This study explored the impact of emphasis on the group development process, as developed by Tuckman and Jensen (1977), on the perceived importance of and confidence in group work skills, as well as students’ perception of group work use in the collegiate classroom. The purposive sample utilized in this study included 33 undergraduate students enrolled in an introductory leadership and service course at a southern, land-grant institution. Knowledge of the group development process enhanced students’ perceived importance and confidence in group work skills, and positively impacted students’ perception of group work in the college classroom. The importance of group work skills continues to be reflective of the demand from employers; educators must continue to develop these transferable skills in today’s students.
IMPACT OF GROUP DEVELOPMENT KNOWLEDGE ON STUDENTS’ PERCEIVED
CONFIDENCE AND IMPORTANCE OF GROUP WORK SKILLS THROUGH A SERVICE-
LEARNING PROJECT

by

NATALIE J. COERS

B.S., University of Illinois at Urbana-Champaign, 2008

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of the Requirements for the Degree

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by

NATALIE J. COERS

Major Professor: Dennis Duncan
Committee: Jennifer Williams
Sherry Clouser

Electronic Version Approved:

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

This thesis is dedicated to any instructor who has questioned the purpose of group work in the classroom, and to any student who has ever been frustrated with group project assignments. May group work in the classroom develop the intended skills and understanding of the group development process to enable students to enter the workforce prepared to collaborate with great success.
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CHAPTER 1
INTRODUCTION

Expectations of today’s college graduates continue to emphasize leadership and experience, as top entry-level positions carry high standards for students regarding strong transferable skills to be competitive. Employers desire job candidates to have polished communication skills, leadership skills, teamwork skills, initiative, interpersonal and social networking skills, problem solving skills and analytical skills, among others (NACE, 2010). As the facilitator of knowledge acquisition, higher education must realize the responsibility colleges and institutions have to provide each generation of students with the knowledge and experiences necessary to succeed in today’s American society (Astin & Astin, 1999). Leadership educators recognize the importance of leadership coursework and programming to prepare students to enter society. Mu and Gnyawali (2003) emphasize the crucial step development of effective teamwork skills with all walks of people is to career success. Blackwell, Cummins, Townsend, and Cummings (2007) note the numerous formal and informal opportunities available at universities to enable students to connect experience and theory in the educational setting. Educators across many disciplines choose to incorporate group projects or other forms of collaborative or team-based learning in an effort to create formal group experiences for transferable skill development. Ricketts, Bruce, and Ewing (2008) express a key benefit of including group projects in core classes is the development of team building skills; however, the authors emphasize that students may be missing an important connection between developing team building skills in the classroom environment and their transferability to the workplace. The purpose of including
group learning in the classroom is, in essence, to prepare students for real-world experiences (Siciliano, 2001).

Cooperative learning encourages the development of skills, such as working with a diverse array of students, that individual assignments do not offer (Bobbitt, Inks, Kemp, and Mayo, 2000). A dual purpose is also served when group projects are based in service-learning. Burkhardt and Zimmerman-Oster (1999) highlight the use of co-curricular experiences that connect to formal learning for students, which creates a strong impact on both the student and the community (as cited in Astin and Astin, 1999). With such projects, students are able to experience a relatively unstructured project and develop the initiative that will be required of them in the future (Holter, 1994). Thus we take notice of the importance of group work skill development in students, formally and informally, throughout their college experience and continue to question the most effective means of achieving student acquisition of these career-oriented skills within the environment of higher education. Astin and Astin (1999) note the role of university faculty to influence and carry out research and practice of believed effective methodologies or approaches to leadership education. Extensive research has been conducted on the methods of cooperative learning in the classroom, benefits accrued through the cooperative learning experience, and the role of the instructor in facilitating cooperative learning (Colbeck, Campbell, and Bjorklund, 2000; Hassanien, 2007; Cottell and Millis, 1993; Cooper, Prescott, Cook, Smith, Mueck, and Cuseo, 1990; Kreie, Headrick, and Steiner, 2007; Haberyan, 2007; Halpern, 2000). A minimal but increasing amount of research has been conducted on student perceptions of group work in the collegiate classroom (Payne and Monk-Turner, 2006; Rassuli and Manzer, 2005; Pauli, Mohiyeddini, Bray, Michie, and Street, 2008; Coers and Lorensen, 2009). However, there is a void within the research of how specific group development process
theories impact a student’s experience with collaborative learning or group work in the collegiate classroom.

**Statement of Problem**

What impact does knowledge of group development process theory have on students’ confidence levels, perceived importance, and perceptions of groups and teams in the college classroom?

**Purpose of the Study**

The purpose of this study is to determine the impact of Tuckman & Jensen’s (1977) theory of group development process through the following research objective and questions:

1. Describe identified demographic characteristics, including gender, academic status, and previous group work experience.
2. Does knowledge of the Tuckman & Jensen (1977) theory of group development process impact student importance in group work skills?
3. Does knowledge of the Tuckman & Jensen (1977) theory of group development process impact student rating of confidence of group work skills?
4. Does knowledge of the Tuckman & Jensen (1977) theory of group development process impact student perception of group work in the collegiate classroom?

**Hypotheses**

$H_1$— As knowledge of the Tuckman & Jensen (1977) theory of group development process increases, student importance levels will remain level.
H₂– As knowledge of the Tuckman & Jensen (1977) theory of group development process increases, student ratings of group skill confidence will remain level.

H₃– As knowledge of the Tuckman & Jensen (1977) theory of group development process increases, student perception of group work in the collegiate classroom will remain level.

Limitations of the Study

Although the nature of this study relates to the perceived importance and confidence in group work skills, the study will not evaluate prior student experiences with group work in the college classroom that may impact a student’s perception. The study will not evaluate the prior training of students in group work skills. The study will not evaluate instructional methods of leadership education utilized to implement a group project. The results of this study should not be generalized, as the purposive sample limited data collection during to the 2009 summer semesters at the University of Georgia. In addition, the self-reporting nature of the research instrument limits the interpretation due to potential error in self-reporting.

Basic Assumptions of the Study

The need for students with group work skills will continue in industry.

Instructor(s) will provide similar quality of instruction for all course sections utilized in this study with the exception being only the provision of knowledge pertaining to Tuckman & Jensen’s (1977) theory of group development process.

Students will honestly answer the survey questions to the best of their ability.
Group service-learning experience assignment provided to the students involved in this study will remain congruent among the classes.

**Significance of the Study**

Group projects are utilized in numerous college courses today, many without providing direction on group development to students. Instructors may assume students understand the basic tenets of working collaboratively with their peers on an assignment, and not considering scheduling difficulties among student group members and potentially multiple class projects. By examining the impact of Tuckman & Jensen’s (1977) theory of group development process on student perception of group work in the college classroom, confidence in group work skills, and perceived importance of group work skills, the researcher will determine the role of such knowledge to the practice of using group projects in the college classroom. Today’s generation of college students are a connected group of students through multiple medias, thus the intentional and focused use of group work in the classroom is of great importance to prepare students to begin their professional career. The implications of such data could transform the manner in which instructors utilize group projects in the collegiate classroom, and potentially better develop students into the team players desired by businesses across America.

**Definitions of Terms**

- **Adjourning** - Stage of group development process where the project is complete and members go their separate ways (Tuckman and Jensen, 1977; Levi, 2007; Fall and Wejnert, 2005).

- **CGWSI – IC** – An acronym for the *Core Group Work Skills Inventory – Importance and Confidence* instrument—developed in 2007 by F. Robert Wilson, Mark D. Newmeyer, Lynn S. Rapin, and Robert K. Conyne as a grant supported project of the Association of Specialists in Group Work Training Standards Committee—utilized in this study.
• **Cooperative learning** – A teaching methodology utilized to develop social and group work skills through placing students in groups in effort to create positive interdependence, responsibility, accountability among students in working toward a common task Cottell & Millis, 1993; Cooper, et al., 1988; Herreid, 2000; Siciliano, 2001).

• **Critical thinking** – “Critical thinking is a reasoned, purposive, and introspective approach to solving problems or addressing questions with incomplete evidence and information and for which an incontrovertible solution is unlikely” (Rudd, Baker, and Hoover, 2000, p.5).

• **Forming** – Stage of group development process where members get to know one another, orienting themselves with the group and expectations (Tuckman, 1965; Levi, 2007; Fall and Wejnert, 2005).

• **Group Process** – “The interaction among group members, typically including the social interchange of information, influence attempts, leadership efforts, and expressions of approval or disapproval of fellow group members” (Uhlfelder, 1997, p. 69).

• **Group Development Process** –Theory identified by Tuckman and Jensen (1977) that includes the following stages: forming, storming, norming, performing, and adjourning.

• **Group project or experience** – A group service-learning project or experience assigned to each identified group within a leadership course for the duration of the semester.

• **Higher order thinking** – References the upper three levels of Bloom’s (1956) taxonomy of educational objectives, which include analysis, synthesis, and evaluation.

• **Instructor** – The primary facilitator of a group experience.

• **Norming** - Stage of group development process where cohesiveness among members is evident, structure begins to emerge with stronger social relations and ground rules for the group established (Tuckman, 1965; Levi, 2007; Fall and Wejnert, 2005).

• **Perception** – An individual’s view, positive or negative, of an item based on previous experiences or beliefs.

• **Performing** - Stage of group development process where the focus is on the task at hand and trust within the group enables members to handle stress and challenges of the project well (Tuckman, 1965; Levi, 2007; Fall and Wejnert, 2005).

• **Storming** - Stage of group development process where conflict emerges over group member roles, goals, and interpersonal issues (Tuckman, 1965; Levi, 2007; Fall and Wejnert, 2005).

• **Team-based learning** – A collaborative learning pedagogy emphasizing the instructor’s role in team formation, design of assignments to promote accountability among students,
appropriate assignments that encourage interaction among students, and prompt feedback (Kreie, et al., 2007).

Summary

The purpose of this study was to determine the impact of Tuckman and Jensen’s (1977) theory of group development on students’ perceived importance and confidence relating to group work skills, as well as their perception as its use in the collegiate classroom. Additionally, this study focused on the demographic areas relating to participants’ prior group work experience. Chapter one offered a summary of college graduate expectations, the importance of leadership skill development, and the use of cooperative learning to facilitate leadership and teamwork skill development. The study’s objective and research questions were discussed. As a result of this study, leadership educators may better understand the significance of including Tuckman and Jensen’s (1977) theory of group development as an integral component when utilizing cooperative learning projects in the collegiate classroom setting in an effort to develop students’ employability skills. Chapter two will discuss relevant literature concerning group development, student perceptions of group work in the classroom setting, and the role of the instructor in facilitating group development; Tuckman and Jensen’s (1977) theory of group development will also be discussed.
CHAPTER 2
REVIEW OF LITERATURE

The purpose of this chapter is to provide a thorough review of pertinent literature for this research study. This review will explore the various facets of research relating to utilizing group work or collaborative learning in the collegiate classroom. The review is divided into the following sections: (1) Group Work for Career Preparation; (2) The College Classroom; (3) Cooperative Learning; (4) Cooperative Learning through Service-Learning; (5) Student Perceptions of Group Work; (6) Need for Group Process Knowledge; (7) Role of the Instructor; (8) Need for Instructor Training; (9) Conceptual Framework; (10) Summary.

