



## AN ABSTRACT OF THE DISSERTATION OF

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Abstract approved:

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Research suggests that a key factor in student persistence and success is the relationships students form with faculty (Chickering & Gamson, 1991; Kuh et al., 2005; Tinto, 1987). While it appears to be intuitive that small classes would promote these instructor/student relationships, research on class size provides conflicting results, with only some studies showing positive student outcomes in small classes. In business, however, research clearly identifies that a small ratio of manager to employees, called span of control and with an average size of 1:10, is important for maintaining employee satisfaction, facilitating skill development, and when tasks require complex problem-solving and creativity (Doran et al., 2004; Gittell, 2001; McManus, 2007).

This study explores the perceptions of managers and instructors concerning the nature of their work with employees and students, respectively. An intersect of the management and instruction roles may be that both help people acquire skills in order to fulfill work objectives. If there are commonalities between the way managers and instructors work with people, then span of control may be an appropriate application for determining class size. If managers can only work with 10 people because of the complexities of the human experience and job tasks, the question is, why do instructors

work with at least twice as many people, but must expect the same results?

Using the Q method and a focus group as a way to compare study participants' attitudes, there appears to be a significant correlation between the way managers and instructors perceive their roles in working with employees and students. Both managers and instructors in the study believe building collaborative relationships with others is important for producing positive outcomes. Both report the importance of their roles in helping individuals develop critical thinking and problem-solving skills. In addition, the managers and instructors in the study acknowledge important similarities within their work with employees and students.

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Instructors as Learning Managers:  
Span of Control as a Factor of Class Size in Higher Education

by  
Carol McKiel

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I understand that my dissertation will become part of the permanent collection of Oregon State University libraries. My signature below authorizes release of my dissertation to any reader upon request.

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Carol McKiel, Author

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Instructors As Learning Managers:  
Span of Control as a Factor of Class Size in Higher Education

**Chapter 1**

I still can recall happy moments sitting in inorganic chemistry even though I took the class over 30 years ago. Interestingly, I did not like chemistry (hate may be a more appropriate description), but I loved my chemistry instructor. Dr. Hawthorne made me feel capable in a subject I did not enjoy. In fact, I can still feel his encouragement.

I am not alone in this experience. Research shows that students' ability to have meaningful academic and personal engagement with faculty affects their overall success in higher education (Chickering & Gamson, 1991; Kuh et. al, 2005; Mezirow, 1991; Tinto, 2005). Anecdotally, many college students recount faculty who sparked their imagination, opened doors of understanding and self-awareness, and provided an emotional or professional boost into a career.

Instructors play a key role in creating a learning environment where students are actively engaged and develop critical thinking, writing, and problem-solving skills (Baxter Magolda, 2004; Behar-Horenstein & Johnson, 2010; Dewey, 1916; Freire, 2000; Hunter, Laursen, & Seymour, 2007), and the result of their work with students has far-reaching impact. Instructors influence how well students identify themselves as future professionals in a career and also affect the students' consideration of attending graduate school (Hunter et al., 2007; Sax, Bryant, & Harper, 2005). The quality of the students' experiences with faculty in the college or university, therefore, can affect their overall development.

What constitutes the notion of student development is in a constant state of flux. As society evolves and its needs change, society's expectations for student outcomes also

change (Christensen, Horn, & Johnson, 2008). The sought-after skills of college graduates in the 1950s no longer apply for the global community of 2010. Colleges and universities recognize these shifts in expectations and take seriously their responsibilities for student development. Professionals in higher education are in a continual process of institutional self-study scrutinizing programs, services, and campus environments and establishing objectives and strategic directions in order to improve student outcomes. Yet the site of the student's most productive intellectual development, the faculty/student interaction, has been virtually unexamined. While, for the most part, an evolution has taken place across college campuses, the traditional structure for learning with one instructor teaching a large group of students has remained unchanged (Sidelinger & Booth-Butterfield, 2010).

The learning infrastructure in higher education has not kept pace with what has been discovered about the nature of education. Learning is a complex set of activities requiring careful attention and skill of a knowledgeable teacher (Vygotsky, 1978). As Merrill (2002) posited, "Learning is promoted when learners are guided in their problem solving by appropriate feedback and coaching, including error detection and correction, and when this coaching is gradually withdrawn" (p. 47). This feedback-to-withdrawal learning sequence requires the instructor to understand the student's conceptualization at the moment in order to appropriately scaffold to a more fully developed comprehension. Despite the importance of faculty to a student's intellectual development, higher education continues to maintain large classes that essentially act as impediments for faculty to develop these meaningful interactions with their students (Campbell, Künnemeyer, & Prinsep, 2008; Eames & Stewart, 2008). The goals of higher education



are frustrated by the instructional delivery structure that is implemented. Tinto (1987)

expressed concern for this conundrum:

It is ironic that during this first year of college, when contact with other students and faculty is so important to retention, so many institutions structure courses so as to discourage contacts. The short term economic gains thought to arise from greater efficiency in the allocation of resources (e.g., through large course enrollments) are often wrought at the expense of long-term losses in both retention and student development. (p. 151)

Business may provide a different lens for exploring the structure of faculty/student interactions. Researchers of management practices have studied the relationship between the manager and employees and have found that, similar to the impact of faculty/student interactions on student outcomes, the rapport between the manager and employees was key to the employees' productivity (Doran et al., 2004; Gittell, 2001; McManus, 2007; Meyer, 2008). The difference between business and higher education, however, is that business clearly identifies an appropriate manager to employee ratio, called span of control, key to maintaining high engagement and quality work of employees (Cathcart et al., 2004; Davison, 2003). For jobs that require complex skills and creative problem-solving, the span of control of manager to employees is 1:8.5 (Gittell, 2001), while jobs that are routine and do not require higher level thinking skills may have a span of control as wide as 1:50 (McManus, 2007), a not uncommon class size in higher education.

Two questions arise out of the discrepancy between the small number of people a manager is expected to supervise in business and the large number of students an instructor is expected to teach in higher education. First, is there a fundamental difference between the way managers work with their employees and instructors work

with their students to account for a ratio in the workplace that is so radically different from that of the classroom? Second, if both employees and students are expected to acquire and use skills from the upper levels of Bloom's (Marzano & Kendall, 2007) taxonomy—analysis, synthesis, and evaluation, are the activities of the workplace and classroom so different that managers should only work with 10 employees, while instructors can work with twice as many or more students? The purpose of this research was to explore what similarities or differences may exist between managers' and instructors' roles by studying their perceptions of the nature of their work with employees and students, respectively. Essentially, how do managers see their role with employees as compared to how instructors view their role with students? How do managers view the way they help employees develop the skills they need to succeed compared to how instructors see the way they help students develop their skills?

### **Maslow's theory on a hierarchy of needs.**

At its most basic level, a common element of management and instruction is that both involve people. Employees and students are human beings, first, and their functional role, while important, is a secondary concern. At this fundamental, human level, employees and students share many similar needs, and as human beings, their natural reactions to having these needs fulfilled, or not, are also comparable. Maslow articulated this theme of human need in his 1954 book *Motivation and Personality*. According to Maslow (1970), human beings had a hierarchy of need that drove their development and deepened their self awareness. As individuals satisfied their needs at one level, other, more complex needs became apparent that needed to be resolved.

Maslow saw these needs in order:

1. Basic physical requirements for food, water, shelter, clothing – having a physically pleasant environment and getting personal breaks for sustenance during the work day.
2. Safety – free from fear of physical or emotional harm including being free from a chaotic life.
3. Belonging - membership in a social group that offers love, affection, and caring.
4. Self-esteem - the ability to feel competent and be recognized as such by others.
5. Self-actualization - the ability to feel fulfilled and performing at potential with one's work and life.

Maslow (1970) theorized that after humans fulfilled their basic need for physical survival, they were compelled to move through the progressively, more complicated social needs as part of interacting with other human beings. He noted that this development was not necessarily linear and static but dynamic and interconnected. People did not permanently leave one, distinct level of need only to enter another. According to Maslow, “It would be possible (theoretically if not practically) to analyze a single act of an individual and see in it the expression of his physiological needs, his safety needs, his love needs, his esteem needs, and self-actualization” (p. 55). According to Maslow, as a person moved through the higher levels of this hierarchy and became more self aware, the lower levels of need became less of an issue in daily life.

The work by Maslow (1970) captured the interest of scholars in nearly all social disciplines (Dye, Mills, & Weatherbee, 2005) including management and education, with

scholars in both disciplines integrating his theories of human development into their literature and practices. Schrage (2000) observed, “Maslow brought the middlebrow vocabulary of pop psychology to top management. He enjoyed quite the cult following in organizations that had experienced first-hand the painful limitations of ‘scientific management’” (p. 68). As educators, O’Connor and Yballe (2010) wrote “Maslow’s work challenges us to reflect on our course objectives, the overall course design and choice of pedagogy, and ultimately the underlying values we embrace and that guide our choices” (p. 754).

### **Problem statement.**

Because both managers and instructors work with people, they must address the complexities of the human experience and with that, the fundamental needs, as articulated by Maslow (1970), of the people with whom they work. As human beings, employees and students have unique sets of circumstances, backgrounds, and proclivities that act as variables that the manager and instructor must learn and grapple with in order to help their employees or students develop and work to capacity. Just as a physician does not attempt to give medical diagnoses to groups of patients, managers and instructors will have limited ability to understand the intricacies of each human being in the context of a large group.

While both managers and instructors must understand these variables as part of their working relationships with their employees and students, the recognition of the complexity of the task is addressed differently by the two disciplines. Businesses use span of control to identify an appropriate ratio of manager to employees, on average 1:8.5, that allows a manager to learn who the employees are and address their different

needs (Gittell, 2001). Carr (2007) noted, “Every member of a... department is going to be driven by different goals, meaning supervisors must cater to each individual separately” (p. 6). With fewer employees, the manager is more likely to be able to help each person work to capacity which, in turn, maintains high productivity (Shell, 2003). When the work requires critical thinking, creativity, and complex problem-solving, businesses recognize the financial benefits of paying the extra costs to maintain this small ratio (Davison, 2003).

Higher education, on the other hand, organizes its work infrastructure very differently and maintains a wide instructor to student ratio of 1:25, or higher, in classes. Such a wide span of control is used in business for only low-skilled, routine labor; yet, the expectation in higher education is that instructors should provide complex learning experiences that stimulate higher level skill development within their students (Clyne, 2009; van Merriënboer & Sluijsmans, 2009). This expectation of student outcomes coexists with the understanding that this type of teaching requires knowing the learning background of and providing appropriate challenges for each, individual student (Hunter et al., 2007; Vygotsky, 1978). Literature on class size indicates the theoretical disconnect built into this organizational model.

### **Class size.**

In general, studies in class size suggest that the higher level, more complex learning outcomes are more likely with small classes (Toth & Montagna, 2002). Instructors have more time to address the specific learning needs of each student by differentiating instruction (Livingston, 2010; Powell & Kalina, 2009) and planning appropriate lessons that encourage a student’s development of critical thinking and

problem-solving skills (Messineo, Gaither, Bott, & Ritchey, 2007). Instructors in large classes, on the other hand, must generally use the lecture method which promotes passive learning with information flowing one way—from the instructor to the students. In large classes, it is difficult to connect with and motivate individual students, while in small classes, students feel more connected to faculty (Behar-Horenstein & Johnson, 2010; Eames & Stewart, 2008). Smaller groups decrease people's belief that they “disappear” among their peers (Mullen, Johnson, & Drake, 1987). Overall, higher education's ability to produce student outcomes that include higher-level skill development improves with the ability of the instructor to interact personally with students (Baxter Magolda, 2004; Hunter et al., 2007; Kuh et al., 2005).

Yet, despite this research, class size in many colleges and universities remains large, and the debate continues about the efficacy of class size and student academic progress. Many reasons fuel this debate. The most obvious is the cost of decreasing class size. College and university administrators are encumbered by rising facility and personnel costs coupled with less government funding and have found increasing class size as an effective means for balancing budgets. In addition, Slavin (1989) posited that even with smaller classes, instructors' teaching practices do not change; for many faculty, the accepted teaching practices assume the efficacy of a “one-size-fits-all” format. Learning is regarded as the sole responsibility of the student with the role of the instructor designated as the provider of knowledge (Smagorinsky, 2009). Instructors consider active-learning as something students can do with each other, do not recognize the importance of a knowledgeable, skilled teacher in students' complex skill

development, and therefore implement peer-learning, “active” group-work in large classes (Herington & Weaven, 2008; Messineo et al., 2007).

The result of the debate over class size is that higher education maintains the structure that supports the traditional, passive-learning paradigm. Most students still sit in the conventional, large lecture groups where they are learning at the lower levels of Bloom’s taxonomy– knowledge and comprehension (Kokkelenberg, Dillon, & Christy, 2006), and most faculty still teach at least four classes each academic term and therefore must work with hundreds of students. Being responsible for the educational outcomes of so many students makes personal feedback and contact with students difficult for faculty to maintain. With such large numbers of students to teach, there are few incentives for faculty to overcome institutional barriers in order to develop meaningful relationships with students and to provide student-centered learning opportunities (Behar-Horenstein & Johnson, 2010).

### **Shifting expectations.**

Part of the reluctance to decrease class size comes from the fact, that in the past, large classes worked quite well in meeting the educational needs of students. Employers were satisfied with college graduates who just knew how to work hard. And most students in higher education came from the upper levels of white society prepared, and supported by family, to succeed in the academic culture of the college or university.

Today’s college students, however, are more diverse and come from a variety of socio-economic and ethnic backgrounds (Kjellgren et al., 2008; Messineo et al., 2007). These students may need more contact with the faculty in order to succeed (Kjellgren et al.). For many students, there is now a functional problem with the traditional system of

large classes and “remote” faculty where it is up to the students, regardless of preparation or background, to know how to develop the skills to succeed.

The low retention rate and disappointing student outcomes at many institutions indicate the problems with this traditional approach to learning (Toth & Montagna, 2002). Only 55% of students attending public 4-year institutions successfully graduate within 6 years (American Institute for Research, 2010) with only 26% of low-income students graduating within this same timeframe (Tinto & Engstrom, 2008). And while more students of color are entering higher education, their graduation rates are also comparably lower. According to Stephens (2010) of the Education Trust, the baccalaureate graduation rate within six years for Anglo students was 60% but only 49% for Hispanics and 40% for African Americans.

Most student attrition comes after the first year when 30% of students do not return for a second year. According to Schneider (2010) of the American Institutes for Research (AIR), this results in significant financial loss not just for higher education, but also for the community. AIR determined, “States appropriated \$6.2 billion to colleges and universities to pay for the education of students who did not return for a second year.... States gave over \$1.4 billion and the Federal government over \$1.5 billion in grants...” (Schneider, p. 1).

The personal and financial problems of attrition are causing increased pressure on higher education to improve student retention and completion rates (Long & Coldren, 2006). Government has begun pressuring colleges and universities to improve student retention with talk of providing funding based on graduation rates. In addition, recent



research has identified financial benefits to implementing student retention practices (Kokkelenberg et al., 2006).

New expectations of educational outcomes are also beginning to shake the traditional learning paradigms in higher education (Long & Coldren, 2006; Toth & Montagna, 2002). Since the 1990s, The National Science Foundation, Boyer Commission, and National Research Council have encouraged faculty to adopt “greater opportunities for authentic, interdisciplinary, and student-centered learning” (Hunter et al., 2007, p. 37). Employers have begun to express the need for college graduates to possess greater skills in critical writing and problem-solving (Kirsch, Jungeblut, Jenkins, & Kolstad, 2002). With the new global marketplace, many low-skilled jobs have moved to other countries, and the jobs that remain require greater skills in communication, problem-solving, and critical thinking.

Christensen et al. (2008) identified the discrepancy between the traditional structures of education and the new expectations of educational outcomes. They wrote, “Society has changed the goal posts on schools and imposed upon them new measures of improvement” (p. 51). The old model of education where faculty maintained large classes and learning was passive is having trouble addressing changing societal expectations and workplace needs. The confusion over the debate of the efficacy of class size only continues to obfuscate the dilemma. Higher education is expected to produce students with critical thinking and problem-solving skills using an organizational structure that business recognizes is inappropriate for achieving these results.

**Purpose of the study.**

The purpose of this study was to investigate if the span of control theory of business could be applied to the education setting. The study explored if managers and instructors shared similar attitudes about their work with their employees and students, respectively, by comparing managers' and instructors' perceptions about the importance of promoting communication, building relationships, developing a collaborative work environment, providing motivation, and fostering independence. Based in Maslow's Hierarchy of Needs theory, McGregor's (1960) management theory, Theory X (authoritarian management practices) and Theory Y (collaborative, integrative management practices) was used as a frame for these five characteristics. The research explored the following questions.

**The study questions.**

- 1) How do the viewpoints of managers and instructors compare in regards to their role in facilitating employees and students in developing higher level thinking and problem-solving skills?
- 2) How do the viewpoints of managers and instructors compare in regards to their role in facilitating employees or students to become self-actualized?

**Significance of the study.**

The continued debate about class size and student outcomes delays a critically needed examination of the nature of the relationship between the instructor and students. With cost efficiencies driving the objectives, researchers continue to study how instructors can adjust their delivery styles in large classes to improve student learning.

While controlling costs is important, society also wants college graduates capable of analyzing complex issues and using knowledge flexibly.

Business recognizes that higher level skill development requires the manager to form close, collaborative relationships with employees. A manager's relationships with employees impact their satisfaction level and resulting productivity. For optimal productivity, the manager must be able to know the employees and address their needs. While business recognizes the cost benefit for maintaining a narrow span of control to maximize employee outcomes, higher education continues to use class sizes contrary to the business model that encourages people to perform their best work.

If society expects higher education to graduate students with higher level thinking and problem-solving skills, the current education structures with the traditional, large, passive-learning classes may need to be evaluated using span of control as a lens. As in business, higher education may not be able to produce these results with so many people. If cost efficiency is the goal, then large classes are appropriate. But if graduates with higher level skills is the goal, then instructors need to be able to develop close, mentoring-type relationships with their students in order to address the students' needs. Society cannot expect both. Business recognizes that an appropriate span of control, on average 1:8.5 (Gittell, 2001), one that allows the manager to work closely with employees, improves productivity. Conversely, an inappropriate span of control creates problems with productivity, because managers are unable to meet employees' needs as part of helping employees engage meaningfully with their work.

This study was needed in order to explore if the type of relationships that exist in the business setting also exist in the classroom. A correlation of the attitudes and

perceptions of managers and instructors toward their employees and students, respectively, may indicate that the span of control can be applied to education. If so, the inability of educational institutions to “produce” students with higher level thinking and problem-solving skills could be a factor of an inappropriate span of control. If the span of control theory helps businesses optimize worker productivity, could its application in higher education also improve the quality of student outcomes?

The current study will provide instructors and administrators with a different lens for understanding appropriate class size. Applying the span of control theory to education encourages educational researchers to study student outcomes in classes with a much lower ratio of instructor to students than is commonly used. Studies on class size usually examine classes with ratios no smaller than 1:15, a span that businesses would consider too large for many higher level job functions. If the ratio of 1:8.5 needs to be considered the average, optimal size, as recognized by business, then the current practice of studying classes with larger ratios may explain the discrepancy among the studies with some indicating the effectiveness of small classes and others showing the opposite. Even with a ratio of 1:15, the class sizes in the studies may actually be too large to show positive outcomes in some cases.

Another area that can be addressed from this study is that of instructors’ teaching practices. Businesses often provide professional development for managers, so they can improve their supervision skills by learning the most current management research. In higher education, however, instructors develop their content knowledge but are often not provided, nor expected to attend, training in pedagogy to improve teaching practices. Instructors are most likely to use teaching methods they experienced as students and

often these are the traditional, passive-learning methods. So in small classes with student achievement lower than expected, do instructors need professional development on teaching methods that help them implement more appropriate techniques?

Implicitly, this study explored if instructors regarded themselves as “managers” of student learning. Therefore, the study may help shift the paradigm that information is the domain of the instructors to one in which students own their learning and are assisted, guided, and motivated by the instructor. With that, faculty may realize that their task of motivating and engaging hundreds of students is considered unmanageable in business. This study may help instructors understand the reasonableness of their frustrations with their current teaching situations.

Managers may also benefit from this study. If managers’ and instructors’ attitudes are similar with respect to their relationships with employees and students, respectively, then are managers also instructors? Managers may realize that they “instruct” their employees more than realized. This could expand the dialectic of the workplace to allow greater flexibility of “learning and developing” on the job.

Finally, the public may also benefit from the study, because people may realize that their expectations for student outcomes are inappropriate given the current education model. If business sees the benefit of paying for a small span of control in order to maintain productivity, then should there be the same consideration for education? Using the span of control as a measure, a large ratio of manager to employee is satisfactory for low-skilled jobs that do not require complex thinking processes. It should not be surprising, therefore, that within the current model of education with a ratio of 1:25 or larger, many students graduate having developed only within the lower skill levels of

Bloom's taxonomy, the ability to recall and summarize information (Baxter Magolda, 2004). If society and business want to improve educational "productivity," then there needs to be a reevaluation of the current educational structures and a willingness to support a new model. By applying the span of control theory to education, it may be possible to provide for a more appropriate ratio of instructor to students that will "produce" students with higher level thinking and problem-solving skills because society will recognize the fallacy of expecting high student outcomes from a system designed to produce different results.

### **Chapter summary.**

Instructors play key roles in student outcomes. Expectations of these outcomes has shifted as society and the workplace have become more complex. The traditional education model of large classes may not be able to address this change in expectations. Using business's concept of an appropriate span of control for work entailing complex skills may provide a way to evaluate the effectiveness of higher education's learning structure.

The next chapter will provide a review of the literature on the nature of student learning. It will also present literature explaining span of control and Maslow's (1970) theory of Hierarchy of Needs, which provides the basis for the functionality of span of control.

## Chapter 2

A common element between managers and instructors is the guidance they provide for other human beings. Both employees and students progress and regress as they cycle through the stages of development described by Maslow (1970), and managers and instructors play an active role in the efficacy of this process. A critical distinction between managers' and instructors' functions, however, exists within the infrastructures of business and education. Each discipline identifies a different number of people that managers and instructors can work with effectively.

This chapter provides an exploration of the nature of teaching and managing and the areas they have in common. The first section of the chapter examines the current structural model of education that maintains passive-learning activities. This is followed by an exploration of alternative education models that promote greater collaboration between instructors and students and emphasis on the students' construction of knowledge. Following this investigation of learning, the chapter presents research on class size and span of control (the ratio of manager to employees). The chapter also explains Maslow's (1970) Hierarchy of Needs theory, its application in business and education, and introduces five Maslovic themes found in span of control literature and how these themes are found in management and higher education literature. Finally the chapter offers literature that introduces the study's research methods and provides the rationale for their use.

## **Student learning.**

### **The traditional model of education.**

The current structure of education has educated millions of people and provided for a literate population. It is a simple, organizational design for teaching people information and appears to be cost-effective for preparing scores of people for the workplace. The instructors' job is to provide content for students, so those who are able and ready can receive it and then to assess to identify those who have the capacity to remember it. In the end, education provides credentials as to this capacity for knowledge retrieval as a way to certify a person's readiness to enter the workforce (Leland & Kasten, 2002). While this system may be efficient, the structure provides little support for instructors to form meaningful relationships with and help develop the unique potential of each student (Tinto & Engstrom, 2008). Freire (2000) equated this type of education with a banking system. He wrote, "The teacher is the depositor and the students are the depositories to hold the information that is issued. The information that has no meaning in the 'existential experiences of the students'" (p. 71). Freire continued:

It is not surprising that the banking concept of education regards men as adaptable, manageable beings. The more students work at storing the deposits entrusted to them, the less they develop the critical consciousness which would result from their intervention in the world as transformers of that world. The more completely they accept the passive role imposed on them, the more they tend simply to adapt to the world as it is and to the fragmented view of reality deposited in them. (p. 73)

Using a different metaphor, Leland and Kasten (2002) wrote that the education system functioned as a factory. In their model, just like constructing widgets on an assembly line, term after term, instructors layered piece after piece of information onto the students until the appropriate amount of knowledge was accumulated. At the end of



each term, instructors conducted a spot-check assessment to determine whether the students had acquired enough information to be considered “complete” for the next level. Completed students moved on to the next instructor. “Incomplete” students were sent back to the beginning or removed from the system altogether. At the end of the line, the “finished” students were released into the work world (Johnson, 2006; Leland & Kasten). Just like a factory’s standardized activities, teaching practices were not about adapting to each student’s learning needs to maximize growth but instead used a universal curriculum that addressed all students uniformly (Leland & Kasten).

Leland and Kasten (2002) offered an explanation for the reasoning behind the factory model of education. In the early 1900s, education leaders, influenced by the furor of absolutist thinking and the positivist beliefs of the time, saw the use of science as the means to improve education. As explained by Leland and Kasten, educators used the scientific method to design and implement a universal curriculum that could provide a “uniformity of outcomes” (p. 12) among all students. This “systemizing” (p. 7) of education would be able to supply a workforce that could respond to the demands of an industrial age and help assimilate the millions of immigrants flowing into the country. Leland and Kasten quoted Cubberly from 1916 who wrote, “Our schools are, in a sense, factories in which the raw products (children) are to be shaped and fashioned into products to meet various demands of life” (as cited in Leland and Kasten, p. 8). Leaders saw and, according to Wilkins (2005), continue to see education as an important cultural force that could help maintain a productive and peaceful community.

In the past, the skills that students learned were appropriate for the needs and expectations of an industrial work world (McTaggart, 2008; Wilkins, 2005). People

needed to learn how to follow directions and be disciplined in their work. Students who excelled at academics became the community and industrial leaders of those who did not. Unsuccessful students could still find meaningful work not requiring “intellectual” behaviors. In her Youtube video, *Educating for Today and Tomorrow*, McTaggart, co-author of *Overschooled and Undereducated* stated that in the past, “the backdoor of the school led across a field to the front door of the factory”[video webcast]. For all students, whether successful or not, schools provided the training of how to behave in the workplace and society (Gramsci, 1971).

Since 1916, the regimentation within schools has lessened, but, for the most part, schools still serve the same functional purpose. They not only provide instruction for students in academic skills such as reading, writing, and math but also acculturate them to the social order, making them ready to be adults in the community and workplace (Leland & Kasten, 2002; Willis, 1977). As part of fulfilling their functional role, teachers use learning activities and classroom management techniques to mold students into people who can sit and work independently on assigned tasks and follow the rules. Students are taught how to color within the lines. This training is considered critical for providing a smooth transition for children into adult life (Leland & Kasten) and to be productive members of the workforce and the community (Clinchy, 1993).

In a continuation of this socialization process, students in higher education experience additional lessons in how to satisfy work requirements and authority, important skills for survival in the workplace. Classes designed from a universal curriculum and using a unidirectional transmission of content, from the instructor to the students, teach students how to follow directions and work hard in order to acceptably

perform the tasks required by their instructors (Leland & Kasten, 2002). Establishing professional behaviors, such as discipline and self-management, is a side benefit of the process of information acquisition and assessment.

As an instructional strategy, a unidirectional, content delivery method does work as a way to learn information, and people make use of it in a variety of venues. Individuals go to conferences, read books, watch documentaries, and listen to National Public Radio. When delivering content, it does not matter whether classes have 1 or 1,000 students. The teachers teach, and the students listen and try to remember what the teachers taught. With this education model, the number of students the instructors are responsible for teaching is not important since the objective of education is to present a prescribed set of information to learners who can be evaluated uniformly (Leland & Kasten, 2002).

