the common wisdom that smaller groups perform better. Onwuegbuzie, Collins, and Elbedour (2003) investigated the effect of group composition on cooperative-learning groups using a sample of 275 graduate students from 15 sections of an introductory education research course. The participants were assigned to 70 groups composed of two to seven students using a stratified random assignment design based on individual midterm scores. One dependent variable in the study was the group score (as assessed by a rubric) on an article critique. A quadratic trend for scores on the article critique suggests that the size of the group may differentially affect performance with larger groups performing better.

The other principle tool available to teachers to inculcate positive interdependence is the taskwork assigned. Slavin cautions against relying on a team product to the detriment of team learning: "… when the group's task is to ensure that every member learns something, it is in the interest of every group member to spend time explaining concepts to his or her groupmates" (1991a, p. 77). The four headlined theorists frequently use examples of activities and tasks to lend body to their ideas. As reported above, Kagan's writing is more about the activities that support cooperative learning than the theories that underpin its use. Likewise, Michaelsen promotes the use of his Readiness Assessment Process (RAP) as a solution for many of the problems associated with cooperative learning (Michaelsen et al., 1997; Michaelsen et al., 2004). Michaelsen, Knight, and Fink (2004) identified five attributes that determine if an assignment contributes to group cohesiveness:

1. Does it promote a high level of individual accountability for team members?

2. Does it bring team members into close proximity?

3. Does it motivate a great deal of discussion among team members?

4. Does it ensure that members receive immediate, unambiguous, and meaningful feedback (preferably involving direct comparisons with performance outputs from other teams)?

5. Does it provide explicit rewards for team performance? (p. 55)

Those attributes are very close to a restatement of Johnson and Johnson's PIGSFACE (Johnson et al., 2006). The only salient differences are the amplification of the feedback (group processing) piece and the provision for rewards. Michaelsen et al. include the comparison with other groups to add an element of outside threat, "The knowledge that any other team might outperform 'your' team is extremely motivating to students" (Michaelsen et al., 2004, p. 55). They specify the rewards for doing good work as a group in order to provide an incentive and to "meet the basic need for social validation" (Michaelsen et al, p.58). Literature is rife with anecdotal reports of the practice of cooperative learning. Michaelsen et al. collected reports from teachers who used his team-based-learning (TBL) approach; synopses of those reports shed light on the practice of cooperative learning in college classrooms, the focus of this paper. Frank Dinan (Michaelsen et al.) described using TBL in organic chemistry classes. Despite the seemingly black-and-white nature of the subject, he felt that the composition of heterogeneous teams was essential to their success. The team method, which employed Michaelsen's RAP assignments, was considered superior to lecture by 78% of the students. Patricia Goodson (Michaelsen et al.) used brief cases drawn from current news to promote engagement and motivation for discussion in her class on human sexuality. She reported a sense of excitement in the classes that compensated for the extra time involved in the RAT exams. G. Fred Streuling (Michaelsen et al.) also used case studies in his accounting class. He cautioned against self-

formed groups and suggested that attitude toward group learning should be one of the criteria for forming groups – that is do not place two students who are negative toward group learning in the same group. Mark Freeman (Michaelsen et al.) used TBL in an online class on securities taught for The University of Technology Sydney (Australia). He interspersed face-to-face meetings in which the teams presented reports to the assembled classes. He also used activities that are more often associated with traditional classrooms – role-playing and debates.

Research involving group activities has been conducted in many settings including the computer lab. Klein and Doran (1999) conducted an experiment with post-secondary accounting students using computer-based instruction. The students were divided into three types of groups according to the mode of accomplishing the task. The first group type was labeled *individual structure;* in it, the students worked alone and did not discuss work with classmates. In the *extensive group structure*, students so assigned engaged in a dyad arrangement suggested by Kagan that required the pair to reach a consensus on a solution. The third group type was *occasional group structure*; in it, the students worked alone and made notes that they wanted to discuss with their partners in sharing sessions. Although ANOVA indicated that there was not a significant difference in time-on-task among the groups, the students in extensive-group structures exhibited 459 discussion behaviors compared to 218 discussion behaviors for the students in occasional-group structures. Klein and Doran (1999) reported three elaborations on the small group structures gleaned from a post-experiment survey: "(a) their partner should be a student who had a similar commitment level to school, (b) the subject should require thought and analysis rather than memorization, and (c) the class format should include in-class activities and instructor assistance on team formation and skills" (p. 107).

Group processing. Group processing, unlike positive interdependence, does not have much palpable evidence of its implementation. Where the facilitation of positive interdependence is disclosed in the group formation and activity planning, group processing is generally evident in provisions for *reflection.* In fact, Johnson and Johnson (1999) define it as "Reflecting on a group session to (a) describe what member actions were helpful and (b) make a decision about what actions to continue or change" (p. 236). Reading between the lines, if one considers that there will be more than one group session, group processing is a formative event rather than a culminating event. Michaelsen et al. (2004) considers it a necessary practice from the onset: "Developing newly formed groups to the point that give-and-take discussion (the kind that promotes learning) occurs on a regular basis, is much more of a process than an event and guides much of managerial practice in nonclassroom meetings" (p. 81). In Michaelsen's implementation, the ongoing practice of group processing is consistent with the protracted nature of the group's relations.

Although group processing is mentioned regularly in the literature about cooperative learning, there is little instruction about its implementation. More often, scholars have written about its importance and relation to needs for fulfillment. Strahm (2007) noted that Dewey considered reflection both a purposeful activity and a means of knowledge construction and empowerment. Strahm's stated purpose was to investigate students' perceptions of (a) group processing and its effect on their senses of self-worth in a cooperative learning environment, and (b) group processing and it effect on senses of belonging in a cooperative learning environment (2007). She conducted the 13-week study using Kagan's Think Pair Share activities and Sharan and Sharan's Group Investigation. The students were assigned roles (e.g. encourager, scribe, etc.) and presented with structured questions designed to encourage reflection (e.g. "How well did the

group achieve each goal?" and "To what extent do you feel you are part of the group?"). Strahm concluded that the students' needs for acceptance were unexpectedly high, that these students felt their need for acceptance had been met, and that they perceived reflection as a positive influence on that feeling of acceptance. Blake, Mouton, and Fruchter's (1962) study of 410 persons in 48 human-relations training programs found that the groups consistently rated their own product as higher than their competitors'; the team arrangement and the group self-evaluation again had a positive influence on perceived self worth. In the two studies digested above, the evaluation stage of group processing was nebulous at best – neither study explained how the groups progressed from gathering to pronouncing the evaluation.

Johnson, Johnson, Stanne, and Garibaldi (2001) conducted research on the impact of group processing on achievement in cooperative groups. The subjects for the research were 49 high-ability students in a four-week summer program. The subjects were randomly assigned to four groups of 12 stratified on the basis of reading scores, SAT scores, sex and hometown. The conditions for the groups were cooperative learning with no processing condition, cooperative learning with teacher-led processing condition, cooperative learning with teacher and student-led processing condition, and individual condition. For the purposes of this study, in teacher-led group processing, the teacher specifies group skills to use, observes the small groups in action, and provides feedback in a large-group session. In teacher and student-led groups, the teacher specifies the group skills, observes their application, and provides feedback to the large group; he or she then has the small groups discuss how they are performing and how to improve use of skills. The task was application of newly acquired navigation skills in a fantasy quest for gold. The group with teacher- and student-led processing outperformed the other groups in both measures of task. The students also completed questionnaires to assess their perceptions of

communication, feedback, contributions, necessity of computers, and interaction. Using analysis of variation, Johnson et al. (2001) concluded "Students in the cooperative conditions felt more accepted and appreciated than did those in the individual condition" (2001, p. 513).

A team of educators from the Netherlands (van Boxtel, van der Linden, Roelofs & Erkens, 2002) studied the use of *concept mapping* in leading learners to awareness and reflection on their understandings and misunderstandings. The subject being studied in the experiment was physics, and concept maps were drawn to "represent the main concepts and relationships in the domain" (van Boxtel et al., 2002, p. 41). The act of drawing led the collaborating students to "create a shared meaning of the task, the concepts, the procedures, and the strategies to use (van Boxtel et al., 2002, p. 42). They noted that shared objects and tools facilitated negotiation and co-construction of meanings during communication (van Boxtel et al., 2002). The transcripts provided for the students' interactions revealed that the concept maps led to understanding relationships as well as understanding the concepts. Kreie, Headrick, and Steiner (2007) researched the use of Michaelsen's TBL in an information systems course with a goal of improving retention rates. One-half of the classes were taught with TBL and the other half were taught with traditional lecture and occasional group projects. In order to inject a more quantifiable element into the group processing, they developed a peer evaluation system that allowed each member to "pay" his or her team members according to their contributions. They reported that retention was improved significantly in the TBL classes. Although the overall grades for the TBL classes did not improve, the students' perception was that they got better grades. That substantiates the limitation observed by the authors that grade levels were held level due in part to the retention of weaker students who otherwise might have dropped the course

(Kreie et al., 2007). In the anecdotal reports by various teachers provided by Michaelsen et al. (2004), three of the six teachers reported using peer evaluations successfully.

Social skills. It is clear at this point in the review, that the indicators and practices of the PIGSFACE elements frequently cross lines and often serve to support two or more elements. Concept mapping, which was introduced in the section on group processing, could be judged an excellent device to promote positive interdependence through structuring the task. Peer evaluation certainly relates to individual accountability as much as it does to group processing. Similarly, social skills certainly contribute to meaningful group processing (Goodwin, 1999; Johnson & Johnson, 1990; Johnson et al., 2001) and positive interdependence (Johnson et al., 1998a). Social skills are important outside the school environment. Johnson and Johnson (1990) cited government data that 90 % of employees who were dismissed from their jobs were fired for poor job attitudes, interpersonal relationships, and inappropriate behavior.

Johnson and Johnson's (Johnson et al., 1998a) framework of forming, functioning, formulating, and fermenting provides an excellent pattern for considering which skills are needed and which skills have already been acquired. Goodwin's paper (1999) on what social skills to teach and how to teach them uses that pattern for a taxonomy. Although Goodwin's work is aimed at elementary school practitioners, most of the actions apply to groups in college and the workplace, for example, under forming – looking at the speaker is a desirable, nonverbal social skill for all learning situations. The social skills not only contribute to the smooth functioning of the group, they also contribute to the learning that takes place, for example paraphrasing and asking for clarification. Formulating skills such as checking for understanding are essential not only to groups but also to all learning situations. The skills that Goodwin (1999) lists for fermenting read like the formula for leading a meeting: disagreeing without

criticizing, extending members' answers, asking probing questions, generating further answers, integrating ideas into a single position, and testing reality by checking out the group's work with the instructions. That list is also congruent with Tullar and Kaiser's (2000) generally accepted list of social skills: listening, supporting other group members, differing in a constructive manner, and encouraging everyone's participation.

Schullery and Gibson (2001) studied business communication instruction for group participation skills and found that students consider social skills important. Teachers, however, do not cover them extensively and rank instruction in group-oriented concepts as of "lesser importance" (Wardrope & Bayless cited in Schullery & Gibson, 2001). Schullery and Gibson offered that the lack of instruction might be due to teachers' believing that the students already have the skills, teachers' feeling that those skills are not necessary, or teachers' perception that curriculum demands do not allow class time for such instruction. Their study involved 354 business communication students. Through content analysis of self-assessments submitted by 95 students in the previous semester, they identified ten group-work weaknesses. Some of those perceived weaknesses, for example speaking anxiety and oral skills, were purely individual in nature. However, most of the weaknesses related to group interaction: impatience, conflict avoidance, brainstorming, motivation, leadership, and dislike of groups, shyness, and intolerance. The course was modified to address those weaknesses both through emphasis on "usual" subjects such as brainstorming and through injection of "unusual" features such as the Keirsey Temperament Sorter. The students completed Likert-type surveys to determine ownership and degree of those weaknesses at the beginning of the 14-week course and again at its conclusion. It is interesting that perception of the weaknesses actually grew; for example, 36% of the students felt they were at least occasionally intolerant at the beginning of the term,

while 52% felt they were at least occasionally intolerant at the end of the term. Nonetheless, there was a 31% improvement in that respect; that is, students who were "almost always" intolerant at the beginning of the term were "once in a while" intolerant at the conclusion. The pretest-posttest design was used because Schullery and Gibson did not want to deprive a control group of the enhanced instruction (2001).

It was observed in the introduction to this section on indicators and practices that Michaelsen et al, (2004) does not provide for explicit instruction in social skills. He does, however, recognize that they are essential to the give-and-take consensus finding that takes place in the team-test phase of RAP. As do most of the theorists, Michaelsen et al. (2004). recognize the importance of evolving conflict resolution in the group process. In initial stages, groups are likely to use voting to resolve conflict, but as they mature and become more cohesive, groups seek consensus. That recognition of the importance of social skills without any specification of how they are attained is typical of most of the literature on implementing cooperative learning. Specific steps such as "use six-inch voices" (Johnson et al., 1994) and assigning skills like "Quiet Captain" and "Materials Monitor" (Kagan, 1994) are not likely to imbue respect for the pedagogy with sophisticated post-secondary students. Most attention is paid to conflict resolution and effective feedback – the outward signs of social skills. Strom and Strom (2003) include measurement of conflict resolution and other social skills in their Interpersonal Intelligence Inventory (III).

Face-to-face promotive interaction. .Like much of the literature on social skills, most of the prescriptions for effective face-to-face promotive interaction assume K-12 students with an emphasis on the primary grades. Johnson et al. (1994) upholds the importance of the physical arrangement of the learning space. Kagan's s (1994) simultaneous interaction emphasizes

quantity of interaction without any specifics and assumes that it will be worthwhile. Slavin

(1995) provides guidance for the interaction through description of what takes place in each step

of Group Investigation. In order to glean much direction for college instruction from the major

theorists regarding promotive interaction, one needs to focus on the modifier *promotive.* More

applicable to college students is the plan for positive feedback outlined by Johnson et al (1998a).,

which is the essence of the encouragement subsumed in promotive interaction:

1. Each group focus on one member at a time. Members tell the target person one thing

he/she did that helped them learn or work together effectively. The focus is rotated until

all members have received positive feedback.

2. Members write a positive comment about each group member's participation on an

index card. The students then give their written comments to each other so that every

member will have, in writing, positive feedback from all the other group members.

3. Members comment on how well each other member used the social skills by writing an

answer to one of the following statements and giving their written statements to each

other.

a. I appreciated it when you …

b. I liked it when you …

c. I admire your ability to …

d. I enjoy it when you …

e. You really helped out the group when you … (p. 5:17)

Much of the text related to face-to-face promotive interaction is anecdotal in nature – the

writers report what transpired and the results without providing instruction for transfer to the

reader's situation. Despite the apparent lack of an empirical element, such writing leads to a

synthesis of theory and application. Harland and his associates applied Problem Based Learning (PBL) to a course in zoology. Although PBL takes several forms, the modus operandi described by Harland meets the definition of cooperative learning – "students working together to accomplish shared learning goals and maximize their own and their groupmates' achievement" (Johnson et al., 1998a). Harland (2003) noted that PBL is a practical application of Vygotsky's Zone of Proximal Development (ZPD; 1978), and related the steps:

(1) developing diagnostic teaching strategies (in the zone of current development)

(2) the emphasis of authentic activities (in the zone of proximal development)

(3) re-thinking the roles of teacher and learner (the more capable peer)

(p. 266).

Harland (2003) noted that in the first stage, students were limited by metacognitive, communication and collaborative skills. Those shortcomings were overcome through structured personal enquiry (sic), wherein tutors asked students questions about their own learning and led to evaluate it in light of their own experience. An interesting feature of Harland's instruction was a call for the students to write and explore knowledge as "students of learning" as well as "students of zoology" (p. 267). Harland reported that through the use of structured personal enquiry in an authentic learning situation, the students quickly came to construct their own learning. However, he noted that peer teaching might be difficult for some students to accept, and he suggested that students be fully informed about the philosophy underpinning PBL (Harland, 2003).

While there is a paucity of empirical literature relating to face-to-face promotive interaction in post-secondary cooperative learning, there is a growing body of research related to facilitating interaction at a distance (Conway, Easton & Schmidt, 2005; Geister et al., 2006;

Tullar & Kaiser, 2000; Walker, K., 2004). Tullar and Kaiser conducted an experiment with 258 post-secondary business communication students randomly assigned to groups of five or six students. The experimental group was exposed to an online video that explained the steps in making a group into a team. The teams in both the experimental group and the control group interacted asynchronously over a period of slightly less than four weeks to accomplish a task of selecting a candidate for a university administrative position. The study measured self-report measures of group processes (competition, participation and support as determined by Cronbach's alpha analysis), self-report measures of group outcomes, and an objective measure of the quality of the group's decision. They found that training improved both participation and support and that those variables were closely related to the individual performance measures, which were higher in the trained groups. Although analysis using Wilks's lambda did not support the hypothesis that trained groups would be more committed to the ultimate group solution, it did support the hypotheses that trained groups would be less likely to want to work with a different group and that trained groups would report wasting less time and energy.

Observing that lack of feedback is a major problem with online groups, Geister, Konradt, and Hertel (2006) researched the use of an online-feedback-system (OFS) to provide feedback to participants in an online class. The longitudinal study included 52 virtual teams participating in two exercises: (a) a mock consulting operation with a goal of reorganizing work tasks and enhancing the motivation and satisfaction of the staff and (b) merger of two departments with contrasting management styles. The dependent variables were motivation, performance, and satisfaction. Team members' feedback was measured by responses to a Likert type questionnaire. The measurement of non-OFS groups versus OFS groups yielded a strong effect size of .69,

which indicates an improvement with the feedback. A *t*-test evaluation of motivation and satisfaction revealed no significant difference between OFS and non-OFS teams.

While there are few generalizable and specific suggestions for improving face-to-face promotive interaction, the overarching suggestion for its implementation is summed up in Harland's (2003) observation that students "construct their own meaning based on interaction between prior knowledge and current learning experiences in the interaction phase" (p. 270).

Individual accountability. The apparent contradiction of individual accountability as an essential element of cooperative learning is likely the reason that so much attention is paid to it. Much has been written about constructing the learning experience to assure that individual performance is not obscured by group production (Bacon, 2005; Dineen, 2005; Eastman & Swift, 2002; Gueldenzoph & May, 2002; Harkins & Petty, 1982; Michaelsen et al. 2004; Roebuck, 1998; Slavin, 1991; Slavin, 1995;). The preventative measures range from peer evaluation (Gueldenzoph & May 2002; Bacon, 2005) to precise prescription of instruction and assessment (Michaelsen et al., 2004; Roebuck, 1998). Much of the literature concerns avoiding the problem of diffusion of responsibility, also known as social loafing and free rider effect (Dineen, 2005; Harkins & Petty, 1982; Slavin, 1995). The research schemes of many of the studies and accounts have already been presented in other sections of this review, so this section will present the various aspects and activities contributing to or detracting from individual accountability with a digest of the relevant literature.

Michaelsen et al. (1997) contends that social loafing results from uneven participation in any project. Their RAP approach (explained in the section on Group Processing) contends with that issue by providing for individual assessment of individual effort before any group endeavor. Walters (2000) agreed with Johnson and Johnson's advice to create a "sink or swim together"

mentality in order to prevent social loafing; she also noted that treatment would prevent the related "suckered in" effect, avoiding a disproportionate share of work when loafers are present. Slavin (1991) reports that his STAD and TGT exercises , which were explained in the elements section, have been found to have positive effects on student time-on-task (an aggregate measure of social loafing in the group). Dineen (2005) conducted an experiment comparing fluid and stable groups in an online organizational-behavior class. His assessment of social loafing, which was based largely on peer evaluations, revealed that fluid teams (ones that changed membership frequently) had more stable contributions (i.e. had less trouble with social loafing). It is interesting to note that the students' perceptions of group learning revealed in a course evaluation indicated that 22% of the students had issues with social loafing while the empirical evaluation indicated that it was an issue with only 5% of the subjects (Dineen, 2005). Harkins and Petty (1982) conducted two sets of experiments with social loafing – one with physical tasks and the other with cognitive tasks. They concluded that subjects were less likely to engage in social loafing if they felt that they were making a unique contribution and if they felt that their individual work was identifiable.

Two aspects to grading are closely related to individual accountability. Using norm-referenced grades offends the principles of positive interdependence. Assigning grades to individuals based on the effort of the group is considered highly problematic by many theorists and practitioners while others consider it essential to cooperative learning. Johnson and Johnson (1999) decry the use of norm-referenced grades because they place students in competition with each other. Norm-referenced grades require one student to lose in order for another student to win. Marzano et al. (2001) also object to the use of norm-referenced grading and suggest that teachers use criteria-referenced grading (e.g. rubrics) for superior feedback. Slavin (1984)

explains the disadvantage of norm-referenced grades with this simple sentence: "We can hardly expect Sue to be happy when Mary gets an 'A,' because this may make it harder for Sue to get an 'A'" (1984, p. 54).

Johnson et al. (2006) suggest five schemes for assigning grades on group work to college students:

1. Individual score plus bonus points based on all members reaching criterion.

2. Individual score plus bonus based on improvement scores.

3. Totaling members' individual scores.

4. Group score on a single product.

5. Individuals academic scores plus bonus points based on performance of cooperative skills. (p. 9:21)

This list is substantially different from their schemes suggested for K-12 students; that list includes suggestions to assign the lowest grade to all members and assigning the score of a randomly selected member to all group members (Johnson et al., 1998a). In their general notes on assigning grades, Johnson and Johnson (1999) suggest that in order to be fair, summative grades should include a wide variety of assignments and that in order to be understood, formative grades should be supplemented with checklists and narratives. Michaelsen's (2004) RAT assessment includes both individual and group grades, but does not specify a formula for combining the elements. It should be noted that his approval of group grades in the RAT context does not extend to the assignment of group papers (Michaelsen et al., 1997). Slavin (1995) suggests the use of group improvement measurement to compute a bonus for STAD and TGT activities.

Not all of the theorists and practitioners are willing to accept the use of group grades. Kagan condemns them as unfair and detrimental to individual accountability and motivation (King & Behnke, 2005). Ford and Morice surveyed college students and academicians to sample their opinions on the pros and cons of group work. All of the six most negative comments from the students concerned contribution of effort and assessment of that effort:

1. The inequality in the contribution of members

2. Timetable and other logistical problems

3. Conflicts

4. The fact that marking does not reflect differences in contributions

5. The fact that some members lack required skills

6. Being dependent on other people (Ford & Morice, 2003, p. 371)

To respond to those comments, Ford and Morice (2003) devised a new approach to group work that they purported to "micro manage" the process. It involved three features: a teacher served as "group manager"; the students (subordinates) met weekly with the group manager; and activities and responsibilities were declared in "work contracts" . Two aspects of this approach should be noted. First, the design was built to model a successful, pre-existing program of student internships. Second, the students chose their own groups based on preference for project. They recognized the limitation that the design would require more teacher work and that additional work would largely negate one of the distinct advantages of group work – reducing workload.

Klecker (2003) described a hybrid arrangement that addressed Dewey's objection to competition and built on Vygotsky's ZPD. The students, who had been randomly assigned to groups immediately prior to the assessment, answered objective questions on individual Scantron

forms and then discussed the questions and answers with their group. After that collaboration, they were allowed but not required to change their individual answers. Klecker reported that the students reacted favorably to this arrangement .

King and Behnke cited Pitt's perspective on group grades as reasons to avoid them:

1. Any method of selecting groups and allocating projects, whether random or systematic, in general will give some groups an advantage and some a disadvantage.

2. Giving all students the same mark means that a sensible group strategy would involve having the weaker students contribute less.

3. Although the allocation of marks is a motivator, factors such as teamwork and contribution to the group are hard to define and essentially impossible to assess fairly.

4. Rating students on the same perceived performance has as much to do with perception as performance and may sometimes be unfair; for example, the student who contributed least to the problem solving may give the most confident presentation.

5. Some assessment factors can actually promote dishonesty and competition. (Pitt, 2000, cited in King & Behnke, 2005, p. 58).

Following that wisdom, King and Behnke (2005) criticized some of the curious techniques suggested by some practitioners such as allowing teams to "fire" non-performing members. Instead, they suggest that students be allowed to contribute feedback through devices such as peer evaluations and that such positive feedback be used to assign bonus points. They offered three suggestions for mitigating the student-perceived disadvantages of group work. First, the teacher should show the students the advantages of achieving group skills vis á-vis teamwork in the real world. Next, the teacher should candidly present potential problems and

how they will be dealt with. Finally, provide due notice of all classroom activities and grading methods.

Strom and Strom (2002) posited that students often resent the use of group grades and offered three observations on assigning individual grades to group work:

1. Every student should make contributions, but no one should be held responsible for the behavior of their peers.

2. Faculty are not the best evaluators for group learning because they are seldom around to witness the interaction.

3. Students need to learn self-evaluation. (p. 317)

In order to address the problems implicit in those observations, the Stroms developed the Interpersonal Intelligence Inventory, an instrument to assess the interpersonal skills among community college students and provide information to the teacher about what goes on in team interaction (2002). Johnson and Johnson developed the Classroom Life Instrument to gauge the influence of cooperative learning on the classroom climate (Abrami & Chambers, 1994). Those instruments and others developed by practitioners of cooperative learning can be used to inject a measure of group efficacy in the assessment of group work.

In an academic setting, an argument could be made that motivation is the same thing as grades. Certainly, assessment is a significant component of the larger piece of extrinsic motivation, but that contention would equate grades with learning. It is also arguable that dealing with social loafing is tantamount to maximizing motivation, but that argument only recognizes the negative aspect of motivation.

Abrami and Chambers (1994) whose work was described in the section on positive interdependence, determined that increased use of cooperative learning did not diminish extrinsic

motivation. Boekaerts and Minnaert (2006) cited the self-determination theory promulgated by Ryan and Deci : "… students who are intrinsically motivated explore and experiment because they enjoy the activity itself. Students who are extrinsically motivated perform a task because they feel they have to respond to social demands, get approval, or avoid a threat" (cited in Boekaerts & Minnaert, 2006, p. 189). It is easy to fit both of those categories to cooperative learning. Geister et al. (2006), whose work was described in the section on face-to-face promotive interaction, found that effective feedback motivated students who previously had been unmotivated.

Bahar (2003) cited Adar's four student motivational types revealed through factor analysis and typed on predominant need: "(i) the need to achieve; (ii) the need to satisfy one's curiosity; (iii) the need to discharge a duty; and (iv) the need to affiliate with other people" (cited in Bahar, 2003 p. 462). Bahar studied 180 Turkish environmental-science students from six classes grouped in teams of four students. Using Adar's questionnaire, the students were determined to have one of Adar's motivational types: achievers; conscientious; curious; social; or not determined. Testing by ANOVA revealed a statistically significant difference between the mean score of achievers and the other three groups. There was no statistical difference determined in the other groups. From that analysis, Bahar surmised that (a) achiever students dislike working in groups; (b) conscientious, curious and social students show a preference for involvement in group work; (c) social students are too involved in their social lives to commit fully to their studies; and (d) conscientious students appreciated the group work because the aims and objectives of the work were spelled out thoroughly in advance. Beyond those conclusions, Bahar (2003) offered that it is important for a curriculum organizer to consider closely the individual differences among students

All of these aspects and activities support Johnson and Johnson's judgment on the significance of individual accountability: "The purpose of cooperative groups is to make each member a stronger individual in his or her own right" (Johnson et al., 1998a, p. 4:17). At times, that goal entails including assessment of the member's contribution to the group, but there is nothing revealed in the literature that would suggest that the group assessment supersedes individual accountability.

Benefits of Cooperative Learning

This review began with the overarching benefit of cooperative learning – preparation for a real world where teamwork is highly valued. It inspected and digested the literature of its formation as pedagogy and the transfer of that pedagogy to classroom instruction. It concludes with descriptions and evaluations by practitioners, researchers, and theorists of the value of cooperative learning to students and teachers.

Johnson et al. (2006) identify the benefits accruing to students:

1. Greater efforts to achieve: This includes higher achievement and greater productivity by all students (high, medium, and low achievers), long-term retention, intrinsic motivation, achievement motivation, time-on-task, higher-level reasoning, and critical thinking.