Group Work for Career Preparation

From the classroom to the boardroom, groups and teams are a trend in society today. Page and Donelan (2003) emphasize the necessity of professionals to have teamwork skills in order to function well in the business environment. In their annual analysis of the job market for college graduates, the National Association of Colleges and Employers (NACE) continues to find teamwork, leadership, and communication skills as prominent qualities desired by employers (NACE, 2010). King and Behnke (2005) suggest the following:

Those who lack either the experience in the learning context or the skills associated with group interaction, or who do not positively value the role of a team member or team leaders, will be at a major disadvantage in a society stressing and valuing cooperative work. (p. 57)

Teams may be a trend, but if they remain an important part of our organizational culture, students must continue to be equipped with the skills required to work well in both the private
and public sectors (Bolton, 1999). Cassidy (2006) stresses the presumption that employers deem academic institutions responsible for preparing students in such skills needed for the workplace. Bobbitt, et al. (2000) express the need for focus in business curriculum on development of the skills deemed necessary for success. Employability skills are interdisciplinary and relevant for any level of position desired; the acquisition of such skills is influenced in academia by many factors, including an instructor’s personal characteristics and teaching methods, as well as student involvement (Cassidy, 2006). By focusing leadership education, as well as other disciplines on the proper development of group work skills, a safe environment is offered for students to practice these social and communication skills while applying course concepts (Haberyan, 2007). Payne and Monk-Turner (2006) found that nearly 85% of students within their study believed that a group work experience was helpful for their future career. Likewise, Hassanien (2007) noted that students are aware of the frequency group work is being utilized throughout higher education, and view it as a crucial component of their studies because teamwork is an “essential employability requirement” (p. 145).

Astin and Astin (1999) articulate the role of higher education to shape and maintain a high standard of quality leadership in our society. Efforts of connecting classroom and work experiences in college have led to a broad range of labels relating learning through group work (Baskin, Barker, and Woods, 2005). Kemp and Seagraves (1995) explored transferable skills – skills for the workplace and education - in five courses at Glasgow Caledonian University. Seventy percent of the students in this study indicated that they had gained a clear understanding of group work and process through the group experience and valued the process of group work as a means to confidence. Cassidy (2006) concluded after her study concerning peer assessment as a means for students to develop employability skills:
Given the current emphasis on employability issues in higher education, and the need for graduates to maximize their potential for employment by adding generic employability skills to their repertoire of traditional technical skills and knowledge, the provision of adequate opportunity to practice and develop these skills must be a requirement of all undergraduate programmes which profess to develop capable graduates. (p. 515)

Through several personal accounts, Charite (2008) also emphasizes the need for adequate preparation beyond technical skill requirements—in areas such as communication and collaboration skills—for a young professional to be successful. Collaboration is needed in the organizational context, thus it is essential that students today receive the knowledge and skills needed for success in a rapidly changing, technology-driven society.

**The College Classroom**

Although traditional lecture may be a suitable form of delivery for some disciplines and topics, students today demand variance in teaching methodology. Halpern (2000) emphasizes that the traditional lecture format of the college classroom is failing students by not creating a sustainable transfer of knowledge. Students are not challenged to think about material with the lecture and recitation methodology, which results in students being physically in class but not mentally engaged (Cottell and Millis, 1993). Holter (1994) expresses the ineffectiveness of the lecture format, as the student is merely an observer in the learning process. In the past decade, researchers throughout the country have explored various teaching methodologies in an attempt to discover which method has the greatest impact on learning (Bobbitt, et al., 2000). Although differences arise in the discourse of methodology effectiveness, most scholars believe that lecture does not facilitate the creative and problem-solving skills students need to develop in their college careers (Rassuli & Manzer, 2005; Bobbitt, et al., 2000). “The learning environment of a traditional lecture-based class model utilized at universities across the country is not, in and of itself, sufficient to encompass the active learning styles of today’s students” (Coers and
Lorensen, 2009, p.94). Thus, the trend of group work in the classroom setting is evident through the demands of students, potential employers, and professors utilizing cooperative learning pedagogy (Colbeck, et al., 2000).

Many academicians support cooperative learning pedagogy due to its impact on students to acquire the skills desired by employers (Rassuli & Manzer, 2005). Kent and Hasbrouck (2003) note the increasing popularity and use of such pedagogy techniques as team projects, group tests, and problem solving among other collaborative learning techniques. However, Riva and Korinek (2004) note that much of the literature on group work in the higher education classroom focuses on the when and how of incorporating the pedagogy into the classroom rather than the theory or connection of the experience to projects beyond the classroom. Additionally, Killacky and Hulse-Killacky (2004) emphasize that “transfer of learning must be a conscious part of this endeavor” for group work to be effectively utilized, in the context of counseling education and across disciplines (p. 89).

**Cooperative Learning**

Linking educational goals with employability skills to narrow the potential gap for students in an increasingly technologically-driven generation is of great importance today. Providing students with opportunities to work with their peers on activities that apply concepts learned in class to life examples or problems is the essence of the various methodologies within the collaborative learning umbrella (Smith and MacGregor, 1992 as cited in Colbeck, et al., 2000). Hassanien (2007) noted that researchers have demonstrated the positive impacts of collaborative learning, including team work skill development, increased motivation and a more positive attitude, and creation of a diverse cultural understanding. Cooperative learning in the classroom setting has been extensively researched throughout the years. The premise of
cooperative learning is for student learning to be more in depth and more interdependent than in the traditional classroom (Knabb, 2000). The five defining features of cooperative learning include: (1) Students develop an interest to work together, creating positive interdependence; (2) Responsibility ultimately lies in individual accountability; (3) Group work is done in an appropriate manner, depending upon the task at hand; (4) Appropriate behavior is modeled to develop social skills, including giving constructive feedback and probing; and (5) Group monitoring (Cottell & Millis, 1993; Cooper, et al., 1990; Herreid, 2000; Siciliano, 2001). Kreie, et al. (2007) note that cooperative learning positively impacted student retention in a course, observing that “students seemed more motivated because of a sense of obligation to their team” (p. 55). Haberyan (2007) emphasized the benefits of utilizing cooperative learning methods:

Students held each other accountable for their actions. As a result the students worked harder in the course and had higher attendance rates when compared to students taught in the traditional lecture form. Students could not be passive recipients of information and still do well in the course. They had to be active, engaged participants. (p. 148)

An important shift in responsibility of learning from the instructor to the student occurs in cooperative learning (Halpern, 2000; Cooper, et al., 1990). Haberyan (2007) also notes the increased engagement in class, as students viewed cooperative learning as an enjoyable experience.

Bobbitt, et al. (2000) explored the importance of cooperative learning to not only one class, but also to connect courses together to create an integrated curriculum. The researchers exert that students go from class to class learning various topics, but do not take the time or effort to connect concepts and applications of material learned in different courses to one another and the broader student life. This experience, however, leaves students with a lack of interrelated knowledge at graduation.
As an additional teaching methodology, or supplement to traditional methodologies, collaborative learning offers professors the opportunity to control certain aspects of the assignment while allowing for creative expression and execution of ideas within a group. This may be an application to team exercises, or a case study, but also allows for the team to learn to work together to determine logistics of the problem at hand and utilizes higher-order thinking skills (Holter, 1994).

Group work or team assignments are just one strategy of cooperative learning that enables students to become actively engaged in their academic pursuits within that course and the community or organization focused on through the group project (Holter, 1994; Payne, Monk-Turner, Smith, and Sumter, 2006). Payne and Monk-Turner (2006) describe the rising trend in the college classroom toward group projects, noting that the rise is connected to the increase in the general increase of use of cooperative learning in the collegiate classroom. Payne, et al. (2006) state the following:

Regardless of how long the projects are designed to last, research shows a number of benefits of group work. Among others, those benefits of group work that have been identified in the literature include the following: (1) students learn teamwork skills, (2) students improve their critical thinking skills, and (3) students gain more insight about a particular topic. (p. 441)

Critics may say that limitations are placed on the quantity of material covered in a classroom that utilizes cooperative learning; however, it is important to remember that quantity does not equal quality of learned material (Herreid, 2000).

Long (1989) differentiates the classroom from community in regards to emotional connections that can be formed; thus, educators must emphasize the transferability of developed skills through cooperative learning for students to value the process of learning through experience. Scholars of effective teaching stress the importance of students learning team work
skills while in the classroom. Yet, Bolton (1999) recognizes that although universities have provided ample opportunities for students to develop career skills in the classroom setting through group projects, support for student group development is typically minimal.

Ieva, Ohrt, Swank, and Young (2009) explored the impact of experiential or collaborative groups within counseling education. It is a common belief in counseling education that group work skills and experience are necessary for a career within the field (Ieva, et al. 2009). However, Ieva, et al. (2009) noted that knowledge of the student perspective is minimal concerning the impact of such group experiential of collaborative learning. The researchers found that participants gained confidence in facilitation and being a member of a group after the experience (Ieva, et al., 2009). Ieva, et al. (2009) also noted the important role that reflection played for participants within this study.

**Collaborative Learning through Service-Learning**

Service-learning definitions are as broad and numerous as those of the term leadership and other terminologies used to describe ‘cooperative’ learning. However, Eyler and Giles (1999) generalize service-learning to be “a balance between service to the community and academic learning and that the hyphen in the phrase symbolizes the central role of reflection in the process of learning through community experience” (p. 4). The distinguishing factor of service-learning in contrast to other methods of collaborative or experiential learning is the equality in focus and emphasis on the learning and service components, as well as the benefits received from the service (Furco, 1996). Specifically utilizing service-learning as a means of cooperative or experiential learning has been researched heavily, especially its connection of classroom instruction to the real world within communities (Govekar and Rishi, 2007). Service-learning in a group enables students to help one another in applying course content, and provide
encouragement, support, and assistance in analyzing the process of service (Eyler and Giles, 1999). The premise that learning in a context similar to which content will be used, thus enhancing the usefulness of such knowledge, is a primary tenet to service-learning (Eyler and Giles, 1999).

**Student Perceptions of Group Work**

This increase of opportunities for students to gain group work experience in the collegiate classroom with a lack of direction from instructors has lead to frustration and a mix of student perceptions regarding the use of group work in the classroom. Rassuli and Manzer (2005) note that student attitude toward group work should be taken into consideration when determining the effectiveness of group work. The same authors may, however, also perceive group work as a means to attaining higher comprehension of course material (2005). Rassuli and Manzer (2005) also note prior teamwork experience, course grade expectations, and time commitment for team activities as variables for group work perception. Even when an activity is carefully designed by an instructor, several variables can go awry (Pauli, et al., 2008). Su (2007) also explored the impact of individual ability and the abilities of teammates on preference for team-based learning in the classroom.

A common occurrence for instructors utilizing group work in the classroom is to hear student complaints regarding a group project (Payne and Monk-Turner, 2006). Based on prior experiences, many students groan at the thought of another group project experience where one individual carries the weight of the work and the group struggles to find a common time to meet, which leads to frustration and friction among the group as well as lack of focus on the assignment (Butts, 2000). Additional frustrations with group work in academia can be related to the constructs of the *Negative Group Work Experiences* questionnaire, which include lack of
group commitment, task disorganization, storming group, and fractionated group (Pauli, et al., 2008).

Although the benefits of collaborative learning are evident, Bolton (1999) notes that student satisfaction with group work experiences in the classroom is less than that of the faculty designers. This frustration with the enthusiasm portrayed by individuals within higher education to provide students with group work experiences is rooted in the lack of instructional support in the group development process to manage the materials and insights desired to be gained from the experience (Bolton, 1999). Mu and Gnyawali (2003) also emphasize the lack of guidance through the group development process or knowledge of how to effectively work together in a group with other students – a skill necessary to fulfill a complex team assignment. Despite this negative perception among some instructors and students, Coers and Lorensen (2009) found a generally positive perception of group work among students; however, the perception of group work became more positive when the group project was accompanied by group process knowledge.