### **Evolution of educational needs.**

Changes in society over the last 30 years, however, have made this education model unsatisfactory (Clinchy, 1993; van Merriënboer & Kirschner, 2007). In today's marketplace, employers do not just want graduates who have learned content, they need graduates who have acquired reasoning and critical thinking skills in reading, writing, and problem-solving (Baxter Magolda, 2004). In addition, the expectations for a graduate's behaviors have also changed. According to Livingston (2010), "Interaction and collaboration are now important in most workplaces, and are expected to be even more important in the future" (p. 59). People now need to know how to work productively in teams. Leland and Kasten (2002) noted, "It became increasingly clear

during the waning years of the twentieth century that memorizing facts doesn't solve problems, and that people need to be able to use knowledge flexibly in different contexts" (p. 14).

van Merriënboer and Sluijsmans (2009) advocated that today's students needed to experience complex learning which they defined as:

Such tasks [that] stimulate learners to integrate the knowledge, skills, and attitudes that underlie the performance of realistic tasks, and so help them construct a knowledge base that allows for transfer of what is learned to solving new problems in unfamiliar situations. (p. 55)

This level of learning requires the novice's close interaction with an expert, a person with greater skill or knowledge, in order for the novice to effectively form deeper knowledge integration and richer conceptual constructs, (Vygotsky, 1978). By working interactively with this knowledgeable person, the novice has someone who provides feedback concerning misconceptions, offers challenges to think more critically, and provides specific guidance to prompt broader conceptualizations (Merrill, 2002).

Without the social interactions, without a dialectic that challenges people to see the reality of another person, learning is often limited to a surface level understanding (Freire, 2000). Individuals will most likely use knowledge at the lower levels of Bloom's (Marzano & Kendall, 2007) taxonomy—remembering and summarizing. See Appendix A for a chart of Bloom's taxonomy. Livingston (2010) wrote that "The goal of a school cannot simply be the dissemination, but rather, must be the absorption of information" (p. 60). The unidirectional content delivery system, with students as passive recipients of information, does not stimulate the complex learning that van Merriënboer and Sluijsmans (2009) identified as an important experience for college students moving into

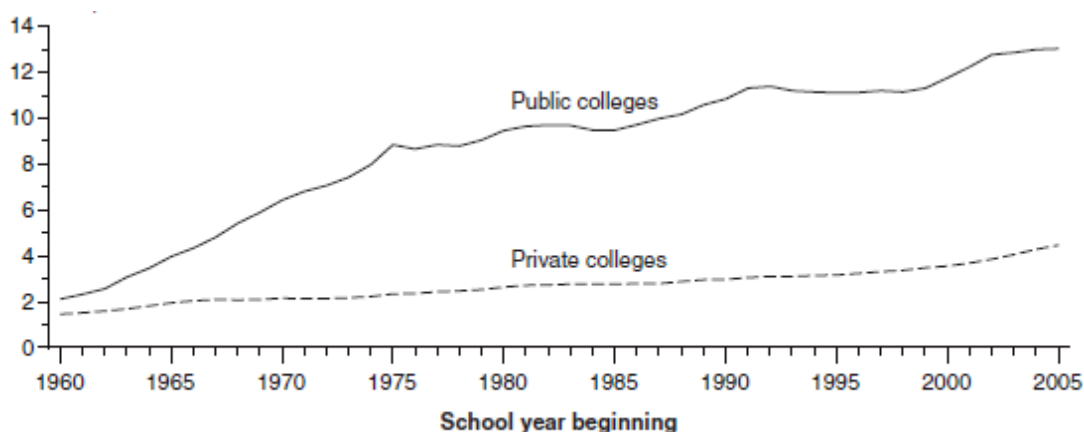
today's complex, global society and workplace. Now, instead of being content providers, instructors must coordinate learning activities, so students develop higher level thinking and analytical skills, and schools are to produce graduates who can perform complex and creative tasks (Gordon, 2009; Livingston, 2010; Powell & Kalina, 2009).

***Pressure to change the system.***

The No Child Left Behind legislation of 2001 mirrors the growing sentiment of society that schools need to educate all students to their capacity. Society wants more from schools than to teach students how to behave and do math, write, and read at the ninth-grade level (Wilkins, 2005). According to Whitt (2005), "Four-fifths of high school graduates need some form of postsecondary education to acquire the knowledge, skills, and competencies necessary to address increasingly complex social, economic, and political issues" (p. 1). Matthews (2010) of the Lumina Foundation provided a similar observation with his forecast, "Fully 60% of jobs in the U.S. will require postsecondary education by 2018" (p. 4). Matthews went on to warn that the current college graduation rate will not meet this future skill need. In response to this national problem, in 2009, President Obama called for an increase of 5 million college graduates by 2020 (Lumina Foundation, 2009).

More people than ever see higher education as their path to a more secure, satisfying life. Robotics and an international workforce have decreased the number of high-paying and satisfying factory jobs causing a significant shift in people's educational goals (van Merriënboer & Kirschner, 2007). From 1960 to 2005, there was over a 300% increase in fall enrollment numbers in higher education institutions (Brock, 2010). See Figure 1. By 2005, over 60% of high school seniors expected to attend a four-year

college in order to take advantage of better employment opportunities and financial security (Ingels, Planty, Bozick, & Owings, 2005). In 2010, a bachelor's degree provided greater security. The unemployment rate for individuals with a bachelor's degree was less than half that of a high school graduate (U.S. Department of Labor, 2010) and the average pay for those with a bachelor's degree was almost twice that of a high school diploma (Brock, 2010).



*Figure 1.* Enrollment by Millions in Degree-Granting Institutions 1960 – 2005 (Snyder, Dillow, & Hoffman, 2008, p. 264).

As more people want and need to succeed in college, there is growing pressure on higher education institutions to provide support for the different population of students entering colleges and universities (Tinto & Engstrom, 2008). Students with low income, older students returning to college after years away from school, students from underrepresented ethnic groups, and students who barely made it through high school make up this new population of students wanting to complete a college degree (Brock, 2010). Many people from this new population arrive at the doors of higher education without the confidence and skills to succeed and with cultural expectations that may clash

with the traditional education practices (Adelmann, 2007). For many, the academic skills they need can inhibit their success in college classes. Currently, 42% of students entering community colleges, and 12% to 24% of those entering four-year institutions enroll in at least one remedial reading, writing, or math course (Brock). New educational processes are required to help these students succeed. Tinto and Engstrom wrote:

Access without support is not opportunity. That institutions do not exclude students from college does not mean that they are including them as fully valued members of the institution and providing them with support that enables them to translate access into success. Too often our conversations about access ignore that without support many students, especially those who are poor or academically underprepared, are unlikely to succeed. (p. 50)

Even though there are new expectations on student outcomes and a new awareness of student needs, educational structures have not changed. Students at all academic levels are still organized in the traditional education model with large learning groups that, in order to have success, require the students to have the commensurate personal skills and support systems, i.e. parents. There is still a universal curriculum or set of prescribed information for all, which maximizes content delivery to large numbers of students but minimizes student growth (Leland & Kasten, 2002).

This traditional model of education has two specific problems in regards to learning. For a variety of reasons, some students are unable to learn effectively with the unidirectional teaching methods or do not have a personal support system that can help them succeed. Those students who have learning styles, support systems, or cultural perspectives that do not fit the traditional education model will have trouble succeeding in school (Tinto & Engstrom, 2008). This is a critical problem at a time when more people need to succeed in higher education.

The other problem is that learning is deeper and fuller for all students when done in close interaction with an “expert” (Baxter Magolda, 2004; Vygotsky, 1978). The traditional education model was not designed to be dialectical and therefore not appropriate for helping students develop higher level skills, complex thinking abilities or knowledge awareness (Hunter et al., 2007). A universal curriculum cannot address the backgrounds and cultural perspectives of the diverse students in today’s classes (Leland & Kasten, 2002). A universal curriculum cannot encompass the richness of the students’ prior experiences. While appropriate for outcome expectations of the past, the traditional education model, with a universal curriculum and the unidirectional content delivery system required for large groups, has difficulty addressing any of the aforementioned learning issues effectively.

With the current education structures, it is left up to the instructors to struggle with large numbers of students to overcome these learning barriers in order to meet today’s radically different educational expectations. It is considered the fault of the students if they do not have the wherewithal to succeed in higher education. A recent Associated Press/Stanford University poll showed that the public placed blame for low graduation rates on students (Gorski, 2010).

### **Alternatives to the traditional teaching model.**

The ability to think critically and analytically, like any skill development, requires learning, and the complexity of these skills makes them hard to acquire from a book or lecture. “If you expect someone to do something, you have to expect to teach them how” (Kuh et al., 2005, p. 66). Research indicates that students generally do not engage at higher level learning on their own (Herington & Weaven, 2008; Kjellgren et al., 2008;



Merrill, 2002). In their study of student development and attitudes about learning, Kjellgren et al. found that students felt more comfortable with the more traditional approach to teaching and learning, i.e. lecture and passive learning. The researchers suggested that colleges be more premeditated with introducing students to complex learning activities in their first-year classes. They cautioned, “The manner in which students are introduced to their studies will affect the quality of students’ learning, the development of their competence, and in general, their adjustment to academia” (p. 239). In order to help students acquire more critical thinking and problem-solving skills, university programs should premeditatively establish methods that support and encourage students to use more complex thinking over the years they are in school.

### ***Social constructivism.***

The social constructivist paradigm states that people form their understanding of reality within the context of other human beings in order to make meaning of their experiences and lives. Learning occurs when in interaction with someone who has greater knowledge or a different perspective that functions as a challenge to an individual’s preconceptions (Vygotsky, 1978). As individuals encounter information or experiences contrary to their current understandings, they are conceptually put out of balance. What they knew as reality is shown to be a misconception, and now they must relearn what they thought they already knew. In order to come to terms with the new information they construct new, more inclusive concepts (Mezirow, 1991).

The social constructivist instructor, therefore, is important for providing the kinds of experiences that develop students’ knowledge construction (Dewey, 1998; Mezirow, 1991; Vygotsky, 1978). Rather than presenting content to students and assessing for

retention, this type of instructor sees teaching as a premeditated, facilitated process that promotes the students' active learning (Leland & Kasten, 2002). To be an effective facilitator, the instructor must first learn what the students think and their proclivities for learning. Then using this knowledge about the students, the instructor provides appropriate challenges for the students' thinking while offering feedback and support (Freire, 2000). This allows students to correct their misconceptions and gain confidence in their thinking (Vygotsky). By working closely with students, the instructor scaffolds them through their thinking processes and moves the students to more mature stages of knowledge integration as a process of achieving mastery (Merrill, 2002).

An instructor who teaches large numbers of students will have limited ability to scaffold students with appropriate challenges, feedback, and support. There are too many students to learn about within a short amount of time. In large classes, therefore, the instructor will learn about those students who know to make personal connections, but most students are willing to sit passively waiting for the instructor to make contact (Kjellgren et al., 2008). These passive students will receive content from instructor's universal curriculum as a reasonable way for the instructor to cope with so many learning variables. The students' active learning will be discussions with other students trying to also learn the content and skills.

*Knowledge of student as a guide for practice.*

Leland and Kasten (2002) offered the inquiry method as an alternative teaching practice to the traditional, factory model with a universal curriculum. They explained, "Teachers in inquiry classrooms see their role as facilitating students' learning rather than directing it" (p. 11). In the inquiry classroom, Leland and Kasten noted that the instructor

provided an environment where students learned to think critically with the result that the students would not just memorize facts but were able to “use knowledge flexibly in different contexts” (p. 14). Instructors needed to know their students’ backgrounds, needs, and perspectives in order to provide a supportive environment that maximized the students’ personal discovery and growth.

Hargreaves (1994) also offered an alternative to the factory model with one in which the instructor was a learning facilitator. Rather than having an assembly line structure with each student getting the same treatment, he suggested schools structure themselves like a hospital. Hargreaves posited that teachers should perform professional services such as curriculum design and assessment of students’ needs. The teacher used the student’s assessment results not as a judgment of the student’s capacity for content retention but as a diagnostic tool to prescribe an educational path for the student’s growth. To assist with this process, schools should hire professional teaching assistants who, in partnership with the teacher/physician, performed teaching activities with the students similar to that of nurses providing care in a hospital. Just like nurses, these teacher assistants needed to be trained professionals who were capable of quality teaching.

It is a simple extrapolation of Hargreaves’s (1994) idea to question the feasibility of a physician attempting to conduct a health examination and prescribe treatment with 30 patients simultaneously. Like physicians, teachers should be able to evaluate the learning needs of each student, “prescribe” an appropriate lesson, implement the lesson, and then re-evaluate the student in order to modify the learning task, so the student can achieve a deeper level of growth. Some readers may recognize that this model outlined

by Hargreaves is currently used with students in special education programs. Using evaluations to provide understanding about the student's capacity, a specialist creates an IEP (Individual Education Plan) and uses it as an instructional guide to maximize the student's development.

In his examination of best practices for classroom teaching, Smagorinsky (2009) recognized that the teaching/learning activity was not just socially constructed at the time of the meeting, but also encompassed the past. The background of the teacher and students must also be taken into consideration to achieve optimal educational outcomes. Far from the factory model's systemization of learning, Smagorinsky wrote that each student added unique factors to the class and reacted to each teacher distinctively:

As an educator I could no longer conceive of teaching and learning as taking place between teachers and students. Instead, I had to consider the [classroom] walls as permeable, allowing in not only the students' prior experiences in home and communities.... (p. 18)

Smagorinsky (2009) went on to articulate the expansiveness of the learning environment that included the world beyond the classroom. He acknowledged that this philosophy of teaching was labor intensive and required the teachers' attention to the social environment within which learning occurred. He questioned whether there could actually be such a thing as "best practice."

Smagorinsky (2009) saw teaching as a unique, socially constructed activity driven by the interaction between the teacher and the students. Since each teacher had a distinct educational background, and students brought diverse perspectives to the classroom, this interaction between the teacher and students was changeable and dynamic. Teaching was a situational rather than a predesigned, static activity. Smagorinsky realized the fruitless

endeavor of attempting to design a universal curriculum. He wrote, “Best practices are comprised of the methods that a teacher determines, through principled reflection on how instruction works, to be effective in his or her unique setting” (p. 21).

*Promoting critical thinking in students.*

Maybe the best known instructor who dismissed the idea of a universal curriculum was Paolo Freire. In his teaching work with illiterate adults in the 1960s, Freire (2000) recognized that adult students were capable learners; they had, after all, learned how to be full participants in their communities. To be effective, therefore, an instructor had to tap the students’ capacities by connecting the curriculum to their lives. Freire proposed that people learned more effectively and education had greater impact and was more ethical when it was meaningful to their personal reality. Before starting literacy classes, Freire and fellow reading teachers talked with the students and gathered their stories and identified their cultural language. Then the teachers produced reading materials based on the information they gathered from the students’ lives. Using the people’s words and cultural context, Freire was able to teach people to read within 40 hours (Kirkendall, 2004). An important component of his work was helping people gain greater self-awareness, see their lives in the context of the society in which they lived, and begin to take control of their lives. More than just teaching reading skills, Freire showed his students how to think critically and work to improve the situation around them (Kirkendall).

Baxter Magolda (2004) found that the relationship students had with faculty impacted the students’ ability to develop more sophisticated understandings about learning and knowledge. In her longitudinal study with college students, she found that

students developed different levels of epistemological assumptions as they progressed through college and entered the work world. When students entered college, they usually did not have confidence in their abilities nor did they recognize their responsibilities in the learning activity. They thought of knowledge as certain, that the instructor was the expert of this knowledge, and accepted a subordinate position as the receiver of knowledge. Baxter Magolda described this stage as “absolute knowing” (p. 34) and found that two-thirds of students entered college at this level. As faculty challenged their students to think more deeply, students became open to the idea of ambiguities within truth which led to the next stage of development.

Baxter Magolda (2004) called the second level of epistemology “transitional knowing” (p. 34). At this stage, students recognized that some knowledge was uncertain, such as in the humanities, and were uncomfortable with the uncertainties they saw in these disciplines. They felt more secure when they knew there was a “right” or “wrong” answer but at least were beginning to realize that reality was more subjective than they thought. By the time they were sophomores, more than 50% of the students were at this level; this number increased to more than 80% by the time they were juniors and seniors. The continued contact with the same faculty in upper division classes allowed faculty to have more personal influence over the students’ thinking processes. This helped the students construct broader conceptual frameworks.

Baxter Magolda (2004) identified two additional levels of epistemology that she found usually developed primarily after people left college and entered the work world. She posited that, in the third stage, “independent knowing,” (p. 37) students became skeptical of the truth even in subjects they originally thought were objective, such as

statistics. At this stage, students no longer looked at knowledge as something certain. They realized they were responsible for learning and thinking for themselves. Baxter Magolda found that a small number of seniors in her study, 16%, achieved this third stage while still in college.

According to Baxter Magolda (2004), in the fourth stage of knowledge awareness students acquired “contextual knowing” (p. 37). She reported that few undergraduate students in her study, only 2 in 80 or .03%, achieved this stage of knowing. Here people recognized that knowledge was situated within context. They realized the choices they could make and took into account the views of others as factors of their choices. Students understood truth as changeable and determined by their environment.

Baxter Magolda (2004) reported that the students in her study who were at the “contextual knowing” level “experienced growth in complex, fluid environments that emphasized social construction of knowledge, the participants role in it, and mutual engagement with experts in knowledge construction” (p. 41). She wrote that higher level learning was a product of the students’ ability for meaning-making through partnerships with individuals who could challenge their thinking. Many of the students did not experience these higher levels of development until they left college: “Their post-college contexts offered substantial challenge accompanied by substantial support” (p. 41).

When individuals moved from higher education to the work world, they were often under closer supervision and had more one-on-one interactions with their supervisors than they had with their instructors. They received more direct support as they were trained to do their new jobs. Baxter Magolda’s (2004) findings that people evolved to the fourth stage of epistemological awareness when they began their careers

might have to do with this increase in the level of interaction with managers and co-workers who challenged their thinking while providing support for their intellectual growth. In the workplace, these former students worked within a smaller span of control.

Hunter et al. (2007) used model from Baxter Magolda (2004) to study the development of personal and professional attitudes and behaviors in senior science students at a university. Hunter and her colleagues found that students experienced dramatic attitude and behavior changes in the way they approached science research when they participated in close, one-on-one research activities with a faculty mentor who used social constructivist teaching strategies. From their study, they posited that “learning is best achieved in a “situated” (p. 66) context that challenged students to apply and extend their cognitive and practical skills in a “zone of proximal development”” (p. 66).

Hunter et al. (2007) had similar findings as Baxter Magolda (2004). It was difficult for students to shift from transitional to independent knowing while an undergraduate. But aside from intellectual development, Hunter et al. found that students participating in carefully guided learning activities in undergraduate research could make “personal-professional” (p. 44) gains in their levels of confidence to do research and their realizations of the importance of building professional relationships. Hunter et al. found that this change in student attitudes provided hope for improving learning outcomes. The researchers expressed optimism for the possibility to accelerate development of more complex thinking skills in students. Hunter et al. quoted Baxter Magolda:

Higher education focused on knowledge acquisition has trained students to be transitional knowers: alternative higher education contexts (e.g.,



focused on knowledge construction) might make complex meaning-making possible at much earlier ages.... (as cited in Hunter et al., p. 66)

### **Summary.**

The traditional education model regards students as objects. Information flows one way from the instructor to the students who acquire knowledge from a universal curriculum. The instructor's job is to provide content and assess how well the students learned the content. The model does not address the different needs of the students nor the experiences they bring into the classroom.

Rapid changes in today's society is pressuring for a change in student learning. Students now need to be able to think critically and know how to use information creatively to solve problems. This requires a change in the teaching method. Faculty need to facilitate learning activities that encourage the students to expand their thinking and become more active in their role in knowledge construction. In this new model, rather than using a unidirectional method to deliver content to students from a universal curriculum, instructors facilitate students' intellectual and personal growth through rich, meaningful interactions and scaffolding students with appropriate challenges, feedback, and support. This requires instructors to know their students and work closely with them. As a result of this process, students integrate knowledge more deeply and develop their abilities for more complex thinking processes. It would seem that faculty who teach in large classes would have a difficult time working closely enough with students to achieve this type of teaching/learning relationship. Nevertheless, faculty still try to engage students in learning activities that expand students' conceptual frameworks.

The next section of the literature review will explore research on class size and its impact on how faculty work with students and use social constructivist teaching techniques.

### **Class size.**

There has been an ongoing debate over class size since 1902 when Rice concluded from his study that class size did not cause any significant difference in educational outcomes (as cited in Molnar, 2000). Eighty years later, Glass, Cahen, Smith, and Filby (1982) conducted a meta-analysis of 725 studies conducted between 1902 and 1980 and found just the opposite. They reported that smaller class sizes positively impacted the quality of student learning and teacher satisfaction. That same year, the Education Research Service challenged these findings (Glass et al.). The controversy of class size continues today (Januszka & Dixon-Krauss, 2008; Robertson, 2005). Some studies show an increase in student scores in K-3 classes with 15 students but with little change in improvement in older grades with the same class size (Molnar). Other research indicates that there is so little difference in learning outcomes that changing class size is an unwarranted expense (Hanuschek, 1998; Slavin 1989).

While there have been fewer studies on class size at the college levels (Wyss, Tai, & Sadler, 2007), higher education researchers have also participated in this long-standing debate with the same mixed results (Toth & Montagna, 2002). Some recent research points to the students' improved ability to acquire higher level thinking skills in smaller classes (Campbell et al., 2008; Hayes & Devitt, 2008). While other researchers point out instructional strategies faculty use to promote active learning in large classes (Long & Coldren, 2006; Sidelinger & Booth-Butterfield, 2010). Some researchers on student

development do not address class size as a factor for student growth (Kjellgren et. al, 2008), while other researchers grapple with the problems inherent in large groups (Krueger, 2002; Messineo et al., 2007). Herington and Weaven (2008) wrote:

Large cohorts of students often make it difficult for conveners to create an environment in which students feel that their own personal needs are being met... and accommodating different learning approaches that are conducive to the realisation of high quality learning outcomes.  
(p. 111-112)

### **Making large classes work.**

In their study addressing faculty/student interactions, Messineo et al. (2007) researched how faculty could make large lecture classes more interactive. They found that while experienced students in large, passive-learning classes were resistant to instructors using active-learning, such as small group discussions, first-term students enjoyed this format. The researchers reported that by providing active-learning opportunities the new students showed greater commitment to attending class and participating in activities. In a study with similar findings, Powell and Kalina (2009) also identified student talking about course content as one way to get students more engaged and thinking about the material.

Messineo et al. (2007) posited that colleges would do well to provide active-learning activities in order to increase the engagement of new students. The researchers linked faculty providing this kind of engaging activities with student retention. They observed, “Students are least likely to drop out of college when they are committed or feel connected to the institution or department” (p. 131). Messineo and his colleagues suggested that students might become frustrated with large, passive-learning classes and the interpersonal and physical distance between them, other students, and the instructors.

In their study, the researchers found that 95% of the students reported they were taking more than one large class during the semester. Since so many new students took large classes, Messineo et al. identified the students' sense of isolation within their large classes as a factor contributing to attrition. The researchers suggested that small group discussions could offset the negative aspect of large lecture classes and improve student engagement.

A problem with these student discussions that Messineo et al. (2007) did not explore was the quality of the discourse. While discussing course material with others could help student engagement, a dialogue with unknowledgeable peers would not provide the same level of learning as that with a knowledgeable instructor. Discussing content with peers in an undergraduate class risks the student forming misconceptions about the course material. In addition, Messineo and his colleagues did not address whether the students' small group discussions led to increased critical thinking skills or simply greater student engagement, albeit an important factor in student retention (Tinto, 1987).

In their study of large lecture classes, Long and Coldren (2006) acknowledged that teacher quality and style contributed to students' learning outcomes, but that no single style had produced the best results. In their study with two faculty who were teaching large lecture classes, the researchers found that the instructors were able to improve student outcomes by using social constructivist techniques even with large numbers of students. The researchers suggested that it was effective if faculty modeled effective thinking processes by talking out loud as they worked through problems. In addition, Long and Coldren wrote that a careful use of language and posturing could

make classes more interpersonal. For example, they suggested that faculty should regard the class as “we” and not “you,” use more nonverbal cues such as eye contact and a “warm tone of voice,” and establish a “conversational atmosphere” (p. 242).

Long and Coldren (2006) noted a caution with their study results. Besides the limitations of extrapolating data from research conducted with two faculty, the students in the study received extra credit or course credit for their participation. This put limitations on the generalizability of the study. In addition, depending on the size of the class, the amount of eye contact and the feasibility of establishing a “conversational atmosphere” that a faculty member could effectively manage might be limited. Long and Coldren’s suggestions relied on the ability of the faculty member to stretch her or himself to personally interact with a large number of students in a lecture hall. While their suggestions were valuable techniques to improve the instructor’s rapport with students, the effect would still be limited.

#### **The case for small classes.**

Similar to the call by van Merriënboer and Sluijsmans (2009) to provide complex learning opportunities for students, Ernst and Ernst (2005) suggested that students should experience a personal, deep level of learning in higher education; instead, college instruction remained a “one size fits all” (p. 40). Many classes were still held in the traditional lecture format. The curricula did not encourage students to develop critical thinking skills, nor did it address the uniqueness of the students in the class. Ernst and Ernst saw that large college classes made it difficult for an instructor to address the students’ different learning styles, conceptual difficulties, cultural nuances, or other unique issues.

Hayes and Devitt (2008) found in their study of students in an introductory food science course that students preferred small classes to large classes because of the improved level of interactions with the instructors. Students enjoyed engaging in meaningful discussions with faculty and fellow students during class. In addition, the researchers found that students in small classes showed significant gains in critical thinking abilities, while students in large classes did not. Hayes and Devitt recommended that colleges offer small introductory classes to new students to provide early, positive experiences of engagement during class. This suggestion concurred with Messineo et al. (2007) that colleges needed to evaluate how they might be encouraging passive learning behaviors in students and the ramifications of large classes on the students' future learning behaviors and persistence.

In their study of senior science students and faculty mentors, Hunter et al. (2007) reported similar results as Hayes and Devitt (2008). By working one-on-one with faculty, students adopted appropriate attitudes, skills, and problem-solving for science research. A student in the study responded, "It's really wonderful to be in such a give-and-take with a professor, where the professor doesn't know all of my ideas before I come to it..." (p. 56). One of the faculty in the study explained the professional pleasure of working with students individually:

Part of what I think works in this enterprise, is it's not this student-teacher relationship. It's a more collegial relationship. We're on fairly equal footing here. It's true I have a lot more experience, and I can give them the benefit of my general experience in my thinking about the mathematical problems... It's wonderful when a student comes up with something and I say, "Well that's really neat! I never thought of that," and they just beam. (p. 56)

One might argue that the instructor could provide this positive “give-and-take,” because she only had one student to support. Rather than guiding 25 students simultaneously, the instructor focused on one person’s learning needs. The responses given to the student in their discussions were specific to what the student needed at that time. It was a dynamic learning situation.

Trying to provide social constructivist learning activities to large groups of students takes its toll on faculty. Two studies showed the instructors’ attitudes toward class size. Kjellgren et al. (2008) reported on faculty perceptions in a study on first-year students’ attitudes about learning and metacognitive skill development. In the study, faculty taught classes and followed up with their students in tutoring sessions. The researchers reported that while the instructors appreciated the opportunity to tutor groups of 8-10 students, they still regarded this group size as too large. The instructors also reported frustration with the experience of higher workloads from teaching a class and also providing tutoring sessions.

Campbell et al. (2008) reported similar findings in their study of faculty in science and engineering classes. They found that faculty were frustrated with working with large groups of students. Campbell and his colleagues wrote:

Class size emerged as an issue affecting teaching and learning... Large classes were viewed as problematic as they increased workload and reduced teachers’ ability to form good working relationships with students. (p. 282)

The researchers also reported that instructors felt small classes allowed for better interactions with students, so instructors could “provide more personalized help and teach more effectively” (p. 282).

Kuh et al. (2005) provided an apt description of the source of instructors' frustration in large classes:

Maintaining an unwavering focus on student learning is labor-intensive. To foster student success, faculty, staff members, and others must "make time for students," and making time for students demands a lot of time from faculty and staff. There is no substitute for spending time interacting with students, whether face-to-face or electronically. (p. 80)

Instructors wanting to connect with their students are pressed when trying to do so with the number of students they must work with each term.

### **Summary.**

Instructors see the benefit of providing active-learning opportunities in order to engage students in larger classes. But students actively engaging with peers is not the same as having a meaningful interaction with a knowledgeable instructor who is able to identify problems with students' knowledge construction. In smaller classes, instructors stated they were able to engage with students more effectively and provide social constructivist learning activities to promote the development of the students' critical thinking skills.