2. More positive relationships among students: This includes esprit-de-corps, caring and committed relationships, personal and academic social support, valuing of diversity, and cohesion.

3. Greater psychological health: This includes general psychological adjustment, ego-strength, social development, social competencies, self-esteem, self-identity, and ability to cope with adversity and stress. (p. 1:14)

Breu and Hemingway (2002) conducted their investigation from a *communities-of-practice* perspective, which proposes that people connect with communities in order to share experience and understanding and to solve problems collectively. Further, it contends, "knowing and doing are inseparable" (Brown, cited in Breu & Hemingway, 2002). That contention is consonant with much of the cooperative-learning theory set forth in this review. They concluded that teamwork supports learning more than extrinsic rewards and that "… most of the benefits identified were derived from improved knowledge sharing capabilities between members of common professional focus and complementary expertise" (Breu & Hemingway, 2002, p. 151).

It should be noted that the groups in this study were greatly different from what has been described and suggested heretofore – they were fluid, changing composition frequently, and large (10-14 participants) by cooperative learning standards. Nonetheless, it was observed that a feeling of success and enthusiasm was engendered, knowledge was best shared in face-to-face interaction, and the group successfully completed its task of designing an intranet communication system for their organization (Breu & Hemingway, 2002).

Holtfreter and Holtfreter (n.d.a) used cooperative-learning techniques consistent with Johnson and Johnson's PIGSFACE to teach an Accounting Principles-Financial course. The survey conducted at the end of the course revealed that the students rated the cooperative approach as better than the lecture/discussion report in acquisition of information, sharing of information, critical thinking, and real world application of ideas (Holtfreter & Holtfreter). The survey revealed that favorable student perceptions were also bolstered in the classes with the cooperative approach. Those students looked forward to class, felt more actively involved, were less frustrated, felt more intellectually challenged and were closer to their classmates (Holtfreter & Holtfreter).

Klein (2002) proposes that cooperative learning is at the core of the *college commons*: "The 'college commons' refers to the accumulated forms of collaboration and connection that can constitute the deepest and most sustained kinds of learning" (p. 10). In building his case, Klein refers to the commons of old where all the townspeople would graze their cattle and otherwise nurture their stock. He contends that, just as cooperative learning has rearranged the boxes of classroom instruction, so will it rearrange the boxes of the university.

Kreie, Headrick, and Steiner (2007) offer another explanation for how cooperative learning benefits the university as a whole. Their study used a quasi-experimental design with Information Systems students being assigned by whole class to either traditional instruction or TBL (Michaelsen et al., 2004) instruction. Although the students who experienced traditional instruction scored slightly better than the TBL students, an ANOVA *F* test of the exam scores showed that they were not significantly different (p = .097). More remarkable and demonstrative of the benefit of cooperative learning was the fact that 85.5% of the TBL students continued to the end of the course while only 71.6% of the traditional course students did so. Those results are similar to ones obtained by Tinto (1993) in his work with cohorts and Hill's (1996) work with cooperative learning as a device to improve retention.

Bruffee (1995) considered the difference between collaborative learning and cooperative learning. In that treatise, he concluded that the two terms refer to different locations on the same continuum of collaboration. Cooperative learning is more descriptive of foundational learning for K-12 students and underclassmen, while collaborative learning more likely takes place in a community of discourse. Even more meaningful than that conclusion was his observation that construction of knowledge is most easily observed in the context of collaborative learning.

Summary

There is an abundance of research and writing on the subject of the benefits of cooperative learning. This digest of benefits to students, teachers, and institutions is only a glimpse at the wisdom on the subject. Notwithstanding the concerns voiced by Michaelsen et al. (2004) regarding the use of cooperative practices in writing, Crossman (2003) compiled a list of 27 advantages to student co-authoring (2004); she supported many of those advantages with references to the educational theorists whose work underpins them. Eight of the advantages that are most congruent with this study are listed below.

Compared with working alone, working with others toward a common goal yields better achievement and greater productivity. (Johnson & Johnson, 1994).

Collaboration promotes exploration of ideas by multiple participants who offer multiple perspectives (Bedrova & Leong, 1996; Bruffee, 1984).

What learners accomplish collaboratively may be more indicative of their cognitive development than what they do alone (Vygotsky, 1978).

Co-authors learn from each other as they discover the connections among thinking, socialization, and writing.

Co-authors receive immediate and continuing audience feedback, leading to clarity of thought and writing.

Co- authors construct new ideas and attitudes.

Co-authoring aligns with multiple intelligences theory (Gardner, 1999a, 199b; Silver, Strong & Perini, 1997)

Co-authoring aligns with adult learning theory (Knowles, 1968, 1990; Palmer, 1998).

(as cited in Crossman, 2003, p. 10)

These advantages attest to the benefits of cooperative learning. The overarching purpose for this study is to investigate whether the arbiters and providers of business communication instruction purport to support the pedagogy.

CHAPTER III

METHODS

Cooperative learning is arguably one of the oldest documented pedagogies. Its history spans the 3000 years since its use in teaching the Talmud ("Cooperative Learning," n.d.). Its emphasis on active learning makes it a natural adjunct of constructivism (Smith & McGregor, 1992). It is the pedagogy most obviously aligned with Vygotsky's concept of "the more capable peer," and it is supportive of his "zone of proximal development" (Harland, 2003). It is held to be one of the most effective instructional strategies ("What works in the classroom," 2005). Its secular equivalent, *teamwork,* is mentioned in one out of three employment advertisements for recent business college graduates (North & Hargrave, 2006). Teamwork is also an essential ingredient of most total quality management formulas (Lakshman, 2006; Robbins, 2003; Schermerhorn, 2004). It is valued as preparation for productive roles in society (Hackbert, 2004; Lewis, 2007; Slavin, 1995; Walters, 2000).

The praise of cooperative learning usually neglects one all too frequent flaw: group work is not necessarily the same as cooperative learning. David and Roger Johnson, with numerous other researchers including Edythe Johnson Holubec and Karl A. Smith (hereafter referred to in text as Johnson and Johnson), have decried what they term *pseudo cooperative learning.* In that vein, "Students are assigned to work together, but they have no interest in doing so. They will be evaluated by being ranked from the highest performer to the lowest performer. While on the surface students talk to each other, under the surface they are competing" (Johnson, Johnson & Holubec, 1998a). Johnson and Johnson, Slavin, Kagan, and Michaelsen, the four leading authorities on cooperative learning, espouse some variation of Johnson and Johnson's essential elements of cooperative learning: (a) positive interdependence, (b) individual accountability,

(c) group processing, (d) social skills, and (e) face-to-face promotive interaction (hereafter referred to with the acronym PIGSFACE). In this analysis, artifacts of activities that contribute to those elements are taken as evidence of true cooperative learning.

Purpose Statement and Research Questions

The purpose of the current study is to investigate the use of cooperative learning in post-secondary business communication classes. The conjecture in this study is that AACSB endorses teaching teamwork skills in schools of business and that schools of business propone inculcation of teamwork skills in their mission statement and other policy communication. Given that the accrediting body and schools of business support the teaching of teamwork skills, it is reasonable to investigate artifacts of business communication courses such as syllabi and instructor's manuals for evidence of the elements of cooperative learning, the academic equivalent of teamwork.

The study was guided by the following seven research questions:

1. To what extent do the guidelines of the sanctioning body for collegiate schools of business (AACSB) recommend the inclusion of team-building instruction?

2. To what extent do the subject schools of business subscribe to team-building as a goal, objective, or mission component?

3. What evidence of planning for instruction in the essential elements of cooperative learning (PIGSFACE) is present in the syllabi of post-secondary courses of business communication?

4. Does the mention of positive interdependence, which is the strongest indicator of the pedagogy of cooperative learning, appear in syllabi with the subject matter on

communication foundations, basic correspondence, major reports, presentations, or employment communication?

5. What evidence of instructional material about the essential elements of cooperative learning (PIGSFACE) is present in the instructor's manuals for the selected textbooks for post-secondary business-communication courses?

6. Do the suggestions for PIGSFACE techniques in the instructor's manuals appear with the subject matter on communication foundations, basic correspondence, presentation skills, or employment communication?

7. What is the comparative frequency of mention of positive interdependence in syllabi vis-à-vis mention of positive interdependence in instructor's manuals for examined textbooks?

Procedures and Research Considerations

The crux of the study is to determine if there is evidence of genuine cooperative learning technique in the courses. The study was conducted using quantitative content analysis. This technique allowed examination of the written artifacts of the environment and content of business communication courses for characteristics of cooperative learning. By limiting the analysis to existing written evidence, the research avoided the tendency of administrators, teachers, and textbook authors to provide socially acceptable answers in interviews or surveys. Content analysis of the website of the Association to Advance Collegiate Schools of Business (AACSB), business-school websites and mission statements, business-communication course syllabi, and textbook instructor's manuals was conducted with a purpose of investigating the use of cooperative learning in post-secondary business communication classes. The website of AACSB was examined for information and recommendations related to the subject of teamwork,

cooperative learning, collaboration or similar concepts. A stratified list of colleges, schools, and departments of business (hereafter referred to as schools of business) that are accredited by AACSB were gathered from the AACSB website. The list of schools of business were stratified by size of the parent university or college to assure even distribution of the sample. The websites for the sample schools of business were examined to determine if they include education for teamwork, collaboration, or cooperative learning in their mission statements or elsewhere. For the purpose of the current study, syllabi were construed as the outline and summary of the topics to be covered in the course together with the schedule of presentation. The content of the syllabi of business-communication courses were analyzed to determine if cooperative learning is used in the instruction and to what extent the instruction includes suggested elements of cooperative learning (PIGSFACE). The instructor's manuals for the four business-communication textbooks most frequently used in the sample courses were also analyzed for the suggested elements of cooperative learning.

Content analysis. Content analysis has its roots in 17th century analysis of newspapers conducted at the behest of the Roman Catholic Church. The Church sought to curb the spread of printed matter of a nonreligious nature that had begun with the invention of the printing press (Krippendorf, 2004). The burgeoning newspaper publishing industry of the early 20th century saw a growth in content analysis as schools of journalism sought to answer the question, "Do newspapers now give the news?" and address the concern that profit motive was the cause of yellow journalism. Quantitative newspaper analysis purported to offer a scientific analysis of those concerns (Krippendorf). As the use of content analysis for text other than newspapers grew, textbooks were one of the first areas explored with the tool (Walworth, 1938). Weber (1990, p. 9) offered a list of likely applications of content analysis including these related areas:

audit communication against objectives; identify the intentions and other characteristics of the communicator; and describe trends in communication content.

In the realm of quantitative research, the two means most often used are experiment and survey. Content analysis does not attempt to manipulate or control any variable, which action is the essence of experiment research. Content analysis is more similar to survey research. "Content analysis research is consistent with the goals and standards of survey research. In a content analysis, an attempt is made to measure all variables as they naturally or normally occur" (Neuendorf, 2002 p. 49). Where survey analysis is subject to flaws introduced through self-reporting, content analysis is subject to validity flaws introduced by disparate coding. The essence of the difference is that the units of data collection are messages rather than persons (Neuendorf). The potential flaw of disparate coding is addressed in the section on computer-assisted content analysis.

Broadly speaking, content analysis is a tool used to determine the presence of words or concepts contained within target texts or sets of texts. Researchers first identify the terms that relate to the subject to be studied; that is they establish a *code.* That code may be established before the text is examined – *a priori*, or it may be established in the process of examination – *emergent*. Whichever method is followed, the idea is to classify important words or concepts of the text into fewer content categories (Weber, 1990). Researchers then quantify the occurrence of those content categories and make inferences about what messages they convey. After the text is reduced to manageable categories, it is examined using conceptual or relational analysis (Overview: Content analysis, n.d.). Krippendorf (2004) specified six questions to be answered before beginning any content analysis:

1. Which data are analyzed?

2. How are they defined?

3. What is the population from which they are drawn?

4. What is the context relative to which the data are analyzed?

5. What are the boundaries of the analysis?

6. What is the target of the inferences?

Those questions effectively discard the ill-conceived notions that content analysis is merely a matter of counting words and concluding that the words mentioned most often constitute the most important subject. Neuendorf (2002) suggests a seven-step flow of action stemming from the answers to Krippendorf's six questions. Those steps and their relation to this study follow. First, she requires the researcher to identify the theory and rationale - in this case, the theory is that following the PIGSFACE elements enhances the cooperative learning experience and the rationale is that those elements can be incorporated in most learning activities. Second, she calls for the researcher to establish a conceptual definition of what is to be studied - in this case, it is the PIGSFACE elements. The third step is to operationalize the measures - in this case, the measure is the number of times the coded elements are mentioned. The fourth step involves setting up a detailed coding scheme – in this case, the scheme is based on the PIGSFACE elements and describes standards, instructions, and suggestions that support those elements.

With those decisions made, the researcher moves to the fifth step of defining the sample from which data is drawn – in this case, there are three sources, (a) standards of the institutions (AACSB and the schools of business), (b) instructions to the students (syllabus), and (c) suggestions for the teacher (instructor's manuals). The sixth step involves actually coding the

sample – in this case, that is accomplished using computer-assisted text analysis (CATA), which is described below. The seventh step is the tabulation and reporting of the data – in this case, the data is cross-tabulated according to the sections of the instructor's manuals and the syllabus subject matter where the elements are identified

The fourth step, setting up a detailed coding scheme, is crucial. Stemler (2001) cautioned the researcher to consider: (a) the use of synonyms, which, if not recognized, lead to underestimation of a concept; (b) misrepresentation of categories by faulty word choice; (c) nebulous or controversial topics that may occasion more verbiage than simple subjects; and (d) words that have multiple meanings. Stemler suggested that the first two problems can be avoided by careful coding, and that the third and fourth problems can be avoided by examining the surrounding words – that is *key word in context* (KWIC), a feature common to most CATA software. Combining those clarifications with the broad definition offered above, Neuendorf's (2002, p. 276) explicit definition is one often used for guidance, "Content analysis is a summarizing, quantitative analysis of messages that relies on the scientific method (including objectivity, intersubjectivity, a priori design, reliability, validity, generalizability, replicability, and hypothesis testing) and is not limited to the types of variables that may be measured or the context in which the measures are created or presented." In reviewing the uses and inferences of content analysis, Krippendorf (2002, p. 77) concludes, "In sum, content analyses are most likely to succeed when analysts address linguistically constituted social realities that are rooted in the kinds of conversations [streams of linguistic data] that produced the text being analyzed". Given that content analysis is all about words and their meanings and that the subject of business communication deals primarily with words and conveying meaning, content analysis seems to be the ideal tool for investigating the use of cooperative learning in its pedagogy.

The descriptions and definitions of content analysis offered to this point deal with a quantitative analysis technique. For a full appreciation of the technique, the qualitative approach should also be considered. Weber (1990) criticized quantitative content analysis as reducing text into numbers and missing the syntactical and semantic information embedded in the text. Zhang (2006, p. 1) observes that "Qualitative content analysis takes effect at the place where quantitative presentation reaches its limits." Hsieh and Shannon (2005, p. 1278) defined qualitative content analysis as "… a research method for the subjective interpretation of the content of text data through the systematic classification process of coding and identifying themes or patterns." Zhang (2006) distinguished the two approaches with this comparison.

> Quantitative content analysis was used widely in mass communication as a way to count manifest textual elements, while qualitative content analysis was developed primarily in anthropology and psychology to explore the meanings underlying physical messages. Secondly, quantitative content analysis is deductive, trying to test hypotheses or questions generated from theories or previous researches, while qualitative content analysis is mainly inductive, grounded [in] the examination and inference of topics and themes to raw data. (p. 1).

Zhang (2006) also noted that quantitative content analysis uses random sampling rules to protect the validity of its inference, while qualitative content analysis uses purposive sampling. Further, quantitative content analysis produces numbers that can be manipulated by statistical methods while qualitative content analysis produces descriptions or typologies. The content of the text to be examined in the current study is instructional in purpose and manifest in nature; that is, it resides on the surface and is therefore easily observable. Given those qualities, it is worthy to be taken at its face value, thus quantitative content analysis was used.

The other major classification of content analysis is conceptual analysis versus relational analysis. Conceptual analysis seeks to establish the existence and frequency of concepts that are represented by words or phrases. Relational analysis goes beyond that consideration and examines the relationships among concepts in a text (Overview: Content analysis, n.d.). Again, the instructional function of all text to be examined in the current study points the way – conceptual analysis was be used.

Computer-assisted content analysis. Computer-assisted content analysis has grown dramatically in the years since the first computer-aided content analysis was reported by Sebeok and Zeps in 1958 (Krippendorf, 2004). Perhaps the greatest of the first steps was the development of General Inquirer by Stone and others in 1966 (Krippendorf, 2004). Basic content analysis, which can be defined as identifying words in a set of text, can be accomplished using the "Find" feature in portable document files (PDF) and word processing software (Palmer , 2008). Rudimentary content analysis can also be conducted using spreadsheet software such as Microsoft Excel (Lowe, n.d.). Lowe (n.d.) offers a list of software programs available for content analysis broken down into three categories. The *dictionary-based* category includes programs that perform the basic handful of functions: word frequency counts and analysis; category frequency counts and analysis; and visualization. Many of these basic programs also generate *concordances* (also known as KWIC). The only apparent difference in the programs related to the analysis anticipated in this research is the display of results. *Development environments* are the second category; rather than analyzing text, they are used in the construction of dictionaries, grammars, and other text analysis tools. The third category is *annotation aids,* which are intended more as electronic marginal notes and cross-references noted by the researcher when analyzing texts manually. Lowe (n.d.) examined 15 different programs in his often-cited review of software

for content analysis. They range from General Inquirer, the pioneer in the field to a recently developed add-on to the SPSS family of analysis tools. They range in price from freeware to $770.00. With modern computers, which program to use is largely a case of what functions are required. All of the programs allow the researcher to address the crucial subjects of reliability and validity.

Validity in its simplest definition is "the extent to which a measuring procedure represents the intended and only the intended concept. In thinking about validity, we ask the question, "Are we measuring what we want to measure?" (Neuendorf, 2002, p. 112). That standard is usually expanded as to criteria of reliability, accuracy (i.e. freedom from bias), and precision (i.e. enough to distinguish, but not enough to belabor). Reliability is often considered separately, and this report follows that path. When the coding guide is prepared *a priori,* based on a thoughtful conceptual definition, and congruent with its operationalization (development of measurement techniques), internal validity is achieved. External validity is the source of generalizability, the degree to which results can be extrapolated to other situations (Neuendorf, 2002). While face validity is often denigrated as inferior (Gaye & Airasian, 2000), in content analysis, it can be very informative and provide a back translation from operationalization to conceptualization (Neuendorf, 2002). Although content analysis as a research technique supports social validity, content validity, and other forms of validity, this report developed internal, external, and face validity.

Reliability is a measure of the extent to which a repeated trial produces the same results (Neuendorf, 2002). Weber (1990) observed that reliability problems in content analysis generally grow out of ambiguity of word meanings, category definitions, or other coding rules. He also cited Krippendorf's typology of reliability: stability - variance over time; reproducibility same

results when text is coded by more than one coder; and accuracy – extent to which the

classification of text corresponds to a standard or norm (as cited in Weber, 1990). In the context

of this analysis, the first type is a non-issue in that the subject text is static in form and time.

Issues with reproducibility are eliminated because the computer program does not vary in its

identification of words and terms. The remaining issue of accuracy depends on establishing a

coding scheme that considers all cases; with that accomplished the *keyword in context* (KWIC)

and *concordance* features that are available with most computer-assisted content analysis

programs allow examination of the context to uncover and resolve ambiguity. Weber (1990)

concludes that the two most important advantages of computer-aided content analysis are (a) that

the rules for coding text are made explicit, and (b) that, once established by computer programs

and/or computer-coding schemes, the computer provides perfect coder reliability.

Data sources. Content analysis was used to identify the data used for addressing the

research questions. The standards for accreditation posted on the website for AACSB were

examined, and direct and indirect mentions of teamwork skills were noted. The words and

phrases that are construed to denote (synonyms) or connote (related words) *teamwork* were

drawn from Merriam-Webster's Online Thesaurus. The words, phrases, and context constituted

the coding, which was a work in process until the actual analysis commences (Neuendorf, 2002).

They are assembled in Appendix C together with a description of the germane context.

A list of schools of business that are accredited by AACSB was drawn from the AACSB

website. As of December 2008, there are 515 accredited institutions with undergraduate students.

Only schools whose primary campus is in the United States and which are noted as having a

website and a member profile are examined. The websites and profiles for those schools are

examined to determine if the school offers a course in business communication. Schools that

offer a course in business communication were listed alphabetically with the number of full-time undergraduate students enrolled in the institution. The list was arrayed by number of students enrolled in the parent university or college.

Ten schools of business were randomly selected from each quartile of the list described above using a list of random numbers. The course offerings for each school of business were examined to determine that the school offers a course in business communication. Where no course in business communication was found to be offered, the list of random numbers was used to select another school of business in that quartile. The mission and/or vision statements provided on the websites of those 40 schools were examined for direct and indirect mentions of teamwork. Those mentions were noted using the list of words and phrases in Appendix C. Because establishing a mission statement and/or a vision statement is central to the accreditation process by AACSB, it was anticipated that all accredited institutions would have one or the other and sometimes both. The terms *mission statement* and *vision statement* are construed by many scholars to be operationally synonymous (Bart, 1998; Lipton, 1996; Williams, 2008).

Syllabi for the basic business communication courses in the 40 schools of business, as described above, were analyzed for evidence of instruction related to cooperative learning. If a syllabus for the business communication course is not available at the school's website, it was requested by email. Where no syllabus was obtained, the next institution in that quartile was selected using the same table of random numbers. Mentions of PIGSFACE elements described in Appendix D were construed as evidence of instruction related to cooperative learning. The words, descriptions and qualifiers constituted the coding, which was a work in process until the actual analysis commenced (Neuendorf, 2002).

The four textbooks for undergraduate business communication that are used most often in the business communication courses, as described above, were selected. The electronic versions of the instructor's manuals for those textbooks were examined for mentions of teamwork or its synonyms. Any chapter with two or more such mentions was examined for suggestions of instruction related to cooperative learning using the PIGSFACE elements. Mentions of PIGSFACE elements described in Appendix E were construed as evidence of instruction related to cooperative learning. The terms, descriptions, and qualifiers constituted the coding, which was a work in process until the actual analysis commenced (Neuendorf, 2002).

Ober, Zhao, Davis, and Alexander (1999) noted three major advantages to content analysis. *First*, it is an unobtrusive technique. The text to be analyzed already exists – it is not produced for analysis as with a survey. *Second*, it accepts unstructured material, which the analyst must categorize. The fact that the analyst may organize the input with consideration of context (KWIC) minimizes possible misconstruction. *Third*, content analysis can handle large amounts of data using computer storage and manipulation.

All of those advantages apply to the analysis of mission statements. It is easy to suppose that if the dean of a school of business were to complete a survey related to cooperative learning, he or she would want to cast the school in the best light vis-à-vis that pedagogy. Even if the purpose of the survey were masked, deans who spend their days reading between the lines would structure their replies to meet the perceived standards. Mission statements do not have a uniform format, so analysis must deal with the range of construction. Although mission statements are optimally designed to be concise, many miss that design goal and others amplify the mission with a vision; the ability to adjust measurement and compensate for verbosity is essential. Content analysis also has the advantage of appraising noteworthy data in light of the body from which

they are drawn. For example, a mission statement that mentions "teamwork" twice in a statement of 50 words could be considered to assign more value to the subject than a statement that mentions "teamwork" five times in a discourse of five hundred words. Even more important is the attribute of allowing consideration in context. That attribute is explained fully in the section on computer applications of content analysis.

The mission-driven standards of AACSB were developed by an assortment of committees over a two-year period from 1989-1991 (McKenna, Cotton & Van Auken, 1997). They were further revised in 2003 to "…reflect the maturity of the "outcomes assessment" movement and need for improved accountability measures" (AACSB, 2009).They consist of 81 pages of descriptions and instructions, which require computer storage and manipulation to analyze effectively.

Syllabi are considered the contract between the teacher and the students (Parkes & Harris, 2002). They vary greatly in length and breadth, although compliant with the accreditation process, they generally contain some essential elements. There are probably as many checklists for writing syllabi as there are institutions of higher learning, and quite possibly as many styles as there are instructors. A review of instructions for writing syllabi reveals these five common aspects: course materials – textbooks, reading packets, et cetera; course goals, objectives, and expectations; schedule of assignments with due dates; criteria for grading; and description of special procedures. Many checklists suggest three "nice to have" features such as: study tips; suggestions for communicating with the instructor and fellow students; guidelines for interactions with fellow students; and information on special resources (Pennsylvania State University, 2009; University of Minnesota, 2008; University of Vermont, 2009).

The same advantages that apply to the use of content analysis with mission statements also apply to its use with syllabi. It is equally easy to conjecture that instructors would self-report what they construe to be the socially acceptable response to direct inquiry. Given the great range of content, it is important to examine the context of the terms and phrases.

Kulm, Roseman, and Treistman (1999) used content analysis to examine middle school mathematics textbooks and their ancillaries in order to assess appropriateness. Because the data and the target population were already established in their project initiative (Project 2061 – curriculum materials evaluation), they started with Krippendorf's fourth step (2004). The context relative to the data analyzed was identified as "… the learning goals with which the textbooks should be aligned" (Kulm et al., 1999, p. 2). Their next step, establishing the boundaries of the analysis, was "… analysis of the contents begins with making 'sightings' in the material – specific activities, lessons, exercises, and other learning opportunities in the student or teacher material in which the specific benchmarks and standards are addressed" (Kulm et al.). Kulm et al. noted that judgment as to whether the material addresses (matches) the learning goals hinges on substance and sophistication. The final step, establishing a target of the inferences, was made with a list of criteria for the instructional support; that list included items such as identifying a sense of purpose, building on student ideas, assessing student progress, and enhancing the learning environment (Kulm et al.). Instructor's manuals were examined because they are more likely to reveal the rationale behind the instruction and because they are available in electronic format allowing easy input in computer-assisted content analysis programs.

Data analysis. The research questions and descriptions of the data analysis used to address them are presented below:

1. To what extent do the guidelines of the sanctioning body for collegiate schools of business (AACSB) recommend the inclusion of team-building instruction? The website and standards of AACSB were examined to detect mentions of "teamwork" and its synonyms as listed in Appendix C. Computer-assisted text-analysis (CATA) software were used to identify team-building instructions in the guidelines.

2. To what extent do the subject schools of business subscribe to team building as a goal, objective, or mission component? The mission statements, vision statements, and objectives of randomly selected schools of business were examined to detect mentions of "team-building" and related words as listed in Appendix C. CATA software were used to identify team building as a goal, objective or mission component of the schools of business.

3. What evidence of planning for instruction in the essential elements of cooperative learning (PIGSFACE) is present in the syllabi of post-secondary courses of business communication? Syllabi from randomly selected schools of business were examined to detect mentions of PIGSFACE using the coding guide in Appendix D. CATA software were used to identify PIGSFACE elements in the syllabi.

4. Does the mention of positive interdependence, which is the strongest indicator of the pedagogy of cooperative learning, appear in syllabi with the subject matter on communication foundations, basic correspondence, major reports, presentations, or employment communication? The mentions of PIGSFACE instructions identified in Question 3 was coded and tabulated according to the list of common subject matter of business-communication courses.

5. What evidence of instructional material about the essential elements of cooperative learning (PIGSFACE) is present in the instructor's manuals for the selected textbooks for postsecondary business communication? Instructor's manuals for the selected textbooks were examined using the coding guide in Appendix E. CATA software was used to identify PIGSFACE elements in the instructor's manuals.

6. Does the mention of positive interdependence, which is the strongest indicator of the pedagogy of cooperative learning, appear in instructor's manuals of examined textbooks with the subject matter on communication foundations, basic correspondence, major reports, presentations, or employment communication?

The mentions of positive interdependence identified in Question 5 were coded and tabulated according to the list of common subject matter of business-communication courses.

7. What is the comparative frequency of mention of positive interdependence in syllabi vis-à-vis mention of positive interdependence in instructor's manuals for examined textbooks?