**Need for Group Process Knowledge**

Cottell and Millis (1993) stress the importance for instructors to lay a ground work of cooperative learning knowledge for students to be able to work cooperatively in a group and overcome possible less-structured prior group experiences. Barbour (2006) observed the effectiveness of utilizing team-based learning for building classroom groups, but noted the need for focus on the stages of development. “Students were more effective when the instructor guided them through forming, developing team norms, dealing with conflict, and concluding their projects” (Tuckman and Jensen’s (1977) stages of group development) (p. 37). Baskin, et al. (2006) relate to the development of group work skills to other professional or technical skills:
“[Group work is a skill] that needs to be developed and learned…Understanding small group formation, its dynamics, processes, and outputs are foundational elements in the provision of effective learning environments” (p. 20). Hirst, Mann, Bain, Pirola-Merlo, and Richver (2004) emphasize the disconnect between leadership learning and behavior, suggesting that experiential learning may enable students to develop group work skill in a timely manner focused on the process and long-term development of skills, rather than short training courses on the job.

The importance of understanding the process of group development—a process that needs to be learned and developed over time—is evident in the shifting focus on group work within the university setting (Baskin, et al., 2005). Students should be aware of the stages of group development, and fully understand the depth of the group project at hand (Davis, 1993). Ultimately, students need training to be effective and successful at group work (Hassenien, 2007; McGraw and Tidwell, 2001). Reflection and multiple formats of information processing may be necessary for students to truly grasp the group development process and appreciate its importance in creating a positive group experience for students (Hensley, 2002). Butts (2000) emphasizes that students lacking enthusiasm for group projects may simply not be aware of how to effectively work in that setting. McKendall (2000) also notes that while students gained a wealth of experience in group work, no class or instruction was focused on effective group work for a simple lack of time on behalf of the instructor to even introduce the process of group development or tips for working in a group. Thus, student frustrations and mixed perceptions of utilizing group projects in the collegiate classroom will continue until some sort of course or training is developed for students and teachers alike.
Role of the Instructor

With additional demands on students to enter the professional world prepared, emphasis is also placed on instructors to equip students with these necessary skills. Critical thinking skills, as well as skills for effective communication, are expected to be taught to students in addition to covering content material for each course (Cottell and Millis, 1993). In order to achieve these educational challenges, instructors must utilize nontraditional teaching methods to link theory and practice of the team environment in today’s business culture (Barbour, 2006). Benjamin (2000) emphasizes the instructor’s responsibility to be both a scholar within the discipline as well as have a genuine focus on the students. Within this paradigm of education, the instructor also serves as a facilitator to enable students to be independent scholars (Rassuli & Manzer, 2005; Cooper, et al., 1990; Halpern, 2000). However, efforts to implement a team learning environment often fall below expectations. Instructors tend to believe that the integration of new pedagogy to facilitate team learning and group work skills is simply assigning a group project and wishing the students well, offering no guidance to the process of group development (Page and Donelan, 2003). Gillies (2003) suggested, “It is clear that placing students in groups and telling them to work together will not necessarily promote cooperation and learning” (p. 36). Bolton (1999) describes rationales provided by faculty members who offer group projects in their courses for the lack of support provided to student teams: “(a) lack of time in class, (b) desires for students to learn on their own, (c) perceptions that students do fine without further help, (d) uncertainties about how to help, (e) not having given the material much thought, and (f) a lack of preparation time” (p. 234).

Payne, et al. (2006) investigated student recommendations for improving group work in the classroom, which included the following recommendations for faculty: “more guidance in the
beginning of the project.” Various suggestions for utilizing grading as a motivator for some free-riding students, placing requirements on the number of meetings each group should have throughout the duration of the project, and simply voicing opposition to group work in the classroom (p. 444). Recommendations from this study regarding how future group projects could be successful included the following:

(1) overcome faculty resistance to group work, (2) overcome student resistance to group work, (3) ensuring students realize the purpose of the project, (4) providing appropriate oversight for students, (5) scheduling the group work appropriately, and (6) helping groups set and attain the goals of the project. (p. 445-446)

In addition, Gillam (2004) stresses that teaching students about group work should include opportunity for application of course content; instructors must create group experiences that will assist students in understanding the group work process.

Cottell and Millis (1993) described the critical role of the instructor to monitor and guide students through the group development process, and note the importance of structured group projects in the classroom environment to create meaningful learning experiences. Kreie, et al. (2007) outline four principles of team learning with instructor activities:

1) Create well formed teams – make a plan to distribute certain skills or characteristics across teams rather than using random assignments or students’ self-selection.
2) Hold individuals accountable – through design and scheduling, use individual quizzes and assignments to motivate students to do individual work that helps them prepare for team activities.
3) Plan team assignments – design team assignments that promote team interaction and learning course objectives.
4) Provide prompt feedback – provide feedback on individual and team assignments as soon as possible so students and teams can track their progress. (p. 52)

Instructors have the responsibility to creatively develop group work experiences for students (Rassuli & Manzer, 2005). Mu and Gnyawali (2003) emphasized that adequate time in class is
also necessary for students to truly grasp the differences between effective and ineffective teams, as well as to gain an understanding of the benefits and challenges of group work.

**Need for Instructor Training**

However, in order for instructors to effectively implement group learning into their classroom, an understanding of the group process and skills needed for an effective team must be embodied by the instructor. Weeks and Kelsey (2007) question whether faculty understand the group process students will experience in order to lead project teams within a class. Barbour (2006) says, “An instructor must be able to understand, model, and lead group processes, which includes the roles all team members will play and the dynamic of team members within those roles” (p. 32-33). Instructors must have a keen awareness of the team process and outside influences on student teams (Weeks and Kelsey, 2007; Riva and Korinek, 2004). Gillies (2003) exerts the benefits associated with cooperative learning pedagogy increase with a balanced student team and teacher training of group process and pedagogy. Bosworth and Hamilton (1994) note that positive experiences of group work for students increase when instructors inform and guide students in the group process (as cited in Colbeck, et al., 2000). Knight (2009) suggests that an instructor training program highlighting group work skill connections to learning opportunities in their respective content areas can positively impact a student’s group work experience.

Unfortunately, the expectations of group work in higher education are not met due to the inexperience with group work facilitation by instructors and lack of guidance provided to students in group work projects (Colbeck, et al., 2000, p. 61). Butts (2000) also notes that instructors simply do not understand their role within cooperative learning facilitation, which in turn impacts student learning. Lack of knowledge and time to prepare students with the proper
information needed for group work also impacts the outcomes of group projects (King and Behnke, 2005). Johnson, Johnson and Smith (1991) emphasize that the misperception needs to be rectified:

Simply placing students in groups and telling them to work together does not mean they know how to cooperate or that they will do so even if they know how. Many instructors believe that they are implementing cooperative learning when in fact they are missing its essence. Putting students into groups to learn is not the same as structuring cooperation among students. (p. 6)

Kent and Hasbrouck (2003) emphasize the need for instructor training to effectively implement group projects and assist students in understanding the process of effective team work.

**Conceptual Framework**

The Tuckman & Jensen (1977) model of group development provided the conceptual framework of this study. In 1965, Bruce W. Tuckman conducted an in-depth review of 50 articles relating to group development in various settings; distinction between interpersonal and task-related behavior was explored throughout this review. From Tuckman’s (1965) review, four stages of group development were identified: (a) forming, where group members orient with the task and interpersonal boundaries; (b) storming, marked by conflict around interpersonal issues and resistance to task requirements; (c) norming, distinguished by role adoption and cohesiveness; and (d) performing, which is established by the influence of built interpersonal relationships on the task performance. Tuckman (1965) believed his model was congruent with common sense and developmental theory, and understood that “duration of group life would be expected to influence amount and rate of development” (p. 14). Tuckman also was aware of the many limitations of his 1965 study, as it did not involve empirical data, rather conceptualized the model from existing research.
Tuckman’s (1965) call for empirical research of his proposed model of small-group development was met in the next decade. Tuckman & Jensen (1977) then reviewed an additional 22 empirical research studies related to group development processes. However, much of the reviewed research was theoretically-based and not concerned with testing existing models (Tuckman & Jensen, 1977). Although the amount of empirical research conducted between 1965 and 1977 was limited, Tuckman & Jensen (1977) recommended the addition of the adjourning stage to the model of group development previously identified by Tuckman (1965). Tuckman & Jensen (1977) noted, “there is a need to supply statistical evidence as to the usefulness and applicability of the various models suggested in the literature” (p. 426).

Levi (2007) noted the internal focus of the Tuckman & Jensen (1977) model of group development, and addressed some identified concerns with the model. Tuckman & Jensen’s (1977) group development process is criticized by Beck and Yeager (1996) for being too simple, proposing that conflict is necessary for group development to occur, and dismissing the possibility of complacency in a group that may perform together for a longer period of time. However, Fall and Wejnert (2005) noted that “creating a unified, common language for the description and analysis of group dynamics contributed greatly to the understanding of group work” (p. 324-325). The forming-storming-norming-performing-adjourning model is appealing due to its rhyming stages for easy recall, the comfort of conflict viewed as a natural stage to the process of development and lead to norms in a group, and performance of the task.

**Summary**

Chapter two has provided an encompassing view of the literature concerning the nature of the college classroom, use of group work through cooperative learning, and student perceptions of such practices. In order to effectively utilize this pedagogy and provide students
with the experiences desired by employers in group work, effective practices are needed for instructors to implement group work assignments with purpose and confidence that students will gain valuable, transferable skills. It is revealed through the literature that minimal research has been conducted since Tuckmen & Jensen’s (1977) review of Tuckman’s (1965) proposed model of small group development. The literature has demonstrated that there is a need for students and instructors alike to be more aware of the theory behind group work and its use in the classroom - the process of developing a group.

Chapter three will discuss the methods and procedures utilized in this study, including the research design, population and sample, instrumentation, and the measures and scoring.
CHAPTER 3

METHODS AND PROCEDURES

Introduction

The purpose of this study is to determine the impact of Tuckman & Jensen’s (1977) theory of group development process on students in the college classroom in three primary areas: perception, importance, and confidence. Group projects are utilized in numerous college courses today, many without providing direction on group development to students. By examining the impact of Tuckman & Jensen’s (1977) theory of group development process on student perception of group work in the collegiate classroom, confidence in group work skills, and perceived importance of group work skills, the researcher will determine the role of such knowledge to the practice of using group projects in the college classroom. Chapter three will describe the research design, population and sample, instrumentation, and the measures and scoring.

Research Design

The methodology utilized in this study is the true experimental, posttest-only control group design. This design enabled the researcher to observe the impact of standard exposure to group development theory in contrast to reinforced exposure to group development theory on a student’s group work experience through a service-learning project. The control group received the group service project assignment, as well as a one-hour lecture on the process of group development identified by Tuckman and Jensen (1977) – standard to the course content. Students in the control group were expected to determine a service project at one of the predetermined
service locations, initiate communication with that organization, organize the service project, execute the group's plan, and evaluate the project. Graded assignments related to the service-learning group project included a service plan and objectives, as well as a final presentation and written portfolio.