### **Span of control.**

The benefit of small classes in which instructors can more effectively help students develop may become more of an issue because of changes in the expectations for student outcomes. To prepare for today's rapidly changing world, schools are expected to produce graduates who can use knowledge flexibly and creatively to solve problems. This shift in expectations makes it necessary for instructors to provide lessons, so students experience complex learning activities (Gordon, 2009; Johnson, 2006; Livingston, 2010; Powell & Kalina, 2009). While educators continue to debate the



efficacy of class size, the use of span of control in business already produces these desired outcomes; business acknowledges that managers can effectively supervise no more than nine people when the task requires higher skill levels and complex problem-solving.

### **Background on span of control.**

In its earliest conception, management viewed span of control as a way to define the structure of its relationship with employees, so their activities could be controlled more efficiently (Gulick, 1937). In his original model, Gulick recommended that an optimal span of control, adapted from military organization theory, should be small with the average ratio being one manager to five or six workers. Gulick identified three factors that impacted the manager's ability to effectively supervise—diversification of function, time, and space. Diversification of function was the degree to which employees were a diverse group with diverse job functions. The time factor was the degree to which employees needed training in order to do their jobs effectively. Space was the degree of physical separation between the manager and the employees. Gulick found that the more diverse, inexperienced, and remote the employees were, the fewer employees a supervisor could effectively manage. Gulick observed that workplace productivity depended on the ability of the manager to control the employees' activities and the effectiveness of this control was directly related to how many employees the manager could efficiently supervise.

Over the decades, as management theory took on a postmodern turn, span of control took on new meaning. With the recognition that workers, with increased autonomy and responsibilities were more self-satisfied and therefore produced more,

managers evolved from authoritarians to coaches or facilitators, and the work environment became more collegial. Managers no longer needed a small span of control in order to control worker processes, so the ratio widened decreasing manager's constant supervision and giving employees greater autonomy with their jobs (McGregor, 1960); this paradigm shift caused some ratios to grow as large as 1:80 (Cathcart et al., 2004).

Business found, however, that this wide span greatly decreased the amount of contact employees had with their supervisors, so managers were less able to address workers' needs. This reduced worker satisfaction and lowered productivity. In response, business has been increasing the number of managers in order to, again, establish a smaller span of control. According to Gittell (2001), despite literature on a flat management model with a wide span of control, from 1980 to 1990, the average span of control decreased from 12 to 8.5. Business found this ratio small enough to allow managers to work closely with employees but wide enough to permit workers a degree of independence with their jobs as well as maintain cost efficiencies. Literature supporting a narrow span of control recognized that managers could still only effectively supervise a small number of people because of the complexities of the human experience (Davison, 2003; Gittell; McManus, 2007).

A number of fields other than business have adopted span of control. In prisons where adults can be locked up for poor behaviors, the average ratio of prison guards to inmates is 1:3, with ratios of 1:15, or higher, shown to increase the level of violence in prisons (Mears, 2004). The basic military unit is composed of four to five soldiers who report to a team leader. An emergency response squad is limited to eight members per supervisor, a ratio recognized as a critical safety factor. Even in education, the typical

organization chart for a university shows the president with no more than six direct reports, and in K-12 schools, the average ratio of principal to teachers is 1:13 (Meier & Bohte, 2003).

One of the reasons a small span of control is important is that small groups work more effectively than large groups (Hattrup & Kleiner, 1993). Groups with nine or more members show less cohesion than groups with fewer members. “Smaller groups [three to six members] establish and maintain higher levels of communication quality” (Lowry, Roberts, Romano, Cheney, & Hightower, 2006, p. 631). One of the reasons for this is the ease of communication within smaller groups. When people interact frequently, they are able to clear up misunderstandings, develop camaraderie, and establish shared goals.

Industry has linked relationships and communication to innovation (Robinson & Stern, 1997; Wheatley, 1992). According to Robinson and Stern, those companies that fostered dialogue among their employees were more likely to stimulate creative activity and problem-solving and experience corresponding growth. Business recognizes that the relationships between people make systems run smoothly. From work groups to company picnics, it pays to improve the working relationship and dialogue among employees. Wheatley offered:

We need to imagine ourselves as broadcasters, tall radio beacons of information, pulsing out messages everywhere. We need all of us out there, stating, clarifying, discussing, modeling, filling all of space with the messages we care about. If we do that, fields develop—and with them their wondrous capacity to bring energy into form. (p. 56)

### **Application of span of control.**

Meier and Bohte (2003) studied the span of control of principals to staff in a Texas school district. They tested Gulick’s (1937) three factors that influenced span of

control—diversification of function, time, and space. From their research, Meier and Bohte concurred with Gulick's theory. The diversity of job roles of the staff and the experience level of teachers impacted the number of employees a principal could supervise and ultimately affected a school's success. If the span of control of principal to staff was too large, student achievement went down.

Shirey (2006) studied satisfaction levels and span of control with nurses in a hospital. In her study, nurse managers reported that increased support from hospital administration would alleviate stress in their jobs. Re-engineering of nurses' duties created larger spans of control that decreased the level of interaction between the administration and the nurse managers. The larger span of control was one of the factors impacting an increased level of stress experienced by nurse managers.

In another study with nurses, Meyer (2008) found that a large span of control negatively impacted the job satisfaction of the nurse managers' employees. Meyer reported factors similar to those studied by Meier and Bohte (2003). The different types of workers, their inexperience, and distance away from the supervisor affected the size of the span of control. According to Meyer, managers could effectively supervise the number of staff only in relation to Gulick's (1937) factors of diversity, time, and space.

Doran et al. (2004) found in their study of nurses in hospitals that a large span of control decreased the positive effects that talented managers brought to their jobs as well as stimulated a decrease in job satisfaction of the staff. The researchers found that a large span of control led to greater job turnover with an increase of 1.6% in the turnover rate for every increase of 10 people in the size of the span of control. According to Doran et al., "No leadership style can overcome a wide span of control" (p. iv). In addition to

decreased job satisfaction levels, Doran and her colleagues found that a large span of control also negatively impacted patients' satisfaction levels.

Davison (2003) wrote that managers' relationships with their employees helped overcome job difficulties, maintained clear communication, and encouraged employee growth and development. She reported that businesses with a small span of control, 1:6, experienced an average revenue growth of 20% compared to companies with a larger span of control, 1:8, that reported only 5% growth. While it would appear that during financially insecure times laying off managers and increasing the span of control would be good for financial efficiency, businesses found just the opposite was true. The way to financial security was to improve productivity which came from managers maintaining a good relationship with their employees and taking care of employee needs. This required a small span of control.

In her study of airline workers, Gittell (2001) compared the functionality of employees and their satisfaction levels within groups with large and small spans of control. She found that groups with a small span of control had fewer conflicts and higher trust levels, showed a greater tendency for problem-solving, and had more collaborative teams. She reported that managers in the smaller groups were able to maintain better communication with their employees, and this was a factor of employee satisfaction.

Gittell (2001) found there was also a significant difference in the way managers worked with small groups of employees compared to those of larger groups. With fewer employees, managers took on a coaching function and often worked side-by-side with their employees. Gittell reported that managers of large groups, on the other hand, did

not have the time to make personal connections with their employees and as a result became monitors of employees' performance. Because they had so many people to track, rather than having a focus on helping employees succeed with their work, these managers were more bureaucratic and had a focus on compliance and dealing with the few offenders they found. Gittell quoted a supervisor, "We only have time to focus on the bad apples" (p. 477).

Finally, Mullen et al. (1987) connected span of control to self-attention theory in their study of government office workers. Self-attention theory explores the way people behave in different-sized groups. Mullen et al. found that the span of control was a viable predictor of an individual's behaviors, and the number of individuals a manager supervised directly impacted the employees' productivity. Similar to Doran et al. (2004), Mullen and his colleagues found that span of control was a stronger factor of productivity than the supervisors' management style. The researchers also discussed the "social loafing" (p. 147) effect and wrote that the ability of the manager to directly supervise individuals increased the visibility of the job performance which decreased the amount of "social loafing."

Span of control can be a crucial factor for the productivity of business in that the ratio of manager to employees impacts the affective nature of a manager's work with employees. Managers who can form healthy relationships with employees through a robust communication system and a collaborative work environment are more likely to foster high productivity (Glaser & Glaser, 2006; Herzburg, 2003; McGregor, 1960).

**Higher level skills influenced by span of control.**

A small span of control facilitates better communication and greater employee satisfaction, but maybe the most important benefit of a small span of control is that it allows the employees to function at higher skill and engagement levels than those in larger groups. Gittell (2001) found that managers with a small span of control were more involved with the employees trying to figure out how to fix problems. The smaller span of control allowed employees to offer suggestions and observations to supervisors about work problems. Gittell quoted a supervisor, “There’s an open-door policy so when employees have a problem, they know we can work on it together. We sit and listen. When that person walks away, he’ll have self-esteem” (p. 477). That same supervisor described the employee’s feelings, “You walk away so upbeat that you work even harder” (p. 477).

Gittell (2001) found that managers of large groups, on the other hand, were more concerned with compliance and performance measures. Managers with a wide span of control did not have time to work closely with employees to creatively strategize how to solve problems; instead Gittell observed that managers had a “focus on allocating blame” (p. 477) and were more likely to “pressure group members to improve” (p. 477). The wide span of control acted as a barrier for managers to be able to work with employees for improved workflow and also inhibited input and creativity on the part of the employees.

Within nursing research, Meyer (2008) pointed out that the varying abilities of the employees made it difficult for managers to provide a one-size-fits-all strategy to worker issues and identified complexity of the task, ability to make immediate decisions, and

experience and education level of the health care worker as factors that impacted the span of control for nurse managers and health care workers. Related to Meyer's observation of education and experience levels of health care workers was Shirey's (2006) finding that nurse managers experienced high levels of stress when they were in a wide span of control with their supervisors.

Meier and Bohte (2003) reported the same findings on task difficulty in their study of school administrators and teachers. For difficult tasks, principals needed to supervise smaller groups. The researchers found in their study of 3<sup>rd</sup>, 7<sup>th</sup>, and 10<sup>th</sup> grade teachers, the most difficult task resided in teaching 7<sup>th</sup> grade students. A statement few parents would find surprising. For middle schools, a small span of control of principal to teachers resulted in higher student test scores. An interesting question about the research conducted by Meier and Bohte is why they did not study the span of control between the teacher and students.

Hattrup and Kleiner (1993) wrote, "If workers are involved in work trivial or routine in nature, the supervisor will tend to require less application of control than if they perform work of greater significance or complexity" (p. 28). Along the same argument, McManus (2007) pointed out the obvious. Employees in large work groups made their own decisions when they could not access their supervisors, which made it more likely these decisions would be disconnected from the overall project. Davis (1979) also identified the complexity of a project as a limit on the size of the span of control. Because complex problems involved more communication in order to clarify issues and required more creative problem-solving, time constraints due to these factors limited the



number of interactions managers could have with employees during the day, thereby narrowing the span of control.

### **Summary.**

Business has identified a finite number of employees, on average 8.6, that a manager can effectively supervise and still maintain worker satisfaction and high productivity. A narrow span of control allows managers to effectively attend to the various needs of their employees. When the span is too wide, it is difficult for managers to maintain an effective communication system and assist employees with the problems they may have accomplishing their work. Business has also found that the more complex the task, the narrower the span of control.

### **Theoretical framework for the study: Maslow's theory of a hierarchy of needs.**

Management and education are functions within the human experience. Since managers and instructors must motivate and engage with human beings, they both need to understand what drives people's behaviors. Maslow's (1970) theory of a hierarchy of needs provides some insight into why people behave the way they do. His theory appears in both management and education literature as a way for people in both fields to gain a better understanding of human interactions and development.

Nigam (2008) explained how Merrill Lynch modified the elements of Maslow's (1970) theory into a framework that fit the corporation's culture. Lichtenstein and Dade (2007) "operationalized" (p. 18) Maslow's five levels into a broader, three-tier construct that was used to examine "executives' operatives' values" (p. 17) and its integration with shareholders' values. Maslow's theories also appear in higher education research. Student retention and success involves students making connections with faculty,

receiving recognition for accomplishments, and feeling like contributing members of the campus community (Chickering & Gamson, 1991; Kuh et al., 2005; Tinto, 2005); all of which are related to Maslow's Hierarchy of Need theory.

This research study compared how managers and instructors perceived the nature of their work with employees and students. Therefore, Maslow's (1970) theory provided an appropriate framework for exploring how managers and instructors saw their roles with helping employees and students develop skills and become self-actualized. What follows is a brief explanation of Maslow's theory and its application in management and education.

In the 1950's, the psychologist, Abraham Maslow, first articulated his theory about a human being's hierarchy of needs as a process of human development and the quest for self-fulfillment. He theorized that people progressed by fulfilling more complex needs as they gained greater understandings of themselves and others. Maslow (1970) identified the most basic level of need as an individual's physiological need for the air, food, and water that sustained organic life. Maslow suggested that fulfilling this basic, physiological need released "the emergence of other more social goals" (p. 38).

Once humans were no longer fearful of starving, they organized their world in relation with each other, and the next higher needs sprung out of these relationships. After physiological, the subsequent levels of needs—safety, belonging, esteem, and self-actualization, addressed how a person understood oneself and related with others, because, as social beings, people needed other people in order to grow and develop (Dewey, 1998; Vygotsky, 1962). Maslow (1970) wrote that as individuals fulfilled these

ever higher, more complex needs, they got closer and closer to the expression of their true selves.

The following examination of Maslow's (1970) theory as applied in management and education begins with a focus on the second level of need. It is assumed that, for the most part, neither managers nor instructors will be involved in attending to people's most basic need level which requires air, food, water, and shelter except to provide time to replenish the body with food and maintain a satisfying, physical environment with appropriate light and temperature and plenty of fresh air.

### **Safety.**

After having their basic needs met, e.g., food, water, air, people need assurance that they are safe from harm. While safety can be understood in the limited sense as the absence of physical violence, Maslow (1970) presses us to expand the definition of safety as the assurance that people have an ordered, anxiety-free, social existence. This includes being free from negative interactions such as excessive quarreling, anger, and hostility. These negative emotions can lead to high levels of insecurity and disconnection from the social environment. According to Maslow, at this stage of fulfillment the individual sees safety in a life that is less chaotic and unstructured. There is safety in the status quo.

### ***Management.***

Managers have the capacity to provide for safety in the workplace by maintaining a positive work environment. Gittell (2001) wrote that one of a manager's goals was to minimize employee conflicts and provide support for respectful relationships. People felt safe in their workplace when they treated each other hospitably. Carr (2007) suggested that morale problems in the workplace came from employees experiencing interpersonal

conflicts and feeling unsafe because of ambiguous communication with the supervisor.

In addition, Carr recommended that “safety needs can be met by providing a safe working environment, retirement benefits, and job security” (p. 8).

### ***Education.***

Colleges are also concerned with safety. There is the obvious need to maintain a place free from physical violence. Public safety officers on college campuses are trained to help students resolve conflicts before they escalate to violence (B. Speicher, personal communication, December 9, 2010). Campuses also have rules that minimize drinking in order to alleviate its corresponding problems of chaos. Recently colleges have even begun to regard smoking as a health safety issue for the campus community (W. Simmons, personal communication, December 15, 2010).

College campuses also want to assure students’ emotional safety and have begun to establish “prejudice free zones” that encourage students to respect others, in particular students of color and sexual orientation. Instructors are concerned with providing a safe environment where students feel welcome to share who they are with the class community. Long and Coldren (2006) suggested that instructors could improve the interpersonal context of the classroom and help students feel more welcome if the instructor used “we” instead of “you” and increased eye contact with students.

### ***Belonging.***

Once a person feels safe, the next unfolding need is to develop meaningful connections with others. Knowing one is safe, provides the foundation with which to form strong social bonds. It is at this level that people seek love, camaraderie, and friendship. Maslow (1970) identified the relationships between family, neighborhood,

and friends as fulfilling this need. He posited that the popularity and effectiveness of sensitivity groups might be a result of people's need to feel part of a group.

### ***Management.***

Benson and Dundis (2003) suggested that employers who addressed Maslow's hierarchy of needs were more likely to have employees with higher levels of motivation and commitment for their work. Specifically, the researchers recommended that managers should offer training sessions as one strategy to help employees develop human bonds within the workplace. Benson and Dundis offered, "Training provides the individual with additional opportunities to meet people in the place of employment, to discover others with the same interests or job responsibilities, and to establish new lines of communication" (p. 317). Also focusing on the importance of social relationships, Carr (2007) recommended that managers implement team-based projects and provide social events to increase the camaraderie among their employees as ways to satisfy the employees' need to belong to a group.

Communication is an important factor for helping people feel like they belong and one of a manager's most important tasks. Das (2003) noted this and quoted Robertson, senior research fellow at the Institute for Employment Studies in Brighton England, "Staff need to know that what they say is listened to and they must be told the things they need to know" (as cited in Das, p. 26). Zall (2001) also saw communication as two-way, with employees providing feedback to managers. Communication is also a theme found in education literature. Kuh et al. (2005) found that colleges that communicated effectively with their students had better student retention rates and had students who indicated higher satisfaction levels. Along the similar idea of management strategies for

interactive communication, Kuh and his colleagues also noted that, “Meaningful interactions between students and teachers are essential to high-quality learning experiences” (as cited in Sidelinger & Booth-Butterfield, 2010, p. 171).

### ***Education.***

The student’s sense of belonging is key to persistence. Tinto (2005) explained, “The greater one’s integration [into the campus culture], the greater the likelihood of persistence” (p. 115). He went on to caution that if the college did not satisfy the students’ needs to belong by pulling them into the campus community, the students would seek to satisfy this need by going elsewhere. The end result of this would be the students leaving college.

Sidelinger and Booth-Butterfield (2010) recommended that instructors provide time during class for students to interact with each other and that these connections increased the level of student engagement in a course. The researchers noted that students who worked together in class were more likely to work on assignments together outside of class. Once they felt like they belonged to the group, the students would behave in ways that would help them be successful in that group.

Along a similar theme, Komarraju, Musulkin, and Bhattacharya (2010) found in their study of 242 four-year college students, that students who perceived their faculty as “approachable” (p. 339) were more highly engaged and motivated in their studies. The researchers found the reverse was also true. Students who did not feel a connection with faculty experienced lower motivation levels and greater discouragement.

Komarraju et al. (2010) suggested that even informal discussions with faculty had a positive effect on students’ motivation to excel in intellectual pursuits; therefore,

faculty should meet regularly with two students at a time in order to challenge students' intellectual development. The researchers also noted that while peer mentoring was helpful to student learning, the mentoring that faculty provided students was by far a more effective way for students to gain higher level skills which led to greater self-confidence. Komarraju and colleagues reported that interactions with faculty helped the students become "intellectually driven" (p. 334) and gain the skills they needed to become competent members of the college community.

### **Self-esteem.**

When people have satisfied their need for belonging to social groups, they begin to develop their status within their groups. Self-esteem develops from the individual's sense of self-confidence and recognition of personal talents, and according to Maslow (1970), is critical to the person's healthy functioning within social groups. Maslow explained, "All people have a need or desire for a stable, firmly based, usually high evaluation of themselves, for self-respect, or self-esteem, and for the esteem of others" (p. 45). This feeling of worth allows the person to feel useful within social groups; without this, individuals suffer discouragement and become disconnected from the group.

### **Management.**

Eitington (1997) recommended that managers should work with individual employees to identify what satisfied the employees in their jobs and then help them take on more challenging work and greater responsibility. Individuals with meaningful work experienced greater satisfaction which led to greater confidence and self-esteem. In her essay on employee engagement, Das (2003) wrote that the manager's recognition of the

employees' contributions was an important factor in employees' commitment to their work and impacted their productivity.

### ***Education.***

In higher education, Kuh et al. (2005) recognized that students feeling connected to their faculty and the campus was only the first step of student retention. Students also needed to feel like they were contributing members of the college. Therefore, Kuh et al. explained, faculty should personally engage with students in order to provide feedback as a way to acknowledge the students' accomplishments and offer appropriate challenges to help them build their confidence. Kuh and his colleagues proposed, "Students flourish when their prior learning is valued and their preferred learning styles are recognized" (p. 285). Sax et al. (2005) cited several studies in their literature review that indicated the importance of positive faculty/student interactions in building the students' confidence in their abilities and sense of professional capacities. Hunter et al. (2007) found that students flourished while in one-on-one research activities with faculty when the students were able to develop confidence in their abilities.

### ***Self-actualization.***

Once a person stabilizes within a group and sees oneself as a capable, contributing member, the next level of need becomes apparent. Maslow (1970) identified this highest level of need fulfillment as a person's ability to feel fulfilled and work at potential. Maslow saw this final developmental stage as a strong drive within every human being. As Maslow explained, "A musician must make music, an artist must paint, a poet must write, if he is to be ultimately at peace with himself. What a man *can* be, he *must* be. He must be true to his own nature" (p. 46).



According to Maslow (1970), once self-actualized, an individual became fully aware of oneself and because of this certitude of self-knowledge could not be threatened by what others thought. Maslow observed that self-actualized people were not afraid to take risks, because they were not afraid of what they did not know. Self-actualized people's understanding of reality allowed them to see abstractly and acknowledge the belief systems of others. As a result, they were not put out of balance by learning about others' realities which allowed them to easily integrate new information into their paradigms.

Freire (2000) termed this ability as *conscientization* or critical consciousness. The individual could think more deeply about reality, recognized a personal place in that reality, and, as a result, was able to fully participate in the world. Maslow (1970) saw this level of fulfillment as critical to the emotional health of the individual and her or his relationship within society.

Exploring how managers and instructors help people become self-actualized is problematic in that Maslow considered this stage difficult to attain. One can certainly challenge whether students can reach this level of self-awareness while in college. Therefore, the following is an exploration not of how people achieve this level, but how both managers and instructors help their employees and students move toward this level of personal development.

### ***Management.***

Managers can have a positive impact on the employees' development depending on management style. Doran et al. (2004) reported that a transformational manager helps individuals move to self-actualization since the manager "develops, stimulates, and

inspires followers to exceed their own self-interests for a higher purpose” (p. 2). In his review of management strategies that improved productivity, Zall (2001) wrote, “Managers who encourage employees to use initiative and to set higher challenges for themselves achieve better results than managers who incite competition among employees” (p. 64). Nigam (2008), an analyst with Merrill Lynch, gave his company’s version of Maslow’s highest level of personal development. Within Merrill Lynch, self-actualization meant “responsible behavior: self-drive to make a difference (in both business and personal matters), strong sense of personal accountability, and respect for all” (p. 204).

### ***Education.***

The definition of self-actualization used by Nigam (2008) also seems to resonate among education scholars. Dearnley and Matthew (2008) identified self-actualization as the movement of students toward developing a professional attitude and voice. In their study of nursing students with clinical experience, the researchers identified a cognitive change in the students as they became self-reflective. Dearnley and Matthew wrote:

This involved participants, to varying degrees and in varying ways, in the activity of challenging their existing notions and ideas. As they became more reflective and changed their ways of knowing the fear of not knowing was reduced. (p. 174)

While the study by Dearnley and Matthew (2008) included older and probably more mature students, this same goal of transforming students’ thinking was described by Holdford and Lovelace-Elmore (2001) who saw the interactions between faculty and students as an opportunity for the faculty to “convey professional and scientific values to students, an important element in the professionalization of students” (p. 15). Kuh and

his fellow researchers (2005) identified this same goal in those colleges and universities with high student engagement and satisfaction. They explained, “A college or university committed to talent development arranges resources and learning conditions to maximize student potential so that students leave college different in desired ways from how they started” (p. 77).

### **Summary.**

In their work with people, both managers and instructors must address the varying levels of their employees’ and students’ human needs as articulated by Maslow (1970). As managers and instructors help satisfy these needs, they play an important role in assisting people’s progress to higher levels of social interactions and personal awareness. This, in turn, allows individuals to succeed at their tasks and be fully productive, contributing members of their groups. Business uses span of control as a way to address the complexity of this management task, while higher education institutions, for the most part, do not provide a comparable structure for instructors and students.

### **Span of control and Maslow’s theory.**

Principles of Maslow’s (1970) theory are the underpinnings to span of control which takes into account the complexity of the human experience. It is a complicated task to meet the needs of employees as part of the process of addressing the convoluted issues involved in producing work. Five Maslovic themes are ubiquitous in span of control literature and address affective management functions. These are (a) providing motivation, (b) promoting communication, (c) fostering independence, (d) developing a collaborative work environment, and (e) building relationships. Research indicates that a small span of control allows the manager to provide the above functions which results in

greater worker satisfaction and higher productivity. This research study uses these five functions as a frame for identifying any similarities between the perceptions of managers and instructors in relation to working with people. The next section will highlight the research that shows how each of the five functions addresses span of control.

**Affective management function: providing motivation.**

- Barnum and Kerfoot (1995) found that if there was a reasonable span of control, the manager could provide a coaching management style that improved employee motivation.
- Gittel (2001) wrote that managers with a small span of control improved worker motivation by coaching employees and providing regular feedback on employee performance. Managers with a wide span of control were more authoritarian.
- The study by Doran et al. (2004) indicated that transformational leaders were more effective motivating their employees when there was a small span of control.
- Eitington (1997) explained that managers were able to help employees develop their own goals when there was a small span of control. This led to greater motivation and commitment.

**Affective management function: promoting communication.**

- Doran et al. (2004) found that managers with a transformational leadership style and a small span of control fostered open communication.

- Gittell (2001) found that a small span of control improved the quality of the discussions between the manager and employees and allowed for more two-way communication.
- Meyer (2008) wrote that wide spans of control inhibited the manager from effectively communicating with staff.

**Affective management function: fostering independence.**

- Davison (2003) noted a small span of control could provide managers with the time needed to help employees develop more skills and take on responsibilities.
- Meyer (2008) wrote that managers in smaller spans of control could help employees take on responsibilities allowing for greater worker job satisfaction.

**Affective management function: developing a collaborative work**

**environment.**

- Hattrup and Kleiner (1993) found that there was greater cohesion in groups with five members.
- Doran et al. (2004) noted that transformational leadership was more effective for promoting group cohesion and teamwork, but this leadership style required a small span of control.
- Gittell (2001) wrote that a small span of control promoted positive group processes and more interdependent work.
- Meyer (2008) found that small work units promoted greater employee “cohesion, coordination, and consensus” (p. 108). Worker satisfaction went down when groups reached 15 members.

**Affective management function: building relationships.**

- Doran et al. (2004) reported that as the span of control widened, the number of conflicts went up. Managers with a wide span of control had difficulty maintaining group cohesion.
- Gittell (2001) wrote that a small span of control promoted workers having shared goals and positive side-by-side relationships with managers.
- Meyer (2008) found that a smaller span of control enhanced the visibility of the managers and their responsiveness to staff.

**Affective management functions of span of control in education and management.**

Maslow's (1970) theory of a hierarchy of human need is integrated throughout management and education literature. Embedded within Maslow's theory, the five affective management functions of span of control show that managers provide motivation, develop a collaborative work environment, promote communication, foster independence, and build relationships in order to help employees be effective in their work. While education does not acknowledge a span of control for instructors and students, education scholars do address the five affective functions as part of the relationship between instructors and students.

This study uses the five affective management functions as a frame to compare the perceptions of managers and instructors about their work with people. It is necessary, therefore, to first examine these functions within the literature of both disciplines. The following is an examination of management and education literature that supports that instructors, like managers, are concerned with the five affective functions addressed in

span of control. The works of four well-known researchers in management, McGregor and Herzberg, and in education, Kuh and Tinto, will provide the lens for this exploration.

***Affective management function: providing motivation.***

Maslow (1970) posited that human beings were driven to feel fulfilled in their work and their lives. As social beings, the relationships people had with each other were integral to this personal quest. People were motivated to form meaningful relationships, feel competent within these relationships, and from this confidence gain a greater awareness of themselves and their place in the world. The progress of individuals to self-actualization occurred within the social arena. Instructors and managers, therefore, are important for providing the support so individuals can engage more deeply in their work and be successful.