Limitations

This study was subject to two of the limitations common to content analysis as noted by Krippendorf (2004). "Content analysts rarely have the imagination to list all the relevant categories" (p. 185). Academicians, which includes the writers of all of the studied documents, have diverse and broad vocabularies – that means many terms for the same concept and either an impossibly long list of keywords or one that omits some cues. "Theories are always simplifications" (p. 185). The guiding theory, PIGSFACE, is addressed as a delimitation in the

next section. [Other limitations noted by Krippendorf were avoided by the descriptive nature of this study.]

The CATA tool used in this study, AntConc 3.2.1 (Anthony, 2007), requires plain text for input. That requirement means that PowerPoint and other non-Word/ non-text files included in school mission/ vision statements, syllabi, and instructor's manuals were not included in the analysis. Further, formatting that provides emphasis is lost.

Courses in business communication are often taught in departments outside the schools of business. It is highly likely that instructors outside the schools of business would not take guidance from the mission/ vision statements of schools of business analyzed in this study.

In most of the institutions, the business communication course is taught by more than one instructor. Where more than one syllabus was received, the first one received was analyzed. Although the goals for the course at a single institution might well be similar, it is likely that the methods used to achieve those goals by various instructors would vary appreciably.

The use of syllabi varies from school to school and from instructor to instructor. Many instructors view their use as a contract between the student and the instructor. The quasi-contract usually contains the first four items of a legal contract: title, brief description of the project, brief description of services needed, and detailed list of the services to be provided with projected dates of delivery included. The terse content in other syllabi makes it evident that some instructors want to keep the content open-ended. Whatever approach the instructor takes, the syllabus, a document averaging 2,562 words in this sample, only notes the major topics.

It is also apparent that much of the information that was once included in syllabi is now posted to WebCT, websites, and other internet media. This study was limited to the syllabi furnished by the instructors or available online.

The focus of this research was to examine the field of business communication courses for evidence of the pedagogy of cooperative learning. Comparison of the content of instructor's manuals is limited by the variety of their objectives. Guffey seems intent on offering examples for all assignments. Locker and Kaczmarek offer friendly advice in the form of "Kitty does it this way." Lehman and DuFrene use pamphlets on different subjects in addition to the manual; only the pamphlet on teamwork was included in this study. Bovée and Thill offer a webpage that is sent to subscribers regularly; it includes links to articles on a variety of subjects including teamwork. That information was not included in the analysis. The comparison of instructor's manuals is confined to a comparison of volume.

Delimitations

The CATA tool, AntConc 3.2.1 (Anthony, 2007) used in this study is mid-range in its capabilities. Lowe's (n.d.) review of CATA programs lists three aspects, "the basic handful": word frequency counts and analysis; category frequency counts and analysis; and visualization. AntConc has a robust system for frequency counts and analysis that was employed in this study. Anthony's category tool, which concentrates on context, is used to examine nuances in the writing. It was not used because all of the writing analyzed in this study is straightforward and declarative. Anthony's visualization feature is rudimentary compared to other programs (CATPAC, HAMLET, TLAB); again, it was not used due to the declarative nature of the text analyzed. Samples of the output from AntConc are shown in Appendix G.

The study was delimited to undergraduate schools of business that have met the standards of AACSB and been accredited. That is not to say that some excellent schools are excluded by those standards. In fact, many of the Ivy League schools do not offer undergraduate degrees in business administration and the study did not consider them. The courses analyzed were

delimited to 10 from each of the four quartiles (by enrollment) of the population of domestic AACSB members. The stratified sample of 40 courses provided 102,471 words of syllabi and 551,428 words of instructor's manuals.

The study delimits the analysis of mission/ vision statements to schools of business even though many of the courses are housed in other departments. Because all of the schools of business are accredited by AACSB and because AACSB examines the mission statements closely, it was assumed that the construction of those statements would be similar even when the content diverged. It was further assumed that the mission statements might influence the conduct of courses in business communication that are taught for business students.

The categories of subject matter purport to have a clear classification of the material in business communication courses, and the classification is valid on its face. Although different authors assign different importance to the various subjects, there was no attempt to weight the categories.

None of the analysis was designed to provide a critique of the authors' work. Their names were used openly because their work is publicly available. The names also provide an easily recognizable label. It is noted that all of the sample authors publish several versions of their texts. The sample instructor's manuals are those furnished with their largest versions. The sample of textbooks was chosen based on the number of schools of business in the sample using the texts of the various authors. Information on which are the most popular business-communication texts was not available publicly. The marketing figures are only available on a paid subscription basis. The list of textbooks analyzed is consistent with sales rank figures available on Barnes and Noble's website - bn.com, but those figures do not consider the large market in used textbooks.

What might appear to be a delimitation is the use of Johnson and Johnson's iconic PIGSFACE elements of cooperative learning to frame most of the discussion. In fact, that statement of theory is a "big tent" that welcomes most of the other theorists. The analysis is delimited to the theories offered by Johnson and Johnson, Kagan, Michaelsen, and Slavin.

CHAPTER IV

RESULTS

The purpose of the current study was to investigate the use of cooperative learning in post-secondary business communication courses. That investigation included four areas where evidence might be found: Association for the Advancement of Collegiate Schools of Business International (AACSB) mission and standards; mission and vision statements for randomly selected schools of business; syllabi from business-communication courses taught in those schools of business; and the instructor's manuals for texts used in those courses. Those areas were examined for five elements of cooperative learning: positive interdependence; individual accountability; group processing; social skills; and face-to-face interaction, collectively referred to as PIGSFACE (1999).

Findings Related to Research Question 1

Underpinning the investigation was the conjecture that AACSB endorses teamwork skills in schools of business in their mission statement and other policy communication. The question is posed "To what extent do the guidelines of the sanctioning body for collegiate schools of business (AACSB) recommend the inclusion of team-building instruction." The mission statement of AACSB is concise - consisting of only 12 words: "AACSB International advances quality management education worldwide through accreditation and thought leadership." Although it is amplified in "five end statements" regarding its contributions to academia, the focus remains on the relationship between AACSB and its member institutions. The mission statement and the end statements comprised a document of 170 words. Computer assisted text analysis (CATA) of the mission and the end statements using the keywords in Appendix C revealed no mentions of the keywords.

The standards recommended for accredited members are divided into three areas: strategic management standards; participants (sic) standards; and assurance of learning standards. The three standard areas and the background information for standards were analyzed using the keywords in Appendix C. That analysis disclosed many mentions of the keywords as shown in Table 3. The coding used for the analysis of AACSB standards applied to the desired standards of action and behavior on the part of administration, faculty, and students. The instructions for coding specifically excluded mentions related to the AACSB review teams – for example, there were 48 mentions of "peer" in the context of "peer review teams," which were not counted.

In this area of analysis, as throughout the study, the mentions ascribed to positive interdependence can be construed as the heart of cooperative learning – that is, approbation for the use of teamwork; the other elements can be construed as behavior and actions enhancing the use of teamwork (Johnson & Johnson, 1999). Individual accountability was confined to the context of assessing student achievement and progress. Group processing was limited to suggestions for instructor-student assessment. Social skills were construed as any suggestions that would encourage or enhance cooperation. Face-to-face interaction was not limited to physical proximity; any suggestion for activity that would encourage the interchange of ideas was counted.

Table 3 also includes the size of each of the sections analyzed. The size is stated in words, lines of text and kilobytes (KB). The KB measure is included because that is the measure for plain text files, the input to CATA.

Table 3: CATA - AACSB Standards

Area of Standards (File Size)	Element of Cooperative Learning	Number of Mentions
Background (7,754 words, 48 KB, 657 lines of text)	Positive Interdependence	3
	Individual Accountability	1
	Group Processing	0
	Social Skills	17
	Face-to-Face Interaction	5
	Total Background	26
Strategic Management Standards (5,098 Words, 36 KB 432 lines of text)	Positive Interdependence	5
	Individual Accountability	0
	Group Processing	2
	Social Skills	0
	Face-to-Face Interaction	3
	Total Strategic Mgt.	10
Participants Standards (11,122 words, 78 KB, 936 lines of text)	Positive Interdependence	17
	Individual Accountability	0
	Group Processing	12
	Social Skills	7
	Face-to-Face Interaction	43
	Total Participants Std.	79
Assurance of Learning Standards (8,754 words, 54 KB, 648 lines of text)	Positive Interdependence	11
	Individual Accountability	0
	Group Processing	1
	Social Skills	2
	Face-to-Face Interaction	2
	Total Assurance Learning Std.	16
TOTAL MENTIONS (32,728 words, 216 KB, 2673 lines of text)	Positive Interdependence	36
	Individual Accountability	1
	Group Processing	15
	Social Skills	26
	Face-to-Face Interaction	53
	Grand Total	131

The background section included 3 mentions related by coding to *positive interdependence*. Those mentions were evenly divided as relating to student-student interface, student-institution interface and institution-institution interface. The strategic management standards, which purport to "verify that the school focuses its resources and efforts toward a defined mission as embodied in its mission statement" (AACSB, 2003, p. 18), included 5 mentions of positive interdependence. Two of those 5 mentions related to student-student interface, and the remainder were evenly divided among contexts of student-community, institution-community, and institution-institution interfaces. In the participants standards section there were 17 mentions. Most of those mentions (9) related to either student-student or student-instructor interface. That is consistent with their stated intent: "Participants standards substantiate the characteristics, interactions, and utilization of the human resources that constitute the learning community of the school" (AACSB, p. 31). There were nine references to "collaboration" in that section. The assurance of learning section recognizes that because of differences in mission, student population, and other factors, program learning goals differ from school to school (AACSB). That recognition notwithstanding, the standards for assurance of learning concern the basic questions of education "Do students achieve learning appropriate to the programs in which they participate?" and "Do they have the knowledge and skills appropriate to their earned degrees?" That section included 11 mentions related to positive interdependence including a specific recommendation for learning experiences in group and individual dynamics in organizations. It included 5 mentions of the keyword "group," all of which related to student-student interface and 5 mentions of "community," 3 of which related to institution-institution interface with the remaining mentions related to institution-community interface.

In all of the standards declared by AACSB, there was only one mention related to *individual accountability*. That was in the background section, and it dealt with individual accountability and responsibility.

The analysis revealed no mentions of *group-processing* keywords in the background section. The strategic management section included 2 mentions and the assurance of learning section included 1 mention. However, there were 12 mentions in the section for participants standards. The keyword "feedback" accounted for all mentions in that section.

Social skills were mentioned most often in the background section. There were 12 mentions of "diversity," 4 mentions of "ethic" and its lemma, and 1 mention of "sensitivity" in that section. In the section on participant skills, there were 7 mentions of social-skill keywords, all of which were "communicate" and its lemma. There were only 2 mentions of social-skill keywords in the assurance of learning standards and zero mentions in the strategic management standards.

Face-to-face interaction was most apparent in the section on participants standards – 43 mentions. Of those mentions, 39 were for "interact" with the remainder for "meet." The background section included 5 mentions of face-to-face interaction, all of which were for "interact." As noted previously, the coding did not restrict interaction to physical proximity, rather it specified that desired and planned interaction between or among students and instructors would count as a mention.

Findings Related to Research Question 2

Having examined the mission and standards of the accrediting body, the study analyzed the representations of purpose expressed by the schools of business. The question posed to

examine their mission statements was "To what extent do the subject schools of business subscribe to team-building as a goal, objective, or mission component?"

Just as mission statements are crucial for businesses (Idealist.org, n.d.; Reh, n.d.; Williams, 2008), they are central to the operation of schools of business. One of the first steps prescribed for institutions considering the AACSB accreditation process is to "articulate its mission as a guide to its view of the future, its planned evolution, and its infrastructure and strategic management of available resource" (AACSB, n.d. b, p. 2). Many advisors (Idealist.org, n.d.; Reh, n.d.) recommend that they be limited to descriptions of purpose, business, values, and beneficiaries, and that they should be brief to the point of terseness [although the example provided for an academic mission statement in Reh's advice was 278 words long]. The 40 schools whose mission statements were examined were chosen randomly from a list of AACSB-accredited institutions that was arrayed by enrollment and divided into four quartiles. The stratified sample was necessary to ensure that all sizes of schools of business were represented. Only institutions that offered courses in business communication were included in the sample (Note – the business-communication courses were not necessarily taught in the school of business.). The examination of mission statements and objectives also included vision statements and other aspirant statements that purport to guide the operation and the future of the institutions. In most cases, the amplifying statements were linked to the mission statement. In all cases, the amplifying statements were proximate to the mission statements. The statements as examined ranged in size from 39 to 549 words. The distribution by number of words is shown in Figure 1.

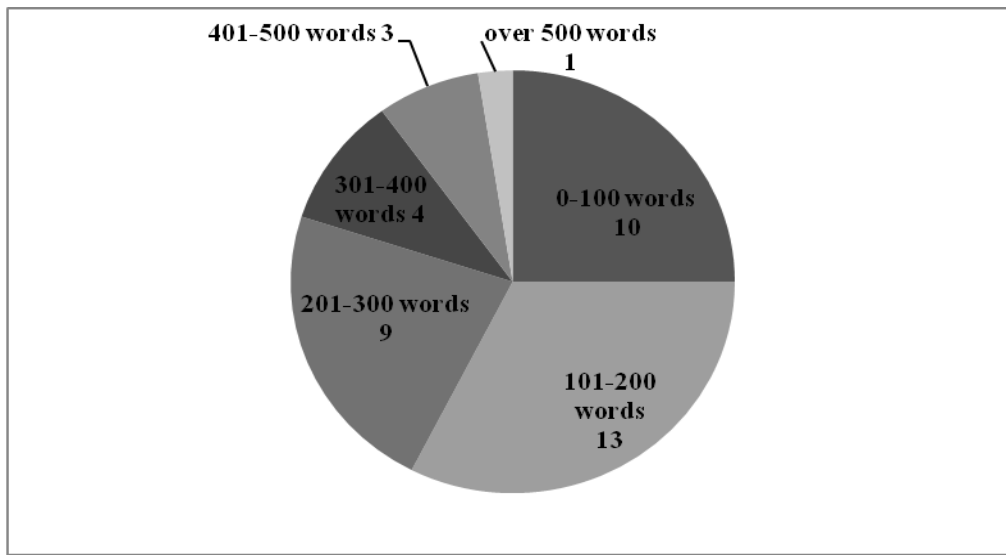Figure 1 File Size of Mission/Vision Statements

The same keywords, categorized by PIGSFACE elements (Appendix C) were used for coding in the analysis. Figure 2 shows the number of schools whose mission/vision statements mentioned the specified PIGSFACE elements. As with the mission statement and standards of
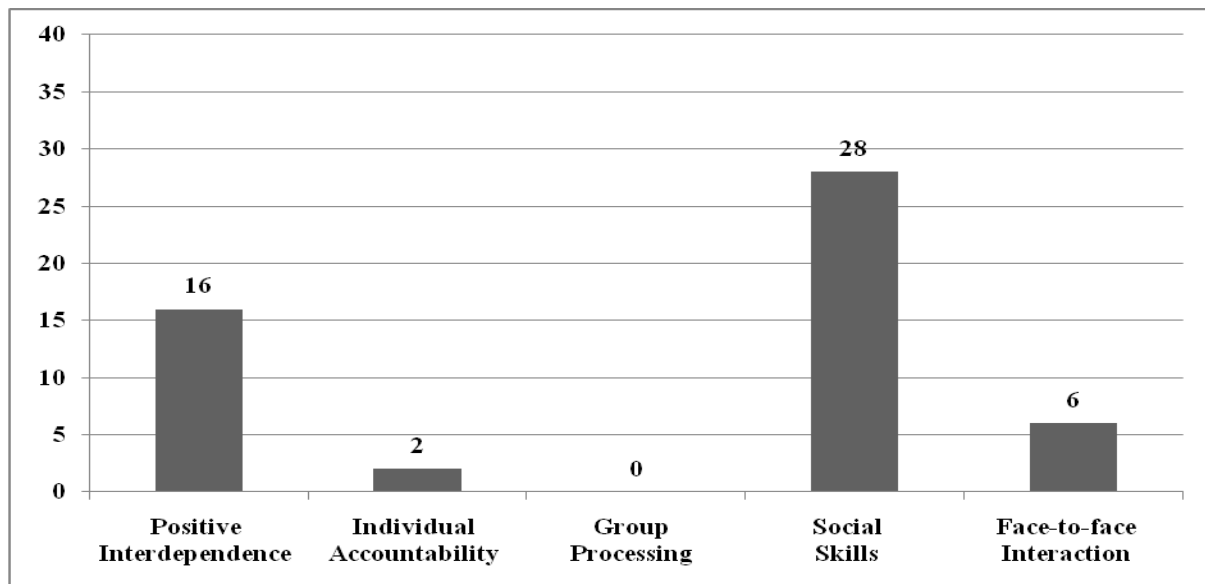

Figure 2 CATA Schools Mentioning PIGSFACE Elements in Mission/ Vision Statements
      (n=40)

AACSB, the mention of *positive interdependence* as a desired attribute is central to inculcation of the pedagogy of cooperative learning. Sixteen of the 40 schools of business in the stratified sample mentioned positive interdependence at least once in their mission or vision statements. There were 25 total mentions of keywords related to positive interdependence. "Collaborate" and its lemma were mentioned 8 times in the analysis; of those mentions, 3 related to student-student relations, 2 related to student-faculty relations, and 1 related to faculty-community relations; mentions related to electronic interface and faculty publishing were not counted. "Team" and its lemma were mentioned and counted 6 times. "Community" was mentioned 51 times, but only 5 of those mentions fit the coding description for relevancy. "Partner" and its lemma were mentioned 6 times, but 1 mention related to a formal relationship. "Cooperation" and its lemma were mentioned and counted 2 times.

Similar to the analysis of AACSB standards, there were only two mentions related to *individual accountability*: one relating to responsibility as part of the institution's creed, and one that encouraged " individual, organizational and societal journeys to excellence" (University of Northern Colorado, n.d.).

Keywords related to *group processing* were not evident in the sample analyzed.

Social skills were the element of cooperative learning most often mentioned in the mission statements. They were mentioned by 28 schools, or 70% of the sample. Fifteen of the schools made multiple mentions of keywords coded as relating to social skills. The social-skill keyword mentioned most often was diversity and its lemma; it was an aspiration for 21 of the schools. Typical contexts for its mention were "diversity in our community" (Purdue University), "diverse backgrounds" (University of Houston, Victoria), and "appreciation of diversity of people" (Old Dominion University). "Ethic" and its lemma were mentioned a total of 21 times in

17 of the mission/vision statements. The mentions varied from vague calls to prepare ethical

leaders to the fundamental statement of purpose lauding ethics as the raison d'être for the school

of business (Seattle University). "Collegial" is the keyword most closely attuned to the tone of

social skills presented by the theorists of cooperative learning. It and its lemma are mentioned 6

times; the scope of the collegiality aspired to in all of those mission statements includes students,

faculty, and administration. The total number of mentions of social skills (58) included 5

mentions of "social" and its lemma.

Face-to-face interaction was again conceived to include all desired and planned

interaction. Even with that broad interpretation, the element was only evident in the

mission/vision statements of six schools for a total of 7 mentions. All of those mentions

contained "interact" or its lemma and prescribed coming together to consider past successes and

future opportunities.

It is meaningful to note that not all business-communication courses are taught in schools

of business. Figure 3 shows the dispersion of the course for this sample. While 60% of the
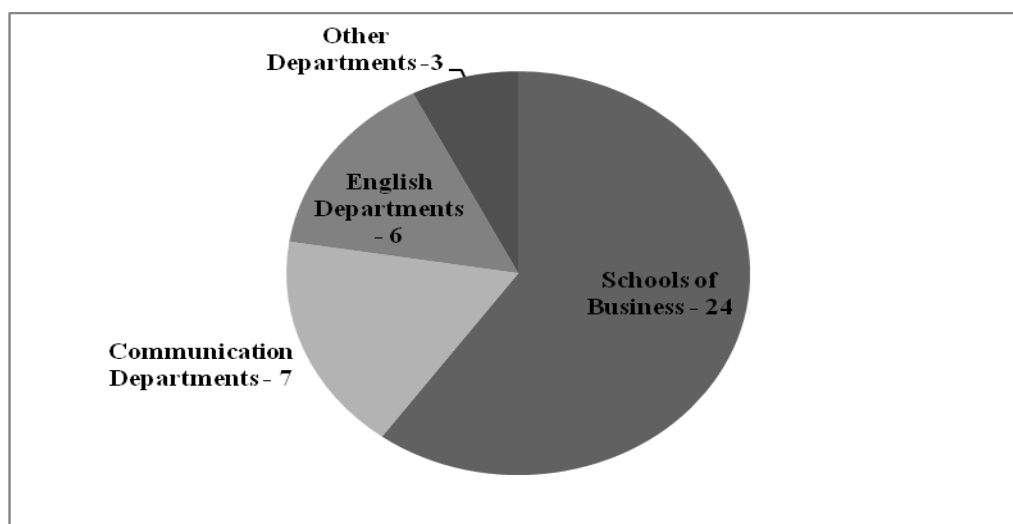

Figure 3 Departmental Locations of Business-Communication Courses

courses are taught in schools of business the remaining courses are taught in various liberal-arts departments. Many of those courses are labeled as business courses. Those figures are consistent with those reported by Russ (2009): business departments – 59.6%; communication department – 28.3%; English department – 10.5%; and education department – 1.6%.

Findings Related to Research Question 3

The first two questions dealt with aspirations of the schools of business and the body that assigns credence to their aspirations and operations. The syllabus for a college course is more concrete; it is much like the business plan for a business enterprise. A business plan is "a written document that describes the nature of a business and its strategy, as well as exactly how an entrepreneur intends to start and operate it" (Schermerhorn, 2004, p. 99). Similarly, Habanek (2005, p. 62) describes the syllabus for college teaching, "The syllabus provides a document by which faculty members define learning outcomes for students [nature of learning] and the methods by which those outcomes will be realized [start and operate the enterprise of learning]" . Other authors go so far as to consider it a legal document (Matejka & Kurke, 1994), which might be compared to the incorporation documents filed with a secretary of state. This question asks, "What evidence of planning for instruction in the essential elements of cooperative learning (PIGSFACE) is present in the syllabi of post-secondary courses of business communication?"

This sample was drawn by arraying the American domiciled AACSB member schools by enrollment and using a table of random numbers to select equal samples from the four quartiles. The stratified sample was necessary to ensure that all sizes of schools were represented. The websites of selected schools were examined to determine if a course in business communication was offered at the institution. The courses whose syllabi were examined were not necessarily in the school of business. When it was determined that a business communication course was taught

at the institution, the instructor was identified either through the online bulletin/course schedule or through email correspondence with the institution. An email message (Appendix F) was sent to the instructors requesting electronic copies of their syllabi and assuring confidentiality for the instructors and their institutions. Those requests combined with follow up emails and phone calls produced a pool of 49 syllabi out of 156 solicitations. Five of the institutions solicited did not have an undergraduate business degree. Three institutions declined to participate.

As noted in the results for Question 2, not all business-communication courses are taught in schools of business. The variety of departments and an indication of the various objectives are revealed in the names assigned to the courses shown in Table 4. While Business Communication is the name most frequently used, the course names indicate that there is often an emphasis on a particular form of communication related to the department in which it is taught. Specifically, four of the five courses whose names included "writing" were taught in English Departments. All of the courses whose names included "management" or "managerial" were taught in schools of business. While it would be interesting to develop a distribution of the departments in schools of business, (e.g. Administration, Management, Marketing, etc.) in which the business communication courses are taught, the large variety of department names makes such an analysis fruitless.

Table 4: Course Names and Departments for Sample Syllabi

Course Name	Total	School of Business	Communication Department	English Department	Other Department
Business & Prof. Comm.	3	0	2	1	0
Business & Prof. Speaking	1	0	1	0	0
Business Comm.	18	17	1	0	0
Business Ldrship & Comm.	1	1	0	0	0
Business Writing	3	0	1	2	0
Communication in Organizations	1	0	0	0	1
Info. & Comm. Techniques	1	1	0	0	0
Managerial Comm.	3	3	0	0	0
Organizational Comm.	2	0	1	0	1
Professional Comm.	2	0	1	1	0
Professional Writing	3	0	0	2	1
Technical & Sci. Comm.	1	0	0	0	1
Written Business Comm.	1	1	0	0	0
TOTAL	40	23	7	6	4

As also noted in the results for Question 2, the distribution of departmental homes for

business communication courses in this stratified (by size of institution) sample is similar to the

distribution in the large-scale sample (N = 505) reported by Russ (2009). His sample (Russ) was

roughly comparable as to online delivery of instruction; he found 3% (n=15) of the courses

delivered entirely online, while this sample of 40 courses included only 1 course taught totally

online and 1 course in which one-half of the instruction was delivered online.

The size of the syllabi examined varied from 603 to 7,137 words. The distribution of sizes

is shown in Figure 4. Some of the syllabi represented in this chart were combinations of
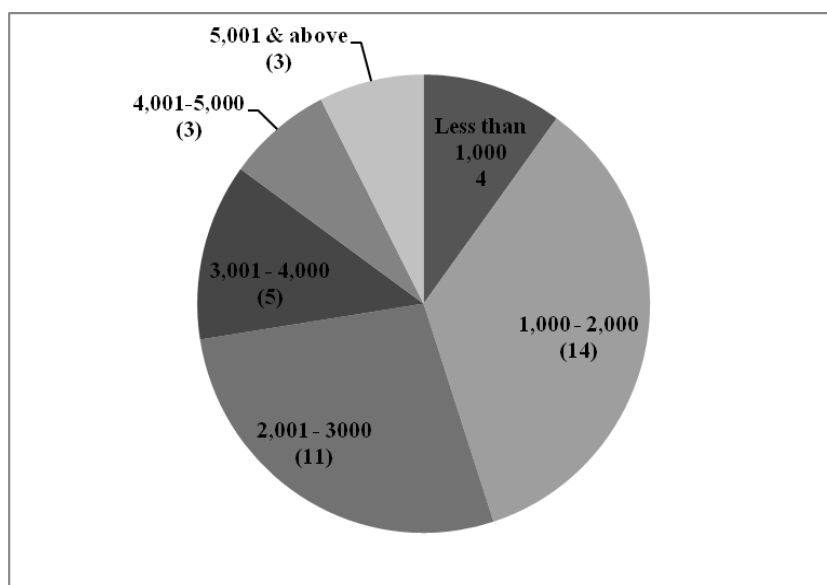
Figure 4 – Size of Sample Syllabi (in words) (n=40)

other documents. Specifically, syllabi represented as including 5,598 words in one instance and

7,137 words in another instance were combinations of the common syllabi written for all

business communication courses at the institutions with one of the detailed schedules assigned by

an instructor. Another document analyzed as one syllabus (4,160 words) was actually the

combination of syllabi from two 2-hour courses – one for written communication and one for

spoken communication. In all instances, care was taken to avoid duplication of common

administrative material such as instructor name and contact and institution policy on attendance

and plagiarism. Another syllabus took on the form of detailed instruction. It included 731 words on giving effective feedback – the keyword *feedback* was used 22 times in that section. The same syllabus included detailed instructions on dressing for an interview and on the job – that section included 1137 words. If the detailed instructions were removed from that 4,670 word syllabus, it would be much closer to the mean size of the sample syllabi – 2,562 words (n=40). Those instructional sections were not counted in the analysis.