The variable of this study—increased exposure and reinforcement of group development theory—was applied to the experimental group. The experimental group received the group service project assignment, a full class period (approximately 3 hours) lecture and application brief on the process of group development identified by Tuckman and Jensen (1977). Students in the experimental group were expected to determine a service project at one of the predetermined service locations, initiate communication with that organization, organize the service project, execute the group's plan, and evaluate the project. Graded assignments related to the service-learning group project included a service plan and objectives, as well as a final presentation and written portfolio. In addition to the graded assignments listed, one additional group service project update was required for the experimental group, which included reflection questions regarding the stages of group development as identified by Tuckman and Jensen (1977).

At the conclusion of each summer semester session, the researcher administered a demographic questionnaire and the research instrument (after completion of all components of the service-learning group project assignment). Demographic questionnaire items and survey instrument items were coded and transferred into SPSS. Descriptive statistics were used to identify gender, academic status, and frequency of previous group work experiences. Paired t-tests were used to determine the significance of relationship between before and after construct items for both importance and confidence scales. Independent t-tests were used to determine the
significance of relationship between the change in both the importance and confidence scales between the control and experimental groups.

**Population and Sample**

The population of this study included 33 undergraduate students at the University of Georgia, who were enrolled in the 2009 summer semester course entitled ALDR 3900: Introduction to Leadership and Service. The control group included undergraduate students enrolled in the Maymester course, and the experimental group included undergraduate students enrolled in the July semester of the course. A purposive sample was utilized for student participant selection, as data were collected from two sections of ALDR 3900 held during the short, summer semesters. This particular sample of participants was chosen due to the nature of the leadership course which included a groups and teams content area, as well as an established service-learning group work component.

**Instrumentation**

The instrumentation utilized in this study is the *Core Group Work Skills Inventory – Importance and Confidence* (CGWSI-IC). The Association of Specialists in Group Work (ASGW) developed training standards related to group work in 1983, and revised them in 1991, 2000, and 2007 (Wilson & Newmeyer, 2007). Wilson & Newmeyer (2007) noted the purpose of the CGWSI-IC is “to be a content valid measure of the degree to which a respondent viewed each of ASGW’s core group work knowledge and skill competencies as being important and the degree to which the respondent felt confident that he or she was able to use each skill” (p. 1). The instrument consists of 27 items, each matched to one of the ASGW training standards. Wilson & Newmeyer (2007) noted the scaling of the instrument, which included a four-point summative scale rating for each dimension; the importance scale included *(1)*very unimportant,
(2) unimportant, (3) important, and (4) very important and the confidence scale included (1) very unconfident, (2) unconfident, (3) confident, and (4) very confident (Wilson & Newmeyer, 2007). The Core Group Work Skills Inventory – Importance and Confidence has been utilized in numerous studies within the membership of the Association of Specialists in Group Work. The primary measure of validity for the instrument, as identified by Wilson and Newmeyer (2007), was determined by analyzing the relationship between the scales of importance and confidence. Wilson & Newmeyer (2007) utilized the Pearson product moment correlation coefficient, and reported a strong correlation between the two scales ($r = .62, p < .01$).

**Measures and Scoring**

Frequencies were calculated for the demographic data provided in the questionnaire, including gender, academic status, previous group work experience, previous classroom group experience, perception of group work in the college classroom (before and after this course), and group project involvement in courses. The demographic items relating to perception of group work in the college classroom were further analyzed to determine if a correlation exists between perception and confidence in group work.

In its original form, the Core Group Work Skills Inventory – Importance and Confidence instrument corresponds with training standards identified by the Association of Specialists in Group Work. The researcher added a before component to the instrument for both the importance and confidence scales, creating a post-then format for the survey. Although the context in which the instrument was designed for – group therapy – was not the context within the study, similarities in group work skills identified through the instrument are transferable to the context of classroom group work and the group development process. Thus, the researcher identified four constructs within the Core Group Work Skills Inventory – Importance and
Confidence: group process, collaboration, group development, and leadership (identified in Table 3.1). The group process construct included five of the instrument’s statements (9, 13, 14, 19, 26), which focus on process and task orientation, as well as the functioning of the group. The collaboration construct also included five statements (8, 10, 11, 15, 17) from the instrument that honed in on cooperation among group members, encouragement of participation, and information exchange among a group’s members. A third construct was developed to emphasize group development through fit, feedback, and awareness of group members’ contributions, which included four of the instrument’s statements (5, 6, 7, 20). The fourth construct consisted of seven statements (1, 2, 4, 21, 22, 24, 25) that focused on leadership through best practices, organization, self-evaluation, and goal orientation. Five of the instrument’s original statements were disregarded for data analysis, as the statements did not pertain to the context of group work discussed in this study. The disregarded items included statements 3, 12, 16, 23, and 27, which addressed self-disclosure and disclosure of opinions or feelings in a group work setting.

Table 3.1

<table>
<thead>
<tr>
<th>Construct and Corresponding Items</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Group Process</strong></td>
</tr>
<tr>
<td>9. Identifies group process</td>
</tr>
<tr>
<td>13. Responds empathically to group process themes</td>
</tr>
<tr>
<td>14. Keeps a group on task</td>
</tr>
<tr>
<td>19. Assesses group functioning</td>
</tr>
<tr>
<td>26. Contributes to evaluation activities during group processing</td>
</tr>
<tr>
<td><strong>Collaboration</strong></td>
</tr>
<tr>
<td>8. Works cooperatively with a co-leader</td>
</tr>
<tr>
<td>10. Works collaboratively with group members</td>
</tr>
<tr>
<td>11. Encourages participation of group members</td>
</tr>
<tr>
<td>15. Requests information from group members</td>
</tr>
<tr>
<td>17. Provides information to group members</td>
</tr>
<tr>
<td><strong>Group Development</strong></td>
</tr>
<tr>
<td>5. Seeks good fit between group plans and group member's life context</td>
</tr>
<tr>
<td>6. Gives feedback to group members</td>
</tr>
<tr>
<td>7. Requests feedback from group members</td>
</tr>
<tr>
<td>20. Identifies personal characteristics of individual members of the group</td>
</tr>
</tbody>
</table>
Leadership
1. Evidence ethical practice in group membership or leadership
2. Evidences best practices in group membership or leadership
4. Develops a plan for group leadership activities
21. Develops hypotheses about the behavior of group members
22. Develops overarching purpose and sets goals/objectives for the group, as well as methods for determining outcomes
24. Conducts evaluation of one's leadership style
25. Engages in self-evaluation of personally selected performance goals

The reliability for each construct developed within the items of the Core Group Work Skills Inventory – Importance and Confidence was tested using Chronbach’s alpha. Davis (1971) identified a scaling of significance to describe the relationship among items which emphasized a Chronbach’s alpha greater than 0.7 as very high, and 0.5-0.69 as substantial. Table 3.2 displays the results of Chronbach’s alpha test regarding the Core Group Work Skills Inventory – Importance and Confidence constructs; three areas were identified with substantial reliability and all other areas of the developed constructs indicated very high reliability.

Table 3.2
Reliability of Developed Constructs (N=33)

<table>
<thead>
<tr>
<th>Construct</th>
<th>Items</th>
<th>Chronbach’s α</th>
<th>M</th>
<th>SD</th>
<th>Min./Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group Process</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Before Importance</td>
<td>9,13,14,19,26</td>
<td>.732</td>
<td>16.0606</td>
<td>3.102</td>
<td>5/20</td>
</tr>
<tr>
<td>After Importance</td>
<td>9,13,14,19,26</td>
<td>.663</td>
<td>18.2121</td>
<td>2.043</td>
<td>5/20</td>
</tr>
<tr>
<td>Before Confidence</td>
<td>9,13,14,19,26</td>
<td>.762</td>
<td>15.9394</td>
<td>3.020</td>
<td>5/20</td>
</tr>
<tr>
<td>After Confidence</td>
<td>9,13,14,19,26</td>
<td>.666</td>
<td>18.0303</td>
<td>2.114</td>
<td>5/20</td>
</tr>
<tr>
<td>Collaboration</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Before Importance</td>
<td>8,10,11,15,17</td>
<td>.790</td>
<td>17.3939</td>
<td>2.904</td>
<td>5/20</td>
</tr>
<tr>
<td>After Importance</td>
<td>8,10,11,15,17</td>
<td>.736</td>
<td>18.9091</td>
<td>1.843</td>
<td>5/20</td>
</tr>
<tr>
<td>Before Confidence</td>
<td>8,10,11,15,17</td>
<td>.736</td>
<td>16.9394</td>
<td>2.512</td>
<td>5/20</td>
</tr>
<tr>
<td>After Confidence</td>
<td>8,10,11,15,17</td>
<td>.724</td>
<td>18.5758</td>
<td>1.985</td>
<td>5/20</td>
</tr>
<tr>
<td>Group Development</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Before Importance</td>
<td>5,6,7,20</td>
<td>.783</td>
<td>12.3939</td>
<td>2.957</td>
<td>4/16</td>
</tr>
<tr>
<td>After Importance</td>
<td>5,6,7,20</td>
<td>.740</td>
<td>14.3333</td>
<td>2.189</td>
<td>4/16</td>
</tr>
<tr>
<td>Before Confidence</td>
<td>5,6,7,20</td>
<td>.732</td>
<td>11.9091</td>
<td>2.832</td>
<td>4/16</td>
</tr>
<tr>
<td>After Confidence</td>
<td>5,6,7,20</td>
<td>.690</td>
<td>14.0909</td>
<td>2.156</td>
<td>4/16</td>
</tr>
</tbody>
</table>
Leadership

<table>
<thead>
<tr>
<th></th>
<th>Before Importance</th>
<th>After Importance</th>
<th>Before Confidence</th>
<th>After Confidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Importance</td>
<td>1,2,4,21,22,24,25</td>
<td>1,2,4,21,22,24,25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Confidence</td>
<td>1,2,4,21,22,24,25</td>
<td>1,2,4,21,22,24,25</td>
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<td></td>
</tr>
</tbody>
</table>

Summary

The researcher utilized the true experimental, posttest-only control group design for this study to determine the impact of Tuckman and Jensen’s (1977) group development theory on students’ perceived confidence, importance, and attitude toward group development skills and the use of groups in the college classroom. The purposive sample used for this study included 33 undergraduate students at the University of Georgia, who were enrolled in the 2009 summer semester course entitled ALDR 3900: Introduction to Leadership and Service. At the conclusion of each of the summer semester sessions, the researcher administered a demographic questionnaire and the research instrument—the Core Group Work Skills Inventory – Importance and Confidence (CGWSI-IC). The survey was modified from its original form by adding a ‘before’ component for both the importance and confidence scales, creating a post-then format for the survey. The researcher also identified four constructs within the instrument, including group process, collaboration, group development, and leadership; each identified construct was tested for reliability using Chronbach’s alpha. Chapter four will further discuss the data collected from the study’s instrument.
CHAPTER 4
RESULTS

In this chapter, research findings are described, including demographic analysis of the sample and the research questions: 1) Describe identified demographic characteristics, including gender, academic status, and previous group work experience. 2) Does knowledge of the Tuckman & Jensen (1977) theory of group development process impact student importance in group work skills? 3) Does knowledge of the Tuckman & Jensen (1977) theory of group development process impact student rating of confidence of group work skills? 4) Does knowledge of the Tuckman & Jensen (1977) theory of group development process impact student perception of group work in the collegiate classroom? Based on the data collected from the purposive sample of 33 students, results are categorized and presented according to the correlated research question.