***Education.***

In their 2005 book, *Student Success in College*, Kuh and his associates reported on their research of 20 colleges that scored high on the National Survey of Student Engagement (NSSE). The study, called Project DEEP (Documenting Effective Educational Practice), explored what these colleges were doing to receive such high marks from their students. In the area of motivation, there was a consistent pattern among all the schools. Faculty provided regular and timely feedback to their students and intentionally used feedback to encourage their students to engage as thinkers. Kuh et al. reported that students appreciated this feedback from instructors and credited this as the impetus for increasing their motivation to submit “polished” (p. 87) assignments. The feedback also provided the incentive for the students to devote more time to their studies which also developed their skill levels.

In many of these DEEP colleges, Kuh et al. (2005) found that faculty used assignment grading as a process of “continuous feedback and improvement” (p. 87) and explicitly use comments to improve student skill levels. Rather than perceiving grades as a final judge of merit, instructors and students understood assignments and grades as part of the cycle of learning. Kuh et al. reported that students knew they were expected to revise their work and resubmit an improved version. The goal for an assignment was not a grade but improved skills. As a key factor of this process, faculty provided positive comments and acknowledged the hard work that the students put forth on assignments. According to Kuh and his colleagues, the students reported that these positive comments motivated them to work even harder.

Kuh et al. (2005) observed that faculty in DEEP schools also provided feedback directly to students. During their meetings with individual students, instructors offered specific guidance about how the students could improve their work and addressed the student’s specific obstacles. Because of the constant constructive and positive feedback from faculty, students felt their instructors cared about them and wanted them to succeed. Kuh et al noted that, as a result, students became more engaged and pushed themselves academically.

Similar to the research by Hunter et al. (2007) among senior science students, Kuh and his fellow researchers (2005) found students became motivated to improve their level of engagement when they participated in one-on-one research projects with faculty. Close interactions of faculty with students allowed the students to become actively involved in establishing their learning goals and thereby direct their own learning. Kuh et al. reported that even first-year students who participated in the mentoring and research



programs felt stimulated to take on professional behaviors because of working closely with faculty. These one-on-one relationships gave faculty the time and opportunity to challenge individual students to achieve more and provided the supports for the students to do so.

### *Management.*

In a shift from traditional, authoritarian management philosophies, Frederick Herzberg (2003) articulated a new perspective of employee motivation in his Motivation-Hygiene Theory. He proposed that there were two distinct influences on employee motivation. The first, Herzberg called hygiene factors and posited that these only affected employee dissatisfaction and had nothing to do with job satisfaction. Hygiene factors were outside employee control, such as company policies and procedures, management techniques, attitudes of co-workers, and salary. If a manager improved any of these components, only the level of employee dissatisfaction would go down; a different set of factors improved worker satisfaction and motivation.

Herzberg (2003) defined satisfying factors as motivators. Motivators were within employee control and part of the human drive to feel self-fulfilled. Employees became motivated when they enjoyed and were responsible for their work, were able to do their jobs well, were acknowledged for their work, and could advance and grow in the workplace.

According to Herzberg (2003), managers could most effectively achieve higher productivity from workers if they helped employees gain greater job satisfaction by focusing on motivation factors. Managers improved employee motivation by working closely with the employees to develop their competence. In this regard, the feedback of

managers had to focus on helping the employees grow and develop rather than on identifying performance problems and passing judgment. Similar to the findings by Kuh et al. (2005) that acknowledgement by the instructor of student achievements improved motivation, when the manager recognized the positive contributions to the workplace by employees, the employees became more satisfied with their jobs and were motivated to work hard to achieve further success.

Both instructors and managers play a role in motivating people. Students and employees develop skills and work to potential when instructors and managers connect with them and address their different needs. The result is greater satisfaction and higher productivity.

***Affective management function: promoting communication.***

Communication is important for establishing cultural norms and cementing relationships within a social group. Maslow (1970) implied this human need for communication with his emphasis on belonging to a group. He proposed, “I believe that the tremendous and rapid increase in... intentional communities may in part be motivated by this unsatisfied hunger for contact, for intimacy, for belongingness...” (p. 44).

Without communication, there is no human connection and no way to feel one belongs. Instructors and managers play an important role in communicating expectations, so individuals feel they are contributing members of the group and aligned with the group objectives.

***Education.***

In colleges with high levels of student engagement, Kuh et al. (2005) found that faculty held high standards for their students, communicated these standards to them, and

often backed up this message with personal support for students. Kuh and his colleagues reported that students appreciated this extra help from their instructors. The students realized that the high-quality interactions with faculty had a positive impact on their academic development. Kuh et al. quoted a student, “My teacher sat down with me and helped me revise it [the paper]. Three meetings later, I had a great paper. He did not just tell me what to do... He invested in me” (p. 86). Kuh et al. provided other stories of students who spoke about meetings with their instructors during which they regularly discussed academic work and got help to “go in the right direction” (p. 110) in school. Kuh et al. stated that the students responded to this personal communication with greater commitment to work hard on their assignments.

#### *Management.*

From his research on effective management strategies at the MIT Sloan School of Management, Douglas McGregor wrote his book, *The Human Side of Enterprise*, in 1960. McGregor offered a human-centered insight into the nature of the relationship between manager and employees. McGregor posited that rather than working as an authoritarian and dictating job requirements, a manager needed to work closely with employees to communicate expectations. Similar to the findings by Kuh et al. (2005) that faculty working closely with students promoted academic commitment, McGregor found that employees and managers needed to work together on job requirements in order to get full alignment with work goals. McGregor described the importance of meaningful conversations with the employee in order to fulfill this function. According to McGregor, “Roles cannot be clarified, mutual agreement concerning responsibilities of a

subordinate's job cannot be reached in a few minutes, nor can appropriate targets be established without a good deal of discussion" (p. 76).

While job functions and expectations obviously vary between students and employees, both groups need to know what they should be doing in order to be appropriately committed to their tasks. Both students and employees respond better to the work environment when they can discuss their tasks with their instructors and managers, and the cultural norms and expectations are clearly communicated.

***Affective management function: fostering independence.***

Maslow (1970) wrote that every human being was compelled to feel competent and strive to reach potential. Feeling confident allowed people to become independent and moved them closer to being self-aware. To maximize productivity, instructors and managers must provide personal support and nurture the unique capacity of students and employees in order to promote the growth and development of each individual.

***Education.***

Vincent Tinto (1987) identified the importance of students becoming empowered academically by strengthening their connection with the college. In his 1987 book, *Leaving College: Rethinking the Causes and Cures of Student Attrition*, Tinto wrote about the benefit of acculturating students into the campus community. He suggested that students who connected to the campus culture were more likely to share the same goals as the college and therefore, be more committed to do the work necessary to achieve academically. Faculty were important for helping students develop their potential by engaging students both formally and informally. In the class, faculty provided learning activities that promoted student intellectual growth. Outside the class,

faculty engaged students in discussions that furthered the intellectual development begun in the class. As students developed intellectually, they increased their level of confidence in their abilities.

Tinto (1987) reported if faculty held high academic standards for students, helped students internalize those standards, and provided individualized support, students became more engaged and more likely to take on responsibilities for learning. In addition, when students joined a small group with a culture of intellectual achievement, the students developed behaviors to be competent members of that group (Tinto & Engstrom, 2008).

Kuh and his colleagues (2005) provided a strong caution about the effort required to provide this level of engagement and support for students:

Although human scale facilities and initiatives such as learning communities can help shrink the psychological size of a university, at some point systems such as safety nets, early warning systems, and special support programs may not be able to ameliorate the deleterious effects of large size without taking a significant toll on faculty and staff. (p. 287)

#### *Management.*

Of all the literature on management, Herzberg's (2003) Motivation-Hygiene Theory is probably most applicable to this area of individual empowerment. Herzberg posited that the ability of the worker to become self-actualized in the workplace was central to performance. Worker satisfaction came from the ability to take responsibility for job activities and the perception of future promotions to even more responsible positions. Worker productivity was the result of the belief that an individual could reach personal potential through her or his work. Herzberg suggested that a manager should work closely with employees to help construct jobs and promotion paths that could

improve the personal satisfaction of the employees and ultimately the levels of productivity. Employees who controlled their work and their futures worked harder as part of achieving their personal goals.

Overall, instructors and managers are important to helping students and employees gain the skills they need to be successful and for promoting student and employee engagement. Instructors and managers are in unique positions to scaffold the learning of students and employees through the higher level needs of belonging, esteem, and self-fulfillment in order to assist them to achieve the most growth possible and become more fully aware of themselves and their relationships with others around them.

***Affective management function: developing a collaborative work environment.***

Two levels of Maslow's (1970) need hierarchy fall within the concept of developing a collaborative environment—the need to belong to a group and the need for self-esteem within that group. Effective collaboration requires the individuals of a group to make personal connections with each other in order to establish trust and to feel they are respected and contributing members of the group. It is important, therefore, that instructors and managers help fulfill this strong human desire to belong and feel competent by developing a cohesive work environment for their students and employees.

***Education.***

Vincent Tinto (1987) identified attrition as one outcome of the inability of students to make connections with people at the college. Tinto proposed the critical importance of the college to intentionally develop structures that would engage and involve students in the campus. He suggested, “The greater one's integration, the greater the likelihood of persistence” (p. 115). Those students who did not make connections

were more likely to leave college when the cost to maintaining membership—studying and homework—became too high. If the students did not satisfy their need to belong to a group with their successful membership in the college community, students would leave. They would fulfill this need elsewhere.

Tinto (1987) saw that all the different parts of an institution—academic, financial, and student affairs—were in reality one, mutually interdependent, system. Similar to Follett's (1995) model of a business enterprise as an organic unit—what happened in one area affected all the other areas. According to Tinto, as parts of a single environment, all the functions of the college needed to support the student becoming a contributing member of the campus community. Tinto saw student success as the process of the student integrating both the academic and social activities of the campus into her or his identity in order to establish meaningful membership in the college community.

The importance of belonging and esteem emphasizes the significance of positive collaborative interactions between faculty and students. Tinto (1987) related that, “Faculty are key links to the intellectual life of the institution. Rewarding contact with them is an essential element of student life” (p. 150). Rather than being limited to classroom contact through which students only gain content knowledge from faculty, Tinto recommended that faculty establish informal relationships with students in order to engage them in meaningful and instructive conversations.

The instructor's ability to motivate students to take control of their learning was a factor in building an effective collaborative community within the class. According to Tinto & Engstrom (2008), student experiences in a collaborative classroom:

Demonstrated how teaching and learning roles can move between peers and instructors when students are encouraged to take more responsibility for their learning and see their peers and themselves as sources of knowledge. (p.48)

This mature collaboration was important for overall student success. Tinto and Engstrom added, “Collaboration helped them [students] to feel less alone, more confident of their ability to succeed in college, and more supported in their studies” (p. 48). The relationships helped the students feel they were knowledgeable, contributing members of the academic community thus fulfilling their need for belonging and esteem.

#### *Management.*

From his research on management practices, McGregor (1960) identified a pattern in the way managers worked with people. McGregor noted two distinct philosophies that guided management behaviors and resulted in two different employee outcomes. He called one of the management philosophies Theory X. This type of manager was authoritarian and thought employees were inherently lazy and, without constant supervision, would be unwilling to do their work. A manager with this attitude would establish controls that monitored employee compliance with work objectives. Employees with a Theory X manager were more likely to become discontent and unwilling to accept responsibility.

McGregor (1960) identified a second management philosophy which he called Theory Y. A Theory Y manager was collaborative and regarded all employees as having personal motivation and a desire to succeed at their work. A Theory Y manager maintained open communication with employees and saw problems as opportunities to work with employees to improve their skills rather than punish their behaviors. The task



of the manager was to help employees fulfill their potential and identify ways to use their talents. Employees with a Theory Y manager became empowered to take responsibility for their jobs, had greater job satisfaction, were more willing to take risks, and showed greater willingness to work with others.

McGregor (1960) recognized these two management styles were not exclusive. Effective managers knew how to move between the two styles as part of their interactions with their employees. At the same time, McGregor noted that managers showed proclivities to one style or the other which influenced the type of relationships they established with employees.

McGregor (1960) observed that most employees were interdependent in the work environment. People needed each other in order to fulfill their job goals. McGregor wrote, “Groups can be effective decision-making and problem-solving entities” (p. 314). Within effective groups “most decisions are reached by a kind of consensus in which it is clear everybody is in general agreement and willing to go along” (p. 316). A manager who established a work environment that helped people work positively together was more likely to have satisfied employees and higher productivity.

McGregor (1960) proposed that the manager was key to establishing a work environment in which people felt like isolated individuals or thought of themselves as productive, collaborative members of a satisfying workgroup. As McGregor explained, “One cannot escape the impression that the individual frequently ‘gets lost in the machinery,’ and that this is not merely a consequence of company size or of the complexity of the problem...” (p. 192). McGregor identified the importance of

meaningful collaboration as part of employee development. He suggested that the positive interactions people had within the workplace impacted their growth:

The individual must develop himself, and he will do so optimally only in terms of what *he* sees as meaningful and valuable. If he becomes an active party to the decisions that are made about his development, he is likely to make the most of the opportunities that are presented. (p. 191)

In general, both instructors and managers are important to helping people feel they belong to a social group. The guidance instructors and managers provide individuals helps smooth the way for people to work effectively together toward a common goal. By establishing a collaborative work environment, instructors and managers help individuals increase their level of satisfaction and engagement and subsequent productivity.

***Affective management function: building relationships.***

Maslow (1970) wrote that after fulfilling their physiological and safety needs, people needed to belong to a social group and that active involvement in groups was important to human development. As social beings, humans felt fulfilled as a result of their meaningful interactions with others and modified their behaviors in order to maintain these relationships. The theme “building relationships” as a factor of establishing student and employee engagement and success is found throughout education and management literature.

***Education.***

Tinto (1987) wrote that the interactions between the student and the faculty were critical for the student’s “social and intellectual integration into the academic and social life of the campus” (p. 115). These experiences, the relationships formed, helped the student align her or his personal goals and objectives with those of the campus, and

having shared goals improved student outcomes. According to Tinto, while these interactions did not guarantee student success, the absence of the interactions made attrition likely:

The absence of interaction, however, results not only in lessened commitments and possibly lowered individual goals, but also in the person's isolation from the intellectual life of the institution. It may also reinforce, or at least leave unchecked, the development of deviant intellectual orientations that may further serve to disassociate the individual from other members of the academic system. (p. 117)

Tinto (1987) related that the college, like any other community, required people to reach out to each other as a way to confirm active membership. The stronger this membership was integrated into the student's sense of self, the more likely it was that the student behaviors would align with the goals and objectives of the college. Tinto encouraged colleges to make conscious efforts to assist new students in making meaningful contacts with faculty, staff, and other students early during their first year at the institution. Tinto wrote "there is no substitute for periodic personal contact between students and faculty" (p. 167). The frequency and richness of these contacts impacted student motivation to stay in college and subsequent success.

#### *Management.*

McGregor (1960) identified that the manager and employee relationship was important for developing shared goals. Like Tinto's (1987) observation of the importance of the faculty and student relationship, McGregor noted that if workers could not develop satisfying relationships in the workplace, they would go elsewhere to gratify their need to belong; dissatisfied employees quit. He observed, "Alternative relationships, alternative ways of satisfying needs and achieving goals are sufficiently

available” (p. 22). Similar to Maslow’s (1970) theory, McGregor regarded the employee sense of belonging as a critical component of a healthy work life.

Despite the benefits of forming a healthy relationship, McGregor (1960) observed that managers conducted themselves with their employees in ways that decreased worker satisfaction. McGregor cautioned that managers “go to considerable lengths to control and direct human efforts in ways that are inimical to the natural ‘groupiness’ of human beings” (p. 38). On the other hand, when a manager satisfied the human need to belong, employee satisfaction improved which resulted in higher productivity.

The richness of the social bonding of human beings with each other provides the impetus for growth, since it is through their social relationships that individuals move toward self-actualization (Maslow, 1970). Instructors and managers are important to helping students and employees make connections with others and influence the quality of these interactions. By encouraging social relationships of people within their groups, both managers and instructors can positively affect the growth of employees and students

### **The intersect of management and education.**

Management and education literature shows that scholars in both disciplines address the five affective management functions found in span of control. This parallel focus in the literature provides support for the premise that managers and instructors share many of the same functions in their work with employees and students. According to the literature, both managers and instructors act as facilitators of the development of human beings.

***Managers as learning facilitators.***

The concept of learning was integral to McGregor's (1960) concept of management and interwoven throughout his description of his management theory, Theory X (authoritarian management practices) and Theory Y (collaborative management practices). McGregor noted:

Knowledge cannot be pumped into human beings the way grease is forced into a fitting on a machine. The individual must learn; he is not taught. Effective education is always a process of influence by integration and self-control. (p. 211)

McGregor proposed that as part of being human, people were compelled to learn and develop, and the appropriate assistance provided by the manager facilitated this process. As McGregor explained, "The individual will grow into what he is capable of becoming, provided we can create the proper conditions for that growth" (p. 192).

McGregor (1960) posited that managers provided an important influence for employee development and discouraged managers from controlling the activities of their workers. Managers were most effective when they helped their employees develop professional goals and then assisted their employees to learn and take on new responsibilities. To the degree managers would or could do this, McGregor noted that employee satisfaction would increase along with productivity.

***Instructors as learning facilitators.***

In education, scholars suggest that teaching is not just about delivering content (Chickering & Gamson, 1991; Dewey, 1998; Mezirow, 1991). Instructors also facilitate student learning by getting to know their students and then providing appropriate activities that guide student conceptual development. At colleges with effective student

retention and success practices, Kuh et al. (2005) found that faculty “challenge students to raise their aspirations” (p. 88) and provide support for students to achieve this goal: “Talent development refers to the notion that every student can learn under the right conditions” (p. 77). Kuh and his colleagues observed that the students at these colleges perceived that their instructors were available when the students needed them. Faculty connected with students in and out of the classroom and engaged with students in formal and informal mentoring relationships. Kuh et al. suggested “It is hard to imagine a richer educational setting for student-faculty interaction than working side by side with a faculty member on a research project” (p. 214).

Chickering and Gamson (1991) described an effective instructor as “approachable, easy to talk to, inviting of student views and discussion, concerned about student progress, and open to helping students with problems” (p. 14). Hunter et al. (2007) found that instructors using social constructivist techniques did not direct student activities, but instead acted as facilitators in student research by guiding the process. In their study, Hunter et al. observed:

Many research advisors held a weekly meeting to review progress, discuss problems, and make sure students (and the projects) were on the right track. When students encountered problems with the research, faculty would serve as a sounding board while students described their efforts to resolve difficulties. Faculty gave suggestions for methods that students could try themselves, and when problems seemed insurmountable to students, faculty would troubleshoot with them to find a way to move the project forward. (pp. 41-42)

### **Summary.**

Both management and education literature address the five affective functions of span of control as components of the nature of working with people. In accord with

Maslow's (1970) theory, the degree to which managers and instructors help satisfy human needs, employees and students will progress toward self-actualization. Both managers and instructors act as facilitators of the development of employees and students.

### **Span of control and class size.**

Businesses recognize that jobs that require creativity, higher level thinking, and problem-solving skills should have a small span of control of 1:8.5 in order for managers to spend more time with employees (Gittell, 2001; Hattrup & Kleiner, 1993). With fewer people to supervise, managers can effectively address the specific concerns of employees for the complexity of job tasks. Larger spans of control are only appropriate when jobs are routine and require only minimal skill levels and less communication in order to solve problems.

The work of today's college students involves complex learning in order to develop the higher level thinking and problem-solving skills expected by society and employers (van Merriënboer & Sluijsmans, 2009). If higher education is expected to graduate students with higher skill levels and critical thinking abilities, then should faculty teach in classes using a span of control that business finds appropriate for only redundant, low-skilled jobs? A span of control of 1:25 or higher, as is the case in most college and university classrooms, may be too large to accomplish the kind of student "productivity" or outcomes expected from higher education institutions.

Both instructors and managers must satisfy the needs of their students and employees in order to sustain productivity. Consequently, there appears to be similarities between the span of control used to maintain worker satisfaction and productivity and the

ratio of instructor to students used to provide appropriate learning activities that promote student skill development. By comparing the attitudes of managers and instructors about their roles in promoting growth and development in others, the practicality of applying span of control to education may become more apparent. If the attitudes of instructors concerning the complexities of providing support for students are similar to the attitudes of managers working with employees, then it may be easier to more effectively evaluate an appropriate class size.

In order to study perceptions, it was necessary in this study to use a qualitative method. After an extensive search of other qualitative research methods, I found that the Q method and focus groups would allow me to gain a better understanding of any similarities of attitudes between the managers and instructors in the study.

### **Q method.**

Q method allows a researcher to study perceptions and opinions of people (Watts & Stenner, 2005). To conduct a study, the Q researcher first compiles a variety of statements about a given topic (called a Q sample). Then each study participant performs an ipsative evaluation (forced choice of preference between two or more items) and rank orders the statements in the Q sample from “most agree” to “most disagree.” This activity is called a Q sort. Following the sort, the researcher interviews each participant to gain insights about the attitudes the participant had concerning the statements and statement placement in the Q sort. Using the results from the Q sort, the researcher performs a factor analysis of the statement order of each participant with that of every other participant. Using a modification of the Pearson r factor analysis and interview



information, the Q researcher can identify correlations between the participant perceptions.

### **Background.**

William Stephenson (1953), a physicist and psychologist, introduced the Q method in the 1950's. His background in quantum physics helped him to realize the subjective nature of reality and observation and influenced his view of research in psychology. Stephenson was interested in studying perceptions of people in order to gain a better understanding of what influenced their behaviors. He recognized that the traditional, quantitative research method that relied on the factor analysis of data from tests taken by study participants was limited in its capacity to examine subjectivity.

Stephenson (1953) saw that a simple shift in focus could position study participants as “tests” instead of the “population,” thereby allowing the researcher to look for correlation among participant perspectives. In effect, the study participants became the independent variable. Stephenson noted, “Persons were correlated instead of tests” (p. 9). The population that was “tested” was now the topic statements, or Q sample, sorted by the study participants. According to Stephenson, the Q method put a factor analysis on its side, shifting the columns into rows and the rows into columns. Instead of looking for correlations between tests, the researcher now looked for correlations between people.

Stephenson (1953) saw Q method as a way to look inside the human perception of reality. In one of his early essays on Q method, Stephenson (1952) wrote:

“Q-technique brings almost all that has been regarded hitherto as ‘subjective’, that is, man’s reflections, musings, retrospections, dreams,

and the like, his self-notions, and every manner of verbal report into the domain of singular testable propositions. (p. 206)

In a later work, Stephenson (1953) reported on his study of people's color preferences. Stephenson found that, as a result of sorting the Q statements, participants had categorized themselves into two groups based on their opinions about color. Stephenson posited that if the participant attitudes were completely idiosyncratic, then he would have found no groupings among the participants.

After Stephenson, Steven Brown may be the next most authoritative voice about the Q method. Brown (1991) wrote that "Q methodology provides a foundation for the systematic study of subjectivity, and it is this central feature which recommends it to persons interested in qualitative aspects of human behavior" (para. 7). When performing the Q sort, the participants clearly showed their point of view by comparing the statements with each other and then ranking the statements from "most agree" to "most disagree." Brown observed that the personal experiences of each individual provided the reference for sorting the statements, and this self-reference became apparent with the way the participants placed each statement.

The self reference of the participants used in the sorting is important to the Q method. McKeown and Thomas (1988) noted that even though this self-reference is an internal construct:

This does not render it inaccessible to rigorous examination. Nor does it serve to reify the self in any metaphysical or phenomenological sense.... it is at issue any time an individual remarks, "It seems to me..." or "In my opinion..." In speaking thus, an individual is saying something meaningful about personal experience, and what Q methodology provides is a systematic means to examine and reach understandings about such experiences. (p. 12)

Brown (1991) proposed that maintaining the participant self-reference also maintained voice and therefore placed Q method as a primarily qualitative research technique. At the same time, Brown posited that Q brought in the strength of a quantitative focus on the data. Brown explained, “Some of the most powerful statistical mechanics are in the background, but sufficiently so as to go relatively unnoticed by those users of Q who are disinterested in its mathematical substructure” (para. 8). The Q method allowed researchers the ability to delve into the thought processes of the participants with better clarity than a survey with a Likert scale or an interview with content analysis.

### **Application of Q method.**

Like Brown (1991), Watts and Stenner (2005) recommended Q method as a way for qualitative researchers to use some of the strengths of quantitative data analysis to correlate participant perceptions. They proposed that rather than a positivist tool, Q method allowed researchers to challenge “the dated, Newtonian logic of ‘testing’ that continues to predominate in psychology” (p. 69). Watts and Stenner identified Q as a “qualitative and critical method” (p. 70) that provided the researcher with insights not gained through the traditional, quantitative methods.

Since the 1940s, the Q method has been used in various fields to study people’s views or perceptions on a wide variety of topics. Research in management, political science, communication, education, psychology, and even outdoor leisure has been able to identify correlations between people’s thinking on different issues (Anderson, 2004/5; Danielson, Webler, & Tuler, 2010; Hutson, Montgomery, & Caneday, 2010; Sickler et

al., 2006; Venables, Pidgeon, Simmons, Henwood, & Parkhill, 2009; Wheeler & Montgomery, 2009).

Dennis (1986) suggested using Q method to study the perceptions of nurses. She noted that Q method strengthened the understanding of researchers on the subjective nature of a topic that other methods were unable to reveal. Dennis noted, “When implemented in its full potential, Q methodology offers unique insights into the richness of human subjectivity” (p. 7). While Dennis recognized that nursing researchers used a plethora of methods, she suggested that “adding Q methodology to that repertoire will enhance the nature and richness of the design alternatives for developing nursing knowledge” (p. 17).

Klaus, Wingreen, and Blanton (2010) used Q method to conduct a study of users of management systems. They wanted to identify types of users in order to address resistant attitudes toward adoption of new systems. Using Q method they were able to identify management strategies that would suit specific groups of users.

Beck (1972) regarded Q method as a technique that allowed him to improve his understanding of how researchers studied schizophrenic children. Before using Q method in his research, Beck found himself, as a psychologist, caught in a paradox between his needs as a scientist to quantify his work and his personal belief that, in reality, the nature of his work was qualitative. He saw that many of his colleagues worked with the same predicament. Beck used Q method to study how his colleagues worked with their clients. His research helped him frame the “intervening variables” (p.

137) that improved how mental health workers evaluated schizophrenic children and their families.

For this study with managers and instructors, I found that Q method was a useful research technique that allowed for a richer understanding of the perceptions of managers and instructors about working with their employees and students. In addition, statistical tools of Q method provided a way to look for any correlation between the way managers and instructors thought about their work. The reader will find a more thorough description of Q method in Chapter 3.

This study compared two distinct groups and looked for similarities between their perceptions. Therefore, I thought it was important to have the participants talk together to find out if they could agree on any points of management and instructional practices. I found the focus group an appropriate method for exploring this idea.

### **Focus groups.**

The focus group method is appropriate when the researcher wants to encourage study participants to share ideas with each other (Happell, 2007; Vamos & Zhou, 2009). Thackeray and Neiger (2004) wrote that an advantage to focus groups was that the interaction of the participants “enhances the discussion by stimulating or triggering participant ideas” (p. 215). Focus groups are also used to study people’s perceptions on an issue and are appropriate for “gathering rich, in-depth accounts of people’s thinking and experiences” (Pascall, Lee, Fraser, & Halim, 2009, p. 53).

While novice researchers can assume the focus group is a simple study technique, Thackeray and Neiger (2004) cautioned otherwise and related that focus groups are often labor intensive and complicated to develop. They suggested that researchers should be

careful not to misuse the data in order to assure accuracy of the study results. For example, researchers using a small population for their focus groups should not be tempted to generalize the information gleaned during the participant discussion.

The purpose of the focus group in this study with managers and instructors was to explore whether the managers and instructors would come to agreement on the similarities of their perceptions of working with people. The above literature review provides a rationale for the use of the focus group in this research. The conversation between the participants was indeed thought-provoking and challenging for the participants. In addition, the focus group was a useful method for triangulating the results from the participant Q sort and post-sort interviews.