The coding for the CATA of the syllabi (Appendix D) uses different keywords than those used for AACSB standards and school of business mission statements (Appendix C). That is because the instructors are charged with meeting more concrete and measureable goals. Their syllabi provide the business plan for reaching those goals. The coding was established for positive terms; that is, it "looks for" the positive end of the spectrum, for example "diversity," rather than the negative end, for example "discrimination." The results of that analysis are shown in Figure 5.
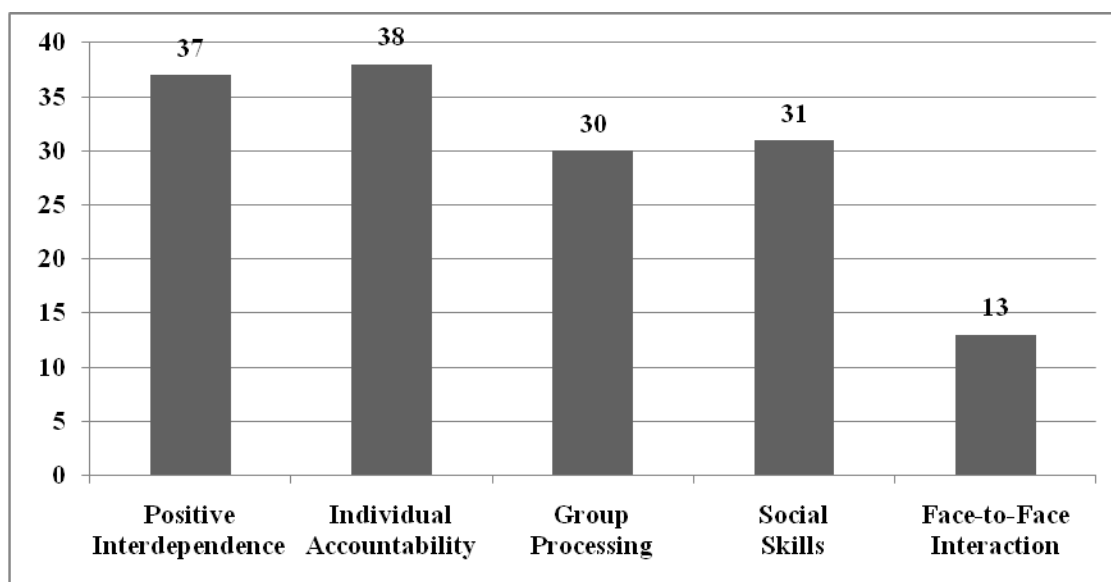

Figure 5 CATA - Number of Syllabi Mentioning PIGSFACE Elements (n=40)

Only three course syllabi made no mention of *positive-interdependence* keywords. Fourteen of the syllabi had 1-10 mentions of related keywords. Twelve syllabi included 11-20 mentions of related keywords, while eight syllabi had 22-46. One syllabus mentioned positive-interdependence keywords 70 times and another included 80 mentions. A syllabus that was pulled together from several documents furnished by the coordinator for business communication at a large Midwestern university contained 154 mentions of positive interdependence. The planning and scheduling aspects of syllabi cause a high degree of redundancy in syllabi, especially in the element positive interdependence. That appears to be the case in the syllabi with 70 and 80 mentions of positive interdependence keywords. Closer examination reveals that many of those mentions may be reiterations of scheduling items as in a schedule calling for five days of team presentations with a description "Team Presentations – teams will present their team projects to the whole class. Teams will be evaluated on presentation skills and teamwork" would result in a count of 25 mentions. Nonetheless, the fact that such a syllabus allows five days of class time for team work indicates that the subject is highly valued. The core words related to positive interdependence were by far the most mentioned keywords: *group* and its lemma were mentioned 340 times; *team* and its lemma were mentioned 390 times. Those terms seemed to be used interchangeably; for example, there were many statements like "The group's success depends on the organization of the team." Only seven syllabi mentioned keywords related to the formation of groups/ teams.

In the context of course syllabi, the element of *individual accountability* is most readily observable as assessment, and assessment in black and white is most readily quantifiable in the assignment of grades. Most theorists (Johnson & Johnson, 2006; Kagan, 1996; Michaelsen, 2004) recommend primarily assigning individually considered grades to individual students rather than

assigning the same grade to all members of a group: in cooperative learning, individual grades

should be the dominant currency of assessment. The syllabi were examined for specific tools

related to individual accountability; in most instances, those practices related to the mechanics of

assessment rather than theory. Only 2 syllabi made no mention of individually assigned

assessment. Figure 6 shows the mentions of the different mechanisms of individual assessment.

Thirty-four of the 40 syllabi used traditional, individual examinations and/or quizzes
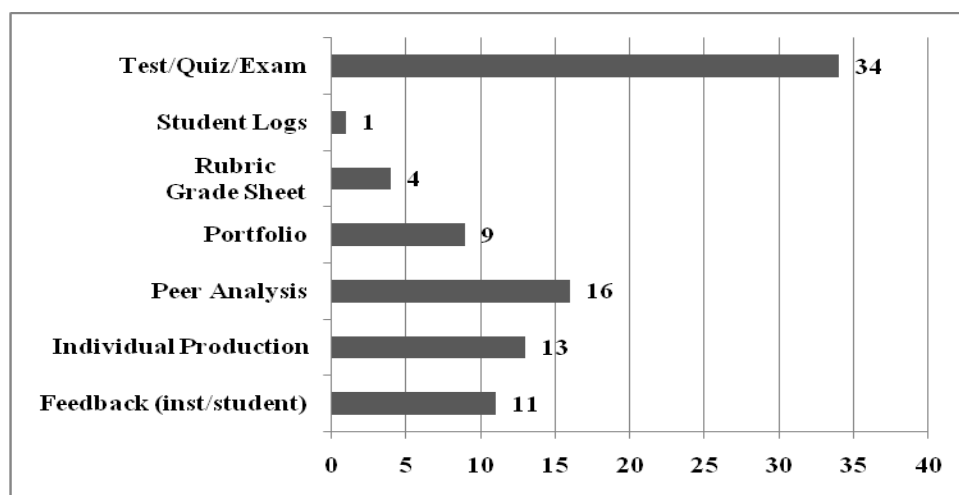
Figure 6 CATA - Tools Mentioned in Syllabi for Providing Individual Accountability
(Most syllabi used more than one tool)

for at least part of the grade. Student logs were only specified in one syllabus. A given aspect of

individual accountability was likely to be mentioned several times in a syllabus. For example,

"portfolio" was only mentioned in 9 syllabi, but where it was mentioned, it was mentioned an

average of 5 times. Other researchers, particularly those studying cooperative learning in post-

secondary schools, defend the use of group grades (e.g. Bacon, Stewart & Silver, 1999;

Gueldenzoph & May, 2002; Kreie, Headrick & Steiner, 2007). In fact, only 5 of the syllabi

examined had no provision for group grades, while 8 of the 40 syllabi were not clear as to how

much of the final grade came from group assignments. Five syllabi provided for between 5% and

10% of the final grade to come from group work, while 9 syllabi called for 10.9% to 20% of the final grade to be based on team submissions. Eight syllabi provided for 20.1% to 30% of the course grade to be assessment based on group effort. Five syllabi planned for more than 30% of a student's grade to come from group assessment. The most frequently assigned group projects were research papers and oral presentations.

The analysis of context (see Appendix D for coding instructions) for the element of *group processing* allowed some supposition in the terms recorded as mentions. For example, the phrase "status or group report" was counted on the assumption that in providing a report on their activity the group would review problems and processes. Likewise, directions for forming the teams, which were revealed by keywords such as "form" and "assign," were counted as relating to team formation even when no detail was provided about the procedure. That is not to say that the analysis of group processing was openhanded. For example, the mentions of "minutes," where the context revealed them as devices for recording the activity of class sessions without any group evaluation, were not counted. The practices prescribed in the syllabi to accommodate group process are shown in Figure 7. Note that "Feedback" in this instance is that shared among students. Context revealed that "Peer Review" concerned manifest attributes of the work being reviewed (e.g. grammar and sentence construction) while "Feedback" concerned the abstruse attributes (e.g. tone, "you attitude").

Social Skills are also known as the "soft skills" that business students gain to complement their technical training (Guffey, 2008). They are the skills that employers request in job advertisements such as "excellent communication skills," "good people skills," and "good listener" (North, Hargrave & Worth, 2009). Keywords for this section relate to those skills and the concepts, such as the communication model and "three Cs" (conflict, conformity, and
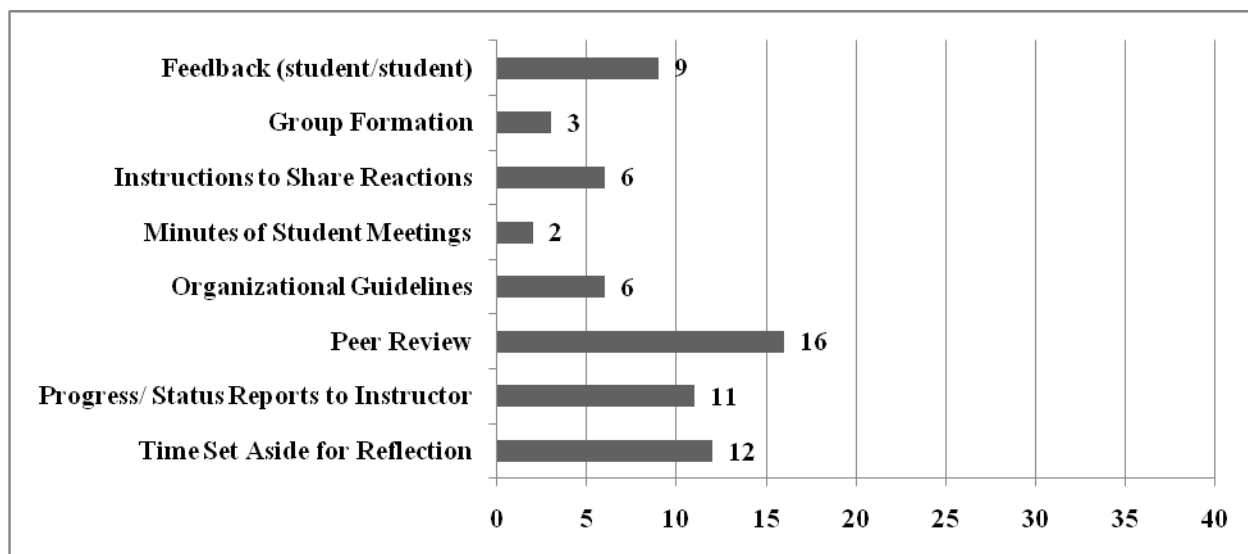
Figure 7 CATA - Accommodations for Group Processing in Syllabi (n=40)
    (Most syllabi provided more than one accommodation)

consensus), that purport to help students acquire those skills. Due to this broad conceptualization,

26 keywords were used in this part of the analysis; that compares to 10 keywords each for

positive interdependence and individual accountability. Figure 8 breaks those keywords into five

categories to illustrate the trend of thought in the syllabi. The category with the most mentions,

Nuts and Bolts of Communication, included subjects such as listening skills and nonverbal

communication. There was very little deemed relevant to Team Concepts in Communication; 4 of

the 5 mentions concerned conflict as the starting point for team action. The 9 mentions related to

Interpersonal Skills Development included appreciation for diversity, and advice on conflict

resolution and decision making. Ethics and its lemma were mentioned 24 times in the syllabi.
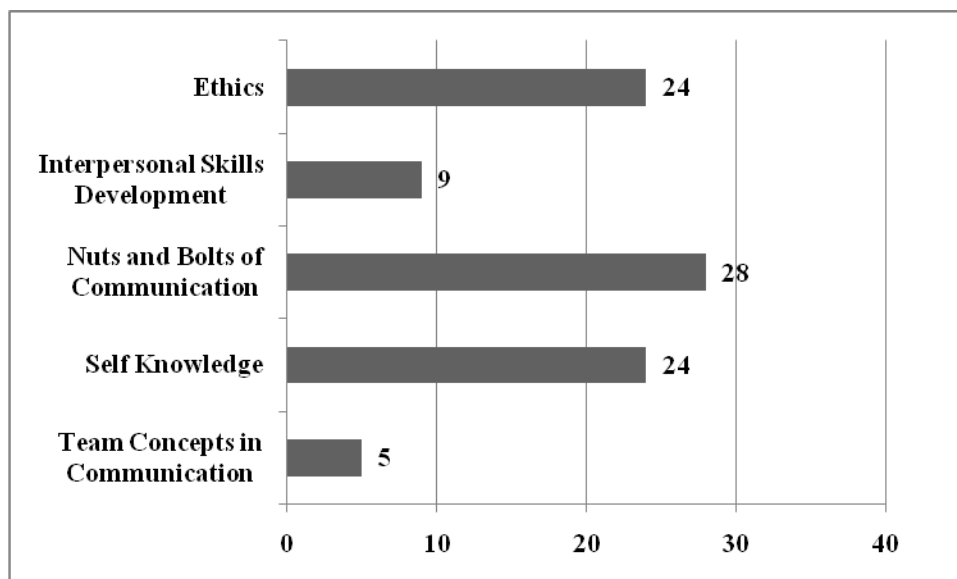
Figure 8 CATA - General Categories of Social Skills Mentioned in Syllabi
(Most syllabi mentioned more than one social skill)

Only 17 of the 40 sample syllabi made specific mentioned accommodations for *face-to-face interaction.* Most of those mentions (13) related to requirements that meetings be held. The remaining 4 mentions related to aids for collaboration. One-half (20) of the syllabi provided for in-class group time to work on group projects, while 18 made no such provision. Two of the syllabi did not include schedules for that analysis.

Findings Related to Research Question 4

The previous questions have dealt with all five of the PIGSFACE elements in the various contexts. In order to provide more succinct and meaningful information, this question only deals with the prime indicator of cooperative learning, *positive interdependence.* This question asks, "Does the mention of positive interdependence, which is the strongest indicator of the pedagogy of cooperative learning, appear in syllabi with the subject matter on communication foundations, basic correspondence, presentation skills, or employment communication?"

For this analysis, *communication foundations* are meant to include instruction such as listening skills, nonverbal communication, the communication model and intercultural communication. *Basic correspondence* includes the writing of routine messages, persuasive messages, bad-news messages, and goodwill messages. *Major reports* (e.g. proposals, informational reports, and others that require research) are treated as a different subject from basic correspondence by most authors (Bovée & Thill, 2008; Guffey, 2008; Lehman & DuFrene, 2008; Locker & Kaczmarek, 2008); this analysis follows that convention and treats major papers as a distinct category. *Oral presentation* pertains to live presentations to an audience of classmates in most cases. *Employment* refers to such items as practice interviews and employment documents such as résumés, cover letters, and thank-you notes. Because the locus of mentions was the focus of this question, the syllabi were examined holistically in Word in addition to using CATA. That was possible due to the relatively few keywords relevant to the analysis; only seven words were used. It was necessary because a broader range of context was required and because the formatting of the text was revealing of the relationships; for example, if the syllabus was drafted using a table, the gridlines would not show up in the text version and the column headings would likely be more than 50 words away from the keyword.
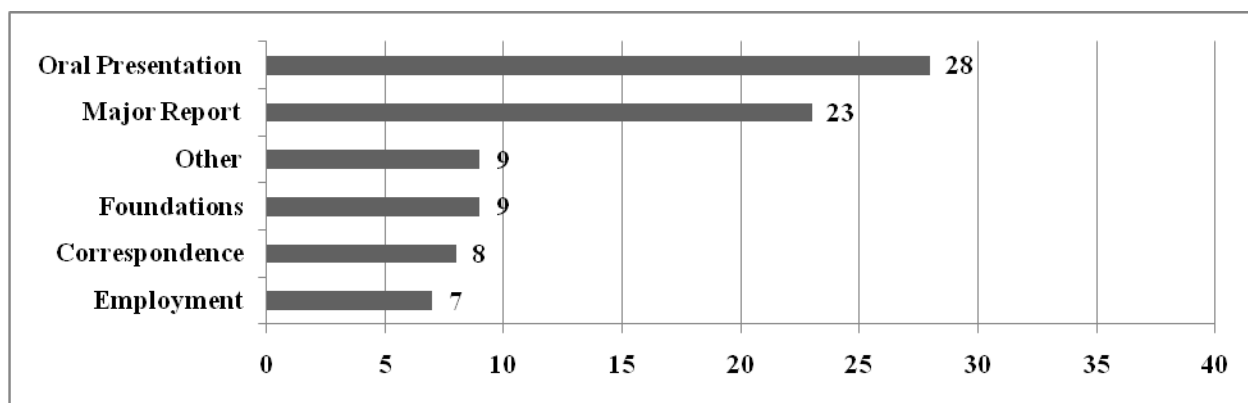

Figure 9 CATA–Loci of Positive Interdependence Keywords in Subject Matter of Syllabi
(In many syllabi, positive interdependence appears in multiple locations)

As shown in Figure 9, presentations and major reports were the areas where most positive interdependence is in play - 28 of the 40 syllabi called for oral presentations as a group project, and 23 called for papers. Almost half of the syllabi (19) called for papers and presentations on the same subject. The presentations and papers included a wide range of subjects from business proposals to professional development. Only one of the presentation/ papers involved primary research; it involved reporting the findings of an informational interview, which is an interview with an employer, the purpose of which is to find out about the career field rather than to secure a position. There were some innovative subjects such as developing a mission/vision statement and a persuasive report based on *The World Is Flat* by Thomas Friedman. One intriguing major report assignment called on the students to investigate like Sherlock Holmes, but the actual output was ordinary. Three of the projects involved dyads rather than groups of three or more students, which is the group composition usually discussed in the literature.

The remaining categories used cooperative learning in a variety of formats. The "other" category included production projects: survey, training workshop, newsletter, interview, symposium, tradeshow, service learning, mission/vision statement, and plan for meeting. In six of the nine instances, papers and presentations were also produced. Where positive interdependence was in play related to foundations of communication, the syllabi called for interaction dealing with communication styles, listening skills, and diversity both cultural and gender. The study and practice of basic forms of correspondence called for peer editing, as did the application of principles to employment.

Findings Related to Research Question 5

The four instructor's manuals analyzed here were those most used by the instructors whose syllabi were analyzed in Research Question 4. The textbook by Bovée and Thill (2008)

was used by six of the sample schools. Guffey's (2008) text was used by five schools. The text by Locker and Kaczmarek (2008) was used by four schools, and the text by Lehman and DuFrene (2008) was used by three schools. Only four documents were examined for this question, however; those documents were much larger than the previous documents. The instructor's manuals that were analyzed contained a mean of 137,857 words: Bovée & Thill – 170,527; Guffey – 174,855; Lehman & DuFrene – 104,441; and Locker & Kaczmarek – 101,605. For that reason, total counts of pertinent mentions of keywords were recorded rather than reports that the keyword was present in a given document. The research question was posed, "What evidence of instructional material about the essential elements of cooperative learning (PIGSFACE) is present in the instructor's manuals for the selected textbooks for post-secondary business-communication courses?" Figure 10 shows a compilation of the mentions in the four instructor's manuals.
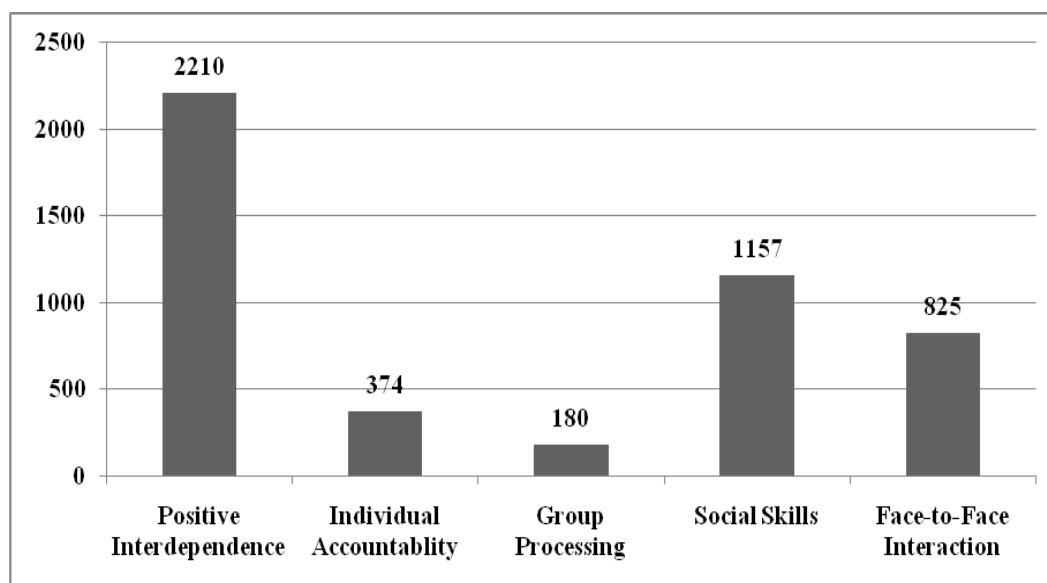

Figure 10 CATA-Total Mentions of PIGSFACE Terms in Instructor's Manuals

In analyzing the mentions of keywords related to *positive interdependence*, all mentions of keywords with congruent context were counted irrespective of their use. Their mention, whether in suggestions for conduct of the class, in activities, or in examples of writing, lends force to the practice of the concept. For example, an activity that called for the students to write a persuasive letter in support of improved teamwork was counted. The only instances where a keyword for positive interdependence in instructor's manuals (see Appendix E for complete list) was not counted was when it appeared as part of a name, as in "the Keystone *Group"*, or when it was used as a collective noun without attendant action, as in "the baseball *team* was away from home." As in much of the literature and instruction for cooperative learning, the terms "group" and "team" were used interchangeably; they were also the keywords used most frequently in all of the instructor's manuals. Combining the count of the two words and their lemma, they are among the most frequently used words in all of the sample instructor's manuals: Bovée and Thill – 70th; Guffey – 25th; Lehman and DuFrene – 22nd; and Locker and Kaczmarek – 41st. In Lehman and DuFrene's instructor's manual, the only words used more frequently than group/ team are articles, prepositions, pronouns, "students," "resource," and "slide." Other keywords in the instructor's manuals required close examination of context. Locker & Kaczmarek used the word "share" frequently with a meaning of "impart" rather than "distribute." Another keyword that required close attention to context was "form," which the coding purported to relate to forming the groups or teams. Examination of context found it was often used in relation to Tuckman's "forming, storming, norming, and performing" model – a concept that was treated as instruction in social skills.

There were 374 mentions of keywords related to *individual accountability*. The most frequently mentioned concept was grades. That concept was mentioned 162 times. The

suggestions offered ranged from advice to return graded work promptly to a sample grading scheme. The next most frequently mentioned concept was establishing criteria for grades; it included lemma for "criteria," "checklist," and "rubric." That concept was mentioned a total of 148 times. As noted in the coding instructions (Appendix E), Johnson et al. (2006) strongly recommend criteria-referenced grades over norm-referenced grading. In analyzing keywords related to individual accountability, mentions of keywords were counted where they related to the pedagogy of cooperative learning regardless of whether they were consonant with the philosophy of a given theorist. For example, all of the instructor's manuals provide for team-written research papers, an exercise that Michaelsen et al. (2004) decry as ineffective . All of the instructor's manuals espouse critical thinking, and that contributes to mentions of words, which, at first, seem to relate to instructor assessment of student output but which, upon examination of context, are found to relate to student assessment of tasks. For example, in Bovée and Thill's instructor's manual, there are 62 mentions of evaluate and its lemma, but 59 of those are used in examples or call for the students to evaluate the facts of the case rather than recommending techniques for the teacher to evaluate student production.

With only 180 mentions, *group processing* was the least mentioned element. That is true despite coding that cast a wide net. In analyzing keywords related to *group processing,* suggestions to provide opportunities and advice for its implementation were counted as well as mentions within examples, which were counted as supportive of the process. "Feedback" (student-to-student) was the keyword most frequently mentioned – 83 times. As noted in the coding instructions (Appendix E), it was not counted where it referred to the stage in the communication model, nor was it counted where it involved critique from the instructor to

individual students. All authors mentioned the use of minutes to record and report on the progress of the group/ team.

There were 1157 mentions related to *social skills*. As with positive interdependence, the mentions of keywords related to social skills were counted and no distinction was made whether they were suggestions for instruction, part of an assignment, or part of an example. However used, their mention lends force to the use of the concept. The keyword that was mentioned most frequently was "ethics" and its lemma, which were mentioned 475 times. It was the most mentioned keyword for Bovée and Thill (135 mentions) and for Lehman and DuFrene (129 mentions). In Lehman and DuFrene's manual, it was the 86th most mentioned word – right behind "presentation" (85th). The skill next most often mentioned was "listen" and its lemma, which were mentioned 403 times. In Guffey's manual, it was mentioned 217 times – the 76th most mentioned word. All of the authors at least touched on "conflict resolution," "decision making," "three Cs (conflict, conformity, consensus)," and "groupthink." Three of the authors mentioned variations on Tuckman's "forming, storming, norming, performing" model.

In coding for *face-to-face interaction*, the realities of today's technology were taken into consideration. That is, the operative word was "interaction," and suggestions and advice for fostering it were considered even when the internet provided the effective proximity. The keyword "meeting" was mentioned most often – 317 times. All of the instructor's manuals provided copious advice on the conduct of meetings from conception to minutes. Likewise, all of the manuals provided instruction and suggestions for application of "nonverbal" skills; they were mentioned 217 times. It is remarkable that "blog," which was only recognized as a word in 2004 (Merriam-Webster, 2004), was mentioned by all of the instructor's manuals for a total of 198 mentions. The immediacy of the interaction compensates for the lack of physical proximity.

The focus of this research was to examine the field of business communication courses for evidence of the pedagogy of cooperative learning. Figures 11 and 12 show the breakout of that evidence by author. As explained in the methods section, comparison of the authors' work cannot account for extraneous effects. Figure 11 shows the raw number of mentions.
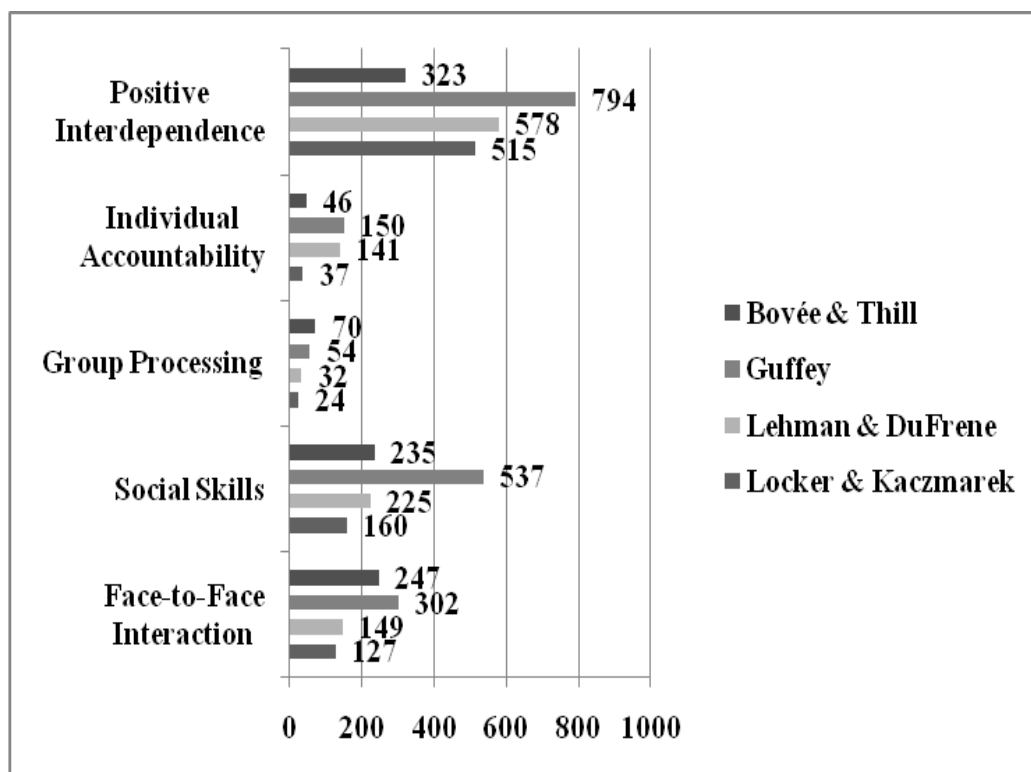
Figure 11 CATA - Mentions of PIGSFACE Terms Sorted by Author (Raw Numbers)

Figure 12 shows the number of mentions adjusted for relative size (in words) of the instructor's manuals. The factor was computed by dividing the mean of the sizes of the instructor's manuals by the size of the respective instructor's manual. For example, Guffey's manual had the most mentions of keywords related to positive interdependence – 794. The instructor's manual for Guffey's textbook was also the largest of the four – 170,527 words.