Objective 1: Describe identified demographic characteristics, including gender, academic status, and previous group work experience.

Demographic information for the student participants of this study describes the similarities between the control and experimental groups of the purposive sample chosen for this study. Gender and academic status are presented in Table 4.1. The participants of this study included 16 undergraduate students in the control group, with 11 males and 5 females. The control group contained a sophomore (n=1), juniors (n=5), and seniors (n=10). The experimental group was represented by 17 undergraduate students – 8 male and 9 female – with sophomores (n=9), juniors (n=3), seniors (n=4), and an additional student (fifth year senior) (n=1).
Table 4.1
Gender and Academic Status

<table>
<thead>
<tr>
<th>Category</th>
<th>Demographic</th>
<th>f</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control Group (n=16)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>Male</td>
<td>11</td>
<td>68.7</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>5</td>
<td>31.3</td>
</tr>
<tr>
<td>Academic Status</td>
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<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Sophomore</td>
<td>1</td>
<td>6.2</td>
</tr>
<tr>
<td></td>
<td>Junior</td>
<td>5</td>
<td>31.3</td>
</tr>
<tr>
<td></td>
<td>Senior</td>
<td>10</td>
<td>62.5</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Experimental Group (n=17)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>Male</td>
<td>8</td>
<td>47.1</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>9</td>
<td>52.9</td>
</tr>
<tr>
<td>Academic Status</td>
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<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Sophomore</td>
<td>9</td>
<td>52.9</td>
</tr>
<tr>
<td></td>
<td>Junior</td>
<td>3</td>
<td>17.7</td>
</tr>
<tr>
<td></td>
<td>Senior</td>
<td>4</td>
<td>23.5</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>1</td>
<td>5.9</td>
</tr>
</tbody>
</table>

Table 4.2 identifies the previous group work experiences (external), as reported by participants according to four categories: athletics, professional organizations, sororities, or fraternities, student organizations, or other specified means. In the control group, 87.5% reported involvement in group work through athletics (n=14), 43.8% had experienced group work through a professional organization, sorority, or fraternity (n=7), 56.3% had experience in group work within a student organization (n=9), and 6.3% indicated previous group work experience through other means, specifically the participant’s job (n=1). Regarding participants in the experimental group, 82.4% indicated involvement in group work through athletics (n=14), 35.3% had experienced group work through a professional organization, sorority, or fraternity (n=6), 41.2% had experience in group work within a student organization (n=7), and 5.9% indicated previous group work experience through other means, specifically the participant’s church (n=1).
Table 4.2
Previous Group Work Experience

<table>
<thead>
<tr>
<th>Category</th>
<th>Demographic</th>
<th>( f )</th>
<th>( P )</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Control Group (n=16)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>External</td>
<td>Athletics</td>
<td>14</td>
<td>87.5</td>
</tr>
<tr>
<td></td>
<td>Professional organization, sorority, or fraternity</td>
<td>7</td>
<td>43.8</td>
</tr>
<tr>
<td></td>
<td>Student organization</td>
<td>9</td>
<td>56.3</td>
</tr>
<tr>
<td></td>
<td>Other (Job)</td>
<td>1</td>
<td>6.3</td>
</tr>
<tr>
<td>Classroom</td>
<td>Course related to my major</td>
<td>9</td>
<td>56.3</td>
</tr>
<tr>
<td></td>
<td>General education course</td>
<td>6</td>
<td>37.5</td>
</tr>
<tr>
<td></td>
<td>Elective course</td>
<td>12</td>
<td>75.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Experimental Group (n=17)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>External</td>
<td>Athletics</td>
<td>14</td>
<td>82.4</td>
</tr>
<tr>
<td></td>
<td>Professional organization, sorority, or fraternity</td>
<td>6</td>
<td>35.3</td>
</tr>
<tr>
<td></td>
<td>Student organization</td>
<td>7</td>
<td>41.2</td>
</tr>
<tr>
<td></td>
<td>Other (Church)</td>
<td>1</td>
<td>5.9</td>
</tr>
<tr>
<td>Classroom</td>
<td>Course related to my major</td>
<td>11</td>
<td>64.7</td>
</tr>
<tr>
<td></td>
<td>General education course</td>
<td>9</td>
<td>52.9</td>
</tr>
<tr>
<td></td>
<td>Elective course</td>
<td>15</td>
<td>88.2</td>
</tr>
</tbody>
</table>

Students also responded with the nature of any previous classroom group experience through courses in three categories: *course related to my major*, *general education course*, or elective course (Table 4.2). In the control group, 56.3% designated courses related to their major \((n=9)\), 37.5% indicated general education courses \((n=6)\), and 75.0% reported elective courses as instances of previous group work experience in the classroom setting \((n=12)\). Within the experimental group, 64.7% of participants indicated courses related to their major \((n=11)\), 52.9% noted general education courses \((n=9)\), and 88.2% identified elective courses \((n=15)\) as experiences with group work in the classroom setting.

Participants also indicated the number of group work projects completed in academic courses prior to this course, with options ranging from one to five and over. Tables 4.3 and 4.4 indicate the frequency of prior classes including group work experience and the average number
of prior courses including group work experience, respectively. No participants in the control
group reported having never taken a course that included group work, 6.3% of the participants
indicated having two prior courses with group work ($n=1$), 6.3% had experienced three prior
courses with group work ($n=1$), 31.3% reported four prior courses including group work ($n=5$),
and 56.3% of the participants stated having five or more prior courses that included group work.
Thus, the control group participated in over an average of 4.38 courses which required group
work as a component of their curriculum. In the experimental group, no participants indicated
having no prior courses that included group work, 5.9% reported having two prior courses with
group work ($n=1$), 11.8% had experienced three prior courses with group work ($n=2$), 11.8%
also reported four prior courses including group work ($n=2$), and 70.6% of the participants stated
having five or more prior courses that included group work ($n=12$). The experimental group
participated in over an average of 4.18 courses which required group work as a component of
their curriculum.

Table 4.3
Frequency of Prior Classes Including Group Work Experience

<table>
<thead>
<tr>
<th>Group</th>
<th>Number of Courses</th>
<th>$f$</th>
<th>$P$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control Group ($n=16$)</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>1</td>
<td>6.3</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>1</td>
<td>6.3</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>5</td>
<td>31.3</td>
</tr>
<tr>
<td></td>
<td>5+</td>
<td>9</td>
<td>56.3</td>
</tr>
<tr>
<td>Experimental Group ($n=17$)</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>1</td>
<td>5.9</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>2</td>
<td>11.8</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>2</td>
<td>11.8</td>
</tr>
<tr>
<td></td>
<td>5+</td>
<td>12</td>
<td>70.6</td>
</tr>
</tbody>
</table>

Table 4.4
Average Prior Classes Including Group Work Experience

<table>
<thead>
<tr>
<th>Group</th>
<th>$M$</th>
<th>$SD$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control Group ($n=16$)</td>
<td>4.38</td>
<td>0.885</td>
</tr>
<tr>
<td>Experimental Group ($n=17$)</td>
<td>4.18</td>
<td>1.38</td>
</tr>
</tbody>
</table>
As noted in Table 4.5, enjoyment levels were reported as never, seldom, sometimes, or always regarding group work experiences. Concerning participants in the control group, 25.0% indicated seldom enjoyment of group work (n=4), 37.5% reported enjoyment of group work sometimes (n=6), and 37.5% indicated always enjoying group work experiences (n=6). For participants in the experimental group, 11.8% reported seldom enjoyment of group work (n=2), 58.8% indicated enjoyment of group work sometimes (n=10), and 29.4% noted always enjoying group work experiences (n=5).

<table>
<thead>
<tr>
<th>Category</th>
<th>Demographic</th>
<th>f</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Control Group (n=16)</strong></td>
<td>Never</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Seldom</td>
<td>4</td>
<td>25.0</td>
</tr>
<tr>
<td></td>
<td>Sometimes</td>
<td>6</td>
<td>37.5</td>
</tr>
<tr>
<td></td>
<td>Always</td>
<td>6</td>
<td>37.5</td>
</tr>
<tr>
<td><strong>Experimental Group (n=17)</strong></td>
<td>Never</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Seldom</td>
<td>2</td>
<td>11.8</td>
</tr>
<tr>
<td></td>
<td>Sometimes</td>
<td>10</td>
<td>58.8</td>
</tr>
<tr>
<td></td>
<td>Always</td>
<td>5</td>
<td>29.4</td>
</tr>
</tbody>
</table>

Research Question 2: Does knowledge of the Tuckman & Jensen (1977) theory of group development process impact student rating of importance of group work skills?

Table 4.6 and Table 4.7 indicate the results of paired t-tests for developed constructs of the Core Group Work Skills Inventory – Importance and Confidence, with focus on the ‘importance’ scale of the instrument. Participants rated themselves on items related to each construct on a summative rating scale from one to four (1=very unimportant, 2=unimportant, 3=important, and 4=very important). For the control group, Table 4.6 indicates a strong, significant improvement in participants’ perceived importance from before the course to after the course in all constructs (t >2). The importance of Group Process represented the strongest
improvement \((t=4.096)\) for the control group, with Leadership \((t=4.081)\), Group Development \((t=3.721)\), and Collaboration \((t=3.294)\) constructs following suit.

Table 4.6
\textit{Paired t-tests, Importance scale, Control (n=16)}

<table>
<thead>
<tr>
<th>Paired Construct</th>
<th>(t)</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group Process</td>
<td>4.096</td>
<td>.001</td>
</tr>
<tr>
<td>Collaboration</td>
<td>3.294</td>
<td>.005</td>
</tr>
<tr>
<td>Group Development</td>
<td>3.721</td>
<td>.002</td>
</tr>
<tr>
<td>Leadership</td>
<td>4.081</td>
<td>.001</td>
</tr>
</tbody>
</table>

For the experimental group, Table 4.7 indicates significant improvement in participants’ perceived importance from before the course to after the course in all constructs \((t > 2)\). The importance of Leadership represents the strongest improvement \((t=3.891)\) for the experimental group, with Group Process \((t=3.396)\), Group Development \((t=3.099)\), and Collaboration \((t=2.537)\) constructs following suit.

Table 4.7
\textit{Paired t-tests, Importance scale, Experimental (n=17)}

<table>
<thead>
<tr>
<th>Paired Construct</th>
<th>(t)</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group Process</td>
<td>3.396</td>
<td>.004</td>
</tr>
<tr>
<td>Collaboration</td>
<td>2.537</td>
<td>.022</td>
</tr>
<tr>
<td>Group Development</td>
<td>3.099</td>
<td>.007</td>
</tr>
<tr>
<td>Leadership</td>
<td>3.891</td>
<td>.001</td>
</tr>
</tbody>
</table>

Table 4.8 presents a comparative analysis of the growth in importance from before the course to after the course in each construct between the control and experimental groups. Summated means for each construct and the corresponding standard deviation are based upon the participants’ self-reported rating on items related to each construct on a summative importance rating scale from one to four (1=very unimportant, 2=unimportant, 3=important, and 4=very important). Reported means and standard deviations resulted from the calculated differences of before and after scores, summated for each construct identified by the researcher. Independent \(t\)-
tests were conducted to determine the significance in change regarding perceived importance of group work skills. With \( p > .05 \) in all four constructs, equal variances were assumed. All four constructs indicate \( t < 2 \), which indicates no significant difference between the control and experimental groups.