### **Deficiency in the research.**

In an extensive literature review, there were no studies related to the span of control and education. There also did not appear to be any studies that related the five functions found in span of control literature to class size—(a) providing motivation, (b) developing a collaborative work environment, (c) promoting communication, (d) building relationships, and (e) fostering independence. In addition, I did not find any studies about how these five functions impacted the students' educational outcomes and relationships with the instructor. I searched the Oregon State University Ebsco database keywords "span of control," and "span of management." I also accessed Western Oregon University's online Ebrary system with the same search terms. In order to identify education practices concerning class size, I searched "classroom management" and "class size."

I used all the above terms in a search on the Summit interlibrary loan system of higher education libraries in Oregon and Washington and was able to access many books through this system. I obtained copies of the original works of Gulick (1937) on span of control, Graicunas (1937) on span of attention, and Stephenson (1953) on Q method. Finally, some books were available for limited preview through Google book search. I also personally visited and searched the physical collections of Oregon State University, University of Oregon, Western Oregon University, and Lane Community College.

In the process of a search on employee and student satisfaction, I found works by McGregor (1960), Herzberg (2003), Chickering and Gamson (1991), Kuh et al. (2005), and Tinto (2005). Through all of this research, I was able to find considerable literature on the span of control in health and business, but no research on span of control and its application in education as a factor of class size.

### **Chapter summary.**

Society and business have changed its expectations of what skills people should have when they finish college and enter the work world. Colleges and universities are coming under increasing pressure to change their traditional practices in order to meet these new needs. With the understanding that social constructivist learning activities are effective for helping students develop more complex conceptual frameworks and higher level skills, faculty have gotten mixed results in their attempt to use this strategy with large classes.

Instructors have been able to engage students with each other in small group discussions in large classes, but there should be concern about the depth of learning and skill development that can take place among peers who are at similar levels of knowledge

construction and intellectual development. Peer-led activities do not generally include individuals who are more knowledgeable on a topic, thus minimizing the educational impact. The organizational structure that appears to be the most effective for helping students maximize the development of their capacities is one-on-one or small group sessions held with a knowledgeable instructor.

Research supports that managers must be able to have frequent interactions with employees when work functions are complex and require the use of higher level skills. Business recognizes the advantage of employees working in small groups with a manager who has close, regular contact and who can help solve problems with task completion and workplace conflicts. The positive relationship maintained within a small span of control is an important factor for employee satisfaction and productivity.

Since both managers and instructors work with human beings, they seem to share common concerns, and Maslow's (1970) Hierarchy of Needs provides a foundation for understanding the nature of their work. Both managers and instructors must first meet people's needs as part of promoting personal development. The ability of instructors to address their students' needs may not be as effective as that of managers, because instructors have to routinely work with nearly three times more people than managers.

A solution to higher education's need to improve student retention and the outcomes of its graduates may be applying the span of control to the classroom and restructuring class size. If students are expected to have higher level skills upon graduation from college, then, similar to the manager/employee relationship in the workplace, it will be important for students to have more one-on-one contact with instructors in order to gain these more complex skills.



In this regard, instructors and managers may share similar perceptions of their work with students and employees, respectively. The Q method and focus groups were identified as qualitative research methods that could help gather the data to identify if there were any correlations between the two job functions. The next chapter will provide a detailed look at the study's research methodology as well as my disclosure as a researcher.

### Chapter 3

This chapter will address the research methodology of my study. As part of the description, it will be necessary to first disclose who I am as a researcher, because all observations are relative to the experiences of the observer. Denzin and Lincoln (2005) cautioned, “There are no objective observations, only observations socially situated in the worlds of – and between – the observer and the observed” (p. 29). In order to weigh the merits of my research, readers must have a clear understanding of my perspective; they must know the lens through which I look at the problem and the data.

Following my disclosure, I will present the foundational theory for my research project. Coming from a critical theory perspective, I believe it is vital that everyone contributes to the discourse that goes on around us. It is only through this dialogue that we make the world a place where all can fully live. Given that, I also align myself with the social constructivism paradigm. My experiences with society and its many dialectics shape my understanding of reality. Each human being has unique experiences and therefore a distinct interpretation of the world. The existence of these multiple perspectives piques my curiosity about how people think and excites within me questions upon questions about other realities. Coming to a greater understanding and appreciation of these different views drives my research. “The [social constructivist] researcher’s intent is to make sense of (or interpret) the meanings others have about the world” (Creswell, 2009, p. 8)

Since most readers will be unfamiliar with Q method, I will also provide a thorough examination of its use. My rationale for using the focus group was provided in Chapter 2. Q method provides a rich understanding of people’s perceptions about a given

topic. It “provides a foundation for the systematic study of subjectivity, and it is this central feature which recommends it to persons interested in qualitative aspects of human behavior” (Brown, 1972, p. 2). Since Q methodology is not as well known as other research techniques, I will also supply a short history and description of the method, so the reader can better appreciate its appropriateness for addressing my research questions. The overview will also include a critique of Q’s benefits and its limitations in research. Finally, I will describe how I applied the Q methodology and present a description of the participants and the research activities.

### **Disclosure.**

Our goal as researchers is to find answers to our questions in order to gain a better understanding of the “truth.” Yet, reality is always much bigger than our observations. How we study reality is intimately tied to who we are in our world. Our observations are filtered by our realities. Our perspectives impede our ability to recognize other “truths.” Wheatley (1992) wrote, “When we choose to experiment for one aspect, we lose our ability to see any others” (p. 63). She also questioned, “Is there any such thing as reality independent of our acts of observation?” (p. 61).

It is necessary, therefore, that I provide the reader with a better understanding of the lens through which I gaze at reality. My life allows me to see some things and, in the same turn, hides other views from me. The reader needs to know my vision and my blind spots in order to be aware of the nature of my observations. It is only with this information that the reader and I can engage in meaningful “discourse” that incites additional questions and a richer understanding of the significance of the human experience.

I can easily identify myself with labels. I am White, middle-class, American, college graduate, female, wife, parent. While easily written, each of these words is heavy with meaning and requires translation or at least explanation. The aggregate of these words, even the order of the words, assemble together like a puzzle. Each loose fitting part combining, sometimes in conflict, sometimes in synchronization, to make the whole of me; whatever that is. The different “labels” of my life push me and pull me with preferences, loyalties, prejudices, and biases. It is only through my willingness to think critically that I am able to keep from being overwhelmed by the “labels” and evaluate more fully, if not realistically, my relationships with others around me and the world. Critical thinking helps me to more completely “read the world and the word” (Freire & Macedo, 1987, p. 42) as articulated so succinctly by Freire.

### **Critical theory – a personal paradigm.**

Critical theory guides my work. With its roots in Marxism, critical theory illuminates the dialectical relationships that exist within society. As a critical theorist, I recognize that power exists everywhere, and personal action is important to the individual accessing power (Foucault, 1980). This action, however, is not a separate function from others but situated within the human experience. Rather than exercising action that dictates over others, action needs to be focused on establishing justice by recognizing the value of the individual and making room for the perspectives of others (Freire, 2000). My inclination toward critical theory compels me to appreciate that justice will not be achieved until individuals realize not only their own power, but also how others attempt to exercise power over them. For justice to exist, individuals must learn how to reflect on the “world” and act upon it while connecting with others (Freire).

As a critical educator, I see the need to provide learning opportunities for students, so they can see the world for themselves. With poststructural feminist leanings, I recognize the temptation to fall into the comfortable, self-indulgent role of the empowerer in a classroom. Empowering requires the assumption that I have more value within my position as teacher at the outset. Recognizing that the classroom is a site of power struggles demands constant vigilance of the tendency to define reality for others. I must remember that individuals define reality through their own experiences, and I cannot dictate reality for another. My commitment to equity in education is born from my personal challenge to respect all persons, in particular my students, for who they are and the capacities they bring with them.

Giroux's (1991) words resonate with my thinking:

Critical pedagogy needs to be informed by a public philosophy dedicated to returning schools to their primary task: places of critical education in the service of creating a public sphere of citizens who are able to exercise power of their own lives and especially over the conditions of knowledge production and acquisition. ( p. 47)

Over the years, I have come to believe that the educational institutions must do more to resolve the equity issues within their walls. I must confess that I find the school, as a reflection of society (Gramsci, 1971), too complacent with maintaining the status quo. Too many students slip through schools without getting the skills they need, both academic and critical. Too few educators are able to overcome structural barriers in education and help students learn how to think for themselves and push the boundaries of their awareness of the world, a practice that would free students, so they can control their life paths.

My participation as an educator makes me question my complicity in sustaining schools as a hegemonic tool that preserves a class structure that in turn replenishes a ready workforce for low-paying jobs. I am caught in an education system whose function is gatekeeping in an unjust society. How do I make my classroom a site of discourse when I work within an institution that uses old learning structures to maintain societal controls? “Each society has its regime of truth... the means by which each [true and false statements] is sanctioned; the status of those who are charged with saying what counts as true” (Foucault, 1980, p. 131). Instructors have the “authority” to maintain the “truth,” the status quo, in the context of classroom practices that exercise control over students.

Large classroom size is an educational structure that sustains such control. It forces many instructors to form relationships with students based on power over students as the only practical way to teach hundreds of them. It allows students to “disappear” in front of the instructor. Information flows one way – to the student and is the domain of the instructor. It confines the curricula in such a way that there are few opportunities for discourse. School structures keep the “truth” secure; everyone is safe from the messiness of questioning reality. Students may learn information but not the skills to evaluate its worth.

As a critical educational researcher, I want to identify and expose those power structures in the educational setting that maintain the status quo and inhibit students’ critical development. I am a strong believer in public education and as an advocate, understand that we must work to transform the education process into a more just and equitable system. But “transform” does not mean “reform.” Reform accepts the limitations of current structures causing us to look for ways to “tweak” the system for

better results. But we need to look at educational institutions more critically. Research should allow us to look through a new lens and see a new focus on the reality of education.

I believe it is possible to create a system in which people get the skills they need to think critically of the world. To make this possible, research needs to expose the inequities and power centers within the system. My research should help teachers find their capacity to challenge and find their voice, so transformation can happen. Through my research, I hope to contribute to the work that has been done by those educators before me and around me who also seek a more equitable system.

### **Social constructivism.**

Critical theory drives my personal belief in social justice and helping students empower themselves. This theory also warns educators of the power that exists and persists in the teacher/student relationship. Without this awareness, instructors risk misunderstanding or missing the needs of their students. While critical theory exposes the power structures within relationships, it does not, however, explain the dynamics of the teaching/learning activity. Social constructivism explains how students learn and how effective instructors teach. In his book *Thought and Language*, Vygotsky (1962) identified the social nature of learning. Contradicting Piaget's (2002) naturalist model of thought as being part of an inner development, Vygotsky wrote that humans learn and develop because of their relationships and dialogues with others. "Verbal thought is not an innate, natural form of behavior but is determined by a historical-cultural process and has specific properties and laws that cannot be found in the natural forms of thought and speech" (p. 51).

Rather than an act of imparting knowledge to those without, teaching is the process of facilitating the students' construction of meaning by helping them connect new information to prior knowledge (Vygotsky, 1962). Social constructivism requires the instructor to know the students well and plan the learning activity according to the students' capacity and level of knowledge (Dewey, 1998). Instructors challenge students' thinking and expose them to concepts that put the students in a state of disequilibrium (Mezirow, 1991). To return to stasis, the students must actively reflect on this new information that contradicts their current understanding of reality, and, in the process, construct new concepts. Without knowing their students, the instructor cannot plan for the appropriate lessons and will either create learning tasks that are too simple or too complex. As Dewey (1998) suggested:

The primary responsibility of educators is that they not only be aware of the general principle of the shaping of actual experience by environing conditions, but that they also recognize in the concrete what surroundings are conducive to having experiences that lead to growth. (p. 17)

Instructors play an important role providing support and guidance as the students work through a solution. "When the [adult] learner is confronted with a disorienting dilemma, the educator can focus on the extent and quality of the learner's premise reflection and the resulting perspective transformation and reflective action" (Mezirow, 1991, p. 220). With social constructivism, a respectful interaction with students promotes effective learning. "Authentic thinking does not take place in ivory tower isolation, but only in communication. If it is true that thought has meaning only when generated by action upon the world, the subordination of students to teachers becomes impossible"



(Freire, 2000, p. 77). Teachers and students become co-learners as they interact with each other in the teaching/learning, learning/teaching activity.

Baxter Magolda (2004) identified that the quality of discourse between the instructor and the students was critical to the students' development of higher level thinking skills. Mezirow (1991) wrote that the association between the instructor and the students is a form of mentorship whereby the instructor guides the students' skill and affective development. He identified this type of education as promoting transformative learning:

The educator helps the learner focus upon and examine assumptions – epistemological, social, and psychological – that underlie beliefs, feelings, and actions; assess the consequences of these assumptions; identify and explore the alternative sets of assumptions; and test the validity of assumptions through effective participation in reflective dialogue. (p. 223)

At this point, it is important to reiterate the importance of critical theory in education. The social constructivist's use of dialogue and meaning-construction in the classroom does not preclude learning situations in which power is ubiquitous. Brookfield (2005) wrote that instructors helping students construct knowledge could easily become manipulators of the students' thinking and belief systems. Critical theorists recognize that power seeps into most relationships deteriorating any kind of democratic discourse (Brookfield; Foucault, 1980; Friere, 2000). One of the early thinkers of power and education, Antonio Gramsci (1971), identified the power of society (and schools) to form culture and thereby dictate ideological norms. His description of cultural hegemony can act as a warning to educators about being aware of the use of power in their teaching practices.

In another view of power, Freire (2000) wrote that education was never neutral and that instructors were participants in cultural hegemony, albeit unwittingly. In order to effectively educate students, instructors must make a conscious choice to engage with students more meaningfully (Brookfield, 2005; Freire). Freire cautioned educators, “We have to put aside the simplistic understanding of dialogue as a mere technique. Dialogue is a way of knowing and should never be viewed as a mere tactic to involve students in a particular task” (p. 17).

Freire’s (2000) cautionary note requires the teacher and students to co-construct knowledge in a relationship of mutual respect of the strengths each brings to the learning activity. While the teacher brings a deeper level of understanding of the material, the learning activity cannot be conducted without the implicit involvement of the students. Freire taught that the learning task is “neither a gift nor an imposition – bits of information to be deposited in the student – but rather the organized, systematized, and developed “re-presentation” to individuals of the things about which they want to know more” (p. 93).

### **Qualitative research.**

Postmodern researchers argue that we delude ourselves to think that any research can be truly objective; observation is done through the lens of the self which is limited by its experiences with the world. “All description implies a choice of the measurement device, a choice of the question asked. In this sense, the answer, the result of the measurement, does not give us access to a given reality” (Prigogine & Stengers, 1984, p. 224).

Rather than merely testing a hypothesis in some detached, disconnected way, a researcher is active with the data as it unfolds and a story emerges. “Whatever we call reality, it is revealed to us only through an active construction in which we participate” (Prigogine & Stengers, 1984, p. 293). The question is, how can we know what we study is accurate?

Historically, qualitative research evolved in order to allow researchers to deepen their understanding and appreciation of the immeasurable characteristics of being human. It provides researchers with a way to gather and study information about human groups and experiences which is difficult to achieve with the positivist’s scheme of quantifying life. According to Denzin and Lincoln (2008), qualitative research is a “situated activity that locates the observer in the world. It consists of a set of interpretive, material practices that make the world visible” (p. 3).

Denzin and Lincoln (2008) called the qualitative researcher a “bricoleur” or someone who creatively assembles the material of a study. “The interpretive bricoleur produces a bricolage – that is, a pieced-together set of representations that is fitted to the specifics of a complex situation” (p. 5). In order to tease out the data, “the bricoleur adds different tools, methods, and techniques of representation and interpretation to the puzzle” (p. 5). A qualitative study allows the researcher the latitude to use data-gathering devices that can best let the story unfold.

Since the characteristics of qualitative research allow the researcher to delve into the subjectivity of people’s thinking, this made it a suitable method for studying the perceptions of managers and instructors. “Qualitative research involves an interpretive, naturalistic approach to the world. This means that qualitative researchers study things in

their natural settings, attempting to make sense of, or interpret, phenomena in terms of the meanings people bring them” (Denzin & Lincoln, 2008, p. 3). In selecting the type of qualitative method, I needed to use a research strategy that could indicate if there was any correlation in the participants’ thinking.

### **Q method.**

#### **Description.**

The Q method is a way to conduct research that incorporates qualitative and quantitative methodology. Qualitatively, Q researchers are able to study individuals’ “viewpoints, opinions, beliefs, [and] attitudes” (vanExel, 2005, p. 1) and “uncover different patterns of thought rather than their numerical distribution among the larger population” (Valaitis, Akhtar-Danesh, Eva, Levinson, & Wainman, 2007, para. 3). The method maintains the participants’ self-reference as they reveal their opinions about a given topic (Stephenson, 1953). Qualitatively, “Q methodology provides a foundation for the systematic study of subjectivity, and it is this central feature which recommends it to persons interested in qualitative aspects of human behavior” (Brown, 1991, para. 7). Quantitatively, the Q method uses correlational and factor-analytical techniques to make meaning of the participants’ subjective views (Dennis, 1986; McKeown & Thomas, 1988).

In the Q method the participants use ipsative evaluation (forced choice of preference between two or more items) to rank order a series of statements, often 30 or more, called a Q sample, in a continuum of “most agree” to “most disagree.” This process of ranking is called a Q sort. The participants’ choices of the order of the statements, identifying the relative importance of each, provide the researcher with a rich

understanding of the individuals' perceptions about an issue and offers insights into their thought processes.

A simple example may help illustrate how the Q method can help the researcher differentiate between participants' thinking. Two individuals were asked to give their opinion about school reform. Using Q method, the individuals had to rank order, or choose, between three statements as to which they "most agree" and which they "least agree." This activity would be the Q sort. Figure 2 provides a representation of how the Q-method delineates the differences in the individuals' thinking about the school reform question.

| How do you think schools should be reformed? |                        |                             |                      |
|--|------------------------|-----------------------------|----------------------|
| Person                                       | Use smaller class size | Increase teaching standards | Increase teacher pay |
| A  | Most agree             | Least agree                 | Neutral opinion      |
| B  | Least agree            | Most agree                  | Neutral opinion      |

*Figure 2.* Example of the Q sort process. The Q method forces people to choose between statements as to which is more salient than another. This choice provides a clearer understanding of a person's thinking on a topic than does the Lickert method which allows a person to use the same response, "agree" or "disagree" for different statements. Using the Likert scale in the above example, a person may respond with "most agree" to all three statements, "use smaller class size," "increase teaching standards," and "increase teacher pay." Q method, on the other hand, forces a person to rank order the three statements from most agree to most disagree.

If the statements in the Figure 2 example had been on a survey, the participants would have responded to each question using a Likert scale. Person A and B might have looked similar to each other in their views, because each participant might have answered "most agree" on all three statements. By forcing the participants to choose between the statements, the researcher gets a more accurate understanding of the thinking of the

participants and any similarities and differences that may exist between their attitudes on a topic. Using the example in Figure 2, a Likert scale response on a survey may have shown a correlation, while the Q-method would show no correlation.

### **Data analysis in Q method.**

The beauty of the Q method is in the data analysis of how the participants rank order the Q statements from “most agree” to “most disagree.” Rather than evaluating the scores from tests as in a traditional quantitative study, Q method studies the attitudes of research participants. Therefore, the participants (P set) and their attitudes identified by the Q sort become the independent variables, or factors, that are tested. This makes the “population,” or “n” of a study the number of statements in the Q sample and not the number of participants.

According to Stephenson (1967), the way the participants sorted their statements, from “most agree” to “most disagree,” allowed the researcher to identify similarities and differences between the participants’ attitudes. In his research, Stephenson (1953) found that people thought similarly about any given topic, and rather than getting completely random sort results, there was actually a pattern in the way participants sorted the Q sample statements. He noticed that the participants actually grouped themselves by the order with which they placed the statements. Using Figure 2 as an example, if there were 10 participants, they might, by ordering their statements from “most agree” to “most disagree,” sort themselves into two groups. Some would “most agree” with reducing class size, and some would “most agree” with increasing teaching standards; probably no one would “most agree” with increasing teacher pay. Stephenson (1953) noted that this

pattern of groups forming as a result of statement placement allowed the researcher to look for correlations between the participant attitudes about a topic.

The Q researcher uses the sort results to conduct a factor analysis. To set up the computation, the researcher assigns numeric values to each statement by its placement order during the participant's sort results. For example, a statement in the "most agree" position may get a value of +4, and the statement in the "most disagree" position may get a value of -4. All the statements between these two polar opposites receive values on a continuum from +4 to -4. These values allow the researcher to conduct a factor analysis on the results of the participants' sort of the statements and to look for correlations among the study participants' attitudes about the statements. McKeown and Thomas (1988) stated that the factor analysis in the Q method "comprises the statistical means by which subjects are grouped – or, more accurately, group themselves – through the process of Q-sorting" (p. 48).

Stephenson (1953) recommended that the Q researcher also conduct a post-sort interview with each participant and considered it an important component of Q method. The interviews increased the likelihood of accurate representation of the participant perceptions and provided additional assurance that the participant voices would be heard during the research.

To focus on the statistics and call Q method a quantitative study would be a misunderstanding of the method (Brown, 1993; Stephenson, 1967; Watts & Stenner, 2005). Q method does not have *a priori* design like a survey. Instead, the analysis of the data with Q takes on *a posteriori* as the views of the participants unfold through interpretation. The researcher studies the participants' subjective views generated from

their experiences with the topic (McKeown & Thomas, 1988). The Q method is a unique qualitative method that combines participant voice with statistical analysis of their opinions. “A series of absolute measurements cannot result from this process. Instead a single set of essentially *relative evaluations* (and hence a gestalt configuration of items) is produced” (Watts & Stenner, p. 74). According to van Excel (2005), “The results of a Q methodological study can be used to describe a population of viewpoints and not, like in R, a population of people” (p. 2).

### **Q sample—sort statements.**

The most important component of the Q method is the Q sample (Brown, 1991; Stephenson, 1967), since the Q sample is the basis for identifying how the participants think about a given topic. Watts and Stenner (2005) stressed the critical role of the statements in a well-developed Q method: “The Q set [sample] must always be broadly representative of the opinion domain at issue” (p. 75). Stephenson (1953) called the source of the statements a “concourse” (p. 89) which might include verbal and written communication from the participants, written communication about the topic from newspapers, magazines, books, or other print media, and verbal comments about the topic gleaned from interviews, discussions, focus groups, or observations.

From all these sources, the researcher creates and compiles statements that best fit the focus of the study. “In order to capture the voice, it is crucial that the interviewer collects a sufficient number of words...” (Onwuegbuzie & Leech, 2007, p. 107). After exhausting the concourse for appropriate statements, the researcher prints the statements on cards. These cards become the Q sample that the participants rank order from “most agree” to “most disagree.” The Q sample is initially considered a set of heterogeneous



statements, but after the sort they form a holistic picture of the person's thinking about the topic and are then considered a homogenous grouping of the ideas of each participant (Kerlinger, 1972; Stephenson, 1953; Watts & Stenner, 2005).

### **P set – study participants.**

Since the Q method analyzes the participants' perceptions on a topic, the criterion for the participant selection process is important. The participants should have "a clear and distinct viewpoint regarding the problem" (vanExel, 2005, p. 6). Since persons are correlated instead of tests, using a large number of people is unnecessary as in a typical quantitative study (Brown, 1993; Stenner, Watts, & Worrell, 2008; Stephenson, 1953). According to Stenner et al., "Participants in a Q methodological study are *not* regarded as subjects from sub-populations whose responses can be extrapolated to estimate population statistics. This means that relatively small P-sets can yield worthwhile results" (p. 221). Stephenson (1953) suggested Q method could be used with one or a few individuals. vanExel proposed that four or five individuals could make up a P set. The Q researcher needed to recruit the number and type of people in the study that could provide the desired views on the topic.

Since the type of the participants instead of number of participants are key to the study, a Q researcher uses purposeful sampling, specifically "homogenous" (Onwuegbuze & Leech, 2007, p. 112) sampling to develop a P set. Onwuegbuze and Leech suggested that a researcher studying a particular issue use homogenous groupings in order to recruit participants who have specific characteristics that best meet the focus of the study in order to "maximize understanding of the phenomenon" (p. 111). Creswell (2009) agreed that purposeful sampling was an appropriate method when the qualitative

researcher was studying a specific problem or questions. The Q researcher strategically gathers those individuals into the P set who have opinions the researcher wishes to study. Because the participants make specific value judgments as they compare each statement, recruiting appropriate participants can help the researcher develop a richer understanding of the comparative thought processes of the people in the study.

### **History of Q method.**

William Stephenson, a physicist, psychologist, and colleague of the statisticians Spearman and Pearson, developed the Q method in the mid-1950s. Dissatisfied with the limitations of using factor analysis in psychology and wanting to search deeper into the attitudes behind human behaviors, Stephenson (1953) saw that shifting the focus of factor analysis from the tests to the participants allowed for analyzing the participants' subjective attitudes that researchers had struggled to quantify. Stephenson's landmark work, *The Study of Behavior: Q-technique and Its Methodology*, published in 1953, laid out the details of the Q method and justified its use as a research tool that could submit people's attitudes to a factor analysis. Stephenson wrote,

Q technique brings almost all that has been regarded hitherto as 'subjective', that is, man's reflections, musings, retrospections, dreams, and the like, his self-notions, and every manner of verbal report, into the domain of singular testable propositions.... (p. 206)

As the Q method evolved in psychology, its researchers embraced constructivist and poststructuralist thinking. In the late 1990's Q researchers not only became more confirmed in the ability to study the subjectivity of individuals' perceptions, but began to explore subjectivities' enmeshment in the "power dynamics of a shifting manifold of discursive practice" (Stenner et al., 2008, p. 216). Even though the roots of Q

methodology are in quantitative research and factor analysis to study human behavior, Q methodologists today recognize that it has become a qualitative method for postmodern individuals in fields other than psychology, such as communication, political science, health, and environmental studies (vanExel, 2005).

### **Criticisms.**

Strict observers of naturalistic, qualitative research may criticize that Q methodology does not use a “real” natural setting. Sitting at a desk ranking cards is hardly the place where the participants live or work. In addition, the statements on the cards are not always taken from the participant’s actual statements. Some qualitative researchers may look at this practice as minimizing the participant’s voice. Yet, there are those who would debate whether qualitative researchers can truly operate research within a “natural setting,” give a voice to participants, or even provide accurate portrayals of participants’ views.

Kirsch (1999) posited that interviews were not an authentic representation of an individual’s opinions, but instead “represent an artificial, staged performance” (p. 31) that reflected the power the researcher held over the participant, albeit unconsciously. The researcher’s questions set the direction and tone of the interview that participants rarely challenged. In addition, the very presence of the researcher diminished the natural setting that a qualitative researcher hoped to gain. Kirsch also noted that in some cases the interviewees had manipulated the researcher by using the interview as a stage with which to advance their own agendas. Faherty (2010) explained that interviewees often wanted to be helpful to the researcher and presented the information they thought the researcher wanted to hear.

The fact that the researcher selects the statements in the Q sample allows for bias to work into the study and brings up the question of providing for participant voice. Yet, Stephenson (1953) asserted that the qualitative criticism of not allowing for participant voice was misplaced. He pointed out that the material used in the Q sample is gathered from the “concourse” of information that comes from the lives of the participants. Stephenson suggested that the ipsative evaluation performed by the participants provided a rich mechanism to study the subjectivity of the research participants’ perceptions. In a Q sort, the participants clearly stated their preference by making value judgments about the order of importance of the statements. According to McKeown & Thomas (1988), “Participants are not passive subjects but genuinely active participants who operate on a set of items from explicitly self-referential and semantic point of view” (p. 218).

Identifying another criticism of Q method, Kerlinger (1972) posited that the ipsative technique caused problems with regard to statistical analysis. Analysis of variance relied on calculating degrees of freedom and independence. Using the ipsative technique made degrees of freedom irrelevant which made calculating standard deviations problematic. Kerlinger noted that in a 10-item Q sample, instead of computing  $N-1$  degrees of freedom, the ipsative evaluations caused the problem to actually be “10! or 3,628,800 possible rankings” (p. 14). He suggested that while technically problematic, the researcher could use analysis of variance to analyze the Q sort data but must be careful about drawing conclusions and making generalizations. This was sound advice for any qualitative study and one that Stephenson (1953) also recommended.