Dividing the mean word count of the four instructor's manuals – 137,857 by Guffey's word count provided a ratio of 0.79, which was used to equalize the frequency of mentions. Adjusting the count by that ratio provides a figure that can be compared with other counts – 626.
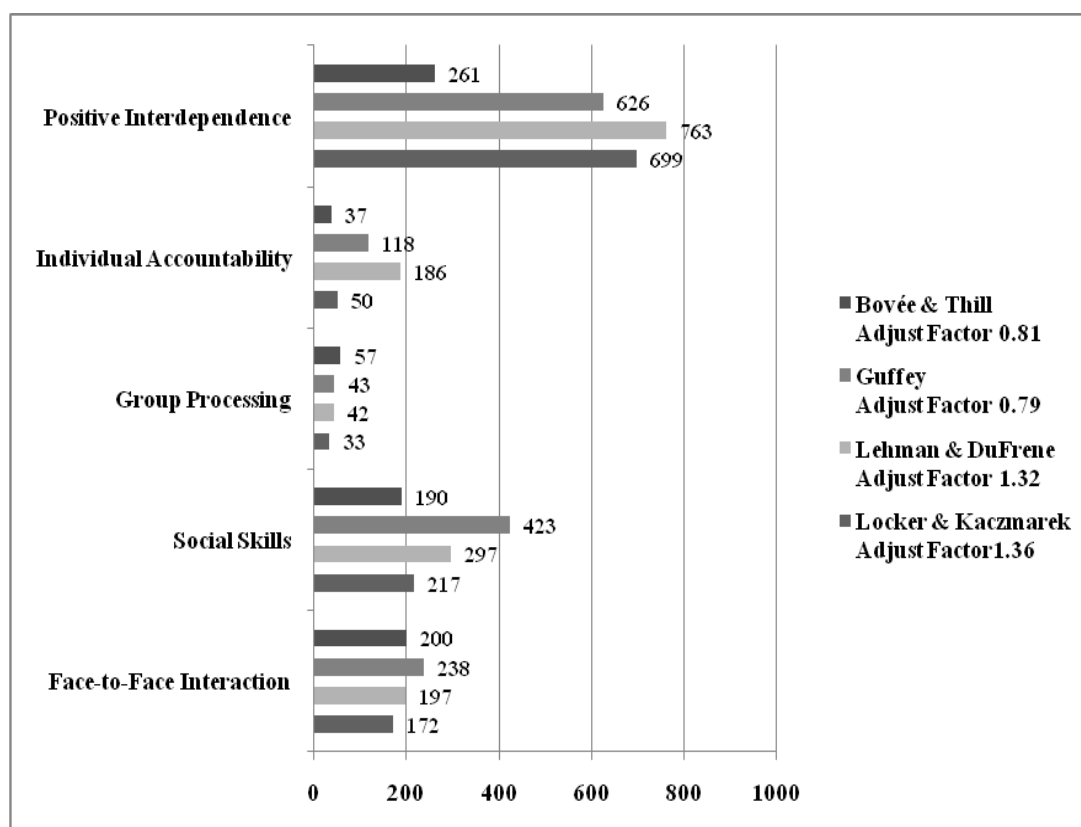
Figure 12 CATA Mentions of PIGSFACE Terms Sorted by Author (Adjusted Numbers)

Findings Related to Research Question 6

As with Research Question 4, this question deals only with the prime indicator of cooperative learning – *positive interdependence*. That limitation is consistent with the primacy of positive interdependence in the pedagogy of cooperative learning. In fact, David Johnson (Johnson & Johnson, 1998a) recognized Deutsch's theory of positive goal interdependence as the wellspring of his interest in cooperative learning. The importance of the element of positive

interdependence is further demonstrated in Figure 10, which shows that keywords relating to it were the most mentioned terms in the analysis of instructor's manuals. This question asks, "Does the mention of positive interdependence, which is the strongest indicator of the pedagogy of cooperative learning, appear in instructor's manuals of adopted textbooks with the subject matter on communication foundations, basic correspondence, presentation skills, or employment communication?" The question presupposes that the sample textbooks are similar in organization and content. Table 5 shows the construction of the texts to be comparable in size. As in Research Question 4, *major reports* were treated separately from other correspondence. The construction of the four manuals is similar in most regards. The amount of material presented on the five categories is largely comparable. The appendices for the manuals were not examined because they covered widely different subjects such as grammar, letter formats, and social addresses.

Table 5

Construction of Sample Texts

Author(s)	Bovée & Thill	Guffey	Lehman & DuFrene	Locker & Kaczmarek
Subject				
Communication Foundations	Ch 1-3 89 pages	Ch 1-3 98 pages	Ch 1-4 144 pages	Modules 1-3 & 17-19 98 pages
Basic Correspondence	Ch 4-10 243 pages	Ch 4-10 210 pages	Ch 5-8 155 pages	Modules 4-16 242 pages
Major Reports	Ch 11, 13-15 133 pages	Ch 11-13 116 pages	Ch 9-11 110 pages	Modules 21-24 73 pages
Presentations	Ch 12, 16,& 17 83 pages	Ch 14 37 pages	Ch 12 50 pages	Module 20, 25 36 pages
Employment	Ch 18, 19 64 pages	Ch 15,16 64 pages	Ch 13, 14 84 pages	Module 26-30 87 pages
TOTAL PAGES (not including appendices)	612	525	543	536

Figure 13 shows the number of mentions of keywords related to positive interdependence in the aggregate of the four instructor's manuals. The keyword mentioned most often in the *communication foundations* category was "team" with 527 mentions. Its near synonym, "group," was mentioned 464 times. The only other keywords with more than 100 mentions were "collaborate" and its lemma, which was mentioned 103 times, and "share," which was mentioned 110 times. In analyzing those keywords, care was taken to examine the context. That is, use of "collaborate" and its lemma to describe non-student research was not counted, and "share" when used in the sense of "impart" was not counted. The same keywords were the most used in the *basic correspondence*, *major reports, presentations,* and *employment* categories.
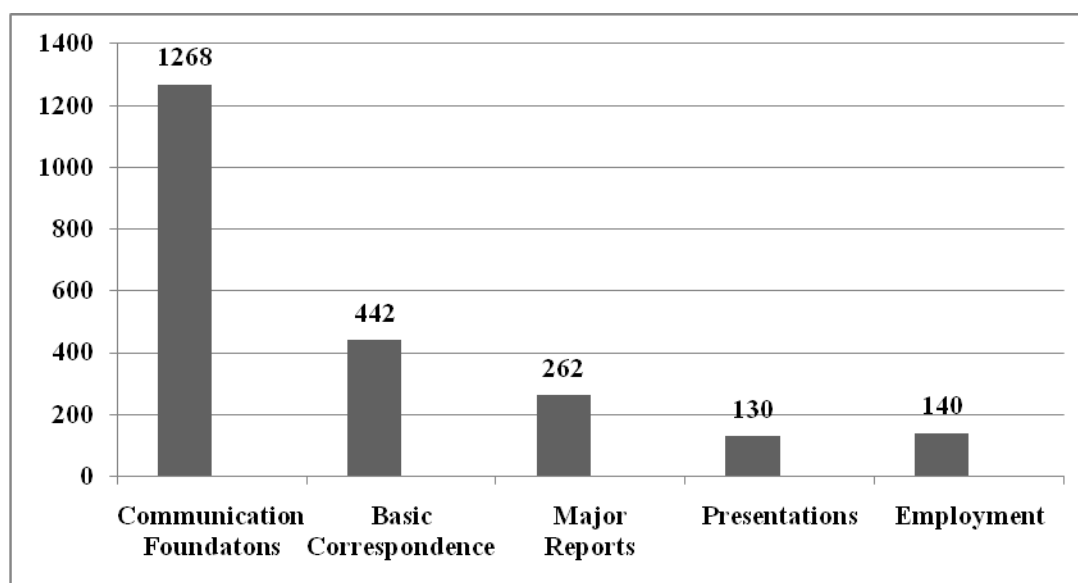
Figure 13 CATA Total Mentions of Positive Interdependence Sorted by Subject Categories

There are mentions of keywords related to positive interdependence throughout the instructor's manuals. All of the instructor's manuals made most mention of positive interdependence keywords in the section on communication foundations despite the fact that it

was the second smallest section by number of pages – mean of 107. Mentions in the other

sections align with their size.

Figure 14 shows the distribution of mentions throughout the four instructor's manuals.
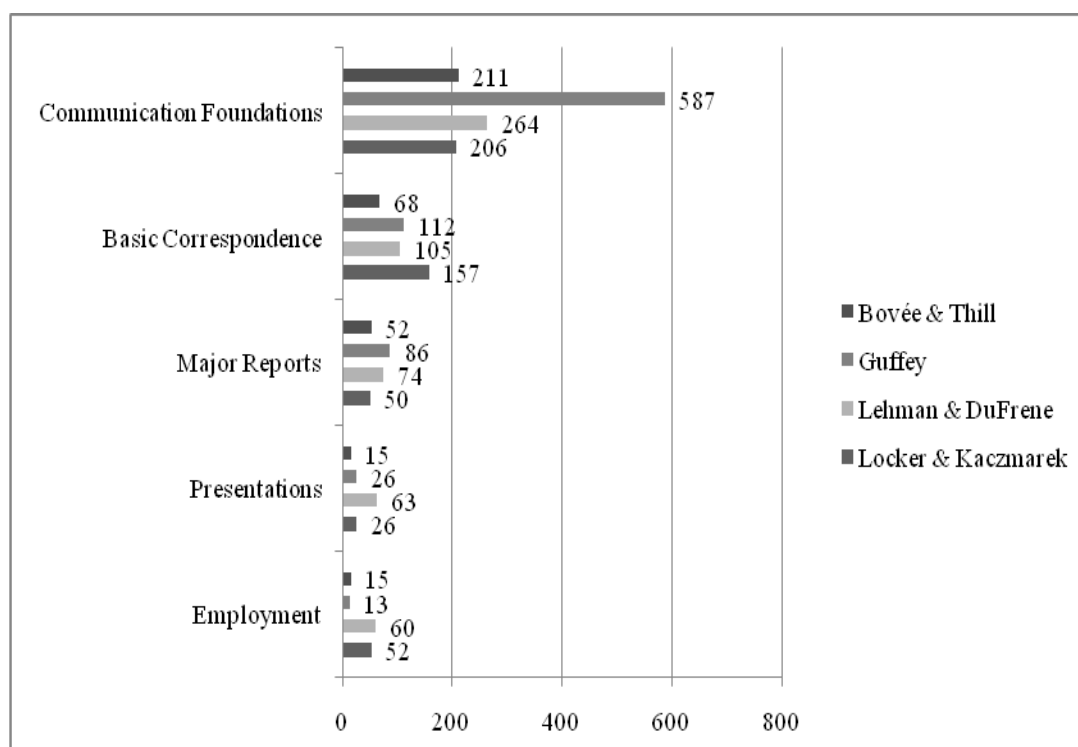
Figure 14 – CATA Instructor's Manual Mentions of Positive Interdependence by Subject
Categories Sorted by Author

Findings Related to Research Question 7

Despite the paucity of research on the use of instructor's manuals in planning instruction,

reviews of textbooks for post-secondary business communication courses in *Business*

Communication Quarterly and the *Journal of Business Communication give* considerable weight

to that aspect. This research assumed that instructors of business communication courses use the

instructor's manuals in planning their courses. This question addresses that assumption by

asking, "What is the comparative frequency of mentions of positive interdependence in syllabi vis-à-vis mentions of positive interdependence in instructor's manuals for examined textbooks?" Because this analysis purports to determine the frequency of mentions rather than the presence of mentions (as in Research Question 3), it used the coding that was used for analysis of instructor's manuals (Appendix E). In order to rationalize the numbers reported, Table 6 heads each author's section with the raw number of mentions of positive interdependence keywords and an adjusted figure computed with a factor of average number of mentions divided by actual mentions for a given author's instructor's manual. The report of keywords in the syllabi also show a raw number of mentions of positive interdependence keywords and an adjusted figure computed with a factor of average number of mentions divided by the actual mentions in the given syllabus. The identity of the schools is confidential in keeping with the solicitation of information.

As with most of the analysis, the keywords mentioned most frequently were "group" and "team"; they constituted 269 of the 331 mentions of positive-interdependence keywords in the 18 syllabi analyzed here. Syllabi for three of the authors had comparable numbers of mentions of positive-interdependence keywords: Bovée & Thill – 18.0 (adjusted); Guffey – 17.3 (adjusted); and Lehman & DuFrene – 16.9 (adjusted). The syllabi for courses using Locker & Kaczmarek averaged only 3.0 (adjusted). The syllabi with the most and second most mentions of positive-interdependence keywords used the Bovée & Thill textbook, which had the fewest mentions of positive-interdependence keywords – both raw and adjusted figures. The syllabi with the third and fourth most mentions used the Guffey textbook, which had the most mentions of positive-interdependence keywords – raw figures, but the next to lowest mentions of positive-interdependence keywords – adjusted figures. The syllabus with the fifth most mentions used the Lehman & DuFrene textbook, which had the most mentions of positive-interdependence

Table 6: CATA Comparative Frequency of Mentions: Instructor's Manuals – Syllabi

AUTHOR – Raw/Adjusted* Mentions of Positive Interdependence in Instructor's Manuals		

BOVÉE & THILL – 323/261 (adj.) Mentions of Positive Interdependence

School = Area – Quartile**	Raw Number Mentions	Adjusted*** Number Mentions
SE- 1st	5	7.6
SE- 1st	5	8.2
MW- 2nd	16	20.5
SE – 3rd	0	0
MW – 4th	75	34.5
MW – 4th	103	37.1
Average (n=6)	34.0	18.0

GUFFEY – 794/627 (adj.) Mentions of Positive Interdependence

School = Area – Quartile**	Raw Number Mentions	Adjusted*** Number Mentions
NE – 2nd	8	16.6
SE – 2nd	22	32.1
SW – 2nd	32	28.8
SW – 3rd	2	3.1
SW – 4th	8	6.1
Average (n=5)	14.4	17.3

LEHMAN & DUFRENE – 578/763 (adj.) Mentions of Positive Interdependence

School = Area – Quartile**	Raw Number Mentions	Adjusted *** Number Mentions
SE – 2nd	19	22.4
MW – 3rd	18	14.0
SE – 3rd	5	14.3
Average (n=3)	14	16.9

LOCKER & KACZMAREK – 515/700 (adj.) Mentions of Positive Interdependence

School = Area – Quartile**	Raw Number Mentions	Adjusted *** Number Mentions
SW – 1st	0	0
SE- 1st	0	0
MW – 3rd	3	3.6
MW – 1st	10	8.3
Average (n= 4)	3.25	3

*Number of Mentions adjusted by factor of average number of words in all instructor's manuals divided by number of words in individual instructor's manual

** For confidentiality, schools are identified by the area of US and the quartile of school enrollment within AACSB

*** Number of Mentions adjusted by factor of average number of words in all syllabi divided by number of words in individual syllabus

keywords – adjusted figures. Two of the three syllabi with no mention of positive-interdependence keywords used the Locker & Kaczmarek textbook, which had the second most mentions of positive-interdependence keywords – adjusted figures. Table 7 shows a listing of textbook authors and syllabi ranked by the raw number of mentions of positive interdependence followed by a listing of textbook authors and syllabi ranked by the adjusted number of mentions of positive interdependence.

Table 7 CATA – Author-Syllabi Descending Ranking Positive Interdependence Mentions

Author of Textbook	School Designator* Area - Quartile	Mentions of Positive Interdependence (raw)
Bovée & Thill	MW – 4	103
Bovée & Thill	MW – 4	75
Guffey	SW – 2	32
Guffey	SE – 2	22
Lehman & DuFrene	SE – 2	19
Lehman & DuFrene	MW – 3	18
Bovée & Thill	MW – 2	16
Locker & Kaczmarek	MW – 1	10
Guffey	NE – 2	8
Guffey	SW – 4	8
Lehman & DuFrene	SE – 3	5
Bovée & Thill	SE – 1	5
Bovée & Thill	SE – 1	5
Locker & Kaczmarek	MW – 3	3
Guffey	SW – 3	2
Bovée & Thill	SE – 3	0
Locker & Kaczmarek	SW – 1	0
Locker & Kaczmarek	SE – 1	0

* For confidentiality, schools are identified by the area of US and the quartile
  of school enrollment within AACSB

Summary

      The items studied in this investigation varied greatly in size, but a comparison of the CATA figures as adjusted for size of the studied document (Table 8) reveals congruency in the frequency of mention of PIGSFACE terms. In the school of business mission statements, the course syllabi, and the instructor's manuals the mentions of positive interdependence are most frequent on a scale of per 1,000 words. In the AACSB standards, the frequency of mention of positive interdependence (1.10 per 1,000 words) is exceeded by the frequency of mention of face-to-face interaction (1.62 per 1,000 words). In all other items studied, positive interdependence is the most mentioned element. It should be noted that as indicated in Table 3 most of those mentions (43 of 53) were in the Participants Standards section, which provides that "Participants and their interactions are at the center of much of what defines quality for higher education in business" (AACSB, 2003, p. 31). Given that instruction, it is understandable that interaction would be a dominant theme. Individual accountability was the least frequently mentioned element in AACSB Standards and second lowest in the other items studied. Positive Interdependence was overall the most mentioned element, followed by social skills, face-to-face interaction, and individual accountability. Group processing was overall the least frequent mentioned element.

Table 8 – CATA Comparative Frequency of Mentions All Areas

Cooperative Learning Element	AACSB Standards (32,728 words)	School of Bus. Mission Statements (8,209 words)	Course Syllabi (102,471 words)	Instructor's Manuals (551,428 words)
Positive Interdependence	36	25	825	2,210
Individual Accountability	1	2	110	374
Group Processing	15	0	115	180
Social Skills	26	80	121	1157
Face-to-Face Interaction	53	7	37	825

CATA – Comparative Frequency of Mentions: All Areas (per 1,000 words)

Positive Interdependence	1.10	3.05	8.05	4.01
Individual Accountability	0.03	0.24	1.07	0.68
Group Processing	0.46	0.00	1.12	0.33
Social Skills	0.79	9.75	1.18	2.10
Face-to-Face Interaction	1.62	0.85	0.36	1.50

CHAPTER V

DISCUSSION OF FINDINGS

Cooperative learning is an accepted pedagogy with roots in ancient times (InTime, n.d.; Johnson, Johnson & Holubec, 1998b; Williams, 1996) and proponents among today's scholars (Cooper, 2003; Marzano, Pickering & Pollock, 2001). The purpose of the current study was to investigate the use of cooperative learning in post-secondary business communication courses. That use was related to the mission and standards of the Association for the Advancement of Collegiate Schools of Business (AACSB), the mission and vision statements of schools of business, the syllabi for courses in business communication, and the instructor's manuals ancillary to textbooks used most often by respondents. The study used computer-assisted text analysis (CATA) to examine existing documents related to the entities. This chapter presents a discussion of the findings of that investigation.

Study Summary

The data studied were, by design, all static and pre-existing. That design eliminated any possibility that respondents would provide answers that they deemed socially acceptable; many college instructors have been exposed to the pedagogy of cooperative learning and "talk the talk" more than they "walk the walk." Because the data was already fixed in print or electronically, there was no chance the responses would be tailored to provide what they perceived I wanted or expected to hear. The mission and standards of AACSB were deemed central to the study because accreditation by that organization, which itself is accredited by the Association of Specialized and Professional Accreditors, is recognized as the mark of excellence in schools of business. AACSB's (2007) standards reflect current thinking in education; they were updated in 2003 to recognize outcomes measurement and the need for improved accountability measures.

The AACSB mission and standards were taken from their website. The mission statements of the

schools were considered important because, as stated by AACSB in its primer for accreditation,

"The institution should articulate its mission as a guide to its view of the future, its planned

evolution, and its infrastructure and strategic management of available resources" (AACSB,

2003). The mission/ vision statements of the schools of business were taken from the websites of

a stratified (by enrollment) random sample of AACSB accredited schools. Because the syllabus

is regarded as both an ersatz contract (Matejka & Kurke, 1994), and a list of desired outcomes

(Habanek, 2005), it was chosen as the object of investigation for the business communication

courses. Syllabi were requested from schools identified in the random sample. The syllabi were

furnished by the instructors in those schools, but the emailed request gave no clue as to their use

beyond "study [of] certain pedagogical aspects of business communication courses taught in and

for colleges and schools of business accredited by AACSB International" (see Appendix F).

Despite the paucity of research on use of instructor's manuals in the actual conduct of

instruction, the reviews of textbooks examined in *Business Communication Quarterly* and

Journal of Business Communication value them as important ancillaries to the texts. The

instructor's manuals were furnished to a third party who provided no information as to their use

for research. The analysis was performed using computer-assisted text analysis to minimize

corruption in coding. The program used, AntConc 3.2.1, was developed by Anthony (2007). It

provides frequency counts and analysis as well as the keyword in context (KWIC) feature that

was essential in evaluating the use of search terms. The coding for keywords was based on

Johnson and Johnson's five elements of cooperative learning: positive interdependence;

individual accountability; group processing; social skills; and face-to-face interaction,

collectively referred to as PIGSFACE (1999).

The discussion of the study is presented as related to the seven research questions.

1. To what extent do the guidelines of the sanctioning body for collegiate schools of business (AACSB International) recommend the inclusion of team-building instruction?

2. To what extent do the subject schools of business subscribe to team building as a goal, objective, or mission component?

3. What evidence of planning for instruction in the essential elements of cooperative learning (PIGSFACE) is present in the syllabi of post-secondary courses of business communication?

4. Does the mention of positive interdependence, which is the strongest indicator of the pedagogy of cooperative learning, appear in syllabi with the subject matter on communication foundations, basic correspondence, major reports, presentations, or employment communication?

5. What evidence of instructional material about the essential elements of cooperative learning (PIGSFACE) is present in the instructor's manuals for the selected textbooks for post-secondary business-communication courses?

6. Do the suggestions for PIGSFACE techniques in the instructor's manuals appear with the subject matter on communication foundations, basic correspondence, presentation skills, or employment communication?

7. What is the comparative frequency of mention of positive interdependence in syllabi vis-à-vis mention of positive interdependence in instructor's manuals for examined textbooks?

Discussion of Findings by Research Question

As this study was limited to written artifacts, it was not subject to corruption of response, nor was it enlightened by the in-depth questions possible with interviews and surveys. Where their mission and standards revealed that AACSB endorses teamwork, they do not describe what constitutes teamwork instruction. Where a syllabus prescribes that the class will be divided into groups, it may not explain that the groups will be randomly divided or self-chosen. Nonetheless, the findings are revealing of the use of cooperative learning in business-communication courses.

Research Question 1 – AACSB promotion of team building. As with most modern organizations (Idealist.org, n.d.; Reh, n.d.; Williams, 2008), AACSB purports to link its quest for excellence to a mission statement. The statement calls for the organization to advance "quality management education worldwide through accreditation and thought leadership" (AACSB, n.d.). The mission statement is enlightened with standards categorized as strategic management, participants (sic) standards, and assurance of learning.

The mission statement and standards of AACSB were analyzed using coding representative of teamwork, student accountability, reflective evaluation, socially desired attributes, and evaluative interaction – the Johnson and Johnson PIGSFACE elements. The coding was concise (21 items), and the material examined was succinct (mission statement-173 words, standards-30,711 words). The examination of standards was parsed by the categories provided by AACSB.

The mission statement of AACSB did not mention any of the keywords used to relate to cooperative learning in the CATA analysis. However, the standards contain 131 mentions of those keywords (Table 3). Those standards purport to guide the accreditation process. Strategic management standards seek to "verify that the school focuses its resources and efforts toward a

defined mission as embodied in a mission statement" (AACSB, 2009, p. 18). Participants (sic)

standards should "substantiate the characteristics, interactions, and utilization of the human

resources that constitute the learning community of the school" (AACSB, p. 31). "Assurance of

Learning Standards evaluate how well the school accomplishes the educational aims at the core

of its activities" (AACSB, p. 59). Specifically, the standards recommend learning experiences for

group and individual dynamics in organizations. Beyond that recommendation and mention of 35

other positive-interdependence keywords, AACSB espouses the use of teams to prepare for

accreditation, and the actual accreditation process revolves around evaluation by a team of peers

from accredited institutions. Not surprisingly, AACSB eschews recommendation of any form of

assessment whether individual accountability or otherwise – the focus is on encouraging

institutions to set their own goals, and those goals determine the assessment. There is only one

mention of individual accountability in the 78 pages of explanation. Group processing was

mentioned most often in participants standards, which purport to assess quality in the educational

process regardless of the variety of pedagogy. The keyword "feedback" was the term most used;

its use related to a variety of participants – most often student-student and instructor-student.

Social skills were mentioned most frequently in the background section. Keywords such as

"diversity" and "ethics" were used to describe the social milieu in which education is most

effective. Although the standards avoided specific recommendations for format, such as face-to-

face interaction, the keyword "interact" and its lemma was mentioned 43 times – 39 of which

were in the section on participants standards. Similar to group processing, the participants in

interaction varied – student-student, instructor-student, and administrator- instructor. As

throughout this study, AACSB recognized that interaction no longer necessarily involves a

physical meeting of the participants.

The AACSB guidelines favor team building and encourage inculcation of the social attributes that enhance team building. The standards do not offer much advice on the subject of accountability or reflection.

Research Question 2 – mission support of team building. Mission statements are at the core of effective planning for business (Idealist.org, n.d.; Reh, n.d.; Williams, 2008) and central to the self-improvement that is the goal of AACSB accreditation (AACSB, 2003). The same coding was applied as that used for analysis of AACSB mission and standards. Because any mention in the academic arena was deemed supportive, the coding of school mission/ vision statements called for counting positive-interdependence keywords wherever they called for joint effort, regardless of the participants in that joint effort – administration, faculty, or students.

Given the approbation of team building evident in AACSB standards, it would seem natural that accredited schools of business would include team building in their mission/ vision statements. Surprisingly, only 16 of the 40 mission/ vision statements examined mentioned any of the keywords related to positive interdependence, and only 5 of those mentioned the element more than once. That low incidence indicates that the institutes do not follow the direction of the accrediting organization. Twenty-eight of the mission statements studied mentioned social skills supportive of cooperative learning. Many of the mentions refer to the social climate of the institution, such as "an outlook that embraces diversity," "high ethical values" and "culture of collegiality." While the context of some of those keywords relates more to altruism than instruction, they reveal an attitude receptive of cooperative learning consistent with AACSB. The mission statements seem to avoid prescribing the means to achieve goals as evidenced by the complete absence of mentions of group processing and the low number (2) of mentions relating to individual accountability. The 6 mission statements that mention keywords relating to face-to-

face interaction suggest a broad application, such as "interaction of students, management and faculty."

The mission and vision statements seem to refrain from much concrete guidance for the departments and instructors operating under them. That reticence may be an effort to avoid infringement on academic and instructional freedom, or it may be an effort to paint with broad strokes to avoid any quarrel in the details.

Research Question 3 – syllabus evidence of planning for cooperative learning. Where mission and vision are statements of what the organizations aspire to do, syllabi are explicit plans of anticipated action. They define what learning outcomes should take place and describe how those outcomes should be accomplished (Habanek, 2005). In light of that palpability, the expanded coding (67 items vs. 21 items for mission/ vision statements) [see appendixes C & D] contained keywords that prescribed activities and learning goals. As with the AACSB mission and standards and the school mission/ vision statements, that coding drew on the work of the theorists whose work was described in the literature review and scholars who have built on that work. Given that the framework for reporting the research is Johnson and Johnson's elements of cooperative learning, PIGSFACE, much of the provenance of the coding is drawn from their work. The reference most cited is their *Active Learning: Cooperation in the College Classroom* (2006). The coding was also supported by *Team-Based Learning* (2004) by Michaelsen, Knight, and Fink; its detailed, anecdotal descriptions of how cooperation supports learning provided specific words to indicate its presence. An article by Roebuck, Chandler, and Brock (2009) informed the keywords used in inquiry for contemporary tools of individual accountability and group processing. The 40 syllabi, which were drawn from a stratified sample of AACSB schools of business range, from 603 to 7,137 words and average 2,562 words in length. The stratified

sample minimized any effect of institution size on the findings. Most of the 40 courses examined were tailored for a business curriculum; 28 courses included "Business" in the course name, and three included either "Management" or "Managerial." Twenty-four of the courses were taught in schools of business.