Table 4.8

<table>
<thead>
<tr>
<th>Construct</th>
<th>Control (( n=16 ))</th>
<th>Experimental (( n=17 ))</th>
<th>( t )</th>
<th>( p^* )</th>
</tr>
</thead>
<tbody>
<tr>
<td>( M )</td>
<td>( SD )</td>
<td>( M )</td>
<td>( SD )</td>
<td></td>
</tr>
<tr>
<td>Group Process</td>
<td>2.19</td>
<td>2.14</td>
<td>2.12</td>
<td>2.57</td>
</tr>
<tr>
<td>Collaboration</td>
<td>1.88</td>
<td>2.28</td>
<td>1.17</td>
<td>1.91</td>
</tr>
<tr>
<td>Group Development</td>
<td>2.38</td>
<td>2.55</td>
<td>1.53</td>
<td>2.03</td>
</tr>
<tr>
<td>Leadership</td>
<td>3.19</td>
<td>3.12</td>
<td>2.65</td>
<td>2.81</td>
</tr>
</tbody>
</table>

Note: 1=very unimportant, 2=unimportant, 3=important, and 4=very important
* Equal variances assumed, \( (p > .05) \)

Research Question 3: Does knowledge of the Tuckman & Jensen (1977) theory of group development process impact student confidence in group work skills?

Table 4.9 and Table 4.10 indicate the results of paired t-tests for developed constructs of the Core Group Work Skills Inventory – Importance and Confidence, with focus on the ‘confidence’ scale of the instrument. Participants rated themselves on items related to each construct on a summative rating scale from one to four (1=very unconfident, 2=unconfident, 3=confident, and 4=very confident). For the control group, Table 4.9 indicates a strong, significant improvement in participants’ perceived confidence in group work skills from before the course to after the course in all constructs (\( t > 2 \)). The confidence scale for the Leadership construct represents the strongest improvement (\( t=5.578 \)) for the control group, with the Group Process construct also indicating a significant improvement in confidence (\( t=5.222 \)). Group Development (\( t=4.200 \)) and Collaboration (\( t=3.337 \)) constructs also demonstrated a significant improvement in participants’ perceived confidence in those identified group work skills.
For the experimental group, Table 4.10 indicates significant improvement in participants’ perceived confidence in group work skills from before the course to after the course in all constructs ($t > 2$). The confidence scale for the Leadership construct represents the strongest improvement ($t = 4.654$) for the control group, with the Group Process construct also indicating a significant improvement in confidence ($t = 3.822$). Group Development ($t = 3.453$) and Collaboration ($t = 3.225$) constructs also demonstrated a significant improvement in participants’ perceived confidence in those identified group work skills.

Table 4.11 presents a comparative analysis of the growth in confidence from before the course to after the course in each construct between the control and experimental groups. Summated means for each construct and the corresponding standard deviation are based upon the participants’ self-reported rating on items related to each construct on a summative importance rating scale from one to four (1=very unconfident, 2=unconfident, 3=confident, and 4=very confident). Reported means and standard deviations resulted from the calculated differences of before and after scores, summated for each construct identified by the researcher. Independent $t$-
tests were conducted to determine the significance in change regarding perceived importance of
group work skills. With \( p > .05 \) in all four constructs, equal variances were assumed. All four
constructs indicate \( t < 2 \), which indicates no significant difference between the control and
experimental groups.

Table 4.11

<table>
<thead>
<tr>
<th>Construct</th>
<th>Control (n=16)</th>
<th>Experimental (n=17)</th>
<th>( t )</th>
<th>( p )</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( M )</td>
<td>( SD )</td>
<td>( M )</td>
<td>( SD )</td>
</tr>
<tr>
<td>Group Process</td>
<td>2.13</td>
<td>1.63</td>
<td>2.06</td>
<td>2.22</td>
</tr>
<tr>
<td>Collaboration</td>
<td>1.88</td>
<td>2.25</td>
<td>1.41</td>
<td>1.81</td>
</tr>
<tr>
<td>Group Development</td>
<td>2.63</td>
<td>2.50</td>
<td>1.76</td>
<td>2.11</td>
</tr>
<tr>
<td>Leadership</td>
<td>4.31</td>
<td>3.09</td>
<td>2.59</td>
<td>2.29</td>
</tr>
</tbody>
</table>

Note: 1=very unconfident, 2=unconfident, 3=confident, and 4=very confident
\* Equal variances assumed, \( (p > .05) \)

Research Question 4: Does knowledge of the Tuckman & Jensen (1977) theory of group
development process impact student perception of group work in the collegiate classroom?

Table 4.12 reports the demographic question regarding participants’ perception (positive
or negative) of group work in the classroom setting before and after the course. Within the
control group, 31.2% of participants indicated a negative perception of group work prior to the
course (\( n=5 \)) and 68.8% of participants noted a positive perception of group work prior to the
course (\( n=11 \)). After the group work experience in this particular course (ALDR 3900:
Introduction to Leadership and Service, 6.2% of the control group participants continued to have
a negative perception of group work in the classroom (\( n=1 \)). Thus, 93.8% of control group
participants completed the course with a positive perception of group work in the classroom
setting (\( n=15 \)).
Table 4.12

<table>
<thead>
<tr>
<th>Time</th>
<th>Perception</th>
<th>f</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Before</td>
<td>Positive</td>
<td>11</td>
<td>68.8</td>
</tr>
<tr>
<td></td>
<td>Negative</td>
<td>5</td>
<td>31.2</td>
</tr>
<tr>
<td>After</td>
<td>Positive</td>
<td>15</td>
<td>93.8</td>
</tr>
<tr>
<td></td>
<td>Negative</td>
<td>1</td>
<td>6.2</td>
</tr>
</tbody>
</table>

Table 4.13 displays the demographic question pertaining to participants’ perception (positive or negative) of group work in the classroom setting before and after the course. For the experimental group, 5.9% of the participants indicated a negative perception of group work in the classroom (n=1). The other 94.1% of the participants in the experimental group indicated a positive perception of group work in the classroom setting prior to the course (n=16). Following the group work experience within this course, 100% of the experimental group participants indicated a positive perception of group work in the classroom setting (n=17).

Table 4.13

<table>
<thead>
<tr>
<th>Time</th>
<th>Perception</th>
<th>f</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Before</td>
<td>Positive</td>
<td>16</td>
<td>94.1</td>
</tr>
<tr>
<td></td>
<td>Negative</td>
<td>1</td>
<td>5.9</td>
</tr>
<tr>
<td>After</td>
<td>Positive</td>
<td>17</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>Negative</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Summary

Chapter four presented results related to the study’s demographic questionnaire and four research questions: 1) Describe identified demographic characteristics, including gender, academic status, and previous group work experience. 2) Does knowledge of the Tuckman & Jensen (1977) theory of group development process impact student importance in group work skills? 3) Does knowledge of the Tuckman & Jensen (1977) theory of group development process impact student rating of confidence of group work skills? 4) Does knowledge of the Tuckman & Jensen (1977) theory of group development process impact student perception of group work in the classroom setting?
collegiate classroom? Chapter five will provide further analysis and discussion of the presented data, as well as draw conclusions and make recommendations based on the results.
CHAPTER 5

SUMMARY AND RECOMMENDATIONS

Expectations of today’s college graduates continue to be centered on leadership and experience, as top entry-level positions carry high standards for students regarding strong transferable skills to be competitive. Employers desire job candidates to have polished communication skills, strong work ethic, teamwork skills, initiative, interpersonal skills, problem solving skills and analytical skills, among others (NACE, 2010). As the facilitator of knowledge acquisition, higher education must realize the responsibility colleges and institutions have to provide each generation of students with the knowledge and experiences necessary to succeed in today’s American society (Astin & Astin, 1999). Leadership educators recognize the importance of leadership coursework and programming to prepare students to enter society. Educators across many disciplines have chosen to incorporate group projects or other forms of collaborative or team-based learning in an effort to create formal group experiences for transferable skill development. This specific study explored collaborative learning through a service-learning project assignment in relation to what impact knowledge of group development process theory may or may not have on students’ confidence levels, perceived importance, and perceptions of groups and teams in the collegiate classroom.

Purpose of the Study

The purpose of this study was to determine the impact of Tuckman & Jensen’s (1977) theory of group development process through the following research objective and questions:
1. Describe identified demographic characteristics, including gender, academic status, and previous group work experience.

2. Does knowledge of the Tuckman & Jensen (1977) theory of group development process impact student importance in group work skills?

3. Does knowledge of the Tuckman & Jensen (1977) theory of group development process impact student rating of confidence of group work skills?

4. Does knowledge of the Tuckman & Jensen (1977) theory of group development process impact student perception of group work in the collegiate classroom?

**Significance of the Study**

Group projects are utilized in numerous college courses today, many without providing direction on group development to students. Instructors may assume students understand the basic tenets of working collaboratively with their peers on an assignment, and not considering scheduling difficulties among student group members and potentially multiple class projects. By examining the impact of Tuckman & Jensen’s (1977) theory of group development process on student perception of group work in the collegiate classroom, confidence in group work skills, and perceived importance of group work skills, the researcher will determine the role of such knowledge to the practice of using group projects in the college classroom. Today’s generation of college students are a connected group of students through multiple media, thus the intentional and focused use of group work in the classroom is of great importance to prepare students to begin their professional career. The implications of such data could transform the manner in which instructors utilize group projects in the college classroom, and potentially better develop students into the team players desired by businesses across America.
Review of Methods

The methodology utilized in this study is the true experimental, posttest-only control group design. This design enabled the researcher to observe the impact of standard exposure to group development theory in contrast to reinforced exposure to group development theory on a student’s group work experience through a service-learning project. The control group received the group service project assignment, as well as a one-hour lecture on the process of group development identified by Tuckman and Jensen (1977) – standard to the course content. Students in the control group were expected to determine a service project at one of the predetermined service locations, initiate communication with that organization, organize the service project, execute the group's plan, and evaluate the project. Graded assignments related to the service-learning group project included a service plan and objectives, as well as a final presentation and written portfolio.

The variable of this study—increased exposure and reinforcement of group development theory—was applied to the experimental group. The experimental group received the group service project assignment, a full class period (approximately 3 hours) lecture and application brief on the process of group development identified by Tuckman and Jensen (1977). Students in the experimental group were expected to determine a service project at one of the predetermined service locations, initiate communication with that organization, organize the service project, execute the group's plan, and evaluate the project. Graded assignments related to the service-learning group project included a service plan and objectives, as well as a final presentation and written portfolio. In addition to the graded assignments listed, one additional group service project update was required for the experimental group, which included reflection questions regarding the stages of group development as identified by Tuckman and Jensen (1977).
At the conclusion of each of the summer semester session, the researcher administered a
demographic questionnaire and the research instrument – the *Core Group Work Skills Inventory – Importance and Confidence* - after completion of all components of the service-learning
group project assignment. Demographic questionnaire items and survey instrument items were
coded and transferred into SPSS. Descriptive statistics were used to identify gender, academic
status, and frequency of previous group work experiences. Paired $t$-tests were used to determine
the significance of relationship between before and after construct items for both importance and
confidence scales. Independent $t$-tests were used to determine the significance of relationship
between the change in both the importance and confidence scales between the control and
experimental groups.