Dennis (1992) identified one of Q's strengths as also a problem. The ability of the participants to present their detailed opinions on a topic through the ipsative technique was complicated and time consuming. In addition, the directions for performing a Q sort were more complicated than those of a survey, and since participants could not respond with "not sure," the amount of effort they must exert in order to complete the task was higher. Dennis offered that this extra effort might cause problems conducting a Q sort.

Another disadvantage of the Q method that is similar to other qualitative methods is that it is problematic to generalize findings to the larger population (Brown, 1993; Dennis, 1992; Stephenson, 1953). Yet, the purpose of the Q method is to "characterize commonalities among persons having different perspectives on the issue" (Dennis, 1986, p. 16). But since Q researchers consider Q method as qualitative, there is already an understanding that the results only reflect the individuals in the study. This does not mean, however, that researchers cannot use the data to speculate as to broader implications.

### **Benefits.**

The Q method makes it possible to conduct research with a smaller number of individuals yet realize an improved level of understanding (Brown, 1991; Dennis, 1986). Through their response to statements framed in "In my opinion...", the participants relay personal, meaningful opinions that are developed from a concourse that taps their experiences and beliefs about the topic. "The respondents' frame of reference is preserved" (McKeown & Thomas, 1988, p. 12). Dennis explained that since the participants maintained the reference, bias became a non-issue.

The ipsative evaluation of the Q sort forces the participants to make meaning of the Q sample through their own interpretation of the statements. The participants “ultimately make vigorous attempts to impose their viewpoints onto *any set of statements they are given* [emphasis in the original]” (Watts & Stenner, 2005, p. 76). According to Dennis (1992), Q method used strengths from both qualitative and quantitative research methods. Researchers used the precision of factor analysis to make sense of the data from the Q sort. And the participants’ use of ipsative evaluation and follow-up interviews allowed for the researcher to use qualitative study techniques to explore the subjectivity of the perceptions. While Kerlinger (1972) cautioned about the inability to calculate the degrees of freedom, he did identify the researcher’s ability to correlate individuals’ responses as a strength within the Q method. He proposed that the Q method allowed behavioral researchers a powerful method for testing theories.

### **Validity and reliability.**

As researchers struggle with the idea of validity and reliability in a postmodern world, there has been a fracturing of their definitions. If observations are limited by the vision of the observers, the ability to quantify the “truth” of a study is no longer feasible. The traditional, positivist definitions of validity and reliability are no longer viable. “The qualitative researcher can no longer directly capture lived experience. Qualitative researchers must rethink the meaning of validity, generalizability, and reliability” (Denzin & Lincoln, 2008, p. 26). Since Q method is qualitative, Q researchers must struggle with post-positivist understandings of validity and reliability. In this section, I will address how the Q method addresses three qualitative perspectives of “validity,”

namely trustworthiness, clarity and appropriateness. For “reliability,” I will show how the Q method answers questions of triangulation, representation, and consistency.

### **Trustworthiness, clarity, and appropriateness.**

Denzin and Lincoln (2008) posited that the postmodern qualitative researcher could not use the “traditional positivist criteria of internal and external validity” (p. 246), rather researchers should use words such as “trustworthiness and authenticity” (p. 246). Stephenson (1953) suggested that Q method’s trustworthiness was achieved not through the sampling of a group of participants that was presumably representative of the general population, but by “employing *structured* [emphasis in the original] samples of persons” (p. 193). Making no claims that the analysis of a Q sort could be generalized, Stephenson was more interested in studying the “authentic” participants and any correlations indicated between them. He explained that when researchers identified population characteristics, such as age, gender, etc, that they thought should be represented in the study, then they should do so “formally in ‘samples’ of persons and not have it left to the vagaries ‘of chance’” (p. 193). It is the research question that drives the Q method; therefore the participants should be selected by their ability to respond to the question. This authenticity is exactly what is called for by Denzin and Lincoln (2008).

Eisenhart and Howe (1992) wrote about the importance of a qualitative researcher articulating the relevance of a study. “Concerns about clarity, appropriateness, and so forth take on the added burden of being clear, appropriate, and useful to potential audiences” (p. 650). Q method’s simple technique that can provide clear understanding and insights of the participants’ thought processes answers this charge for clarity. The purposeful sample of the Q sample and P set deal with the need for appropriateness. The

ability of the Q methodologist to factor analyze the participants' ranked opinions in the Q sort and identify correlations using this analysis also addresses the usefulness of the research.

Q methodologists find that the traditional definition of validity is irrelevant in a Q study, because the method explores the participants' viewpoints, positions the study as subjective, and does not attempt to generalize the data (Brown, 1991; Klaus, Wingreen, & Blanton, 2010). Thomas and Baas, regarded Q's "validity" (as cited in Dennis, 1992, p.40) as qualitative in nature because generalization by the Q researcher was concerned with "phenomenon rather than population" (as cited in Dennis, p. 40). In addition, the Q method's detailed data obtained from the phenomenon of the participant Q sorts satisfied Creswell's (2009) call for qualitative researchers to use "rich, thick description" (p. 191) as an appropriate, "validity strategy" (p. 191). The detailed information gathered from the thought processes of the participants as identified in the Q sort results offers the researcher valuable insight into the participant views on the topic.

Watts and Stenner (2005) showed that the Q sample was important to satisfying issues of representation:

If a Q set [sample] is at least 'broadly representative' of its subject matter, the engagement of the participant group with that Q set (and the resultant configurations) *will* afford a general overview of relevant viewpoints 'on the subject' (which is all that is required for the purposes of Q methodology. (p. 76)

Dennis (1986) also dealt with representation. She identified that Q method's accurate representation rested on the Q researcher's ability to appropriately "elucidate and portray the subjectivity expressed" (p. 39). The strength of the Q method was the ability of the participants to accurately share their opinions on a topic through the Q sort.



The degree that the participants faithfully engaged in the Q sort increased the “adequate representation” of the study. However, Dennis warned that if the participants misunderstood the complex instructions for the Q sort and were not able to properly execute the sort activity, there was a risk of misrepresentation which would negatively impact trustworthiness of the study.

### **Consistency, triangulation, and representation.**

Creswell (2009) identified “reliability” in qualitative studies as the researcher’s ability to maintain process consistency with other researchers. He recommended that qualitative researchers carefully document their work, so others could examine the process. This need for consistency is satisfied through the ease with which the Q method can be documented and checked. In addition, the factor analysis for the Q sort is clearly defined and structured. Creswell also recommended triangulation and member checking both of which are achieved through the post-sort participant interviews. The follow-up interviews with the participants allow the researcher to triangulate the participants’ views much like the ethnographer submitting data to the participants for corroboration.

Onwuegbuzie and Leech (2007) cautioned that the qualitative researcher must collect as much information from the participants as possible in order to avoid a “crisis of representation and legitimation... where a crisis of representation stems from an inability to capture lived experience and a crisis of legitimation stems from the inability to interpret and evaluate data” (p. 107). In the Q method, it is the Q sample that satisfies this requirement. van Exel (2005) addressed Onwuegbuzie’s and Leech’s concern by stipulating that the development of an appropriate Q sample improved the level of consistency of the study.

For the purpose of this study, the focus group was used as a way to triangulate the findings from the Q sort and follow-up interviews. As a qualitative research tool, the focus group satisfies many of the same issues of trustworthiness, representation, and appropriateness as Q method, although Kirsch (1999) cautioned that the researcher impacted a study's trustworthiness by choosing what information from the focus group discussion should be disclosed. In addition, Thackeray and Neiger (2004) warned researchers to not be lulled into thinking a focus group was a simple research technique. This note suggests that although upon first glance the "trustworthiness" of a focus group is something easy to achieve, researchers must carefully construct a focus group in order to accurately gather the desired information. Issues of representation are similar to those for Q method in that there is a benefit to purposefully sample the study participants because of the characteristics the researcher wishes to study. Finally consistency is satisfied by the focus group researcher carefully documenting the focus group design and results.

### **The present study.**

#### **The participants.**

The study was conducted at a community college in the Pacific Northwest from September to November, 2010. In 2009, the community college had nearly 23,000 students enrolled in credit classes. The college provides the typical programs including transfer and career technical education. The participants included four managers and four instructors with two women and two men in each group; each person had at least five years professional experience; and each manager and faculty member was respected for exhibiting positive attitudes about working with their employees and students,

respectively. I used the Q method, including a post-sort interview with each participant, and a follow-up focus group to evaluate and look for correlations in the managers' and instructors' perceptions toward their work with their employees and students.

Since I was studying the perceptions of managers and instructors about their relationships with employees and students, I wanted to recruit those individuals considered competent at maintaining positive relationships with employees and students. I followed the recommendation of McKeown and Thomas (1988) and used purposeful sampling to recruit the appropriate people into the study. The list of potential participants, instructors and managers, was generated by the college's managers during a quarterly, all-campus managers' meeting. I asked the managers at the meeting to identify five colleagues in management whom they considered to have the following abilities. The managers could (a) maintain a positive relationship with employees, (b) recognize employees' potential and provide supports, so employees can maximize this potential, (c) motivate employees to work to capacity, and (d) identify employees' weaknesses and assist employees' to develop strategies to compensate for their weaknesses. After giving the group several minutes to generate the list of managers, I asked the academic managers in the group, which included division deans, to identify members of their faculty whom they considered to have similar abilities. Namely, the instructor could (a) maintain a positive relationship with students, (b) recognize students' potential and provide supports, so students can maximize this potential, (c) motivate students to work to capacity, and (d) identify students' weaknesses and assist students to develop strategies to compensate for their weaknesses.

In September, I randomly drew the names of four faculty and four managers (two women and two men in each group) from the list of those recognized for positive work performance by the college's managers. I sent emails to these individuals inviting them to participate in the study. See Appendix B for the recruitment email. In the email, I explained the details of the study and explained that their tasks would be to conduct a Q sort, be individually interviewed after the sort, and participate in a focus group. In the email, I also provided details of the project timeline. I informed the individuals, that as volunteers, they could withdraw from the study at any time.

One manager declined to participate, and two instructors did not respond to the email. In each of these cases, I pulled another name from the list of potential participants and sent the same email requesting participation. When a person agreed to participate, I responded to the email with an attached Informed Consent document for a signature. I told the participants that when I met with them for the Q sort and post-sort interview, I would first review the Informed Consent document with them before asking them to sign. Each participant had at least one week to review the Informed Consent document before the meeting to do the Q sort. No data was collected until after the consent forms were signed. After I collected all the Informed Consent forms from all the participants, I delivered the forms to Dr. Chris Ward at Oregon State University for storage in a locked file drawer.

The purpose of the second email was also to establish a time when I could meet with the individual to conduct the Q sort and post-sort interview. After I had recruited the eight participants, I scheduled a time for the focus group that was one week after conducting the eighth and final Q sort and post-sort interview. It took several emails to

all the participants to finally settle on a time that was convenient for all schedules.

In order to protect the participants' privacy, I assigned each individual a pseudonym upon completion of the Q sort and post-sort interview. In order to maintain the connection with the person's comments and job roles, I used names, Instructor A, Instructor B, etc. and Manager A, Manager B, etc. The pseudonyms were used to report the data. During the focus group discussion, however, the participants did not use the pseudonyms since most knew each other through their work at the college.

### **Developing the Q sample statements.**

The legitimacy of the research data in a Q method study comes from the ability of the researcher to develop an appropriate Q sample that can illuminate people's perceptions about a topic. According to Brown, therefore, the number of statements in the Q sample should provide for a breadth of viewpoints on a topic without having redundancy (S. Brown, personal communication, July 3, 2010)

I developed the Q sample statements using two domains or subject areas which resulted in a two-by-five matrix. For the first domain of the matrix, I used McGregor's (1960) theory on the two types of managers, authoritarian, Theory X, and collaborative, Theory Y. The second domain of the matrix came from five affective management functions found in the literature on span of control (a) providing motivation, (b) promoting communication, (c) fostering independence, (d) developing a collaborative work environment, and (e) building relationships. In order to get adequate representations I created three statements for each of the cells of the matrix for a total of 30 statements for the Q sample.

I used management literature to create the statements. After searching through the literature, I decided that 30 statements was an appropriate number and would satisfy Watts' & Stenner's (2005) recommendation for "adequate coverage" (p. 75) of the topic. Representation was satisfied in that the size of the Q sample was not so large as to prove too cumbersome for the participants, but was large enough to provide a rich enough pool of opinion statements (Dennis, 1986). Each statement received a code that indicated the two domains: 1.) McGregor's management theory, Theory X and Theory Y, and 2.) the five affective functions of span of control, (a) providing motivation, (b) promoting communication, (c) fostering independence, (d) developing a collaborative work environment, and (e) building relationships. The codes provided for more accurate tracking of each statement placement in the Q sorts performed by the participants. Even-numbered statements were developed from McGregor's Theory Y; odd-numbered statements were developed from Theory X. To avoid biasing the participants, the codes did not appear on the material sorted by the participants. See Table 1 for the Q sample statements and identifier codes.

Table 1

*Q Sample statements.*

| Affective<br>Management<br>Functions of<br>Span of Control | Management Theory X<br>(authoritarian)   | Management Theory Y<br>(cooperative)  |
|--|--|---|
| Providing<br>Motivation<br>(M)                             | 1. People often require reward and punishment in order to become motivated. (1XM)<br><br>2. People are reluctant to take on the responsibilities needed to do the task. My role is to push them, so they will work hard. (3XM)<br><br>3. People want to be closely directed in their activities. (5XM) | 1. People are basically self-motivating; my role is to remove barriers and provide support, so they can perform their tasks well. (2YM)<br><br>2. People enjoy taking on responsibility. My role is to help them do this. (4YM)<br><br>3. People learn to exercise self-direction under appropriate conditions. (6YM) |
| Promoting<br>Communication<br>(C)                          | 1. I need to tell people how to do every detail of a task, so they can complete the task effectively. (7XC)<br><br>2. Individuals need to know about the mistakes they make. (9XC)<br><br>3. Communication is important for getting people to do their assigned tasks. (11XC)                          | 1. I need to provide coaching and feedback to people, so they can complete a task appropriately. (8YC)<br><br>2. Individuals need to be recognized for jobs well done. (10YC)<br><br>3. Communication is important for providing support for people to accomplish their tasks. (12YC)                                 |
| Fostering<br>Independence<br>(I)                           | 1. Individuals develop primarily because of my pressure on them to perform. (13XI)<br><br>2. An objective of my job is to get individuals to do their work effectively. (15XI)<br><br>3. Part of my job is to keep constant pressure on people in order to keep them working hard. (17XI)              | 1. I encourage individuals to take the initiative with their tasks. (14YI)<br><br>2. An objective of my job is to help individuals develop their unique capacities. (16YI)<br><br>3. In general, people are quite capable, and I only have to help them see their capacities for them to do the work. (18YI)          |

Table 1 continued

| Affective<br>Management<br>Functions of<br>Span of Control   | Management Theory X<br>(authoritarian)   | Management Theory Y<br>(cooperative)  |
|--|--|---|
| Developing a<br>Collaborative<br>Work<br>Environment<br>(DC) | 1. My role is to establish an environment where people learn that good work is rewarded and mistakes are not acceptable. (19XDC) | 1. My role is to establish an environment where people feel safe enough to take the risks necessary to improve their skills. (20YDC)      |
|  | 2. The environment is not as important as my message to individuals that I expect them to work hard. (21XDC)                     | 2. Individuals need to feel part of a cohesive group in order to do their jobs well. (22YDC)  |
|  | 3. People work best when one person determines the goals for them. (23XDC)   | 3. People work best when there are shared goals that they helped establish. (24YDC)   |
| Building<br>Relationships<br>(R)                             | 1. My relationship with individuals centers around my authority to set the work agenda. (25XR)                                   | 1. Engaging with individuals to form positive, give-and-take relationships is important to helping them do their work effectively. (26YR) |
|  | 2. I am concerned with the quality of the work. My relationships with people is not as important. (27XR)                         | 2. I am concerned with the quality of my relationships with individuals. If the relationship is good, people will perform better. (28YR)  |
|  | 3. My relationship with individuals is not as important as making sure they know what is expected of them. (29XR)                | 3. Building relationships with people is critical to promoting positive outcomes in individuals. (30YR)                                   |

Note: Identifier codes are within parenthesis following each statement. Each Q sample statement was typed on small, 1 x 2 inch pieces of paper using a size 10 font. I drew a grid on a sheet of paper that the participants used as a worksheet, so they could clearly see how to place the statements.

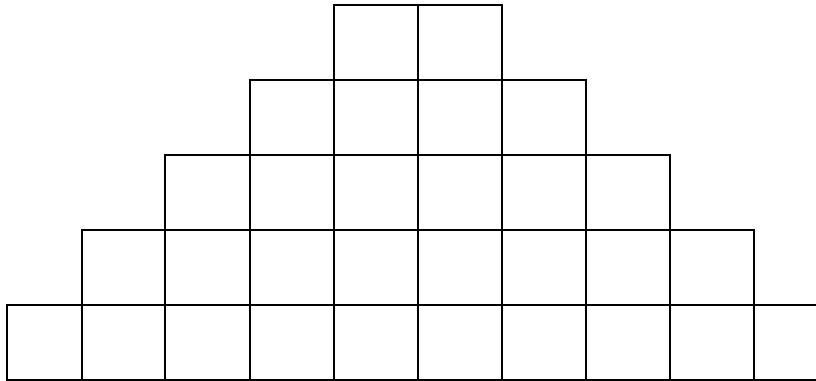
### Data gathering.

#### *Q sort and post-sort interview.*

I met with each participant for the Q sort and post-sort interview during the months of October and November, 2010. Each Q sort and post-sort interview took about



30 minutes. To help the participants perform the Q sort, I gave each a template that outlined how they needed to place the Q sample statements. See Figure 3.



*Figure 3.* Q sort grid for the participants. Participants placed each of the Q sample statements in a different cell, ranking the statements from “most agree” on the far left to “most disagree” on the far right. The two middle columns were considered neutral. Vertical placement of the cells in the columns had the same relative value. There was no extra value assigned to a statement placed above another.

Each participant was able to easily perform the Q sort with no questions. The post-sort interviews were tape recorded and transcribed. One participant, however, had laryngitis during the Q sort meeting and opted to write out the post-sort interview responses instead of providing a verbal response. During the interviews, I asked the participants to explain their thinking about the sorting process, why they placed the first statement in the “most agree” cell, and why the last statement was placed in the “most disagree” cell. Following the participants’ explanations, I asked, “What are your views regarding your role in facilitating employees (or students) in developing higher level thinking and problem-solving skills?” After the answer to the previous question, I asked, “What are your views regarding your role in facilitating employees (or students) in becoming self-actualized?”

After transcribing each participant’s comments from the interviews, I sent the participants a copy of their transcript for their approval. I explained that they were free to

amend the transcript, but I would assume they did not wish to make any changes if they did not respond within one week. One instructor amended the transcript. The other participants did not comment on the transcripts. Before the focus group, I computed a factor analysis on the Q sort results in order to share this with the participants during the focus group.

### ***Focus group discussion***

In mid-November, after compiling the Q Sort information and post-sort interview comments, the participants and I met for a one-hour focus group to discuss their thinking about the Q sort results. The purpose of the discussion was to determine if the instructors and managers could reach a consensus in their thinking about the nature of their relationships with students and employees, respectively. At the beginning of the focus group, I shared the aggregated results of the Q Sort with the participants. After sharing their ideas about the sort results, I asked the managers and instructors to take two minutes to respond to the following question, “What specifically do you do to facilitate people’s skill developments - in particular higher level skills?” I then asked the participants to share their ideas with others; I recorded the responses on the whiteboard, so they could easily compare their ideas.

I then asked the participants, “Do you think managers are also teachers as they help people learn their jobs and continue to develop skills? And are teachers also managers as they strategize how to help students learn and develop skills, so they can grow into their careers?” The managers and instructors discussed these two questions for the remainder of the focus group.

The focus group discussion was tape recorded and transcribed. As a check for accuracy, I sent the participants a transcript of their comments made during the focus group. I informed the participants that they were free to edit their comments, but after two weeks, I would assume they did not wish to check the transcripts if I did not hear from them. One manager and one instructor amended the transcripts. After the two weeks, I incorporated the participants' corrections into the final version of the transcripts, removed all the participants' names from the research notes and transcripts, and thereafter only used the participants' pseudonyms.

### **Data analysis of the study results.**

I used Excel software to compute the correlation scores and factor analysis of the Q sort results. To analyze the participants' comments, I read through the transcripts from the post-sort interviews and the focus group to find recurring themes. I used the five affective management functions found in the span of control literature for the content analysis of the comments, namely (a) providing motivation, (b) promoting communication, (c) fostering independence, (d) developing a collaborative work environment, and (e) building relationships. I went through the printed transcripts with five color highlighters, one color for each function, marking passages that related to the different factors. I also searched for words and phrases related to "collaboration," "skill development," and "self-actualization." I used the results of the Pearson  $r$  correlation of the Q sort and the results from the text analysis of the post-sort interviews and the focus group to triangulate the participants' perceptions and look for correlations.

**Chapter summary.**

Using the paradigms of social constructivist and span of control theories, I conducted a Q method study with four managers and four faculty, two men and two women in each group, from a community college in Oregon. The faculty and managers individually performed a Q sort and answered questions in a post-sort interview. In addition, to provide for more detailed understanding of the participants' attitudes, explore for possible agreement between the managers and instructors, and to help triangulate the data, all the participants met in a focus group to discuss the results of the Q sort and explore their perceptions about the nature of their work with employees and students. The data from the Q sort was factor analyzed while the comments from the interviews and focus group were content analyzed. All three were used to triangulate the data. I studied the data to look for correlation among managers' and faculty's perceptions toward their work with employees and students, respectively.

## Chapter 4

It is not uncommon for people to regard management and teaching as different functions of work. After all, managers supervise a department and instructors teach students. Yet, a look at both functions from the vantage point of the employees and students may find one hearing, from a collaborative perspective, “Without my manager’s (or instructor’s) encouragement, I could not have performed the work so well,” or coming from an authoritarian relationship, “My manager (or my teacher) tells me what to do.” In an examination of managers’ and instructors’ roles in working with employees and students, the previous statements, while simplistic do indicate some level of crossover between the two functions.

A review of management literature offers support for the idea that managers and instructors share similar perspectives. Concepts that one may expect to find within the domain of education are ubiquitous within management literature – building relationships (Emmett & Crocker, 2006), being people-centered (Eitington, 1997), maintaining high standards and appropriate challenges (Shell, Souder, & Damachi, 1983), creating a collegial environment (McGregor, 1960), promoting lifelong learning (Glynn, 2008), and providing feedback (Shell, 2003). Furthermore, an examination of the most basic function of managers and instructors reveals that the common element between the two roles is the nature of interactions with other human beings. The importance of these interactions may transcend any perceived divergence between the two roles. It may be most significant that managers and instructors motivate and support other human beings.

As human beings, employees and students may be more interested in belonging to a nurturing group and feeling like competent members of their group than functioning as

an “employee” or “student.” Satisfying the human needs identified by Maslow (1970) may be more salient for the relationships that managers and instructors have with their employees and students than any specific identifiers that can be attributed to either specific population. Furthermore, as indicated by management and education literature in Chapter 2, a parallel objective of managers and instructors may be that they are both interested in being collaborators and helping people develop their capacities rather than acting as authoritarians and telling people what to do.

Are there common elements of each role, managing and teaching, that cause managers and instructors to share beliefs about the nature of their work with people? This chapter explores how the research participants perceived their work with employees and students and how they compared the nature of this work with that of their counterparts. Before presenting the information gleaned from the participants, it is first appropriate to present how the human subjects’ protocols were addressed during this research project. The chapter then provides a short explanation of the statistics used with Q method followed by a presentation of the data from the Q sort, post-sort interviews, and focus group discussion.

### **Human subjects protocol.**

On September 22, 2010, the Oregon State University Institutional Review Board approved the human subjects protocol for the research. Following this approval, I sent potential participants a recruitment email and upon their agreement to participate in the study, an Informed Consent document. Both communications informed the participants that they were agreeing to meet twice and discuss, both individually and in a focus group, their beliefs about working with employees or students.

**Confidentiality, pseudonyms, and transparency.**

After the participants agreed to join the study, I assigned pseudonyms to each person that connected the participant to the job role. For example, the managers became Manager 1, Manager 2, etc., and instructors became Instructor 1, Instructor 2, etc. I used the participants' pseudonyms and not the participants' names to report the results of the Q sorts; therefore, none of the participants knew the Q sort results for any other participant.

During the focus group, pseudonyms were not used because the participants knew each other through their work. To address this familiarity and provide a level of privacy, at the beginning of the focus group, I asked the participants to consider the information shared during the discussion as confidential. While the request was to provide a modicum of security for the participants, probably a more powerful determinant of safety was the collegiality the participants felt with each other because of their work together. During the meeting there was much laughter and, overall, a positive milieu.

In the interest of transparency and to improve trustworthiness, after the post-sort interviews and after the focus group discussion, I sent each participant a transcript of their comments. I informed the participants that they were welcome to edit the transcripts, but if they offered no response after a designated period of time, I would assume they did not wish to change the transcripts. After each deadline, I revised the transcripts with the participants' recommended changes. After I corrected the focus group transcripts, I removed the participants' names from the research notes, and after that only used the participants' pseudonyms.

### **Participant demographics.**

The study included eight participants—four managers and four instructors. Each group had two women and two men. Six participants were Anglo, and two were people of color. The managers and instructors had been working as professionals in their positions for at least five years.

### **Data gathering.**

I met with the participants during the months of October and November, 2010. The first meeting was a 30-minute session held with each individual. During the meeting, I discussed the Informed Consent document with the participant who then signed it. After signing the Consent document, the participant conducted the Q sort with the Q sample statements. The sort took the participants about 15 minutes and was followed by the post-sort interview with four questions. I asked the participants to explain why they put their first statement in the “most agree” cell and their last statement in the “most disagree” cell. The participants’ comments provided me with additional insight about their attitudes concerning the statements. The final two questions were: “What are your views regarding your role in facilitating employees (or students) in developing higher level thinking and problem-solving skills?” and “What are your views regarding your role in facilitating employees (or students) in becoming self-actualized?”

After all the participants had conducted the Q sort, they met together in a one-hour focus group and explored their perceptions about the results of the Q sort, post-sort interviews, and their opinions about any functional crossover of the two roles. Primarily, the group discussion focused on the participants’ beliefs about the similarities and differences of their job roles. This conversation proved to be a rich source of data about



how the managers and instructors viewed their own and each other's roles with employees and students.

### **Performing the Q sort.**

I developed the Q sample statements for the Q sort with a matrix using McGregor's (1960) X and Y Management Theory and five affective management functions found in span of control literature (a) providing motivation, (b) promoting communication, (c) fostering independence, (d) developing a collaborative work environment, and (e) building relationships. See Table 1 in Chapter 3 for the matrix. As the participants read each statement from the Q sample, they had to choose which they agreed with, which they did not, and which statements held neutral value. Then using a triangular grid, the participants placed the statement they most agreed with in the far left cell and continued to place statements in a continuum that went to the statement they most disagreed with on the far right. Essentially, there were three categories of equal size; the participants could place the Q sample statements in agree, neutral, and disagree sections. See Figure 4. Statements placed in specific cells were assigned the corresponding values. The result of each participants' Q sort is in Appendix C.

|    |    |    |    |   |   |    |    |    |    |
|----|----|----|----|---|---|----|----|----|----|
|    |    |    |    | 0 | 0 |    |    |    |    |
|    |    |    | +1 | 0 | 0 | -1 |    |    |    |
|    |    | +2 | +1 | 0 | 0 | -1 | -2 |    |    |
|    | +3 | +2 | +1 | 0 | 0 | -1 | -2 | -3 |    |
| +4 | +3 | +2 | +1 | 0 | 0 | -1 | -2 | -3 | -4 |

*Figure 4.* The point value for the statement placement in Q sort. The columns range from “most agree” (on the far left) to “most disagree” (on the far right). The numbers in the cell denote the value given to the statement placed in that cell.