The business communication courses as represented by their syllabi seemed more observant of the AACSB prescription for instruction in group dynamics, a positive indicator of positive interdependence. Only three of the syllabi made no mention of positive interdependence keywords. Two of the schools with no mention in their syllabi offered the course in their English department. The third school offered the course in the school of business, but the title of the course was "Written Business Communication," which implies that other instruction in business communication was offered. Most of the mentions related to positive interdependence were nominative – that is, they only named the activity or subject for study. Of the 825 total mentions of positive-interdependence keywords, 390 were mentions of "group" and its lemma, 340 were mentions of "team" and its lemma, and 46 were mentions of "collaborate" and its lemma. Only 12 mentions were noted as prescribing how the groups were formed. None of the other prescriptive search terms, such as sharing resources, were noted more than four times. The absence of prescription in the syllabi for including positive interdependence should not be taken as proof that the concept is absent from the course. The syllabus is only one tool for planning the course and conveying the plan to the students. Many of the syllabi examined referred to WebCT and other internet tools for classroom organization and activities.

While instructors define courses in terms of learning outcomes and describe those outcomes with Bloom's Taxonomy and other academic tools, students tend to measure with grades (Howard & Maxwell, 1980). The syllabi addressed that concern. Keywords related to

individual accountability were the most mentioned element in the analysis. While most of the

grading was individual assessment, the preponderance of the courses (35 of 40) planned for some

element of group grading. About one third of the syllabi (13) planned for more than 20% of the

student grades to come from group assignments. While that disregards Johnson and Johnson's

(1999) preference for individual grades for individual effort, it recognizes college students'

tendency to devalue any activity that does not have a grade attached. Objective assessment by

test, quiz or exam, was the mechanism mentioned most frequently for individual accountability

(34 times).Although only four of the syllabi mentioned rubrics or grade sheets specifically, it is

entirely possible that those criteria might be presented electronically on a platform such as

WebCT or as a printed handout without any mention in the syllabus. Two of the tools that

provide individual accountability, peer analysis (16 mentions) and student-to-student feedback

(11 mentions), also contribute to group processing. Such symbiotic relationships are evident in

much of the analysis. The group assignment most mentioned (28 times) in the syllabi was oral

presentation, and the next most mentioned was major reports (23 times). Only one syllabus

mentioned logs as a tool for individual accountability despite the popularity of "blogs" in social

networking.

Thirty of the studied syllabi mentioned group processing of one sort or another. The most

frequently mentioned mechanism was "peer review"; it was mentioned in 16 of the syllabi. As

noted in the discussion of individual accountability, peer review can be used to establish a grade,

or it can be used to format the self-analysis in group processing. The search term "feedback" has

the distinction of appearing most frequently in the coding of this analysis. It was used to note the

evaluation of efforts by administration, faculty, and/or students in the analysis of AACSB

mission and standards and in the analysis of mission/vision statements for schools of business. It

is also part of the communication model that is fundamental to the course. It was used to denote the often-informal advice from instructor to student that contributes to individual accountability. The mentions in 9 of the syllabi were revealed by the context to contribute to group processing. Separate notation was made of the coding "instructions to share reactions" (6 mentions) because the tone of that instruction is extemporaneous while peer review is formalized. Only 12 of the syllabi mentioned time set aside for reflection. While that may indicate that only 30% of the instructors valued group processing highly, it is likely that group processing takes place after any group effort.

Social skills can be considered the tools and talents that make cooperative learning possible. The tool most frequently mentioned was "listening" (17 mentions). It was followed by "nonverbal communication" (11 mentions). It is interesting that those skills, which are often taken for granted, were mentioned so frequently. Although ethics is more often considered an altruistic trait than an achieved talent, schools of business in general and communication courses specifically treat it as a quality that can be cultivated. It was mentioned in 24 of the syllabi. There is evidence of some cross-pollination of ideas in the 24 mentions that relate to self-knowledge. Techniques more often associated with psychology, such as personality tests and self-analysis, mixed with practical tools, such as the elevator speech and introductions, foster cooperative learning while cultivating good communication skills and sensibility.

Only 17 of the 40 syllabi specifically accommodated face-to-face interaction. Two factors seem to contribute to that small number of mentions. First is the plethora of new media that are used for social networking and interaction. A syllabus that recommends chat room chats on WebCT or similar tools might be deemed hopelessly out of date by a class enamored of the medium du jour – Twitter. Second, time for reflection is often inserted when possible rather than

planned for in advance. Given the enormous possibilities for application in our increasingly

online colleges, it is surprising that only 10% of the syllabi gave space to collaboration software.

Research Question 4 – loci of positive interdependence in syllabi. The syllabi could be

readily categorized by subject matter, and, in fact, three of the four sample texts presented the

subject matter in precisely the same order. It is natural to begin with foundational knowledge –

the tools of communication. The basic output of communication, one-to-one or one-to-many

correspondence, demonstrates how those tools are used. Major reports take that correspondence

to a higher level where it is generally the product of more than one person. Presentations may be

one-to-many productions, but in business communication are more often the results of

collaborative production. The output of employment communication is usually the product of a

single writer, but the refining stage may include critique from colleagues.

Positive interdependence terms were mentioned in the category of foundational

knowledge in 9 of the syllabi. That indicates that less than 25% of the sample include teamwork

as a major topic in the introductory part of the course. Eight syllabi mentioned teamwork related

keywords in the sections on basic correspondence, which, as noted, is usually an individual

production. The high number (28) of syllabi mentioning group/ team-related words with the

subject matter on major reports suggests that, contrary to Michaelsen's remonstrance concerning

group papers (2004), many instructors use major reports for a culminating group project. The

sections on presentations had the highest number of mentions (29) of positive-interdependence

keywords - that indicates that group presentations are the favored medium for employing

cooperative learning. Given that career employment is a singular activity, it is not surprising that

the fewest mentions of group/ team-related words (7) are in that section. The variety of "other"

applications related to positive interdependence were spread throughout the course. With 84 total

mentions of positive-interdependence keywords in the 37 syllabi (n=40), it is apparent that in most courses the concept was not limited to one application. In fact, the element of positive interdependence appears in multiple areas of most syllabi. One syllabus mentioned positive interdependence keywords in five categories, and four mentioned them in four categories. Eight included them in three categories, while 13 syllabi mentioned them twice. Almost two-thirds of the syllabi related positive interdependence keywords to more than one category.

Research Question 5 – Evidence of PIGSFACE Material in Instructor's Manuals

Research Question 5 – evidence of PIGSFACE material in instructor's manuals. The four instructor's manuals analyzed were ancillary material for the textbooks most used by the instructors whose syllabi were analyzed in Research Question 4. They are substantial documents – averaging 137,857 words. That size called for a different approach to the text analysis – counting mentions rather than reporting the presence of one or more mentions. The analysis used 57 keywords, slightly less than the 67 used with syllabi. Most of those keywords related to suggested instruction and activities [see Appendix E]. Because any mention of the PIGSFACE elements was deemed supportive of cooperative learning, all mentions were counted irrespective of where they occurred – in suggestions for conduct of the class, in activities, or in examples of writing.

As throughout the study, the most mentioned positive-interdependence keywords were "group" (796 mentions) and "team" (785 mentions); the sum of their mentions constituted over 71% of the total mentions of positive interdependence. Using a total of the mentions, the text analysis would rank "group/ team" as 22nd most mentioned term for Lehman and DuFrene, 25th most mentioned for Guffey, 41st most mentioned for Locker and Kaczmarek, and 70th most mentioned for Bovée and Thill. To put that in perspective, only one noun "student" has more

mentions in Lehman and DuFrene's instructor's manual. Two of the manuals used "collaborate" and its lemma extensively (Guffey-82 mentions, Lehman & DuFrene-91 mentions); many of those mentions related to activities for teams or pairs. All of the manuals mentioned how groups were formed whether through students' self-selection or by the instructor dividing the class into groups (Bovée & Thill-3, Guffey-12, Lehman & DuFrene-16, Locker & Kaczmarek-6). There was little explanation of criteria suggested for dividing the class. The surrounding context was examined for such criteria, particularly for suggestions that the groups should be heterogeneous in some respect, which was recommended by Johnson and Johnson (1998a), Kagan (1994), Michaelsen et al. (2004) and Slavin (1995), and no such evidence was found.

Keywords relating to individual accountability were mentioned a total of 374 times in the four instructor's manuals. Guffey and Lehman and DuFrene seemed to assign more importance to the element by using them 150 and 141 times respectively. One of the bulwarks of Johnson and Johnson's recommendation is that grades should be criteria-based rather than norm-based (Johnson, Johnson & Smith, 2006). In apparent support of that concept, the keyword "checklist" was used frequently and evenly throughout the four manuals for a total of 104 mentions. It was used to denote a list of criteria for assessing production assignments. It is interesting that the academic term for the same concept, "rubric," was only used by one author. Three of the manuals suggested using portfolios for assessment, and two suggested using logs. There were only 32 total mentions of those keywords, which seems to indicate that those once popular assessment tools are "yesterday's news."

Research Question 6 – loci of positive interdependence in instructor's manuals. The analysis of Research Question 5 (Figure 12) revealed that three of the instructor's manuals, Guffey, Lehman and DuFrene, and Locker and Kaczmarek, had comparable frequency of

mentions of positive interdependence keywords - ranging from 609 to 763 when adjusted for size of the manuals. Bovée and Thill's instructor's manual had 261 mentions (adjusted figure) less than half the next lowest. As stated throughout this research, its intent is not to compare textbooks. Each of the authors has a slightly different approach to the material and its delivery. Bovée and Thill have a blog with links for current articles concerning business communication - this research did not attempt to analyze that moving (and valuable) target. Research Question 6 sought to discover where in the sequence of instruction (foundations, basic correspondence, major reports, presentations, and employment) the element of positive interdependence is most frequently mentioned. This question used the same 57 keywords used in Research Question 5 (see Appendix E).

Positive interdependence keywords were mentioned most frequently in the material related to foundations of communication, which ranged in length from 89 to 144 pages. Almost 60% of the total mentions were in that introductory section, which constituted about 20% of the total instructor's manuals (429 pages out of 2216 total pages). As typical throughout the study, "group" and "team" were the positive interdependence keywords most frequently mentioned in that section - 447 times and 510 times respectively. Close inspection of the context for those words suggest that they were often used nominatively, to name the actor, for example "performance as a team" and "groups share their experiences." The next most mentioned keyword was "collaborate" and its lemma; they were mentioned 105 times. Close inspection of the context revealed that where "collaborate" and its lemma were used, the manuals often prescribed activity – e.g. "collaborative writing technologies" and "collaboration across departments." It could be surmised that many of those nominative mentions give "lip service" to the concept, while the prescriptive mentions "put their money where their mouth is." There were

14 mentions of keywords related to the establishment of groups/ teams. Those methods varied. Guffey's manual suggested that students could "choose their groups or be assigned" three times. At another point, the manual suggested, "Form permanent groups near the beginning of the term." All of the manuals suggested, "divide your class into small groups" or similar words at least once in this section. The manuals for Bovée and Thill, Guffey, and Locker and DuFrene made suggestions that the teams "select" members carefully. The divergent suggestions are supported by the various theorists and scholars. Crews and North (2000) suggested that allowing teams to choose their own members led to greater acceptance of teamwork. Johnson and Johnson (1999) suggested that heterogeneous groups should be formed. Michaelsen et al. (2004) suggested dividing the class into teams of five to seven in order to provide ample resources. Kagan (1995) favored a plan of establishing topics and allowing the students to select a topic that would designate a team. The frequent mentions of "share" (110 mentions) were more often in the context of sharing information, ideas, and opinions than sharing physical items. Although Johnson and Johnson espouse sharing material resources in their basic books (1998a, 1999), their book for the college classroom (2006) suggests means for sharing thought.

The section on basic correspondence was the longest section for all of the manuals. It ranged from 155 to 243 pages (see Table 6). Most of the instruction in that section deals with one-to-one or one-to-many written correspondence. All of the texts and the related instructor's manuals deal with four categories of correspondence: routine, persuasive, bad news, and goodwill. However, the nomenclature varies slightly from text to text. Given that most of the instruction assumes a single writer, it is not surprising that there are far fewer mentions of positive interdependence keywords (389) than in the section on foundations of communication (1195). The per-page difference is even stronger. In the foundations section, there were 1195

mentions in 429 pages (total of all manuals), which computes as 2.79 mentions per page. In the basic correspondence section, there were 389 mentions in850 pages (total of all manuals), which computes to 0.46 mentions per page. Mentions of "group" (175) and "team" (94) were the most frequent keywords. Considering the context of "group," it was used more frequently in prescriptive statements, such as "group brainstorming" and "group work projects." The keyword "team," as in the foundations section was used primarily in a nominative sense, such as "teams work closely" and "team is planning." "Collaborate" and its keywords, which were mentioned 46 times, were generally presented with a context of prescriptive action, such as "collaborate digitally" and "collaborating with audience members." Examination of the context of "share," which was mentioned 56 times, revealed use to prescribe sharing information, experience, and the physical documents. The mention of physical documents is consistent with Johnson and Johnson's suggestion of resource interdependence (1998a, 1999). "Divide" was the only keyword relating to group/ team formation in this section. It was used four times in Guffey's manual and seven times in Lehman's manual. All of those mentions suggested that the instructor decide what the composition of the groups would be. Their approach was consistent with theory on its face, but there was no rationale provided for dividing in a certain way, such as Kagan's (1994) rationale for teams of four to allow equal participation or the recommendation of Michaelsen et al (2004) to use teams of five to seven members in order to assure adequate resources.

The treatment of major reports included 165 mentions of positive interdependence keywords. That is an average of 0.38 mentions per page. The combination of "group" (41 mentions) and "team" (52 mentions) represent a majority of the positive interdependence keywords in this section. Most of the mentions of "group" were descriptions of where the

activity took place, such as "critique the chart in small groups." Relatively few mentions prescribed action such as "group brainstorming" or "group progress report." Twenty-one of the 29 mentions of "collaborate" and its lemma were in Lehman and DuFrene's manual. Unlike the basic correspondence section, most of those uses were part of the name of an activity; only 2 of the mentions were used to prescribe activity. Four of Guffey's eight mentions were used to prescribe activity. There were no mentions of "collaborate" or its lemma in the instructor's manuals for Bovée and Thill or Locker and Kaczmarek. The manuals from Guffey, Lehman and Kaczmarek, and Locker and Kaczmarek mentioned "divide" as related to forming groups/ teams. All of the mentions prescribed dividing the work to be done and the groups/ teams to do it. The preponderance of the 37 mentions of "share" related to sharing knowledge resources such as "findings," "experience," and "results of brainstorming."

The section on presentations had the fewest total mentions of positive interdependence keywords (123), but it also had the fewest pages of explanatory support for the instructors (206). That computes to 0.60 mentions per page. There were surprisingly few recommendations of activity related to the keyword "group." Only 10 mentions prescribed activity, such as "group give a synopsis" or "group presentations of new technology." There were more activities related to "team" and its lemma. Fifteen of the 42 mentions related to action taken by the team, such as "team should name a leader" and "team members will discuss the cost." The nine mentions of "collaborate" and its lemma used the term as a label without prescribing any activity. The three mentions of "divide" and one mention of "select" did not provide guidance for how the group should be formed. As with major reports, the predominant use of "share" related to knowledge resources such as "observations" and "solutions."

Because employment communication in its execution is a singular activity accomplished by the job seeker, one would not expect the team activities of cooperative learning to apply. The analysis revealed 140 mentions of positive interdependence keywords. Given that this was the second shortest section with an aggregate of 299 pages, the average of 0.47 mentions per page is comparable to the mentions per page in the sections on basic correspondence (0.46), major reports (0.38), and presentations (0.60). Fourteen of the 51 mentions of group related to "group interviews," which are not germane to cooperative learning even though they support the concept of group activity. An equal number of mentions suggested group activities such as "groups report on classified ads" and "group prepare a résumé for a [fictional] jobseeker." The preponderance of mentions of "team" were in the context of claiming the attribute of "good team worker" or "team player." The only use of "collaborate" in the employment category was by Lehman and DuFrene, who used it to label class activities. Most of the mentions of "share" related to sharing knowledge resources such as "share their experiences in interviews" and "share job search information."

Research Question 7 – comparative frequency positive interdependence – syllabi and manuals. Well-written syllabi present a contract, communication device, plan, and cognitive map for a course of study (Matejka & Kurke, 1994). The contract is between the instructor and the students. The communication device conveys the plan for achieving the knowledge that is mapped out. Syllabi are terse documents (897 -7137 words in this subset of the sample) that provide a framework and allow some latitude to the instructor in carrying out the plan. Instructor's manuals purport to assist the instructor in framing the contract, providing the communication, and planning the instruction in a manner that allows skills to be built on knowledge acquired. The instructor's manuals reviewed in this study address those areas; Bovée

and Thill and Guffey even offer proposed syllabi based on length of course. Instructor's manuals are substantial documents (101,605-174,855 words in this sample) that augment material presented in the textbooks and offer copious suggestions for instruction and practical application to achieve learning objectives. Research Question 7 examined and compared the frequency of mention of positive interdependence keywords in those disparately sized documents. That comparison should reveal if the plan of instruction related to cooperative learning from the instructor's manual is sequentially congruent with the plan of instruction in the syllabus.

Bovée and Thill's instructor's manual ranked fourth (lowest) in mentions of positive interdependence keywords (261 adjusted), but the six syllabi for courses using their text had the highest average number of mentions of positive interdependence keywords (18.0 adjusted). Guffey's instructor's manual ranked third (next to lowest) in mentions of positive interdependence keywords (627 adjusted), but the five syllabi for courses using her text had the second highest average number of mentions of positive interdependence keywords (17.3 adjusted). Lehman and DuFrene's instructor's manual ranked first (highest) in mentions of positive interdependence keywords (763 adjusted), and the three syllabi for courses using their text had an average number of mentions of positive interdependence keywords (16.9 adjusted) slightly lower than Guffey's users. Locker and Kaczmarek's instructor's manual ranked second (next to highest) in mentions of positive interdependence keywords (700 adjusted), but the four courses using their text had the lowest average number of mentions of positive interdependence keywords (3.0 adjusted).

Implications for Practice

This study provides practical contributions to the instruction of business communication and the adoption of the pedagogy of cooperative learning at the college level. One of the most

daunting aspects of teaching business communication is the need for the instructor to provide meaningful feedback on multiple writing samples. An instructor teaching three sections of the basic communication course with 33 students per section can expect to assess a minimum of 600 writing samples if each student submits just one sample for the various categories (self - assessment, routine letter, persuasive letter, bad-news letter, goodwill message, and employment cover letter). Add to that the major reports and group presentations that are parts of most courses, and the instructor has little time for research or institutional contributions. Team work [This refers to work done as a team in contrast to *teamwork* whose definition includes "subordinating personal prominence to the efficiency of the whole."] that shifts some of the assessment to the students lightens the instructor's load while allowing more actual comment on the work. Kagan's principle of simultaneity (1998) explains that a class of 32 using groups of four has eight interactions at a time versus one interaction in a didactic, "sage on the stage" configuration. Beyond the enhanced review and assessment of production such as letters, working in groups fosters a sense that assessment is part of learning and that mistakes are opportunities rather than failures. It provides a model for internal self-assessment of learning – that is metacognition (Bostock, n.d.). The team work also provides an arena for students to practice the lessons of the course such as listening skills, brainstorming, and interview techniques.

Because business communication courses are often one of the first courses in a business curriculum available to new students and because they serve as a common course across majors (Russ, 2009), they are the perfect locus for introducing cooperative learning. Business communication courses often provide the platform for instruction in soft skills such as listening, understanding groupthink, and conducting effective meetings. This study examined AACSB mission and standards, institutional mission and vision, course syllabi, and instructor's manuals

for evidence of the elements that support cooperative learning – positive interdependence, individual accountability, group processing, social skills, and face-to-face interaction. Those elements are referred to using Johnson and Johnson's acronym, PIGSFACE.

Positive interdependence is the term used to denote the "win-win" end of Deutsch's (1993) competitive-cooperative continuum. While it is generally nominative in nature, related keywords (see Appendices C, D & E) are evidence that cooperation is valued. The keywords are present throughout the standards of AACSB, which should advise the deans and faculty aspiring to gain or retain membership for their institutions that cooperation and its workaday synonym teamwork are valued by the accrediting agency. The fact that only 40% of the schools of business included keywords for positive interdependence in their mission/ vision statements seems to indicate that there is a disconnect between the mission of 60% of the institutions and that described by AACSB. Naming the prize is a first step in all endeavors. The deans and faculty should consider sharing the value. Keywords related to positive interdependence were mentioned in 92.5% of the syllabi examined, that would indicate that the preponderance of business communication courses consider the concept basic. That recognition is not the objective. Instructors should examine their courses to determine that the prescriptive elements that make it valuable are also included. Reviewing syllabi from other courses, as in Research Question 4, can provide ideas and inspiration for a variety of activities supportive of cooperative learning. Positive interdependence keywords are present throughout the instructor's manuals, and many of them are prescriptive in nature, such as "collaborative writing technologies" and "group brainstorming." Instructors aiming to include more cooperative learning in their courses should read the manuals with an eye for the clues of cooperative learning and teamwork.

Individual accountability in the context of these documents is the assessment of learning and production achieved by the students. There was only one keyword related to individual accountability noted in the mission and standards of AACSB. That would seem to advise the deans and faculty that assessment is the province of the institutions and the instructors. Only two of the mission/ vision statements mentioned individual accountability keywords. That indicates that the subject is left to the instructors. In fact, 95% of the syllabi mentioned individual accountability keywords, whose coding was expanded for syllabi and instructor's manuals. Most of those mentions related to the requirements and accounting for individual grades with no mention of the criteria for computing the marks. The most profitable advice on the subject in this study is the guidance from Johnson and Johnson (1999) that grades should be criteria-referenced as opposed to norm-referenced. Also of value to instructors planning their courses is the abundance of innovative suggestions for evaluation such as portfolios of individual writing and minutes of team meetings. The individual accountability keyword most mentioned in instructor's manuals is "checklist," which the context reveals to denote a guide and scoring tool for projects. It is interesting, that the academic term for checklist, rubric, was not mentioned in any of the instructor's manuals. Adapting and using those checklists can be the most rewarding enhancement to the practice of individual accountability.

Group processing is reflecting on group activity to decide what member actions were helpful and to consider how the group should proceed with its interaction (Johnson & Johnson, 1999). It was mentioned most often in the participants standards section of AACSB's guidelines, which provide direction for the mix and relations of students and faculty in the accreditation process. Ten of the 12 mentions in that section referred to faculty feedback to students. The implication for practice is that students should not operate in an information vacuum about their

progress. None of the 40 mission/ vision statements mentioned group processing. Although prescribing action is beyond the scope of mission/ vision statements, an endorsement of the end result would seem to be in order. Thirty of the 40 syllabi mentioned group processing. Many of the mentions called for written reports (status report, peer review, meeting minutes) which are consistent with a course in communication. Twelve of the syllabi set aside class time for group processing. Both of those actions are necessary if the actions are to be effectively reviewed and a new course charted. All of the instructor's manuals mentioned group-processing keywords. The most mentioned keyword in Lehman and DuFrene's manual was "reflect"; an examination of context revealed that it was used in the same sense as "feedback," which was the most mentioned keyword in the other manuals. All of the manuals suggested minutes of the meetings. The formal report of meeting activity would serve two purposes: assure that the meeting took place and provide focused practice in recording an event. The context of the mentions underlines the notion held by many students of group dynamics – if the group processing or reflection is not planned, it doesn't happen.

Given that the AACSB standards were written while Enron was forefront in the minds of business educators, it would be expected that ethics and its lemma were mentioned prominently in most of the material studied. The 20 mentions in AACSB standards (2009) included stringent statements such as, "AACSB believes that ethical behavior is paramount to the delivery of quality business education" (p. 11). It is surprising that only 15 of the 40 mission/ vision statements followed the lead of their accrediting agency and included mentions of ethics or its lemma, and that only one demonstrated any fervor in advocating its value. Most of the statements merely mentioned the subject in a list of altruistic aims. Ethics and its lemma were mentioned in 24 of the syllabi reviewed. It is tempting to conclude that business communication

instructors value ethics more than the deans and faculty that write mission/ vision statements, but it should be considered that instructors do not have a limit on the length of their syllabi while most guides for mission/ vision statements suggest terse documents of less than a paragraph. Ethics were mentioned prominently in all of the instructor's manuals. In fact, "group/ team" was the only keyword mentioned more frequently in any manual. The only question about the subject of ethics in a business curriculum is which course should introduce the subject and provide the rudimentary education in terms and philosophy. Russ (2009), who postulates that the business communication course is often the de facto introduction to the business curriculum, noted that ethics is increasingly included there. Further, he offers this rationale, "Perhaps by infusing discussions about ethics into the introductory course, instructors aim to teach students about the professional and personal consequences of not communicating with integrity" (p. 408).

This study included ethics with social skills. There were two other keywords related to social skills that had several mentions in the AACSB standards. "Diversity" was mentioned as a desirable social objective, and "communication" was mentioned as a necessary learning goal. Only 11 of the 40 mission/ vision statements mentioned diversity, and there was no mention of communication. The necessary brevity of mission/ vision statements is not adequate reason to omit those important pieces in charting the course for a school of business. The analysis of syllabi used a longer coding table on the premise that syllabi are more likely to include directions for specific learning and activities. Only 8 of the syllabi mentioned diversity. The social skill second most mentioned (after ethics) was "listening." It was mentioned in 19 of the syllabi. Examination of the context of the 54 mentions reveals that most of those 19 instructors regard it as a skill that can and should be improved with practice. A similar facet of communication, the recognition and understanding of nonverbal signals, was the third most mentioned social skill.

Ten of the syllabi included nonverbal communication, and most of those mentions indicate that it was studied with the material on presentations. Listening was also the second most mentioned social skill in the instructor's manuals. It was mentioned 403 times, just slightly behind the 475 mentions of ethics. Most of those mentions were in the chapters dealing with foundational skills of communication. The only other social skills that all of the manuals mentioned were "decision making" and "conflict management." While it is important for instructors to teach the mechanics of communication that are on the surface of most courses, it is crucial that they also teach the thought processes and group dynamics that give rise to all communication.

Face-to-face interaction keywords were the most mentioned PIGSFACE element in the AACSB standards. There were 39 mentions in the participants standards section and 14 mentions spread through the other areas. The context of most mentions revealed students as party to the interaction. The context also revealed a concern that electronic media for interaction should not degrade the relationships among administration, faculty, and students. Again there seems to be a disconnect in the school mission/ vision statements. Only 7 of the statements included a call for interaction in any sense, and three of those statements did not include students as party to the interaction. The coding for face-to-face interaction was broadened to include tools and accommodations for the interaction in the analysis of syllabi and instructor's manuals. Considering the recent fascination with social networking, it was surprising that only 4 syllabi mentioned blogs, 1 syllabus mentioned Face Book, and no syllabus mentioned Twitter. There were two mentions of collaboration software. The omission of en vogue tools could be defended on the grounds that the objective of a communications class should be the construction of the message rather than the medium used, but that ignores the very different structure of email versus letter and Twitter versus the rest of the universe. On the other hand, almost one-third of

the syllabi called for required group/ team meetings. As noted in the discussion of group processing, if interaction is not planned, it is not likely to happen. The instructor's manuals seem to recognize that, and all of them include suggestions for multiple modes for providing the interaction. Naturally, most of the mentions (317) were related to physical meetings, but blogs had the next highest number of mentions of modes (198). Wikis were mentioned in three manuals, but Twitter was only mentioned once. The implication for practice is not necessarily that the instructor should adjust instruction and organization to include the nouveau modes, but they should be recognized as part of the environment. For example, using blogs as a supplementary form of interaction provides the instructor with the credibility of contemporaneity without accepting them as a primary mode of communication.

The overarching implication for practice is to consider the four pieces as components of the mechanism of learning. Cooperative learning was the lens through which the mechanism was viewed this time; another analysis might use a different paradigm, but the goal should be to find how the pieces could be better connected.