The population of this study included 33 undergraduate students at the University of
Georgia, who were enrolled in the 2009 summer semester course entitled ALDR 3900:
Introduction to Leadership and Service. A purposive sample was utilized for student participant
selection, as data was collected from two sections of an introductory, undergraduate leadership
course held during the short, summer semesters. This particular sample of participants was
chosen due to the nature of the leadership course which included a groups and teams content
area, as well as an established service-learning group work component.

**Findings and Conclusions**

*Objective 1: Describe identified demographic characteristics, including gender, academic status,
and previous group work experience.*

Demographic information for the student participants of this study describes the
similarities between the control and experimental groups of the purposive sample chosen for this
study. The participants of this study included 16 undergraduate students in the control group,
with 11 males and 5 females. The control group contained a sophomore ($n=1$), juniors ($n=5$), and
seniors (n=10). The experimental group was represented by 17 undergraduate students – 8 male and 9 female – with sophomores (n=9), juniors (n=3), seniors (n=4), and an additional student (n=1).

Participants reported previous group work experiences (external) according to four categories: athletics, professional organizations, sorority or fraternity, student organizations, or other specified means. In the control group, 87.5% reported involvement in group work through athletics (n=14), 43.8% had experienced group work through a professional organization, sorority or fraternity (n=7), 56.3% had experience in group work within a student organization (n=9), and 6.3% indicated previous group work experience through other means, specifically the participant’s job (n=1). Regarding participants in the experimental group, 82.4% indicated involvement in group work through athletics (n=14), 35.3% had experienced group work through a professional organization, sorority or fraternity (n=6), 41.2% had experience in group work within a student organization (n=7), and 5.9% indicated previous group work experience through other means, specifically the participant’s church (n=1). Experience gained through external group work scenarios within student organizations, professional organizations, athletics, or other means provides additional avenues for engagement in collaborative work to enable further application of course material and develop skills applicable for employment (Astin and Astin, 2000).

Students also responded with the nature of any previous classroom group experience through courses in three categories: course related to my major, general education course, or elective course. In the control group, 56.3% designated courses related to their major (n=9), 37.5% indicated general education courses (n=6), and 75.0% reported elective courses as instances of previous group work experience in the classroom setting (n=12). Within the
experimental group, 64.7% of participants indicated courses related to their major \((n=11)\), 52.9% noted general education courses \((n=9)\), and 88.2% identified elective courses \((n=15)\) as experiences with group work in the classroom setting. The inclusion of group work experiences in courses throughout the university emphasizes the interdisciplinary relevance for group work and leadership skill development, and reiterates the notion that group activities offer one of the richest opportunities for transferable skill development in the college classroom (Astin and Astin, 2000).

Participants also indicated the number of group work projects completed in academic courses prior to this course, with options ranging from one to five and over. No participants in the control group reported having never taken a course that included group work, 6.3% of the participants indicated having two prior courses with group work \((n=1)\), 6.3% had experienced three prior courses with group work \((n=1)\), 31.3% reported four prior courses including group work \((n=5)\), and 56.3% of the participants stated having five or more prior courses that included group work. Thus, the control group participated in an average of 4.38 courses which required group work as a component of their curriculum. In the experimental group, no participants indicated having no prior courses that included group work, 5.9% reported having two prior courses with group work \((n=1)\), 11.8% had experienced three prior courses with group work \((n=2)\), 11.8% also reported four prior courses including group work \((n=2)\), and 70.6% of the participants stated having five or more prior courses that included group work \((n=12)\). The experimental group participated in an average of 4.18 courses which required group work as a component of their curriculum. The frequency of group work being utilized in the collegiate classroom as reported by participants suggests alignment with the belief that group work is
increasingly being used to meet growing demands of industry for leadership and group work skills in employees (Colbeck, et al., 2000; Siciliano, 2001; Hassanien, 2007)).

Participants also indicated enjoyment levels of group work in the classroom, which were reported according to four options: *never, seldom, sometimes, or always*. Concerning participants in the control group, 25.0% indicated seldom enjoyment of group work (*n*=4), 37.5% reported enjoyment of group work sometimes (*n*=6), and 37.5% indicated always enjoying group work experiences (*n*=6). For participants in the experimental group, 11.8% reported seldom enjoyment of group work (*n*=2), 58.8% indicated enjoyment of group work sometimes (*n*=10), and 29.4% noted always enjoying group work experiences (*n*=5). The variation in enjoyment levels of group work may be related to each student’s previous experience with group work in the classroom in dealing with the common issues that plague groups, including social loafing, scheduling challenges, and personality differences among group members (Colbeck, et al., 2000; Pauli, et al., 2008; Levi, 2007).

*Research Question 2: Does knowledge of the Tuckman & Jensen (1977) theory of group development process impact student rating of importance of group work skills?*

Results of paired t-tests for developed constructs of the *Core Group Work Skills Inventory – Importance and Confidence*, with focus on the ‘importance’ scale of the instrument were reported. Participants rated themselves on items related to each construct on a summative rating scale from one to four (1=very unimportant, 2=unimportant, 3=important, and 4=very important). For the control group, a strong, significant improvement in participants’ perceived importance from before the course to after the course was indicated in all constructs (*t* >2). The importance of Group Process represented the strongest improvement (*t*=4.096) for the control group, with Leadership (*t*=4.081), Group Development (*t*=3.721), and Collaboration (*t*=3.294)
constructs following suit. For the experimental group, significant improvement in participants’ perceived importance from before the course to after the course was indicated in all constructs \((t>2)\). The importance of Leadership represents the strongest improvement \((t=3.891)\) for the experimental group, with Group Process \((t=3.396)\), Group Development \((t=3.099)\), and Collaboration \((t=2.537)\) constructs following suit.

A comparative analysis of the growth in importance from before the course to after the course in each construct between the control and experimental groups was reported. Summated means for each construct and the corresponding standard deviation are based upon the participants’ self-reported rating on items related to each construct on a summative importance rating scale from one to four (1=very unimportant, 2=unimportant, 3=important, and 4=very important). Reported means and standard deviations resulted from the calculated differences of before and after scores, summated for each construct identified by the researcher. Independent \(t\)-tests were conducted to determine the significance in change regarding perceived importance of group work skills. With \(p>.05\) in all four constructs, equal variances were assumed. All four constructs indicate \(t<2\), which indicates no significant difference between the control and experimental groups.

The significant improvement in both the control and experimental groups of this study suggests the positive impact that pairing group development knowledge with group work in the classroom on students’ understanding of the importance of group work skills. However, the comparative analysis indicates no significance in change between the control and experimental groups of this study. Colbeck, Campbell, and Bjorklund (2000) provided insight through their qualitative analysis of student experiences with group work, stressing that students may appreciate such skill development if faculty stress its importance and relevance to their future
endeavors. This may imply that it is not the amount of emphasis placed on the group development process, but rather the inclusion of such knowledge that impacts a student’s understanding of the importance of developing such skills for their future career.

**Research Question 3: Does knowledge of the Tuckman & Jensen (1977) theory of group development process impact student confidence in group work skills?**

The results of paired t-tests for developed constructs of the *Core Group Work Skills Inventory – Importance and Confidence*, with focus on the ‘confidence’ scale of the instrument were reported. Participants rated themselves on items related to each construct on a summative rating scale from one to four (1=very unconfident, 2=unconfident, 3=confident, and 4=very confident). For the control group, a strong, significant improvement in participants’ perceived confidence in group work skills from before the course to after the course was indicated in all constructs ($t > 2$). The confidence scale for the Leadership construct represents the strongest improvement ($t=5.578$) for the control group, with the Group Process construct also indicating a significant improvement in confidence ($t=5.222$). Group Development ($t=4.200$) and Collaboration ($t=3.337$) constructs also demonstrated a significant improvement in participants’ perceived confidence in those identified group work skills.

For the experimental group, significant improvement in participants’ perceived confidence in group work skills from before the course to after the course was reported in all constructs ($t > 2$). The confidence scale for the Leadership construct represents the strongest improvement ($t=4.654$) for the control group, with the Group Process construct also indicating a significant improvement in confidence ($t=3.822$). Group Development ($t=3.453$) and Collaboration ($t=3.225$) constructs also demonstrated a significant improvement in participants’ perceived confidence in those identified group work skills.
A comparative analysis of the growth in confidence from before the course to after the course in each construct between the control and experimental groups was presented. Summated means for each construct and the corresponding standard deviation are based upon the participants’ self-reported rating on items related to each construct on a summative importance rating scale from one to four (1=very unconfident, 2=unconfident, 3=confident, and 4=very confident). Reported means and standard deviations resulted from the calculated differences of before and after scores, summated for each construct identified by the researcher. Independent t-tests were conducted to determine the significance in change regarding perceived importance of group work skills. With $p > .05$ in all four constructs, equal variances were assumed. All four constructs indicate $t < 2$, which indicates no significant difference between the control and experimental groups.

The significant improvement in both the control and experimental groups of this study suggests the positive impact that pairing group development knowledge with group work in the classroom on students’ confidence in group work skills. However, the comparative analysis indicates no significance in change between the control and experimental groups of this study. Effective instructor guidance for students participating in group projects can also improve confidence in performing the group work skills necessary to have an enjoyable group work experience (Colbeck, et al., 2000; Siciliano, 2001). Prior group work experiences, such as those gained through student involvement in organizations or athletics, may also increase a student’s confidence in group work skills when instructor facilitation of cooperative learning lacks direction regarding the group development process (Colbeck, et al., 2000). This may imply that it is not the amount of emphasis placed on the group development process, but rather the inclusion
of such knowledge that impacts a student’s confidence in applying such skills and knowledge in group work scenarios.

**Research Question 4: Does knowledge of the Tuckman & Jensen (1977) theory of group development process impact student perception of group work in the collegiate classroom?**

The demographic question regarding participants’ perception (positive or negative) of group work in the classroom setting before and after the course was reported. Within the control group, 31.2% of participants indicated a negative perception of group work prior to the course ($n=5$) and 68.8% of participants noted a positive perception of group work prior to the course ($n=11$). After the group work experience in this particular course (ALDR 3900: Introduction to Leadership and Service), 6.2% of the control group participants continued to have a negative perception of group work in the classroom ($n=1$). Thus, 93.8% of control group participants completed the course with a positive perception of group work in the classroom setting ($n=15$). For the experimental group, 5.9% of the participants indicated a negative perception of group work in the classroom ($n=1$). The other 94.1% of the participants in the experimental group indicated a positive perception of group work in the classroom setting prior to the course ($n=16$). Following the group work experience within this course, 100% of the experimental group participants indicated a positive perception of group work in the classroom setting ($n=17$). The results of this study indicate a positive improvement in perception of group work in the college classroom, as also indicated by Coers and Lorensen (2009). Student understanding of group development impacts the group experience; thus, ensuring faculty are aware of group development knowledge and including group development knowledge in the college classroom where group work is being utilized are imperative steps toward developing group work skills and creating a positive student group work experience (Baskin, et al., 2005; Gillies, 2003; Butts. 2000; Coers and Lorensen, 2009).
Recommendations

Results of this study indicate that the inclusion of group development theory, specifically Tuckman and Jensen’s (1977) theory of group development, positively impacts a student’s perception of group work in the collegiate classroom. The inclusion of group development theory also improves a student’s perceived importance of and confidence in group work skills, as identified through this study’s instrument – Core Group Work Skills Inventory – Importance and Confidence – and its constructs, including Group Process, Collaboration, Group Development, and Leadership. Although no significant difference was found between the control and experimental groups of this study regarding the impact of increased emphasis on the group development process, the results do indicate an overall positive impact of the knowledge. The design of this research study causes the researcher to be cautionary in generalizing the results beyond the introductory course in which its sample was drawn. However, several observations and conclusions can be made for leadership educators.