## **Statistical analysis of Q sort results.**

### **Computing Pearson r.**

After all the participants completed the Q sort, I performed computations using the values assigned to the statements by their position on the grid. I used Q method's modification of Pearson r in order to identify similarities between two participants' Q sort results (Brown, 1991). The Q method calculates r with the formula:

$$r = 1 - \frac{\sum (x - y)^2}{\sum x^2}$$
 [x is the ranked value of a statement for one participant and y is the ranked value of the statement for another participant]. The denominator,  $\sum x^2$ , is the sum of all the values, +4 to -4, for the 30 statements, and therefore the same for all the participants. See Appendix D for a table that lists the values each statement received by its placement by each participant during the Q sort. This table allows the reader to compare how the participants ranked each individual statement.

Statistical comparisons were made of each participant's sort results with every other participant's results. The r value, therefore, indicated the frequency with which two individuals placed statements in the same columns. The highest correlation score possible between two participants would be +1.00 which meant both individuals shared the same beliefs and placed all the statements in the same columns. The lowest correlation score would be -1.00 meaning that the participants showed significant disagreement with the statements by placing them in columns on the opposite sides of the agree to disagree continuum.

### **Computing standard error.**

Brown (1991) recommended computing the standard error, the square root of the number of statements, as a measure of significance of the r value. The standard error in

this study was .18 or  $1/\sqrt{30}$  where 30 is the number of statements. Brown wrote that there was statistical significance if the r value was at least 2 to 2.5 times the standard error. Using Brown's recommendation, any r value above .45 would be considered significant.

### **Participant sort results.**

The results of the Q sorts indicated significant agreement between the managers and instructors. Table 2 shows the r values each participant had with every other participant. Manager 3 and Instructor 4 had the highest correlation with .86 which indicated a very high similarity in the way they sorted their Q sample statements. Manager 2 and Instructor 3 showed a significant correlation with .48 but had the least commonality between their attitudes among all the participants. Table 3 shows the participant pairs by r value.

Table 2

#### *r Values of Q Sort Results by Individuals*

|    | I1   | I2   | I3   | I4   |
|----|------|------|------|------|
| M1 | 0.57 | 0.51 | 0.58 | 0.78 |
| M2 | 0.62 | 0.64 | 0.48 | 0.63 |
| M3 | 0.64 | 0.64 | 0.66 | 0.86 |
| M4 | 0.69 | 0.70 | 0.63 | 0.74 |

Note. M=Manager and I=Instructor. A correlation score of +1.00 would show that both individuals placed every statement in the same columns; -1.00 would show that the participants placed the statements in opposite columns and categorically disagree on the topic (Brown, 1991).

Table 3

*r Values of Q Sort Results Grouped by Scores*

| 0.40 – .49  | 0.50 - .59  | 0.60 - .69  | 0.70 - .79  | 0.80 - .89  |
|-------------|-------------|-------------|-------------|-------------|
| M2/I3 (.48) | M1/I2 (.51) | M2/I1 (.62) | M4/I2 (.70) | M3/I4 (.86) |
| M1/M2 (.46) | M1/I1 (.57) | M2/I4 (.63) | M4/I4 (.74) |             |
| I1/I3 (.48) | M1/I3 (.58) | M4/I3 (.63) | M1/I4 (.78) |             |
|             | I3/I4 (.52) | M2/I2 (.64) | I1/I2 (.71) |             |
|             | I2/I3 (.54) | M3/I1 (.64) | I1/I4 (.74) |             |
|             | M1/M4 (.56) | M3/I2 (.64) | M1/M3 (.75) |             |
|             | M2/M3 (.58) | M3/I3 (.66) | M3/M4 (.77) |             |
|             |             | M4/I1 (.69) |             |             |
|             |             | M2/M4 (.65) |             |             |
|             |             | I2/I4 (.68) |             |             |

Note. M=Manager and I=Instructor. Shaded pairs are manager/instructor r values.

### ***Factor analysis of participant Q sort results.***

After identifying the r values, Q method uses factor analysis to determine how the participants may have grouped themselves by the way they placed the Q sample statements during the Q sort. Brown (1980) wrote:

Factor analysis in general is a method for classifying variables... in this case the variables are Q sorts. Factor analysis is a method for determining how persons have classified themselves since the process... shows the extent to which [the Q sort]... falls into natural groupings by virtue of being similar or dissimilar to one another. If two people are likeminded by topic, their Q sorts will be similar, and they will both end up on the same factor. Hence, we do not classify them: they classify themselves on their own terms, which emerge as factors. (p. 208)

According to Brown (1980), the Q researcher continued performing a factor analysis with the data until all the factors were pulled out, or, in other words, all the participant groupings were identified. He recommended computing the eigenvalue (the sum of the squares of factor loadings) as a determinant that this was achieved. Brown offered that it was only necessary to use factorizations with eigenvalues greater than 1.00;

a low eigenvalue was an indicator that all the factors (or groupings of the participants) had been identified.

For this study, only one factorization was necessary since Factor A had a high eigenvalue of 5.15, and Factor B's eigenvalue was .55. Using Brown's (1991) reasoning, this indicated that the results of the participants' Q sorts were so similar that they classified themselves into only one group; managers and instructors shared similar attitudes about working with employees and students. Had there been more divergence among the participants' thinking, Factor B's eigenvalue would have been greater than 1.00 indicating that, based on their beliefs, the participants had placed themselves in different topical groups in the process of sorting the Q sample. Table 4 on the next page provides the factor loading results.

Another check for correlation was achieved through communalities,  $h^2$ , or the sum of the squared factor loadings. "Communality is the percentage of a person's Q sort response associated with the responses of the other subjects in the study" (Brown, 1980, p. 211). According to Brown, a low  $h^2$  indicated a participant with a unique perspective, separate from other participants. The relatively high values for  $h^2$  in this study provided another indicator that the managers and instructors shared similar attitudes about how they viewed their relationships with employees and students.

Table 4

*Factor Loading Results of Participants' Q Sorts*

| Participants | Factor A | Factor B | $h^2$ | $A^2$ | $B^2$ | eigenvalue                        |
|--------------|----------|----------|-------|-------|-------|-----------------------------------|
| M1           | 0.75     | 0.57     | 0.89  | 0.56  | 0.32  | $\sum A^2=5.15$<br>$\sum B^2=.55$ |
| M2           | 0.72     | 0.19     | 0.55  | 0.51  | 0.04  |                                   |
| M3           | 0.89     | 0.32     | 0.89  | 0.79  | 0.10  |                                   |
| M4           | 0.86     | -0.10    | 0.75  | 0.74  | 0.01  |                                   |
| I1           | 0.80     | -0.20    | 0.68  | 0.64  | 0.04  |                                   |
| I2           | 0.79     | 0.15     | 0.65  | 0.62  | 0.02  |                                   |
| I3           | 0.68     | 0.03     | 0.46  | 0.46  | 0.00  |                                   |
| I4           | 0.90     | 0.13     | 0.83  | 0.81  | 0.02  |                                   |

Note. M=Manager and I=Instructor

*Q sample composite scores.*

The final steps in Q method compute the composite score for each Q sample statement. The score is a measure of the overall placement of the Q sample statements by all the participants and identifies the statements that the participants find most salient. The highest score possible, 100, would show that all the participants placed a statement in the “most agree” position. Table 5 below shows the list of Q sample statements in order of most agree to most disagree according to the composite score. The table also includes the statement codes that show the domains from which the statements were created. For example, YR shows that the statement was created using the domain Theory Y, collaborative, and the span of control affective management function “building relationships.” The even-numbered, shaded, statements were created from McGregor’s (1960) Theory Y, collaborative management principles, and the odd-numbered, statements were from Theory X, authoritarian principles.

Table 5

*Q Sample Statements with Codes and Composite Scores*

| Q sample statements  | Composite score |
|--|-----------------|
| 30. Building relationships with people is critical to promoting positive outcomes in individuals. (YR)                                   | 71.70           |
| 26. Engaging with individuals to form positive, give-and-take relationships is important to helping them do their work effectively. (YR) | 47.45           |
| 12. Communication is important for providing support for people to accomplish their tasks. (YC)  | 47.34           |
| 28. I am concerned with the quality of my relationships with individuals. If the relationship is good, people will perform better. (YR)  | 39.43           |
| 20. My role is to establish an environment where people feel safe enough to take the risks necessary to improve their skills. (YDC)      | 34.08           |
| 24. People work best when there are shared goals that they helped establish. (YDC)   | 28.22           |
| 16. An objective of my job is to help individuals develop their unique capacities. (YI)  | 27.64           |
| 8. I need to provide coaching and feedback to people, so they can complete a task appropriately. (YC)                                    | 25.78           |
| 22. Individuals need to feel part of a cohesive group in order to do their jobs well. (YDC)  | 23.24           |
| 10. Individuals need to be recognized for jobs well done. (YC)   | 19.62           |
| 14. I encourage individuals to take the initiative with their tasks. (YI)  | 17.75           |
| 11. Communication is important for getting people to do their assigned tasks. (XC)   | 11.67           |
| 18. In general, people are quite capable, and I only have to help them see their capacities for them to do the work. (YI)                | 9.06            |
| 6. People learn to exercise self-direction under appropriate conditions. (YM)  | 5.94            |
| 2. People are basically self-motivating; my role is to remove barriers and provide support, so they can perform their tasks well. (YM)   | 3.78            |
| 15. An objective of my job is the get individuals to do their work effectively. (XI)   | 3.78            |
| 4. People enjoy taking on responsibility. My role is to help them do this. (YM)  | -0.21           |
| 9. Individuals need to know about the mistakes they make. (XC)   | -2.10           |
| 4. People often require reward and punishment in order to become motivated. (XM)   | -15.54          |
| 21. The environment is not as important as my message to individuals that I expect them to work hard. (XDC)                              | -17.60          |

Table 5 continued

| Q sample statements  | Composite score |
|--|-----------------|
| 5. People want to be closely directed in their activities. (XM)  | -18.14          |
| 29. My relationship with individuals is not as important as making sure they know what is expected of them. (XR)                     | -22.70          |
| 19. My role is to establish an environment where people learn that good work is rewarded and mistakes are not acceptable. (XDC)      | -27.82          |
| 27. I am concerned with the quality of the work. My relationships with people is not as important. (XR)                              | -39.13          |
| 7. I need to tell people how to do every detail of a task, so they can complete the task effectively. (XC)                           | -39.22          |
| 13. Individuals develop primarily because of my pressure on them to perform. (XI)  | -40.14          |
| 17. Part of my job is to keep constant pressure on people in order to keep them working hard. (XI)                                   | -40.29          |
| 3. People are reluctant to take on the responsibilities needed to do the task. My role is to push them, so they will work hard. (XM) | -41.57          |
| 23. People work best when one person determines the goals for them. (XDC)  | -49.59          |
| 25. My relationship with individuals centers around my authority to set the work agenda. (XR)  | -62.39          |

Note. Statements with X were associated with McGregor's (1960) Theory X (authoritarian management principles); Y was Theory Y (collaborative management principles); R was "building relationships"; C was "promoting communication"; I was "fostering independence"; M was "providing motivation"; and DC was "developing a collaborative work environment." Y statements have even numbers and are shaded.

While Table 5 shows the salience of Theory Y by composite score, Table 6 shows the participants' individual sort results and provides what may be, visually, a more interesting look at the data. The gray-shaded cells are from Theory Y, and the non-shaded cells are from Theory X. The preponderance of gray-shaded cells on the left side of the grids indicates that the managers and instructors shared a high value for Theory Y statements. It appears that they believed that, overall, the nature of their work with people was collaborative.



The data in Table 5 and Table 6 suggest that managers and instructors most highly valued “building relationships” from a collaborative perspective. The two statements that received the highest composite scores from the participants’ Q sorts were both from the domain “building relationships”/Theory Y. The highest composite score was 71.70 for statement 30, *building relationships with people is critical to promoting positive outcomes in individuals*. The second highest composite score was 47.45 for statement 26, *engaging with individuals to form positive, give-and-take relationships is important to helping them do their work effectively*.

Table 6

*Q Sort Results by Participants Showing Theory Y and Theory X*

|           |    |    |    |    |    |    |    |    |   |
|-----------|----|----|----|----|----|----|----|----|---|
| Manager 1 |    |    |    |    |    |    |    |    |   |
|           |    |    |    | 10 | 21 |    |    |    |   |
|           |    |    | 14 | 16 | 1  | 17 |    |    |   |
|           |    | 24 | 28 | 15 | 19 | 3  | 13 |    |   |
|           | 26 | 20 | 12 | 8  | 2  | 4  | 29 | 23 |   |
| 18        | 30 | 6  | 11 | 9  | 22 | 27 | 5  | 25 | 7 |

|           |    |    |    |    |    |    |    |    |    |
|-----------|----|----|----|----|----|----|----|----|----|
| Manager 2 |    |    |    |    |    |    |    |    |    |
|           |    |    |    | 29 | 28 |    |    |    |    |
|           |    |    | 26 | 6  | 13 | 27 |    |    |    |
|           |    | 10 | 20 | 5  | 22 | 1  | 3  |    |    |
|           | 11 | 24 | 14 | 15 | 9  | 7  | 23 | 21 |    |
| 30        | 16 | 12 | 4  | 8  | 18 | 25 | 2  | 19 | 17 |

Table 6 continued

|           |    |    |    |    |    |    |    |    |    |
|-----------|----|----|----|----|----|----|----|----|----|
| Manager 3 |    |    |    |    |    |    |    |    |    |
|           |    |    |    | 4  | 1  |    |    |    |    |
|           |    |    | 12 | 10 | 9  | 21 |    |    |    |
|           |    | 8  | 22 | 18 | 17 | 29 | 7  |    |    |
|           | 26 | 28 | 24 | 11 | 15 | 3  | 27 | 23 |    |
| 30        | 20 | 16 | 14 | 2  | 6  | 5  | 19 | 13 | 25 |

Table 6 continued

Manager 4

|    |    |    |    |    |    |    |    |    |   |
|----|----|----|----|----|----|----|----|----|---|
|    |    |    |    | 20 | 15 |    |    |    |   |
|    |    |    | 14 | 4  | 9  | 19 |    |    |   |
|    |    | 28 | 2  | 18 | 6  | 29 | 21 |    |   |
|    | 10 | 26 | 16 | 22 | 5  | 17 | 23 | 25 |   |
| 30 | 12 | 8  | 24 | 11 | 7  | 1  | 27 | 13 | 3 |

Instructor 1

|    |    |    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|----|----|
|    |    |    |    | 10 | 19 |    |    |    |    |
|    |    |    | 18 | 6  | 13 | 29 |    |    |    |
|    |    | 20 | 14 | 4  | 9  | 21 | 1  |    |    |
|    | 12 | 16 | 26 | 24 | 15 | 25 | 23 | 3  |    |
| 28 | 30 | 22 | 2  | 8  | 11 | 7  | 5  | 27 | 17 |

Instructor 2

|    |    |    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|----|----|
|    |    |    |    | 18 | 21 |    |    |    |    |
|    |    |    | 16 | 4  | 29 | 23 |    |    |    |
|    |    | 10 | 30 | 2  | 24 | 7  | 19 |    |    |
|    | 12 | 28 | 8  | 5  | 14 | 9  | 3  | 1  |    |
| 26 | 22 | 11 | 20 | 6  | 15 | 27 | 13 | 25 | 17 |

Instructor 3

|    |    |    |    |    |    |    |    |   |    |
|----|----|----|----|----|----|----|----|---|----|
|    |    |    |    | 1  | 29 |    |    |   |    |
|    |    |    | 2  | 28 | 24 | 22 |    |   |    |
|    |    | 6  | 12 | 16 | 9  | 23 | 27 |   |    |
|    | 15 | 30 | 11 | 14 | 18 | 5  | 19 | 7 |    |
| 20 | 8  | 10 | 26 | 21 | 4  | 25 | 17 | 3 | 13 |

Instructor 4

|    |    |    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|----|----|
|    |    |    |    | 15 | 18 |    |    |    |    |
|    |    |    | 20 | 2  | 9  | 19 |    |    |    |
|    |    | 22 | 14 | 10 | 1  | 5  | 17 |    |    |
|    | 24 | 28 | 8  | 6  | 21 | 13 | 29 | 7  |    |
| 30 | 12 | 26 | 16 | 11 | 4  | 3  | 27 | 23 | 25 |

Note. Theory Y, even numbers, is shaded gray, and Theory X, odd numbers, is not shaded.

Table 6 shows that six out of eight participants (three managers and three instructors) placed statements from the “building relationships”/Theory Y domain in the +4 “most agree” position. Four participants, Manager 2, Manager 3, Manager 4, and Instructor 4, placed statement 30 in the “most agree” or +4 position; Instructor 1 placed statement 28 in the +4 “most agree” position; and Instructor 2 placed statement 26 in the

+4 “most agree” position. Manager 1 and Instructor 1 placed statement 30 in a +3 position. Manager 1, who did not place a statement from the domain, “building relationships”/Theory Y, in “most agree” position, did place two statements from this domain in the +3 positions which indicated that the participant still held a high value for the concept. Instructor 3, who did not place a “building relationships”/Theory Y statement in the first position, placed statement 20, *my role is to establish an environment where people feel safe enough to take the risks necessary to improve their skills*, from the domain, “developing a collaborative work environment”/Theory Y, in the “most agree” column. While the statement is from a different domain, some might argue that essentially collaboration and creating a safe environment requires a person to first build a relationship with others. It appears that managers and instructors regarded building relationships as most important in their work with employees and students.

Statement 12, *communication is important for providing support for people to accomplish their tasks*, had the third highest composite score with 47.34. Statement 12 was from the domain “promoting communication”/Theory Y. The high composite score indicates most participants shared a high value for the need to communicate with employees and students.

Both managers and instructors shared similar negative attitudes about having an authoritarian relationship with employees or students, indicated by statement 25 having the highest negative composite score. Statement 25, *my relationship with individuals centers around my authority to set the work agenda*, from the domain “building relationships”/Theory X, had a composite score of -62.39 showing that the participants generally placed this statement within the “disagree” columns.

The table, Participating Q Sort Results, in Appendix C provides a visual presentation of this data. The table shows the participants' individual Q sort results with a color code of the three most salient statements, 30, 26, and 12, and the three statements with which people most disagreed, 3, 23, and 25. The table in Appendix C visually supports the high composite scores for the first three statements as well as the low-scored, most disagree statements in Table 5.

### **Summary of statistical analysis.**

Q method is a qualitative tool (Brown, 1991), and similar to other qualitative tools, such as content analysis, Q method allows the researcher to look for patterns among participant attitudes. In this study, the Pearson  $r$  computation of the participants' Q sorts indicates significant correlations between each manager and instructor. In addition, a factor analysis of the participants' sort results suggests that the participants classified themselves into a single group in their attitudes about the nature of their work with people. With so few participants in this study, the reader can observe visually what the statistics seem to indicate that, as a group, during the Q sort, the managers and instructors shared a very high value for "building relationships" with employees and students, respectively.

Use of the Q method helped show similarities and patterns between the participants' thinking about how they work with people. Managers and instructors both shared a dislike for using authoritarian techniques with people. The value participants placed on the affective management functions, "promoting communication" and "developing collaborative work environments," might be considered part of "building relationships" with employees and students. The next section will explore the comments

made by participants during the post-sort interviews and focus group and provide additional clarity of the participant attitudes about their role in working with people.

### **Post-sort interviews and focus group.**

The Q sort was one way of checking for the similarity of perspectives between managers and instructors about working with employees and students. This study also used the post-sort interviews and a focus group discussion to triangulate the data while providing the opportunity for the participants to verbalize their ideas and share them with each other.

### **Post-sort interview comments.**

#### ***“Most agree” and “most disagree” statement placement.***

##### *“Most agree” statements.*

After they completed their Q sorts, all participants were given the opportunity to explain why they placed their particular statement in the “most agree” cell. Managers 2, 3, and 4 and instructors 1, 2, and 4 similarly placed statements from the domain, “building relationships”/Theory Y (see Table 4 in Chapter 3 for a list of all domains and corresponding statements), in the “most agree” cell. This section records their comments.

The three managers and Instructor 4 placed statement 30, *Building relationships with people is critical to promoting positive outcomes in individuals*, in the most agree position. Instructor 1 placed statement 26, *Engaging with individuals to form positive, give-and-take relationships is important to helping them do their work effectively*, in the most agree cell. Instructor 2 placed statement 28, *I am concerned with the quality of my relationships with individuals. If the relationship is good, people will perform better*, in the most agree position. Even though these two instructors did not place the same

statement in the “most agree” cell, statements 26 and 28 come from the same domain as statement 30; therefore their comments are appropriate here. The comments of these six individuals show some commonality in their thinking.

Manager 2

I think that knowing what motivates people, knowing the people’s skill set, and maybe most importantly knowing what they have a passion for and like doing, is critical to promoting positive outcomes in those individuals.

Manager 3

I think it’s [building relationships with people] fundamental to getting work done. I don’t think you can be an effective leader as an autocrat and just have to maintain a role without making relationships around it.

Manager 4

It [building relationships with people] is a fairly critical part of getting the work done.

Instructor 1

For me, my sense has been, if I can make a connection with a student that requires me recognizing them, supporting them or whatever; that connection is how much and how fast and how well they’re going to participate in the class.

Instructor 2

So building community is something that’s really important to me in my personal life and so in my professional life, it’s the same way.

Instructor 4

I believe that we do not work in an isolated environment. And we work in interaction with other people. And I feel that people, they need that relationship, and they feel good when there’s a relationship between them and the people they work around.

Manager 1 and Instructor 3 did not show agreement with the six participants with their placement of the “most agree” statements. They also did not show agreement with each other. Therefore, their comments about placing the “most agree” statements are not included here.

*“Most disagree” statements.*

The participants were also given the opportunity to explain why they placed their particular statement in the “most disagree” cell. There were two groups that showed related thinking. The first group, comprised of Manager 3 and Instructor 4, placed the same statement in the most disagree position. The second group included Manager 2, Instructor 1, Instructor 2, and Instructor 3. They showed commonality by placing statements from the same domain, “fostering independence” and Theory X, in the “most disagree” position. Since the participants selected statements from the same domain, their comments are appropriate to list together. This section provides the remarks of the two groups.

Manager 3 and Instructor 4 both “most disagreed” with statement 25, *My relationship with individuals centers around my authority to set the work agenda.*

Manager 3

It’s so much not about my authority. It’s about the willingness to take on that work agenda, and authority has no purchase. It gets you nowhere.

Instructor 4

I just don’t believe that in the long run people work well with me being the authority and to set the work agenda.... I think as an authority figure and telling people what to do, I don’t think in the long run it works.

Manager 2, Instructor 1, and Instructor 2 placed statement 17, *Part of my job is to keep constant pressure on people in order to keep them working hard*, in the “most disagree” cell. Instructor 3 placed statement 13, *Individuals develop primarily because of my pressure on them to perform*, in the “most disagree” cell.

Manager 2

I don’t think that top/down management styles are effective. I’ve seen them be effective in some scenarios, temporarily.... Constant pressure

doesn't allow for creativity. It doesn't allow for mistakes. It doesn't allow for individual interpretations of task.

Instructor 1

I didn't like the words 'constant pressure.' I can be a task master, but you know, pressure would be constant re-urgement....

Instructor 2

What comes to mind is the cracking of a whip. Holding up a chair like you're some kind of lion tamer or Pink Floyd, *The Wall*, and like colonial-inspired, dictatorial people, you know, that still need to bully their way through things.... And so for me this idea of that part of my job is to keep constant pressure on people so that somehow that will keep them working hard, I find that really ridiculous.

Instructor 3

Pressure from another person can motivate through fear, I suppose. However, pressure can also kill motivation. As a student myself, I've had teachers who have pressured me and I have 'performed' for them out of fear.

### **Question 1**

***How do you see your role in helping employees (or students) develop higher level thinking and problem-solving skills?***

After the participants talked about their "most agree" and "most disagree" statements, they answered, "How do you see your role in helping employees (or students) develop higher level thinking and problem-solving skills?" Several ideas appeared in the participants' answers, but two themes had the most resonance among the managers and instructors: (1) appreciating other perspectives and (2) importance of the affective relationship with people. This section presents the two themes and the related comments made by the participants.

*Theme 1: Appreciating other perspectives.*

Of these two themes, the most salient was a concern with employees and students appreciating other perspectives as part of developing higher level thinking and problem-



solving skills. Three managers and three instructors talked about the importance of helping others see another point of view.

Manager 2

Day to day the [my] role is looking at a decision, a project, and saying, “What if we thought about this, this way?”... “Hey, are we really taking in all facets of this?”

Manager 3

There are a few places where, I think, there are blind spots, and so I try to suggest that there are other perspectives that can be used validly to get at some issues.... So we all remind each other that we may be taking some things for granted or making some assumptions that aren’t shared. But that’s why communication is so important. You need to have the trust and the kind of conversational environment where stuff like that can happen.

Manager 4

Because they have skills, you can play off those skills to have them see factors that might bear on a particular situation.

Instructor 1

In order to make a contact, a connection, and then my perspective, to be from an application point of view, to answer the students’ archetypical question, “Why are you doing this math skill?” Or, the question of, “Whether or not I’m going to ever use this stuff?” This is a hard question to answer in math. Then you put that understanding of where math can be used in relation to where the students are coming from, the different places; they will appreciate that connection to their experiences. And for some students, they don’t know where they’re going to end up. So you try to make them have a positive experience and with self-acceptance, look at who they are and their mistakes and that other stuff. Then that becomes an ok territory.

Instructor 2

It’s fairly easy for me to offer the students material that they either have never heard of before or they’ve never seen it in that kind of in-depth analysis. And then to really push students—not agree or disagree with me or buy what I’m selling—but to just kind of allow the material to wash over them and for them to kind of practice deep self-reflection on what they think about this material.

Instructor 4 was also concerned with having students look at problems from another perspective. This participant talked about how students should look at the instructor struggling with a problem and realize that the struggle was beneficial.

Instructor 4

They ultimately see you as an authority figure. And it's really important to students to see that it's [struggling to figure out a problem] ok. "Oh, she does that, too."

*Theme 2: Importance of the affective relationship with people.*

Manager 1, Manager 2, Instructor 1, Instructor 2, Instructor 4 were concerned with the affective nature of building people's skill levels.

Manager 1

I think my role is big in that [developing skills]. And one that I like—giving people confidence.

Manager 2

Day to day the role is looking at a decision, a project, and saying... "Is it good for people?" I think it's super important... that we look for areas where we could develop as a team. [telling the staff] "Wow! Great! I think that's a great idea too."

Instructor 1

I have to have an awareness of what their needs are, of what their learning styles are, and what they need as humans to feel comfortable.

Instructor 2

I give them a personal guarantee that I'm not trying to indoctrinate them, pushing toward values or ways of thinking on them.

Instructor 4

I think I try in my job, first of all, is create that safe environment.

## Question 2

*How do you see your role in helping employees (or students) to become self-actualized?*

The second and final question asked managers and instructors to talk about their attitudes about helping people become self-actualized. “How do you see your role in helping employees (or students) to become self-actualized?” The answers provided by the managers and instructors indicated the value they placed on helping people continue to develop personally. Some participants saw this help as support for the individual through encouragement; others regarded this assistance as a guiding philosophy they use with their employees or students. Two themes appeared from the comments from the managers and instructors: (1) promoting the continued development of people and (2) taking care of the needs of people.

*Theme 1: Promoting the continued development of people.*

Three managers and three instructors thought their role was to encourage people to continue to develop.

Manager 1

If you can keep improving them [employees] to the point where I don’t even have to help them get those kinds of skills, or they’ll just do it on their own. And I don’t... That’s even better. Recognizing the need.

Manager 2

So my role in facilitating... is really staying with people in the developmental stages of wherever it is that they’re developing.

Manager 3

In general, that’s what I want to do as a manager, is to help people progress in their field... I can help people get what they need.

Instructor 1

So there's lots of motivation there. So you want to hear the encouragement... "Come on. Come on. You can do this." But, you want to give up. The last thing you need to hear is, "You can't walk. Don't even try. Oh no, you're wasting your time." This is the point where you, the teacher, have to be initiating that modeling in order for it to become the student's own commitment to the process, "Come on. Come on. I can do this." Meanwhile, throughout this process, remove the student's concern of not being perfect but simply to do this process.