Implications for Research

While the implications for practice are extensive, the modus operandi of the analysis can be applied far beyond business courses and far beyond academia. The total quality method espoused by Edwards Deming and his apostles calls for establishing a standard and measuring results by that standard (Schermerhorn, 2004). Most organizations in the twenty-first century have accrediting agencies that formalize those standards. The analysis should choose the appropriate lens and investigate how well the components work together to achieve those standards. Computer-assisted text analysis allows the investigator to quantify what otherwise might be qualitative data while avoiding responses tainted with socially acceptable bias. This

study involved straightforward, declarative documents that carefully considered their purposes. It not only avoided the bias that can creep into interviews and surveys, but it also avoided the haste and confusion that can muddy the water with those devices. The approach is not limited to subjects with defined and accepted paradigms such as the PIGSFACE elements that guided this study. Both the paradigmatic lens and the analysis coding could readily be developed with tools such as the Delphi method. Where the subject matter is not as straightforward as in this study, CATA has refinements for investigating the style and tone of the documents.

Suggestions for Further Investigation

The advantages of the study of textual artifacts using CATA should not be taken to imply that there is nothing to gain from gathering data from questionnaire surveys and interviews. Both the writers of mission/ vision statements and the instructors of business communication courses would be likely subjects for questionnaire surveys. A questionnaire survey that assures confidentiality would reduce the likelihood of socially acceptable responses and, given the high level of interest from respondent practitioners, could expect a high response rate (Gaye & Airasian, 2000).

Investigation of other aspects would require the probing questions allowed by interviews (Gaye & Airasian, 2000). The fact that AACSB strongly encourages training for teamwork while schools of business largely omit it in their mission/ vision statements indicates a disconnect between what AACSB declares and what the schools deliver. Do the schools not value teamwork, are they reluctant to prescribe modes of instruction, or was there not enough room in the 100-word limit for the statement? The syllabus is only the frame for the course. How the instructor builds on that frame requires probing questions. Interviews would likely reveal

elements of instruction that the instructors practice without notation in the syllabi, such as how the groups are formed.

The study revealed several areas for further research. When business communication courses are taught by instructors outside the schools of business, what degree of influence do the schools of business have on the objectives and content of those courses? Related to that query, does the department in which the course is taught influence the content of business communication courses? To what degree do the mission/ vision statements of the schools of business influence the material that instructors include in course material and the manner in which they operate their course? To what extent do instructors use the instructor's manual in planning their courses? Does the use of cooperative learning subvert the accountability and assessment standards called for in No Child Left Behind?

This study examined four components of business communication courses for evidence of the elements of cooperative learning. It answered many of the "what" and "where" questions. Many of the "how" and "why" questions call for further investigation using surveys and interviews.

REFERENCES

AbiSamri, N. (2001) Team building workshop. Retrieved May 19, 2006 from

http://nadabs.tripod.com/team/cooplearning.html

Abrami, P., & Chambers, B. (1994). Positive social interdependence and classroom climate.

Genetic, Social & General Psychology Monographs 120. (3). 329-346.

Allen, E., & Seaman, J. (2006). *Making the grade: Online education in the United States 2006*.

Needham, MA: Sloan C.

Anthony, L. (2007). AntConc 3.2.1. Retrieved February 23, 2008 from

http://www.antlab.sci.waseda.ac.jp/software.html

Aronson, E. (1978). *The jigsaw classroom.* Beverly Hills, CA: Sage

Association for the Advancement of Collegiate Schools of Business, International(AACSB

International). (2003). Eligibility procedures and accreditation standards for business

accreditation. Retrieved February 22, 2006 from

http://www.aacsb.edu/accreditation/business/STANDARDS.pdf

Association for the Advancement of Collegiate Schools of Business (2009). Eligibility

Procedures and Accreditation Standards for Business Accreditation. Retrieved January

13, 2010 from

http://www.aacsb.edu/accreditation/BUSINESS-STANDARDS-2009-Final.pdf

Association for the Advancement of Collegiate Schools of Business (n.d. a). About Us.

Retrieved October 17, 2009 from http://www.aacsb.edu/aboutus.asp

Association for the Advancement of Collegiate Schools of Business (n.d. b). Self-assessment

primer pre-accreditation. Retrieved January 3, 2010 from

www.ntpu.edu.tw/aacsb/pdf/Self_Assessment_Primer_PreAccreditation.pdf

Bacon, D. (2005). The effect of group projects on content-related learning. *Journal of Management Education, 29* (2), 248-267.

Bacon, D., Stewart, K., Silver, W. (1999). Lessons from the best and worst student team experiences: How a teacher can make the difference. *Journal of Management Education 23* (5), 467-488.

Bahar, M. (2003). The effects of motivational styles on group work and discussion-based seminars. *Scandinavian Journal of Educational Research 47* (4), 461-473.

Bart, C. (1998, March). Mission matters. *CA Magazine.* Retrieved November 4, 2008 from http://www.camagazine.com/multimedia/camagazine/Library/EN/1998/Mar/e_d2.pdf

Becker, W. (1997). Teaching economics to undergraduates. *Journal of Economic Literature 35* (3) 1347-1373.

Best analysts of the year. (Feb 2006) *Institutional Investor-International Edition 31* (2) 86-90.

Blake, R., Mouton, J., & Fruchter, B. (1962). A Factor analysis of training group behavior. *Journal of Social Psychology 58,* 121-130.

Boekaerts, M., & Minnaert, A. (2006). Affective and motivational outcomes of working in collaborative groups. *Educational Psychology 26* (2), 187-208.

Bostock, S. (n.d.). Student peer assessment. Retrieved February 2, 2010 from http://www.keele.ac.uk/depts/aa/landt/lt/docs/bostock_peer_assessment.htm

Bovée, C. & Thill, J. (2008). *Business communication today* (9th ed.). Upper Saddle River, NJ: Pearson/ Prentice Hall.

Breu, K., & Hemingway, C. (2002). Collaborative processes and knowledge creation in communities-of-practice. *Creativity and Innovation Management 11*(3), 147-153.

Bruffee, K. (1995). Sharing our toys: Cooperative versus collaborative learning. *Change 27* (1) 12-18.

Brush, T. (1997). The effects of group composition on achievement and time on task for students completing activities in cooperative pairs. *Journal of Research on Computing in Education 30* (1) 2-17.

Burgoon, J., Buller, D., Woodall, W. (1996). *Nonverbal communication: The unspoken dialogue.* New York: McGraw –Hill. Butterfield, J., & Bailey, J. (1996). Socially engineered groups in business curricula: An investigation of the effects of team composition on group output. *Journal of Education for Business 1972* (2) 103-106.

Butterfield, J. & Bailey, J. (1996). Socially engineered groups in business curricula: An investigation of the effects of team composition on group output. *Journal of Education for Business 1972* (2) 103-106.

Chung, R.G., & Lo, C.L. (2006). The study of different cooperative-learning and problem-based instructions in promoting students' teamwork competences. *World Transactions on Engineering and Technology Education 5* (3) 441-444.

Collaborate! Collaborative writing and research in higher education. (n.d.). Retrieved February 23, 2006 from www.stanford.edu/group/collaborate/

Conway, R., Easton, S., & Schmidt, W. (2005). Strategies for enhancing student interaction and immediacy in online courses. *Business Communication Quarterly 68*; 23-35.

Cooper, S. (2002). Classroom choices for enabling peer learning. *Theory Into Practice 41* (1) 53-57.

Cooper, J. et al. (Eds.) (2003*).Classroom teaching skills* (7th ed.). Boston: Houghton Mifflin.

Cooperative learning. (2008). Retrieved November 11, 2008 from

http://en.wikipedia.org/wiki/Cooperative_learning

Cooperative learning: The state of teamwork. (n.d.). Retrieved April 29, 2006 from

http://222.glencoe.com/sec/teaching today/educationupclose.phtml/print/22

Crain, W. (2000). *Theories of development: Concepts and applications.* Upper Saddle River, NJ:

Prentice Hall.

Crossman, J. (2003) Advantages and assessment of student co-authoring. *Assessment Update 15*

(4), 10-15.

Crews, T., & North, A. (2000). Team evaluation. *Instructional Strategies: An Applied Research*

Series. 56 (2).

Deutsch, M. (1993). Educating for a peaceful world. *American Psychologist 48,* 510-517.

Dineen, B. (2005). Teamxchange: A team project experience involving virtual teams and fluid

team membership. *Journal of Management Education 29* (4).

Dubrin, A. (2002). *Fundamentals of organizational behavior.* Cincinnati: South-Western.

Dunlap, J. (2005). Problem-based learning and self-efficacy. *Educational Technology, Research*

and Development, 53 (1), 65-85.

Eastman, J., & Swift, C. (2002). Enhancing collaborative learning: discussion boards and chat

rooms as project communication tools. *Business Communication Quarterly, 65* (3), 29-

41.

Ediger, M. (2000). *Assessing different philosophies of instruction.* (ERIC Document

Reproduction Service No. ED4450003)

Ford, M., & Morice, J. (2003). How fair are group assignments? A survey of students and facult and a modest proposal. *Journal of Information Technology, 2*, 366-378.

Gaye, L., & Airasian, P. (2000). *Educational research: Competencies for analysis and application (6th ed.).* Upper Saddle River, NJ: Prentice-Hall.

Geister, S., Konradt, U., & Hertel, G. (2006). Effects of process feedback on , satisfaction, and performance in virtual teams. *Small Group Research (37) 5*, 459-489.

Genovese, J. (2005). Why educational innovations fail: An individual difference perspective. *Social Behavior & Personality: An International Journal, 33* (6), 569-577.

Gillies, R., & Boyle, M. (2005). Teachers' scaffolding behaviours during cooperative learning. *Asia-Pacific Journal of Teacher Education, 33* (3), 243-259.

Goodwin, M. (1999) Cooperative learning and social skills: what skills to teach and how to teach them. *Intervention in School & Clinic 35* (1), 29-33.

Gore, R. (1996). Neanderthals. *National Geographic 18* (1), 2-33.

Greathouse, J. (1997 May). Kurt Lewin. Retrieved March 28, 2008 from http://www.muskingum.edu/~psych/psycweb/history/lewin.htm

Gueldenzoph, L., & May, G. (2002). Collaborative peer evaluation: Best practices for group member assessments. *Business Communication Quarterly 65,* 9-20.

Guffey, M. (2008). *Business communication: Process and product* (6th ed.). Mason, OH: Cengage.

Habanek, D. (2005) An examination of the integrity of the syllabus. *College Teaching 53* (2) 62-64). Hackbert, P. (2004). Building entrepreneurial teamwork competencies in collaborative learning via peer assessments. *Journal of College Teaching & Learning 1* (12), 39-53.

Hargrave, W., North, A., & Worth, W. (2008, November). *Employment communication,*

   technology, and the online application process for 2008. Paper presented at 73rd Annual

   Convention of Association for Business Communication, Incline Village, NV.

Harkins, S., & Petty, R. (1982). The effects of task difficulty and task uniqueness on social

   loafing. *Journal of Personality and Social Psychology 43*, 1214-1229.

Harland, T. (2003). Vygotsky's zone of proximal development and problem-based learning:

   Linking a theoretical concept with practice through action research. *Teaching in Higher*

   Education, 8 (2), 263-272.

Hartman, D., Bentley, J., Richards, K., & Krebs, C. (2005). Administrative tasks and skills

   needed for today's office: The employees' perspective *Journal of Education for*

   Business.80 (6). 80, 347,357.

Hathaway, P. (1990). *Giving and receiving criticism.* Menlo Park, CA: Crisp Publications, Inc.

Hill, S. (1996). *Cooperative learning: A catalyst for change in the college classroom.* (ERIC

   Document Reproduction Service No. ED413946)

Holtfreter, R., & Holtfreter, K. (n.d. a). Cooperative learning teams: Perceptions of accounting

   students. Retrieved November 19, 2005, from

   http://www.cwu.edu/~holtfret/Articles/Comparison.htm

Holtfreter, R., & Holtfreter, K. (n.d. b). A comparison of student attitudes & beliefs of

   lecture/discussion and cooperative approaches to learning in an accounting classroom.

   Retrieved April 9, 2006, from http://www.cwu.edu/~holtfret/Articles/Comparison.htm

Howard, G. & Maxwell, S. (1980). Correlation between student satisfaction and grades: A case

   of mistaken causation. *Journal of Educational Psychology 72* (6). 810-820.

Hsieh, H., & Shannon, S. (2005). Three approaches to qualitative content analysis *Qualitative Health Research 15,* 1277.

Human Dignity and Humiliation Studies. *Morton Deutsch.* Retrieved May 12, 2009 from http://www.humiliationstudies.org/whoweare/deutsch.php

Hunter, M. (1967). *Motivation theory for teachers.* Thousand Oaks, CA: Corwin Press.

Idealist (n.d.) *What should our mission statement say?* Retrieved May 2, 2009 from http://www.idealist.org/if/idealist/en/FAQ/QuestionViewer/default?section=03&item=21

InTime (n.d.). *History of cooperative learning.* Retrieved May 19, 2006 from http://www.intime.uni.edu/coop_learning/ch3/default.htm

Johnson, D., & Johnson, R. (1989) *Cooperation and competition: Theory and research.* Edina, MN: Interaction.

Johnson, D., & Johnson, R. (1990) Social skills for successful group work. *Educational Leadership 47* (4). Retrieved November 27, 2008 from http://66.102.1.104/scholar?hl=en&lr=&q=cache:BTbtRYEjUpoJ:www.fondazionescuola.it/Eng/doc/Social%2520Skills%2520for%2520Successful%2520Group%2520Work.doc+

Johnson, D., Johnson, R., & Holubec, E. (1994). *Cooperative learning in the classroom.* Alexandria, VA: Association for Supervision and Curriculum Development.

Johnson, D., & Johnson, R. (1995) Teaching students to be peacemakers. Retrieved January 8, 2009 from http://www.co-operation.org/pages/peace.html

Johnson, D., & Johnson, R. (1996). Cooperative learning and traditional American values: An appreciation. *National Association of Secondary School Principals: NASSP Bulletin 80* (579), 63-68.

Johnson, D., Johnson, R., & Holubec, E. (1998a). *Cooperation in the classroom.* Edina, MN: Interaction.

Johnson, D., Johnson, R. & Holubec, E. (1998b). *Advanced cooperative learning.* Edina, MN: Interaction.

Johnson, D., & Johnson, R. (1999). *Learning together and alone: Cooperative, competitive, and individualistic learning.* Boston: Allyn and Bacon.

Johnson, D., Johnson, R., Stanne, M., & Garibaldi, A. (2001). Impact of group processing on achievement in cooperative groups. *The Journal of Social Psychology 130* (4), 507-516.

Johnson, D., Johnson, R., & Smith, K. (2006). *Active learning: Cooperation in the college classroom.* Edina, MN: Interaction.

Kagan, S. (1990). The structural approach to cooperative learning. *Educational Leadership 47* (4), 8-11.

Kagan, S. (1994). *Cooperative learning.* San Juan Capistrano, CA: Kagan Cooperative Learning.

Kazdin, A. (1983). Failure of persons to respond to the token economy. In E. B. Foa & P. M. G. Emmelkamp (Eds.), *Failures in behavior therapy* (pp. 335-344). New York: John Wiley & Sons.

King, P., & Behnke, R. (2005) Problems associated with evaluating student performance in groups. *College Teaching, 53* (2), 57-61.

Klein, J., & Doran, M. (1999). Implementing individual and small group learning structures with a computer simulation. *Educational Technology Research and Development 47* (1), 97-110.

Klecker, Beverly M. (2003) Formative classroom assessment using cooperative groups: Vygotsky and random assignment. *Journal of Instructional Psychology 30* (3), 216-219.

Kreie, J., Headrick, R.W., & Steiner, R. (2007). Using team learning to improve student retention. *College Teaching*, *55* (2), 51-56.

Krippendorf, K. (2004). *Content analysis: An introduction to its methodology.* Thousand Oaks, CA: Sage.

Kulm, G., Roseman, J., & Treistman, M. (1999). A benchmarks-based approach to textbook evaluation. *Science Books and Films, 35*(4). Retrieved September 15, 2008 from http://www.project2061.org/publications/textbook/articles/approach.htm

Lakshman, C. (2006). A theory of leadership for quality: Lessons from TQM for leadership theory. *Total Quality Management & Business Excellence; 17* (1), 41-60.

Lehman, C. & DuFrene, D. (2008). *Business communication* (15th ed.). Mason, OH: Cengage.

Leighton, M. (2003). Cooperative Learning. In J. Cooper (Ed.), *Classroom teaching skills* (7th ed., pp.273-312). Boston: Houghton Mifflin Company.

Lewis, A. (2007). Attention to soft skills. *Tech Directions, 66* (6), 6-7.

Lipton, M. (1996). Demystifying the development of an organizational vision. *Sloan Management review 37*(4), 83-92.

Locker, K. & Kaczmarek, S. (2008). *Business communication: Building critical skills* (4th ed.). Boston: McGraw Hill.

Lou, Y. , Abrami, P., Spence, J., Poulsen, C., Chambers, B., & d'Appolonia, S. (1996). Within-class groupings. *Review of Educational Research 66* (4), 423-458.

Lowe, W. (n.d.). Software for content analysis – A review. Retrieved September 24, 2008 from http://people.iq.harvard.edu/~wlowe/Publications/rev.pdf

McKenna, J., Cotton, C., & Van Auken, S. (1997). The new AACSB accreditation standards: A prospect of tiering? *Journal of Organizational Change Management 10*(6), 491-502.

Maier, M. &Keenan, D. (1994). Cooperative learning in economics. *Economic Inquiry* 32 (2), 358-361.

Marzano, R, Pickering, D., & Pollock, J. (2001). *Classroom instruction that works.* Alexandria, VA: Association for Supervision and Curriculum Development.

Matejka, K. & Kurke, L. (1994). Designing a great syllabus. *College Teaching, 42* (3), 115. Retrieved March 20, 2008, from Academic SearchComplete database.

Mellat-Parast, M. & Digman, L. (2008). Learning: The interface of quality management and strategic alliances. *International Journal of Production Economics114* (2), 820-829.

Michaelsen, L., Fink, L., & Knight, A. (1997). Designing effective group activities: Lessons for classroom teaching and faculty development. In D. DeZure (Ed.), *To improve the academy: Resources for faculty, instructional and organizational development.* Stillwater, OK: New Forums.

Michaelsen, L., Knight, A., & Fink, L. (eds.) (2004) *Team based learning: A transformative use of small groups.* Sterling, VA: Stylus.

Montebello, A., & Buzotta, V. (1993). Work teams that work. *Training & Development, 47* (3), 5-17.

Morgan, B. (2003). Cooperative learning in higher education: Undergraduate student reflections on group examinations for group grades. *College Student Journal 37,* 40-49.

Neuendorf, K. (2002). *The content analysis handbook.* Thousand Oaks , CA: Sage.

Noddings, N. (1989). Theoretical and practical concerns about small groups in mathematics. *The Elementary School Journal 89* (5).

North, A., & Hargrave, W. (2006, March). *Workplace competencies and skills: Advertised online June 2005*. Paper presented at East/Southeast Annual Convention Association for Business Communication, Tampa, FL.

Northouse, P. (2004) *Leadership: Theory and practice* (3rd ed.). Thousand Oaks, CA: Sage.

Onwuegbuzie, A., Collins, K., & Elbedour, S. (2003). Aptitude by treatment interactions and Matthew Effects in graduate level cooperative-learning groups. *Journal of Educational Research, 96,* 217-231.

Overview: Content analysis. (n.d.). Retrieved July 7, 2008 from http://writing.colostate.edu/guides/research/content/printformat.cfm?pr.

Ozmon, H., & Craver, S. (1999). *Philosophical foundations of education* (6th ed.). Upper Saddle River, NJ: Prentice Hall.

Palmer, L. (2008). Considering bias in government audit reports: Factors that influence the judgments of internal government auditors. *Journal of Business Communication 45* (3)*, 265-285. Retrieved October 3, 2008 from http://sagepub.com.

Parkes, J., & Harris, M. (2002). The purposes of a syllabus. *College Teaching 2,* (2), 55-62.

Pegels, C. (1995). *Total quality management: A survey of its important aspects.* Danvers, MA: Boyd & Fraser.

Pennsylvania State University, (2008). *Faculty Development 101*. Retrieved February 11, 2009, from https://courses.worldcampus.psu.edu/facdev101/student/index.shtml

Perrigo, E. (1994, November). Are we teaching skills that are necessary in business today? Paper presented at the annual meeting of the Speech Communication Association, New Orleans, LA.

Pfaff, E., & Huddleston, P. (2003). Does it matter if I hate teamwork? What impacts student attitudes toward teamwork. *Journal of Marketing Education 25*, 37-45.

Rao, R. (1993). Payoff from the new management. *Fortune 128* (15), 103-110.

Rassuli, A., & Manzer, P. (2005). "Teach us to learn": Multivariate analysis of perception of success learning. *Journal of Education for Business 81* (1), 21-27.

Reh, F. (n.d.). *How to write a mission statement*. Retrieved October 27, 2009 from http://management.about.com/library/howto/ht_stmt.htm

Reese, W. (2005). *America's public schools: From the common school to no child left behind.* Baltimore: Johns Hopkins University Press.

Roebuck, D. (1998). Using team learning in business and organizational communication classes *Business Communication Quarterly 61*, 35-49.

Robbins, S. (2003). *Essentials of organizational behavior* (7th ed.). Upper Saddle River, NJ: Prentice Hall.

Russ, T. (2009). The status of the business communication course at U.S.colleges and universities. *Business Communication Quarterly 72* (4), 395-413.

Schermerhorn, J. (2004). *Core concepts of management.* Hoboken NJ: John Wiley & Sons.

Schullery, N., & Gibson, M. (2001). Working in groups: Identification and treatment of students' perceived weaknesses. *Business Communication Quarterly 64*(2), 9-30.

Senge, P. (1990). *The fifth discipline.* London: Random House.

Sharan, S. (1980). Cooperative learning in small groups: Recent methods and effects on achievement, attitudes, and ethnic relations. (ERIC Document Reproduction Service No. EJ229098)

Singh, B. (1991) Teaching methods for reducing prejudice and enhancing academic achievement for all children. *Educational Studies 17* (2).

Slavin, R. (1984) Students motivating students to excel: Cooperative incentives, cooperative tasks, and student achievement. *The Elementary School Journal 85*(1), p. 53-63.

Slavin, R. (1991a). Synthesis of research on cooperative learning. *Educational Leadership 48* (5), 71-82.

Slavin, R. (1991b). Group rewards make groupwork work. *Educational Leadership. 48* (5), 89-91.

Slavin, R. (1995). *Cooperative learning* (2nd ed.). Needham Heights, MA: Allyn & Bacon.

Slavin, R. (1999). Comprehensive approaches to cooperative learning. *Theory into Practice (38)* 2, 74-79.

Slavin, R. (n.d.). Johns Hopkins University K-12 education resources Retrieved May 4, 2006 from http://www.jhu.edu/news_info/educate/experts/slavin/

Smith, B., & MacGregor, J. (1992). What is collaborative learning? In Goodsell, A., Maher, M., Tinto, V., Smith, B. & McGregor, J., *Collaborative learning: A sourcebook for higher education.* State College, PA: National Center on Postsecondary Teaching, Learning and Assessment.

Smith, M. K. (2001). Kurt Lewin, groups: experiential learning and action research. *The Encyclopedia of Informal Education.* Retrieved May 8, 2009 from http://www.infed.org/thinkers/et-lewin.htm

Sormunen-Jones, C.,Chalupa, M., & Charles, T. (2000). The dynamics of gender impact on group achievement. *Delta Pi Epsilon Journal 42* (3), 154-170.

Stahl, R. (1994). *The essential elements of cooperative learning in the classroom*. Bloomington, IN: National Center for Social Studies/Social Science Education. (ERIC Document Reproduction Service No. ED370881)

Stemler, S. (2001). An overview of content analysis. *Practical Assessment, Research & Evaluation 7* (17). Retrieved September 11, 2008 from http://PAREonline.net/getvn.asp?v=7&n=17

Strahm, M. (2007). Cooperative learning: Group processing and students needs for self-worth and belonging. *The Alberta Journal of Educational Research, 53* (1), 63-72.

Strom, P., & Strom, R. (1999) Making students accountable for teamwork. *Community College Journal of Research and Practice, 23*.

Strom, P., & Strom, R. (2002) Overcoming limits of cooperative learning among community college students. *Community College Journal of Research and Practice, 26,* 315-331.

Strom, P., & Strom, R. (2003). What is the student role in assessment of cooperative learning? Retrieved July 12, 2007 from http://www.childresearch.net/RESOURCE/RESEARCH/2003/MEMBER33.HTM

Thompson, J., & Chapman, E. (2004). Effects of cooperative learning on achievement of adult learners in introductory psychology classes. *Social Behavior and Personality 32* (2), 139-146.

Tjosvold, D. (1984). Cooperation theory and organizations. *Human Relations 37* (9), 743-767.

Tjosvold, D. (2001). Dynamics and outcomes of goal interdependence in organizations. *The Journal of Psychology 120* (2), 101-112.

Tinto, V. et al. (1993)Building community. *Liberal Education 79* (4), 16-21.

Tuckman, B. (1965) Developmental sequence in small groups. *Psychological Bulletin, 63* (6), 384-389.

Tuckman, B., & Jensen, M. (1977). Stages of small-group development revisited. *Group and Organization Studies, 2* (4), 419-427.

Tullar, W., & Kaiser, P. (2000). The effect of process training on process and outcomes in virtual groups. *Journal of Business Communication* 37, 408-427.University of Minnesota (2008). *What is an effective syllabus?* Retrieved February 11, 2009, from http://www1.umn.edu/ohr/teachlearn/tutorials/syllabus/what/index.html

University of Northern Colorado (n.d.). Message and mission. Retrieved September 29, 2009 from http://mcb.unco.edu/About/Message_Mission.cfm

University of Vermont (2008). *Syllabus Development Guidelines.* Retrieved February 9, 2009 from http://www.uvm.edu/~ctl/?Page=resources/syllabus/index.php&SM=m_resources.html#intro\van Boxtel, C., van der Linden, J., Roelofs, E. & Erkens, G. (2002) Collaborative concept mapping: Provoking and supporting meaningful discourse. *Theory into Practice, 41* (1), 40-45.

Virginia Tech (2008). Retrieved November 4, 2008 from http://www.edtech.vt.edu/edtech/id/models/coop.html

Vygotsky, L. (1978). Mind in society. Cambridge, MA: Harvard University Press.

Waits, M. (2003). The 2003 Memphis area labor market survey: The continued need for local workforce development. *Business Perspectives16* (2), 24-29.

Walker, A. (1996). Cooperative learning in the college classroom. *Family Relations 45,* 327-335.

Walker, K. (2004). Activity systems and conflict resolution in an online professional communication course. *Business Communication Quarterly 67,* 182-198.

Walters, L. (2000, May/June). Putting cooperative learning to the test. *Harvard Education Letter.* Retrieved May 4, 2006 from

http://wwww.edletter.org/past/issues/2000-mj/cooperative/shtml

Walworth, A. (1938). *School histories at war: A study of the treatment of our wars in the secondary school history books of the United States and in those of its former enemies.* Cambridge, MA: Harvard University Press.

Watson, W., Kumar, K., & Michaelsen, L. (1993)Cultural diversity's impact on interaction process and performance; Comparing homogeneous and diverse task groups. *Academy of Management Journal 36*, (3), 590-602.

Weber, P. (1990). *Basic content analysis* (2nd ed,) (Sage University Paper Series on Quantitative Applications in the Social Sciences, series no. 07-049). Thousand Oaks, CA: Sage.

What works in the classroom: The McREL report in a nutshell. (October 2005). Retrieved April 29, 2006, from http://www.glencoe.com/sec/teachingtoday/educationupclose.phtml/6

Williams, K. (1996). Cooperative learning: A new direction. *Education 117* (1), 39-42.

Williams, L. (2008). The mission statement: A corporate reporting tool with a past, present, and future. *Journal of Business Communication 45* (2), 94-119.

Zhang, Yan (2006). Content Analysis (qualitative, thematic). Retrieved September 17, 2008 from http://ils.unc.edu/~yanz/Content%20analysis.pdf

APPENDICES

APPENDIX A

MICHAELSEN'S READINESS ASSURANCE PROCESS

<u>Individual Accountability from:</u>

Completing individual exam over assigned readings prior to group exam (counts toward the course grade).