- Students may initially perceive group work in the classroom negatively due to previous negative experiences with group members that did not complete their share of the work or contribute to the development process.
- Providing structure for student group work enables students to focus on the process of developing a group.
- The combination of emphasis on group work process and service-learning created a mutually beneficial experience for the student participants and the community.
- Instruction concerning the development of a group enables students to connect the process with specific terminology. This enables a common reference point for discussion of the development process and understanding of a group’s natural progression toward a common purpose.

The following recommendations are designed to offer insight to group work in the leadership education classroom and continue to provide experience for developing group work skills that will transfer to students’ careers:
• University educators choosing to utilize group work in the classroom setting should be trained on the group development process and include such instruction to their students prior to assigning group work projects.

• Given the different contexts of the original survey’s purpose, a survey relating specifically to components of the group development process and skills desired for employees should be developed and tested.

• Additional research should be conducted relating to various group work pedagogies.

• Research regarding the relationship between the amount of support and structure given to students by instructors for a group work assignment and a student’s perception, believed importance, and confidence in group work skills.

• Further research should be conducted to include courses that do not include group process knowledge with group work assignments to determine the full impact of group process knowledge inclusion regarding a student’s perception, believed importance and confidence in group work skills.

• Additional research should be conducted to explore the impact of technological innovations, such as wikis and other online collaboration tools, on the group work process.

• Research pertaining to the use of service-learning as a means to group work skill development to both benefit the student in transferable skill development, as well as the community being served through the project.
REFERENCES


APPENDIX A

Informed Consent Form - Control

I, ____________________________, agree to participate in a research study titled “Impact of Group Development Theory Knowledge on Student Confidence in Group Work Skills” conducted by graduate student Natalie Coers under the direction of Dr. Dennis Duncan for her Master’s thesis in the Department of Agricultural Leadership, Education, & Communication at the University of Georgia. I understand that my participation is voluntary, and I can refuse to participate or cease participation at any time without reason, and without penalty or loss of benefits to which I am otherwise entitled. I can ask to have all of the information about me that can be identified as mine returned to me, removed from the research records, or destroyed.

The purpose of this study is to determine the impact of Tuckman & Jensen’s (1977) theory of group development process through a group service-learning experience required for students enrolled in ALDR 3900: Introduction to Leadership and Service, a collegiate leadership development course in the College of Agricultural and Environmental Sciences. As a participant of this study, I will be asked to:

1. Complete the Core Group Work Skills Inventory – Importance and Confidence, containing 27 statements. This questionnaire should take approximately 20 minutes to complete.
2. Complete a demographic questionnaire, containing 11 questions.
3. Provide permission for the researcher to access course assignments, with your identifying information and grades removed prior to review by the researcher, including: service plan and objectives, final portfolio, and peer evaluation form with reflection piece.

The benefits of this research to me are that I will gain experience in the planning and execution of a group service project, and gain knowledge of the group development process identified by Tuckman and Jensen (1977). I will have the opportunity to provide service to a community non-profit organization and gain hands on experience that will help me prepare to enter a career-oriented society that includes groups and teams in the work environment, or for future courses that require a group project.

There is no risk associated with this research.

No individually-identifiable information about me, or provided by me during the research, may be shared with others without my written permission. I will answer the questionnaire in anonymity.

The investigator will answer any further questions about the research, now or during the course of the project.
I understand that the decision to participate or elect to not participate in this study will not affect my grades.

I understand that I am agreeing by my signature on this form to take part in this research project and understand that I will receive a signed copy of this consent form for my records.

Natalie Coers
Name of Researcher: ____________________________
Signature: __________________________________________
Date: ____________________________

Dr. Dennis Duncan
Name of Researcher: ____________________________
Signature: __________________________________________
Date: ____________________________

Name of Researcher: ____________________________
Signature: __________________________________________
Date: ____________________________

Please sign this copy, remove from stapled packet, and return to the researcher.
A second copy is available for your records.

Additional questions or problems regarding your rights as a research participant should be addressed to The Chairperson, Institutional Review Board, University of Georgia, 612 Boyd Graduate Studies Research Center, Athens, Georgia 30602-7411; Telephone (706) 542-3199; E-Mail Address IRB@uga.edu
APPENDIX B

Informed Consent Form – Experimental

I, ____________________________, agree to participate in a research study titled “Impact of Group Development Theory Knowledge on Student Confidence in Group Work Skills” conducted by graduate student Natalie Coers under the direction of Dr. Dennis Duncan for her Master’s thesis in the Department of Agricultural Leadership, Education, & Communication at the University of Georgia. I understand that my participation is voluntary, and I can refuse to participate or cease participation at any time without reason, and without penalty or loss of benefits to which I am otherwise entitled. I can ask to have all of the information about me that can be identified as mine returned to me, removed from the research records, or destroyed.

The purpose of this study is to determine the impact of Tuckman & Jensen’s (1977) theory of group development process through a group service-learning experience required for students enrolled in ALDR 3900: Introduction to Leadership and Service, a collegiate leadership development course in the College of Agricultural and Environmental Sciences. As a participant of this study, I will be asked to:

1. Complete the Core Group Work Skills Inventory – Importance and Confidence, containing 27 statements. This questionnaire should take approximately 20 minutes to complete.
2. Complete a demographic questionnaire, containing 11 questions.
3. Provide permission for the researcher to access course assignments, with your identifying information and grades removed prior to review by the researcher, including: service plan and objectives, group project reflection 1, group project reflection 2, final portfolio, and peer evaluation form with reflection piece.

The benefits of this research to me are that I will gain experience in the planning and execution of a group service project, and gain knowledge of the group development process identified by Tuckman and Jensen (1977). I will have the opportunity to provide service to a community non-profit organization and gain hands on experience that will help me prepare to enter a career-oriented society that includes groups and teams in the work environment, or for future courses that require a group project.

There is no risk associated with this research.

No individually-identifiable information about me, or provided by me during the research, may be shared with others without my written permission. I will answer the questionnaire in anonymity.

The investigator will answer any further questions about the research, now or during the course of the project.
I understand that the decision to participate or elect to not participate in this study will not affect my grades.

I understand that I am agreeing by my signature on this form to take part in this research project and understand that I will receive a signed copy of this consent form for my records.

<table>
<thead>
<tr>
<th>Name of Researcher</th>
<th>Signature</th>
<th>Date</th>
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<tbody>
<tr>
<td>Natalie Coers</td>
<td></td>
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<tr>
<td>Dr. Dennis Duncan</td>
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APPENDIX C
Demographic Information Questionnaire

1. Semester: ○ Maymester ○ July semester (2nd Summer session)

2. Gender: ○ Male ○ Female

3. Academic Status: ○ Freshman ○ Sophomore ○ Junior ○ Senior ○ Other

4. Previous Group Work Experience: (Please mark all that apply.)
   ○ Athletics ○ Professional Organization/Sorority/Fraternity ○ Student Organization ○ Other

5. Previous Classroom Group Experience: (Please mark all that apply.)
   ○ Course related to my major ○ General Education course ○ Elective course

6. My perception of working in groups in the college classroom prior to this course was:
   ○ Positive ○ Negative

7. My perception of working in groups in the college classroom after this course is:
   ○ Positive ○ Negative

8. I have been involved in group projects in ____ courses prior to this course.
   ○ 1 ○ 2 ○ 3 ○ 4 ○ 5+

9. I ________________ enjoy working in groups for projects related to my college courses.
   ○ never ○ seldom ○ sometimes ○ always

10. I have taken ____ leadership courses prior to this course.
    ○ 0 ○ 1 ○ 2 ○ 3 ○ 4 ○ 5+

11. In those leadership courses, I have been involved in ____ group projects.
    ○ 0 ○ 1 ○ 2 ○ 3 ○ 4 ○ 5+
APPENDIX D

Core Group Work Skills Inventory – Importance and Confidence
F. Robert Wilson, Mark D. Newmeyer, Lynn S. Rapin, and Robert K. Conyne

Instructions: The CGWSI consists of 27 items. Each item describes a behavior that may or may not be useful to being effective as a group member or group leader. Please rate the importance of each item and your confidence in being able to do what the item describes by circling the number that represents your rating.

<table>
<thead>
<tr>
<th>Importance</th>
<th>Confidence</th>
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<tbody>
<tr>
<td>1: Very unimportant</td>
<td>1: Very unconfident</td>
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<tr>
<td>2: Unimportant</td>
<td>2: Unconfident</td>
</tr>
<tr>
<td>3: Important</td>
<td>3: Confident</td>
</tr>
<tr>
<td>4: Very important</td>
<td>4: Very confident</td>
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<table>
<thead>
<tr>
<th>Before course</th>
<th>Group Work Skill</th>
<th>After course</th>
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<tbody>
<tr>
<td>Importance</td>
<td>Confidence</td>
<td>1. Evidences ethical practice in group membership or leadership</td>
</tr>
<tr>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
<td>2. Evidences best practices in group membership or leadership</td>
</tr>
<tr>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
<td>3. Evidences diversity competent practice in group membership or leadership</td>
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<tr>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
<td>4. Develops a plan for group leadership activities</td>
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<td>1 2 3 4</td>
<td>1 2 3 4</td>
<td>5. Seeks good fit between group plans and group member's life context</td>
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<td>1 2 3 4</td>
<td>1 2 3 4</td>
<td>6. Gives feedback to group members</td>
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<td>1 2 3 4</td>
<td>1 2 3 4</td>
<td>7. Requests feedback from group members</td>
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<td>1 2 3 4</td>
<td>1 2 3 4</td>
<td>8. Works cooperatively with a co-leader</td>
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<td>1 2 3 4</td>
<td>1 2 3 4</td>
<td>9. Identifies group process</td>
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<td>1 2 3 4</td>
<td>1 2 3 4</td>
<td>10. Works collaboratively with group members</td>
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<td>1 2 3 4</td>
<td>1 2 3 4</td>
<td>11. Encourages participation of group members</td>
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<td>1 2 3 4</td>
<td>1 2 3 4</td>
<td>12. Responds empathically to group member behavior</td>
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<td>1 2 3 4</td>
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<td>13. Responds empathically to group process themes</td>
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<td>1 2 3 4</td>
<td>1 2 3 4</td>
<td>14. Keeps a group on task</td>
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<td>1 2 3 4</td>
<td>15. Requests information from group members</td>
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<td>1 2 3 4</td>
<td>1 2 3 4</td>
<td>16. Requests disclosure of opinions and feelings from group members</td>
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<td>17. Provides information to group members</td>
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<td>1 2 3 4</td>
<td>18. Discloses opinions and feelings to group members</td>
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CGWSI-IC: Copyright © 2007 by F. Robert Wilson, Mark D. Newmeyer, Lynn S. Rapin, and Robert K. Conyne, University of Cincinnati. The CGWSI-IC was developed as an ASGW grant supported project of the ASGW Training Standards Committee. Permission is given to reproduce the Core Group Work Skills Inventory—Importance and Confidence (CGWSI-IC) for use in research, training, and practice. To be a content valid measure of the ASGW 2000 Professional Standards for the Training of Group Workers, the wording of the 27 items must remain unchanged; however, the instrument scaling may be revised to fit specific research, training, or practice applications. Researchers, trainers, or practitioners who use an alternate scaling are responsible for study of the psychometric properties of their revised scale.