Revealing/defending individual answers during the group exam.

Preparing written appeals to justify their point of view on questions on which they influenced the group to select an incorrect answer.

<u>Intense Give-and-take Group Discussion from:</u>

Having to agree on a group answer on each test question.

Agreeing on a rationale for written appeals justifying their point of view on questions incorrectly answered on the group test.

<u>External [Meaningful] Performance Feedback from:</u>

Immediate scoring of individual and group exams.

Posting group test scores to provide external comparisons.

Feedback and corrective input from instructor.

<u>Rewards for Group Success from</u>

Group exam scores count toward course grade.

Public awareness of group exam scores.

APPENDIX B

JOHNSON AND JOHNSON'S CHARACTERISTICS OF SOCIAL INTERDEPENDENCE

Characteristic	CLASS OF SOCIAL INTERDEPENDENCE		
	COOPERATIVE	COMPETITIVE	INDIVIDUALISTIC
Fate	Mutual	Opposite	Independent
Benefit	Mutual	Differential	Self
Time Perspective	Long Term	Short Term	Short Term
Identity	Shared	Relative	Separate
Causation	Mutual	Relative	Self
Rewards	Unlimited	Limited	Unlimited
Motivation	Intrinsic	Extrinsic	Extrinsic
Attribution	Effort	Ability	Ability
Celebrate	Own Success, Others' Success	Own Success, Others' Failure	Own Success

APPENDIX C

CODING FOR AACSB AND SCHOOL OF BUSINESS MISSION STATEMENTS

Words, Phases and Context Construed to Be Evidence of Cooperative Learning in

AACSB International Website and Mission/Vision Statements of Schools of Business

Term(s) and Phrase(s)	Context
Positive Interdependence – AACSB and Schools of Business	
Affiliate – and its lemma	Count if refers to operating together (verb). Do not count if refers to entity (noun) e.g. an affiliated school which shares faculty with school of business
Collaborate - and its lemma	Count if used in description of joint effort or activity among administration, faculty and/or students. Do not count where it refers to relationship between/among institutions
Community	Count only when refers to relationships – e.g. "foster sense of community" Do not when refers to external environment – e.g. "… the business community served by the school" Do not count when used to refer to an entity – e.g. "the academic community"
Cooperate – and its lemma	If "cooperative" relates to trait of individual, do not count. If "cooperative" relates to the marketing organization of business entity (e.g. dairy cooperative), do not count
Group – and its lemma	If "group" is used as a verb, do not count.
Partner	Count when used as verb – e.g. "school of business partners with leaders in the community" Do not count if refers to legal entity
Team – and its lemma	If "team" refers to operating entity of the institution (e.g. review team), do not count
Individual Accountability – AACSB and Schools of Business	
Individual	Count in relation to accountability such as grades and accomplishment. Do not count if used as generic noun
Peer	Count in relation to instruction. Do not count when referring to benchmark institutions – e.g. "maintain exit exam scores on par with peer institutions" would not count. Do not count when referring to "Peer Review Team," which is AACSB term for inspectors Do not count when referring to peer-reviewed intellectual contributions

Term(s) and Phrase(s)	Context
Group Processing – AACSB and Schools of Business	
Share	Count if suggestion for instruction Do not count if refers to division of entity – e.g. "market share" Do not count if refers to "shared vision" or similar labels
Feedback	Count when referring to evaluation of efforts by administration, faculty, and/or students
Social Skills	
Collegial (that form only – must have "l")	Count when refers to relationship(s) between and among administration, faculty and students
Communicate and its lemma	Count when mentions any medium that facilitates communication - i.e. means for enhancing or assuring communication among administration, faculty, and students
Ethics and its lemma	Count when used to direct interaction of administration, faculty and/or students - e.g. "ethical behavior is paramount to the delivery of quality business education"
Diverse and its lemma	Count when refers to interaction between/among administration, faculty and/or students.
Message	
Interchange	
Sensitive and its lemma	
Social and its lemma	Count when refers to social skills Do not count when refers to social sciences
Face-to-Face Interaction	
Interact and its lemma	Count when refers to activity designed to physically or electronically bring administration, faculty and/or students together – does not require physical proximity of the participants Do not count when refers to complying or achieving goals
Meet and its lemma	

APPENDIX D

CODING FOR COURSE SYLLABI

PIGSFACE Terms Construed to Be Evidence of Cooperative Learning in Course Syllabi

Term(s) Description of PIGSFACE Indicator	Qualifier	Reference
Positive Interdependence - Syllabi		
Collaborate – Use of "collaborate" and its lemma in description of joint effort by the students.	Must refer to student activity	Johnson, E., 2002
Community	Must refer to student interaction – e.g. "learning community" Do not count when refers to institution or "community standards"	Johnson & Johnson, 1999
Cooperate – Use of "cooperate" and its lemma in description of joint effort by the students.	If "cooperative" relates to trait of individual do not count	Johnson, Johnson & Holubec, 1998a
Form, Divide – Use "form" and "divide" to identify factors (work experience, relevant course work, etc.) considered in forming teams		Michaelsen et al., 2004; Roebuck, 1998
Heterogeneous teams – Plans for heterogeneous composition of teams	e.g. one member from each major in the school	Johnson et al., 2006; Michaelsen et al., 2004; Sormunen-Jones, Chalupa, and Charles, 2000
Material, Information, Resource – Provides for distribution of resource (e.g. sharing material or information) to promote interdependence	e.g. information package on assignment or rubric for assignment just issued to one team member	Johnson et al., 2006
Partner	Must refer to student activity Do not count when refers to legal relationship	Johnson, et al. 1998a; Kagan, 1994; Slavin, 1995
Random assignment to teams – Provides for random assignment to teams		Johnson et al., 2006 Michaelsen et al., 2004
Team – Uses "team" and its lemma in description of joint effort by the students.	Do not count if used to note subject without attendant action – e.g. "the baseball *team* went on tour"	Michaelsen et al., 2004

Term(s) Description of PIGSFACE Indicator	Qualifier	Reference
Individual Accountability – Syllabi		
Attendance at group/team meetings	Attendance at regular class sessions would not count, but attendance at group/team meetings would count	Johnson et al., 2006 Michaelsen et al., 2004
Criterion – Provides for criterion-referenced assessment	Rubrics/grade sheets are a strong indicator of criterion-referenced assessments	Johnson et al., 2006
Exam, quiz, test and their lemma	Count unless defined as group assessment	Johnson et al., 1998a; Michaelsen et al., 2004
Feedback – to individual	Must be instructor to individual to count in this category Do not count when part of the communication model (see Group Processing and Social Skills)	Johnson & Johnson, 1999
Grade - Grading scheme includes primarily individually earned components	Group-earned grade component should not exceed 20%	Johnson et al., 1998a; Michaelsen et al., 2004
Individual contribution – group projects structured to require input from all individuals		Johnson et al., 1998a; Michaelsen et al., 2004
Log –Students required to keep individual log of activity	Not necessarily a grade component	Roebuck, Chandler & Brock, 2009
Peer Analysis/Assessment	Count when used as a means for providing more individual assessment	Johnson & Johnson, 1998a; Michaelsen et al., 2004
Performance review		
Portfolio	Count when used as a submission for grading Do not count when suggested for students' record keeping	Johnson & Johnson, 1999
Presentation	Examine for individual assessment	Michaelsen et al., 2004
Rubric (a.k.a. checklist, grade form, grading sheet/criteria)		Johnson et al., 2006

Term(s) Description of PIGSFACE Indicator	Qualifier	Reference
Group Processing – Syllabi		
Feedback - Instruction for providing feedback	Should relate to content or tone of feedback – not the medium used (as in communication model) Should be feedback within the group or dyad If it is feedback from the instructor to the students, it relates to *individual accountability*	Geister, Konradt & Hertel, 2006; Johnson & Johnson, 1999
Goals – Students required to establish goals for team interaction or team production	Must be student-established Do not count goals of course	Johnson et al., 2006
Group or team forming – Teams formed with purpose in mind	Base groups formed for entire term Small projects – teams for shorter duration	Michaelsen et al., 2004; Roebuck 1998
Minutes of meeting – Required for assessment of interaction		Johnson et al., 1998a; Michaelsen et al., 2004
Paired grading, paired marking – Students grade/mark each other's work		Johnson, et al, 2006
Peer Evaluation – Evaluation shared with group members	Do not include "peer" as part of "peer-reviewed" description	Roebuck 1998
Record – Requires groups to maintain ongoing record of interaction		Roebuck, 1998
Reflection – Time set aside during class for sharing thoughts		Johnson et al 2006; Roebuck , Brock & Moodie, 2004
Report – Progress or status report which would engender group reflection		Lehman & DuFrene, 2008

Term(s) Description of PIGSFACE Indicator	Qualifier	Reference
Social Skills – Syllabi		
Biography, self assessment calling for introspection		Ober, 2009
Collegial (must be form ending with "l")	Refers to the desired relationship among team members Do not count "collegiate"	Johnson et al., 2006
Communication, interaction, messages – Tools or rules that enhance communication among students	e.g. requirements for responding to team members' emails	Johnson et al., 2006
Conflict - Instruction in techniques for management of conflict	Count when procedure is set to facilitate team action or when instructions in conflict management are included	Johnson, et al 1998a; Johnson et al., 2006
Conformity – Instruction in benefits of conformity en route to consensus	May be 3 Cs model – conflict/ conformity/ consensus	Johnson & Johnson, 1999
Consensus – Instruction in means of attaining consensus	May be 3 Cs model	Johnson & Johnson, 1999
Controversy, Conflict – Instruction in use of controversy to arrive at joint decision	May be 3 Cs model	Johnson & Johnson, 1999
Decision-making – Instruction in decision-making techniques (autocratic, consensus, majority, etc.)		Johnson et al., 2006
Diversity		Cooper, 2003
Elevator speech – aid to self-analysis		Cyphert, 2006
Ethics – use of "ethics" and its lemma as a desirable quality		Johnson & Johnson, 1999
Feedback – as element of communication model		Guffey, 2008
Groupthink – Instruction in deleterious effects of groupthink. Phenomenon described		Janis, 1973
Introduction of self to class – start of term		Guffey, 2008
Listening – Instruction in techniques/describes instruction for improving listening		Harris, 1998; Guffey, 2008
Networking	count even if related to job search – stresses advantage of interaction	deJanasz & Forret, 2008
Nonverbal communication – Live meetings – Instruction in nonverbal communication to enhance meetings	Count both live and online if both are present	Burgoon, Buller & Woodall, 1996

Term(s) Description of PIGSFACE Indicator	Qualifier	Reference
Social Skills – Syllabi (continued)		
Personality Test – Includes an assignment based on use of Personality Testing (Myers-Briggs, Keirsey-Bates, Jung, self analysis, etc.)	Count only if provides for students to actually complete the instrument	Kise & Russell, 2006
Role, leader – Role interdependence created by assigning complementary and interconnected roles to each group member		Johnson et al., 2006
Self Introduction/Paired Introductions		Guffey, 2009
Team size	Team size 2-6 people Consider purpose in setting size	Michaelsen, 2004
Tuckman Model – Forming, storming, norming, performing – instruction in the model	Count variants that list steps of group process	Tuckman & Jensen, 1977

Term(s) Description of PIGSFACE Indicator	Qualifier	Reference
Face-to-Face Promotive Interaction – Syllabi		
Chat room, FaceBook, Twitter, Instant Messenger – Online - Provide personalization of team meetings for online classes	Chat rooms provided Suggestions to use electronic interface	Roebuck , Brock & Moodie, 2004
Collaboration software provided or access described	e.g. Net Meeting, WebEx, VoIP	Roebuck , Brock & Moodie, 2004
Conference – of team about team work	Count both online and live.	Burgoon, Buller & Woodall, 1996
Meeting – Stress importance of team meetings		Guffey, 2008
Meeting proximity, face-to-face, close –	Suggests that seating arrangements provide for close seating, single seats that can be adjusted	Michaelsen, 2004 Johnson et al. 1998a
Posting – Online – ground rules established for postings when course is asynchronous	e.g. Discussion on WebCT	Roebuck , Brock & Moodie, 2004
Time (team or group)	Count when used in phrase – "team time" or "group time" Count both line and online	Burgoon, Buller & Woodall, 1996; Roebuck , Brock & Moodie, 2004; Guffey, 2008; Lancaster, 1998; Johnson et al., 2006

APPENDIX E

CODING FOR INSTRUCTOR'S MANUALS

PIGSFACE Terms Construed to Be Evidence of Cooperative Learning in Instructor's Manuals

Term(s) –Description of PIGSFACE Indicator	Qualifier	Reference
Positive Interdependence – Instructor's Manuals		
Collaborate – Use of "collaborate" and its lemma in description of joint effort by the students Use of "collaborate" and its lemma in student activities (such as letter example)	If "collaborate" or lemma refers to teacher activity, do not count	Johnson, E., 2002
Cooperate – Use of "cooperate" and its lemma in description of joint effort by the students Use of "cooperate" and its lemma in student activities (such as letter example)	If "cooperative" relates to trait of individual do not count	Johnson, Johnson & Holubec, 1998a
Dyad, group, partner, team – Use of those collective nouns in description of suggested action Use of those collective nouns in student activities (such as letter example)	Do not count if used to note subject without attendant action – e.g. "Management and Development Group"	Johnson, Johnson & Holubec, 1998a Michaelsen, 2004
Form, divide – Suggests how teams should be formed/ class divided into groups – number of members per group/team, heterogeneous, cohort, random, student attributes, etc. Suggests how tasks should be shared/divided among group members	Just count use as verb relating to putting team together Do not count use of "form" as noun t Mentions of Tuckman's "forming" are counted under Social Skills	Johnson et al., 2006 Michaelsen et al., 2004; Roebuck, 1998 Sormunen-Jones, Chalupa, and Charles, 2000
Goals – Suggests setting group goals to create "responsibility forces."		Johnson et al., 2006
Share – Suggests distribution of material, information or resource to promote interdependence Suggests sharing experience to enhance group efficacy (looks forward)	Sharing reactions or goals would be counted under group processing (looks backward) Do not count in sense of something held in common – e.g. "share the trait"	Johnson et al., 2006

Term(s) –Description of PIGSFACE Indicator	Qualifier	Reference
Individual Accountability – Instructor's Manuals		
Criterion, checklist, grade-sheet, rubric – Suggests use of criterion-referenced assessment	Rubrics etc. indicate criterion-referenced grades	Johnson et al., 2006
Grade, evaluation, assessment, value - Suggests how assessment is conducted	Specifically includes mention of assessment of individuals or group	Roebuck 1998; Michaelsen et al., 2004; Johnson et al., 1998a
Individual contribution – Suggests/describes group projects structured to require input from all individuals		Michaelsen, 2004; Johnson et al., 1998a
Log, portfolio – Suggests having students keep individual log or portfolio of activity	Not necessarily a grade component	Roebuck, Chandler & Brock, 2009
Meeting- Suggests attendance counted in assessment	Suggestions for conduct of meetings are in section on face-to-face interaction	Michaelsen et al., 2004

Term(s) –Description of PIGSFACE Indicator	Qualifier	Reference
Group Processing – Instructor's Manuals		
Feedback - Suggestions for providing and improving feedback within the group/team (not feedback to individual – not feedback from instructor)	Do not count mentions as a component of the communication model	Johnson & Johnson, 1999
Minutes of meeting – Suggests keeping record of meetings to facilitate reflection		Johnson et al., 1998a; Michaelsen, 2004; Roebuck, 1998
Paired grading, paired marking – Suggests having students mark each other's work		Johnson, et al, 2006
Peer Evaluation – Suggests grading includes peer evaluation		Roebuck 1998
Reflection – Suggests reflection on communication problems/successes part of presentation		Roebuck , Brock & Moodie, 2004
Share – Suggests that team members share sentiments such as reactions, goals, etc. Suggests sharing experience to learn from group interaction (looks backward)	Sharing information or material resources would count under positive interdependence	

Term(s) –Description of PIGSFACE Indicator	Qualifier	Reference
Social Skills – Instructor's Manuals		
Conflict - Suggests techniques for management of conflict		Johnson, et al, 1998a; Johnson et al., 2006
Conformity – Suggests benefits of conformity en route to consensus Consensus – Suggests means of attaining consensus Controversy, Conflict – Suggests use of controversy to arrive at joint decision	May be 3 Cs model – conflict/ conformity/ consensus	Johnson & Johnson, 1999
Decision-making – Suggests instruction in decision-making techniques (autocratic, consensus, majority, etc.)		Johnson et al., 2006
Ethics – Suggests instruction in ethical behavior Declaims value of ethical behavior in communication		Johnson & Johnson, 1999
Groupthink – Describes the deleterious effects of groupthink.		Janis, 1973
Introduce – Suggests that students introduce selves or mate to class at inception of term Suggests that students introduce selves or mates prior to presentation		Johnson & Johnson, 1999; Michaelsen, 2004
Listening – Suggests techniques and describes instruction for improving listening		Guffey, 2008
Nonverbal signals		Burgoon, Buller & Woodall, 1996
Personality Test – Suggests assignment based on use of Personality Testing (Myers-Briggs, Keirsey-Bates, etc.)	Count only if provides for students to actually complete the instrument	Kise & Russell, 2006
Self Analysis	must be shared with class to count	Guffey, 2008
Tuckman Model – Suggests use of "forming, storming, norming, performing" model to guide group/team interaction	Variants that list steps of group process will count	Tuckman & Jensen, 1977

Term(s) -Description of PIGSFACE Indicator	Qualifier	Reference
Face-to-Face Promotive Interaction – Instructor's Manuals		
Chat room, Twitter, Instant Messenger, Wiki, Online - Suggests providing personalization of team meetings for online classes	Chat rooms provided Social network encouraged	Roebuck , Brock & Moodie, 2004
Classroom – Suggests arrangement of chairs and tables to foster cooperative learning		Johnson et al., 1998b
Collaboration enhancement – Suggests use of collaboration software	e.g. Net Meeting, WebEx, VoIP	Roebuck , Brock & Moodie, 2004
Interaction – Suggests ways to ensure that students can communicate with instructor and with each other Suggests activities that call for students to interact	Any medium that facilitates communication Activities do not have to deal directly with group/team work	Johnson et al., 2006
Meeting – Stresses importance of team meetings		Johnson et al., 2006
Meeting proximity, face-to-face, close – Suggests that seating arrangements enhance collaboration (e.g. close seating, single seats that can be adjusted)		Michaelsen, 2004 Johnson et al. 1998a
Meeting time – Suggestions for establishing time of day and/or length of meeting		Guffey, 2008
Nonverbal communication – Suggests use of nonverbal communication Instruction in use of nonverbal communication		Roebuck , Brock & Moodie, 2004
Posting - Online – Suggests establishing ground rules for postings when course is asynchronous	e.g. Discussion on WebCT	Roebuck , Brock & Moodie, 2004
Time – Suggestions for allowing time group/ team meeting Suggestions for time given to group/ team meeting	Look for phrase "team time" or "group time"	Johnson et al., 2006

APPENDIX F

EMAIL MESSAGE REQUESTING SYLLABI FROM INSTRUCTORS

Good morning Dr. _____ (I obtained specific names for the emails)

I am a doctoral candidate under the direction of Dr. Wanda Stitt-Gohdes in the Department of Workforce Education at the University of Georgia. My dissertation will study certain pedagogical aspects of business communication courses taught in colleges and schools of business accredited by AACSB International.

For this study, I need an electronic version of your course syllabus (and course schedule if a separate document), which I will examine using computer aided content analysis. The study will not reveal the name of the professors or the institutions whose syllabi are analyzed. The only reference will be to size of the parent institution and region of the country (e.g. medium sized university in southeast United States). If you would like to expunge your name and/or the name of your institution from the syllabus, please do so.

Please include this statement with your email. "I am 18 years of age or older. I understand that the information furnished will remain confidential."

If you have any questions about the study or the use of your syllabus and course schedule, please email or call Bill Hargrave – bhargrav@live.com – 770.433.9836 or Dr. Wanda Stitt-Gohdes – wlsg@uga.edu – 706.542.4078.

Please email the file(s) to bhargrav@live.com with a subject line "Business Communication Syllabus from – name of your institution."

Thank you for your help.

William (Bill) Hargrave
Doctoral Candidate, Workforce Education
University of Georgia
(permanent address)
3434 Valley Vista Road
Smyrna, GA 30080
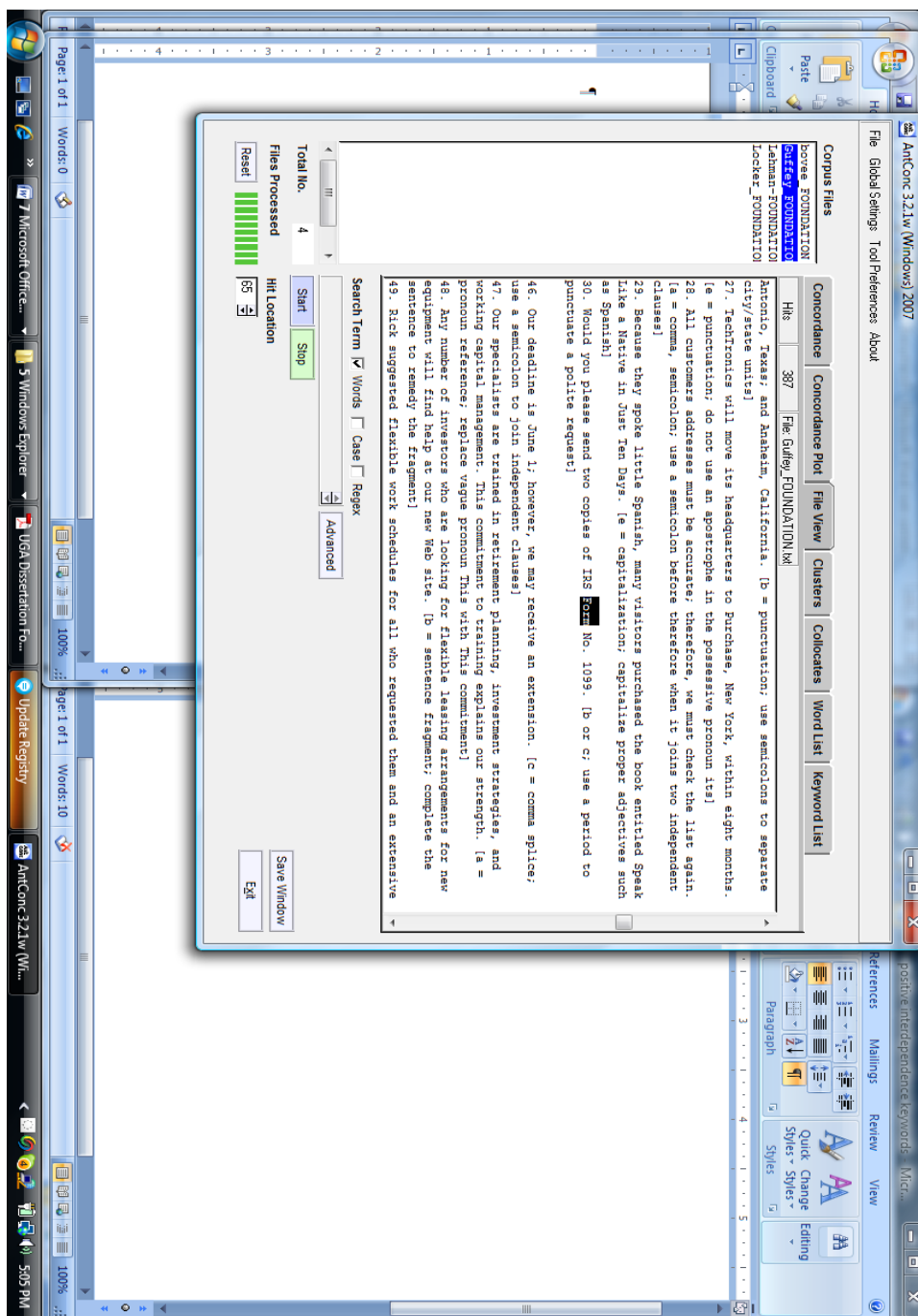Phone - 770.433.9836

APPENDIX G

FACSIMILES OF CONCORDANCE AND KWIC USING ANTCONC

In this version, the keywords (in contrasting color) have been arranged in alphabetical order to facilitate counting mentions.

This facsimile of the Keyword in Context view shows that the researcher can examine the surrounding context to determine if the highlighted word should be counted as a mention

APPENDIX H

INSTITUTIONAL REVIEW BOARD APPROVAL

From: kfowler@uga.edu
To: wlsg@uga.edu
CC: bhargrav@live.com
Subject: IRB Approval - Stitt-Gohdes
Date: Thu, 23 Jul 2009 10:10:39 -0400

PROJECT NUMBER: 2010-10046-0
TITLE OF STUDY: Analysis of Post Secondary Business Communication Classes for
Cooperative Learning Practices
PRINCIPAL INVESTIGATOR: Dr. Wanda L. Stitt-Gohdes

Dear Dr. Stitt-Gohdes,

The University of Georgia Institutional Review Board (IRB) has reviewed and approved your
above-titled proposal through the exempt (administrative) review procedure authorized by 45
CFR 46.101(b)(4) Research involving the collection or study of existing data, documents,
records, pathological specimens, or diagnostic specimens, if these sources are publicly available
or if the information is recorded by the investigator in such a manner that subjects cannot be
identified, directly or through identifiers linked to the subjects.

You may now begin your study. Your approval packet will be sent by mail.

Please remember that no change in this research proposal can be initiated without prior
review. Any adverse events or unanticipated problems must be reported to the IRB
immediately. The principal investigator is also responsible for maintaining all applicable
protocol records (regardless of media type) for at least three (3) years after completion of the
study (i.e., copy of approved protocol, raw data, amendments, correspondence, and other
pertinent documents). You are requested to notify the Human Subjects Office if your study is
completed or terminated.

Good luck with your study, and please feel free to contact us if you have any questions. Please
use the IRB number and title in all communications regarding this study.

Thank you,

Kim Fowler
Human Subjects Office
606A Boyd Graduate Studies Research Center
University of Georgia
Athens, GA 30602-7411

The University of Georgia

Office of The Vice President for Research
DHHS Assurance ID No. FWA0000390?

Institutional Review Board
Human Subjects Office
612 Boyd GSRC
Athens, Georgia 30602-7411
(706) 542-3199
Fax: (706) 542-3360
www.ovpr.uga.edu/hso

APPROVAL FORM

Date Proposal Received: 2009-07-20   Project Number: 2010-10046-0

Name	Title	Dept/Phone	Address	Email
Dr. Wanda L. Stitt-Gohdes	PI	Dept. of Workforce Education, Leadership, and Social Foundations 225 River's Crossing +4809 706-542-4078		wlsg@uga.edu
Mr. William Hargrave	CO	WELS Rivers Crossing 46/¤ 770-433-9836	3434 Valley Vista Rd Smyrna, GA 30080	bhargrav@live.com

Title of Study: Analysis of Post Secondary Business Communication Classes for Cooperative Learning Practices

45 CFR 46 Category: Administrative 4
Parameters.
None;

Change(s) Required for Approval:
Revised Consent Document(s).

Approved : 2009-07-23   Begin date : 2009-07-23   Expiration date : 2014-07-22

NOTE: Any research conducted before the approval date or after the end data collection date shown above is not covered by IRB approval, and cannot be retroactively approved.

Number Assigned by Sponsored Programs: Funding Agency:

Your human subjects study has been approved.

Please be aware that it is your responsibility to inform the IRB:
... of any adverse events or unanticipated risks to the subjects or others within 24 to 72 hours;
... of any significant changes or additions to your study and obtain approval of them before they are put into effect;
... that you need to extend the approval period beyond the expiration date shown above;
... that you have completed your data collection as approved, within the approval period shown above, so that your file may be closed.

For additional information regarding your responsibilities as an Investigtor refer to the IRB Guidelines.
Use the attached Researcher Request Form for requesting renewals, changes, or closures.
Keep this original approval form for your records.

Chairperson ce Designee,
Institutional Review Board