Instructor 3

It is my hope that because she [the student] will have prospered, hopefully, in the safe environment of my classroom, she will be encouraged to continue on her educational quest which, in itself, is bound to help her feel a little more self-actualized.

Instructor 4

I try to [remind] some of them, yesterday, before they come, it has been 30 years before they go to college. And now you make yourself to be here. That kind of self-empowerment. That you made that decision. You could say, 'Yeah, my wife finally talked me into it.' But, you made that decision of coming here. And look where you are now. And look about, think about the possibilities... that it can take you. And so, I guess, maybe the answer to that is, really making sure they know they are responsible for their destiny.

*Theme 2: Taking care of the needs of people.*

Manager 2, Manager 4, Instructor 1, and Instructor 2 talked about taking care of the people in the process of helping them develop.

Manager 2

To guide them along in the positive reinforcement piece, like, "That was really great. I like the way that email went out." And "I appreciate you taking the time to craft a really good message that communicated that to your team."

Manager 4

You address the whole person, not only just their work there. Trying to get accomplished but also what else is going on in their lives and how it influences their own sense of well-being.

Instructor 1

You [the student] want to hear the encouragement... “Come on. Come on. You can do this.” Remove the student’s concern of not being perfect...

Instructor 2

I’m kind in the classroom, and I don’t get kicks from insulting people.... Even when I’m grading papers, I have a tendency to praise you or not write anything. But I don’t slam people on their homework.

### **Summary of the post-sort interview comments.**

Both managers and instructors showed energy while talking about helping people develop skills and become self-actualized and expressed genuine concern for their employees and students. It was apparent that they wanted what was best for the people they worked with. Instructor 2’s comment, however, took it out of the workplace and out of the classroom and seemed to capture the sentiment that appeared through all the post-sort interviews – a genuine concern for who their employees and students were becoming. Instructor 2 stated, “I’m encouraging. Because really at the end of the day, what I want... if I were to have a secret agenda, it’s for having a decent society full of decent, caring people.”

### **Focus group comments.**

In November, 2010, after each participant completed the Q sort, they met for a one-hour focus group discussion. During the discussion, they explored the participants’ results from the Q sort that indicated a general agreement among the participants on the importance of “building relationships,” “promoting communication,” and “developing a collaborative work environment.” The participants also shared how they helped people develop their skills and commented on how they thought the roles of managers and instructors were alike or different.

*Discussion on managers and instructors sharing job characteristics.*

The participants were given the table, Participant Q Sort Results, Appendix C, that showed how, during the Q sort, managers and instructors had similarly placed three statements in the “agree” positions and three other statements in the “disagree” positions. As they studied the data, they seemed to be surprised with the results. While most stated they could see the sort patterns were similar, there was still a general reluctance to identify any shared attitudes between managers and instructors and a concern for any definitional merging of the two roles. It seemed to be disconcerting to the participants, primarily the instructors, that they might share job characteristics. When asked to share their impressions of the participants’ placement of the three top statements from the Q sort, Instructor 1 and Instructor 4 could only say that they saw that all the statement numbers were accounted for in the table. Neither participant commented on any similarities between the managers’ and instructors’ Q sorts.

During the post-sort interview, Instructor 2 articulated a general disbelief about any similarity between managers and instructors commenting that they could not share similar attitudes about working with people because their work was so different. While looking at the Q sort results during the focus group, however, Instructor 2 expressed surprise at the results. “I wouldn’t have thought that we were philosophically aligned like this.”

During the second section of the focus group, the participants were asked to talk about how they helped people develop their skills. As they began to share these techniques, the participants started to notice similarities in their comments. In the middle of this part of the discussion, there appeared to be a shift in the way people thought about

the job functions of managers and instructors. Nonverbal cues began to appear with head nodding and accompanied sounds of assent that indicated agreement in the way the managers and instructors worked with people. At first the participants attributed these similar attitudes with the nature of their work in education.

Manager 1

Manager 2, Manager 3, Manager 4, and I, were also classroom instructors before we became managers. I can see why we probably have a lot of the same values and beliefs. We just do a different sort of job in the whole scheme of things. Maybe that's one of the reasons why we're [managers and instructors] maybe more alike.

Manager 4

Maybe there's something about having survived in academia for a while that kind of breeds us into a culture... We tend to have some values that are along collaborative and communicative way.

Instructor 2

I wonder if different roles we play [in the divisions] there might be more opportunity for people to have this kind of role reversal.

Instructor 3

I would think that there would be more agreement among us, managers and faculty, in an educational setting, because we're all kind of here for similar ideals and beliefs. We really want to help people learn. So, I would think that we start out with similar core beliefs and expectations, hopes, aspirations, etc.

Toward the end of the focus group, the participants had generally changed from their view that the two positions were different and instead began to talk about the blurring of the definitions of manager's and instructor's functions. When asked whether they thought managers acted as instructors and instructors acted as managers, comments from three managers and two instructors indicated a new understanding of the two roles.

Manager 1

I think it is all about relationships, and that's kind of a cliché. But the teachers have them and the managers have them. I think good teachers are

good listeners and have close relationships with their students. Managers are good listeners and have close relationships.

Manager 4 also agreed with the group.

Manager 4

I see them [managers and instructors] as very similar. Having done both. In both roles you're keeping lots of things going at once. You can't teach and not keep track of what you're doing in the class and what works and what doesn't. You can't administer and do that either. So they're pretty similar. They're pretty similar skills sets.

Instructor 1

I find that I'm doing a lot of personal coaching as a teacher which is a sign of a great manager. Of course, I can do that as a tutor.

This comment by Instructor 1 was significant, because a tutor works one-on-one with students to help them learn a concept or skill, while instructors are usually in the position of working with more than 20 students in a class and having at least four classes each term.

Instructor 2 noticed that managers in education spent time mentoring new faculty.

This instructor noted that this relationship was similar to that of the instructor and the student.

Instructor 3 mentioned that good managers were facilitators and helped people get what they needed to do the work. This statement came after providing an example of how this participant facilitated students' learning using a format in which students and instructor worked together to come up with a solution to a problem. In addition, Instructor 3 related that a good manager led by modeling behavior, which was another technique that this participant used with students.



During the first part of the focus group, only Manager 3 and Instructor 4 continued to disagree with the idea that the roles of managers and instructors were interchangeable. Manager 3 did think that instructors were managers.

Manager 3

I definitely think teachers are managers. Your syllabus is a management tool. You have to manage the classroom environment and make it a place conducive for learning. So I think classroom management skills are a huge part of teaching.

But, Manager 3 did not believe the reverse was true.

Manager 3

If I say managers are teachers. Then who do you teach? And if you say that you teach the people that work in your division. You teach teachers? I don't think so.

Instructor 4

"I actually see them [managers and instructors] inherently different... Let me give you an example. If the workers of the manager don't do well, or they don't blossom, the organization collapses. I think in a classroom, although I like to help my students grow, if students don't do well, they suffer. And you, as a teacher, really doesn't affect you too much. You'd like it to affect you, in terms of how to help them better, but they are the ones with the failing grade.

Manager 3 and Instructor 4 thought there was little crossover between the roles of manager and instructor. Interestingly, Instructor 4, had the highest correlation scores with managers: Manager 1, .78; Manager 2, .63; Manager 3, .86; Manager 4, .74. The highest correlation score between any of the participants was .86 between Manager 3 and Instructor 4. The score indicated that Manager 3 and Instructor 4 had a similar pattern of statement placement in the Q sort. The reader should note that a correlation score of 1.00 would indicate that two participants placed all the statements in the same columns. While the result of the Q sort indicated that these two individuals shared similar attitudes about working with people, the way they personally defined the roles of manager and

instructor conflicted with these attitudes. The participants could not see similarities between the roles except for the opinion of Manager 3 that instructors were managers.

Instructor 2, while open about the idea of sharing characteristics with managers, still had difficulty with the concept of crossing the two roles. Instructor 2 reflected on his view of roles from a personal perspective:

In the community, youth are youth, those of us in the middle are in the middle, and elders are elders. And everyone has roles to play, and everyone is equal within our community, but everyone is also separate. And there's completely separate expectations of behavior and protocol for everybody.

***Group consensus on the roles of managers and instructors.***

As the focus group was nearing the end, Manager 2 seemed to speak for the group with a comment that seemed to cause a group “ah-ha” and positive, verbal responses from the participants.

Manager 2

I think humans have to teach, and I think humans have to manage. I think when we look at this, taking it out of academia. Do we have to reflect with people? Do we have to use humor with people? Do we have to identify what's good? Do we have to support other ideas? When we're not managers. When we're not faculty members. But we're just a community member.

At this point, Manager 3, who earlier could not agree that managers and instructors shared similar roles, stated, “I think Manager 2 transformed the conversation when [Manager 2] took it out of roles.”

With nearly the final statement of the discussion, Manager 1 articulated the significant difference experienced by instructors and managers in their work with people. “Managers have people around for a while, so you do have the opportunity to build a relationship and know their strengths better.”

Instructor 1 provided a reflection that was later included in the transcript review for the focus group:

Thinking back, and from my perspective, there seems to be an obvious overlap with managers and instructors in the skill set of one-on-one interactions and small group dynamics. Previous, I spoke of this as a ‘Global perspective’ that instructors and manager held in common: I’m not sure about this being a ‘global’ thing. For what I am certain: it is these people skills within the aforementioned skill set that are so difficult to learn if they are found lacking in both managers and instructors. These come into play with extreme importance during boundary issues. Does the instructor/manager lower the boundary to provide access in a real genuine meaning to foster/command mutual respect to have access to the myriad of communication levels? And at the same time, be able to establish the boundary to maintain the professional integrity of equanimity, balanced with compassion, to encourage independent thinking and decision making by the recipient. If this skill set is intact, then we have to examine the manager/instructor’s ability of execution, success rate, response to feedback, etc.

### **Summary of the focus group comments.**

The managers and instructors discussed their opinions about the similarities of the Q sort results. There was initial hesitation to acknowledge that the participants shared attitudes about their work with people. By the end of the focus group, the participants recognized that they used many of the same strategies and had some of the same concerns in their work with employees and students.

### **Participant comments on affective management functions of span of control.**

The following section will explore the participants’ attitudes about the five affective management functions of span of control used to develop the Q sample statements for the Q sort: (a) building relationships, (b) promoting communication, (c) developing a collaborative work environment, (d) fostering independence, and (e) providing motivation. As articulated in Chapter 2, these five functions are found

throughout span of control literature. Examining the participant comments related to these functions offers additional insight into the perceptions of managers and instructors about their roles in working with employees and students. In addition, this particular focus on the affective management functions provides a lens for comparing the attitudes of instructors and managers as related to working with a small number of people within the average span of control of 1:10. Do instructors and managers share the same ideas about the five span of control affective management functions?

The reader may find some redundancy here as some of the comments were already reported in the earlier sections, but a specific focus on each of the five functions will help identify any similarity in managers' and instructors' attitudes. This consolidation is useful, because while some managers and instructors made comments about a function during the post-sort interviews, different managers and instructors offered their opinions about the same function during the focus group. Organizing the comments from the post-sort interviews and focus group together allows for an easier comparison of the participants' attitudes.

To identify which of the functions were most salient to the participants, I computed an average composite score for each function. See Appendices D and E for the average score of each function with Theory Y and with Theory X. Table 7 shows the averages of the functions in relation to Theory Y which the participants valued more highly than Theory X.

Table 7

*Average Composite Scores for all Span of Control Factors with Theory Y*

| Affective Management Functions of Span of Control | Average Score |
|---|---------------|
| a) Building relationships                         | 52.86         |
| b) Promoting communication                        | 30.91         |
| c) Developing a collaborative work environment    | 28.51         |
| d) Fostering independence                         | 18.15         |
| e) Providing motivation                           | 3.17          |

The participants specifically touched upon three of the five span of control functions during the post-sort interviews and focus group discussion, “building relationships,” “developing a collaborative work environment,” and “fostering independence.” The reader will notice there are few comments focusing on “promoting communication” and “providing motivation.” While the managers and instructors did not explicitly mention “promoting communication” or “providing motivation” during the post-sort interviews or the focus group, characteristics of each could be implied in many of the comments made by the managers and instructors. The following sections present the affective functions of span of control in order of salience by the participants as indicated by their Q sort results and reported in Table 7.

**Affective management function of span of control: a) building relationships.**

***Q sort results.***

The composite scores for the Q sort suggest that the participants thought “building relationships” from the Theory Y perspective was most important in their work with

people. This domain had the highest composite score average of 52.86. Furthermore, the statements with the two highest composite scores, statements 30 and 26, were both from this domain.

Table 8

*Composite Scores for Building Relationships and Theory Y Domain*

| Statements  | Composite scores |
|---|------------------|
| 30. Building relationships with people is critical to promoting positive outcomes in individuals.                                   | 71.70            |
| 26. Engaging with individuals to form positive, give-and-take relationships is important to helping them do their work effectively. | 47.45            |
| 28. I am concerned with the quality of my relationships with individuals. If the relationship is good, people will perform better.  | 39.43            |
| average   | 52.86            |

***Post-sort interview comments on building relationships.***

The post-sort interviews after each participant's Q sort provided further elaboration on the participants' attitudes about the importance of building relationships. Not all the participants specifically used the words "building relationships," but the idea can be implied within their comments.

**Manager 2**

The important part of developing relationships with people.... We look for areas where we could develop as a team.... Staying with people in the developmental stages of wherever it is that they're developing...

Manager 3

[addressing the position of the “most agree” statement] Building relationships with people, because I think it’s fundamental to getting work done. I don’t think you can be an effective leader as an autocrat. And just have to maintain a role without making relationships around it. To me, that’s fundamental. I don’t think you can do anything without positive relationships. You can’t get any work done.

Manager 4

[Building relationships] is a fairly critical part of getting the work done.

Instructor 1

My sense has been, if I can make a connection with a student in that it requires me recognizing them, supporting them or whatever. That connection is how much and how fast and how well they’re going to participate in the class.

Instructor 2

So building community is something that’s really important to me in my personal life and so in my professional life, it’s the same way.

Instructor 4

I believe that we do not work in an isolated environment, and we work in interaction with other people. I feel that people need that relationship, and they feel good when there’s a relationship between them and the people they work around. I think it’s really important to have that... I build relationships with them [the students]. I just think that building that relationship is so important for me.

Instructor 3 did not specifically talk about building relationships during the post-sort interview, but did state that it was important that students felt safe in the classroom.

“For a student to feel safe in a classroom... she believes that the instructor truly cares that she succeeds, and that she is not just another student on the list.” Concerning this comment, it could be argued that without an instructor developing a relationship with the student, it would be difficult to show that she cared about that student. So, while Instructor 3 did not call out the importance of building relationships, per se, one could identify its implication in the comment.

***Focus group comments on building relationships.***

During the focus group, the importance of building relationships came up again.

Manager 1 and Manager 4 made direct statements about the importance of building relationships.

Manager 1

I think it's all about relationships. Teachers have them, the managers have them. I think good teachers are good listeners and have close relationships with their students. Managers are good listeners and have close relationships.

Manager 4

I think that one of the things that teachers do and one of the reasons that teachers are effective is that they build relationships with their students. The same thing is true in working with colleagues of your department. A lot depends upon it.

During the focus group, Instructor 1 did not specifically talk about this function, "building relationships," but did refer to the function with the comment, "I like to get in kind of where their head's at." Building a relationship could be suggested as a prerequisite to understanding how someone is thinking.

**Affective management function of span of control: b) promoting communication.**

***Q sort results.***

From the Q sort results, it appeared that the participants highly valued "promoting communication" from a Theory Y perspective. It had the second highest ranking with the average composite score of 30.91.



Table 9

*Composite Scores for Promoting Communication and Theory Y Domain*

| Statements   | Composite scores |
|--|------------------|
| 12. Communication is important for providing support for people to accomplish their tasks.       | 47.34            |
| 8. I need to provide coaching and feedback to people, so they can complete a task appropriately. | 25.78            |
| 10. Individuals need to be recognized for jobs well done.  | 19.62            |
|  | average 30.91    |

***Post-sort interviews and focus group comments on promoting communication.***

While promoting communication had such a high score, for example, statement 12 was the third most valued of all the statements in the Q sample, there was little specific mention about communication during the post-sort interviews or the focus group. However, one could see implications of the importance of communication embedded within the managers' and instructors' comments. For example, throughout the post-sort interviews and focus group discussion, managers and instructors mentioned that they asked employees or students questions and engaged them in discussions.

Manager 1 used discussions and asked questions as a way to generate ideas they could explore together. "With my folks *I like to ask*, when they come to me and ask for a decision about something, I like to ask them, 'Well, what would you do?'"

Manager 2 stated, "I can *ask the staff* a lot of questions."

Manager 3 observed, “*Communication* is so important.”

Manager 4 noted, “You do a lot of *talking*.”

Instructor 1 commented, “I usually pose a more difficult problem to the students.... Then I *start asking* questions...”

Instructor 2, Instructor 3, and Instructor 4 talked about engaging students in group discussions as a way for individuals to think about a problem or learn about other perspectives.

**Affective management function of span of control: c) developing a collaborative work environment.**

***Q sort results.***

Developing a collaborative work environment from the Theory Y perspective had the third highest average composite Q sort score with 28.51.

Table 10

*Composite Scores for Developing a Collaborative Work Environment/Theory Y Domain*

| Statements  | Composite scores |
|---|------------------|
| 20. My role is to establish an environment where people feel safe enough to take the risks necessary to improve their skills. | 34.08            |
| 24. People work best when there are shared goals that they helped establish.  | 28.22            |
| 22. Individuals need to feel part of a cohesive group in order to do their jobs well.   | 23.24            |
| average   | 28.51            |

While the function “developing a collaborative work environment” and Theory Y ranked only third by way of the statement placement in the Q sort, the participants’ value for having a collaborative work relationship with others was indicated by their overwhelming placement of Theory Y statements on the “agree” side of the triangular grid. See Table 6. Yet, despite this level of importance as a belief structure, during the post-sort interviews and focus group, no participants specifically mentioned collaboration. At the same time, their word choices, such as “guiding,” “empowering,” and “encouraging,” did indicate collaborative attitudes; no one talked about pushing individuals to do something.

All the participants provided examples or comments indicating that they practiced collaborative techniques with their employees or students.

***Post-sort interview comments on developing a collaborative work environment.***

Manager 2 and Instructor 2 placed a high value on building a team or community. While neither talked about collaborations, one may find it difficult to achieve this level of human interaction without developing a collaborative environment.

Manager 2 stated, “We look for areas where we could develop as a team...”

Instructor 2 commented, “Building community is something that’s really important to me... in my professional life.”

***Focus group comments on developing a collaborative work environment.***

During the focus group, two managers and three instructors mentioned collaborative techniques they used to improve employee and student outcomes.

Manager 1

When they [employees] come to me and ask for a decision about something, I like to ask them, ‘What would you do?’ or ‘How do you

think this situation should be handled?’ And sort of give them the opportunity to think it through with me. And then I can throw out some ideas and have them throw out some ideas, so when the actual decision gets made, it’s more that *we kind of made it together*, versus just a simple answer of a “No, I don’t want you to do that.” Or “Yes, I think you ought to do that.”

Manager 2 noted the importance of everyone contributing their unique talents as an important factor of a successful workgroup. While not using the word “collaborative,” this is an important characteristic for collaboration.

Manager 2

I want to have people working with me that have different skill sets than I do. Hopefully they’re better at things than I am, because then we have a greater expanse of expertise.

Manager 4

I encourage people to stretch so that their skills improve.... I tend to support ideas that are pretty far out of the box.

Instructor 3 talked about using instructional techniques where the entire class focused on a writing assignment in order to improve it. “*Involve them* in identifying the success and also the areas that need strength.”

Instructor 1, Instructor 2, and Instructor 4 mentioned asking questions and using discussions with students to get them to think and stretch but did not mention coming up with a solution together.

**Affective management function of span of control: d) fostering independence.**

***Q sort results.***

During the Q sort, “fostering independence” from the Theory Y perspective had a low value for both managers and instructors with an average score of 18.15 from the Q sort.

Table 11

*Composite Scores for Fostering Independence and Theory Y Domain*

| Statements   | Composite scores |
|--|------------------|
| 16. An objective of my job is to help individuals develop their unique capacities                                    | 27.64            |
| 14. I encourage individuals to take the initiative with their tasks.   | 17.75            |
| 18. In general, people are quite capable, and I only have to help them see their capacities for them to do the work. | 9.06             |
| average  | 18.15            |

Although, the Q sort did not indicate that the participants held a high value for “fostering independence,” the managers and instructors were vocal about this affective function during the post-sort interviews and focus group. Both managers and instructors were interested in helping people become independent workers and thinkers and saw themselves as “facilitators” in this process. During the focus group, Manager 2 stated, “I’ve heard “facilitation” a bunch of times.” The transcripts, however, did not bear this observation out. Only Instructor 3 used the word “facilitate” to describe the work of a *manager*. Rather it was the participants’ general comments and attitudes that provided such a strong impression of the importance of facilitation as a way to help people develop.

All participants mentioned in some form or another, the need to “connect” people to resources or learning opportunities, “point them in a direction” to develop a skill, or

“encourage” them to take on responsibilities. In addition, fostering independence requires people to develop confidence in their capacities. Most participants talked about working with people’s strengths as the basis for helping them develop skills.

***Post-sort interview comments on fostering independence.***

**Manager 1**

I think that generally people are capable.... If I can keep helping them improve to the point where I don’t even have to keep encouraging them get those kinds of skills, or they’ll just do it on their own.

**Manager 2**

It’s super important that we encourage professional development. Guide people to that [professional development opportunities]. To identify those things [skills employees need to improve]. My role in facilitating [self-actualization] is staying with people in the developmental stages of wherever it is that they’re developing. So, if they’re trying to become a better communicator, if they’re looking at trying to be a better prioritizer, to guide them along in the positive reinforcement piece.

**Manager 4**

This is an environment where you start off well equipped to do that [critical thinking and problem-solving] and usually because they have some skills, you can play off those skills...

**Instructor 2**

My role is to open up the door, and then they have to decide whether to walk through the door or not. It’s a kind of indirect way of getting them to try to push themselves in those ways. But it has to be their decision.

**Instructor 4**

I believe successful students need to feel empowered but also take responsibilities... I think my role is to provide them with opportunities that they have to think for themselves... Just let them know that they can come for help. And really make sure people know that when they ask questions or when they make a mistake... to say, “That’s great!”

***Focus group comments on fostering independence.***

**Manager 2**

I like to have folks play to their strengths. I like them to solve problems within the strengths that they exhibit.

Manager 3

I wholeheartedly support professional development and lifelong learning in your role or your position, for colleagues. I try to keep people connected to their professional organizations for conference attendance and papers, if they're interested. I put relevant articles on boards, and I say, "Interesting because..." I put them in touch with resources that are related to what we're talking about.

Manager 4

Whenever possible to treat an unanticipated outcome not as a failure but as an opportunity for further inquiry.

Instructor 1

[Talking to a student] "Gosh you seem to be very visual here. Have you tried playing around with this in an auditory way? To be successful, this is where you want to point yourself."

Instructor 3

I really agree with the statement about teaching to strengths.... I like to do two kinds of workshops. One is *Keep Doing This*. I pull out the best of the best [student papers]... [talking to the students] "Ok. This is good. Keep doing this. And this is why this is good. You tell us why this is good." Involve them in identifying the success and also the areas that need strength.

**Affective management function of span of control: e) providing motivation.**

***Q sort results.***

Within the Theory Y domain, providing motivation had the lowest value among the participants with a 3.17 average composite score.

Table 12

*Composite Scores for Providing Motivation and Theory Y Domain*

| Statements  | Composite scores |
|---|------------------|
| 6. People learn to exercise self-direction under appropriate conditions.  | 5.94             |
| 2. People are basically self-motivating, My role is to remove barriers and provide support, so they can perform their tasks well. | 3.78             |
| 4. People enjoy taking on responsibility. My role is to help them do this.  | -0.21            |
| average   | 3.17             |

While during the Q sort, the participants showed less salience for “providing motivation” than the other functions, during the post-sort interviews and focus group, both managers and instructors offered comments about the importance of this characteristic when working with employees or students. Besides their inclination to help people work from their strengths, which Herzberg (2003) would consider a way to improve motivation, both managers and instructors made statements that suggested that they thought helping people’s motivation was important.

***Post-sort interview comments on providing motivation.*****Manager 1**

I think my role is big in that, and one that I like, giving people confidence.

**Manager 2**

I think knowing what motivates people, knowing the people’s skill set, and maybe most importantly knowing what they have a passion for and like doing, is critical to promoting positive outcomes in those individuals. That’s the important part of developing relationships with people and what makes them tick.... [I provide] a lot of positive reinforcement... “That was really great. I like the way that email went out.”



Manager 4

You address the whole person. Not only just their work there and what they're trying to get accomplished, but also what else is going on their lives and how it influences their own sense of well-being... Try to support them in all the parts of their lives.

Instructor 1

So there's lots of motivation there. So you want to hear the encouragement... "Come on. Come on. You can do this." But, you want to give up. The last thing you need to hear is, "You can't walk. Don't even try. Oh no, you're wasting your time." This is the point where you, the teacher, have to be initiating that modeling in order for it to become the student's own commitment to the process, "Come on. Come on. I can do this." Meanwhile, throughout this process, remove the student's concern of not being perfect but simply to do this process.

Instructor 2

I'm encouraging.

Instructor 4

I try to remind my students... where they are now, where they were before today... How you made yourself be here. That kind of self-empowerment. Think about the possibilities.

***Focus group comments on providing motivation.***

Instructor 3

I like to help them see how these non-credit classes are connected to the credit classes to achieving a one-year certificate, two-year degree, four-year degree. I reference... "Ok. You're going to run into this in your credit classes, your upper level credit classes, your master's programs." For the purpose of providing hope and perspective first of all. Secondly I like to acknowledge as much as I can each increment of how close they're getting to the deeper level.

**Chapter summary**

The results of the Q sort, post-sort interviews, and focus group suggested that managers and instructors shared similar attitudes about their work with employees and students. Both groups realized the need for the five affective management functions of span of control: (a) building relationships, (b) promoting communication, (c) developing

a collaborative work environment, (d) fostering independence, and (e) providing motivation.

During the Q sort, the managers and instructors showed agreement in their placement of the Theory Y, collaborative, statements on the left (agree) side of the triangular grid and the Theory X, authoritarian, statements on the right (disagree) side. The Q sort results indicated statistically and visually that both managers and instructors thought “building relationships,” “promoting communication,” and “developing a collaborative work environment” were the most important characteristics in their work with people.

The comments made by the participants during the post-sort interviews and focus group supported the Q sort results. From their comments, it seemed that the participants had a greater penchant to work collaboratively with people rather than tell them what to do. Managers and instructors regarded “building relationships” as central to their work with employees and students. One may argue that “promoting communication” and “developing a collaborative work environment” are components of building relationships with people.

In the Q sort, the participants indicated the least value for the affective management functions of span of control “fostering independence” and “providing motivation.” During the post-sort interviews and focus group, however, both managers and instructors provided comments that suggested both groups believed in the importance of using these two functions in their work with people. From the comments made during the post-sort interviews and, in particular, the focus group, there appeared to be crossover

between the roles of managers and instructors in their work with employees and students.

During the focus group discussion, the managers and instructors were initially hesitant to see any similarities in the way they worked with people. By the end of the focus group, however, there was general consensus that managers and instructors shared very similar roles and attitudes about their work with others.

Chapter 5 explores the definition of a manager and an instructor. The chapter also provides an analysis of the Q sort results and comments made by the participants about their perceptions of working with people.

## Chapter 5

People have a tendency to define themselves by their work. “I am a...” They use their job titles as self-identifiers and not just as a definition of their daily tasks. The identity statement “I am a...” comes with a worldview that defines how people fit within their work-world and circumscribes their interactions within the workplace. This stasis of role definitions was apparent during the early part of the focus group discussion for this study. Instructor 2 said it clearly, “Everyone has a role to play.... For me, it’s fine that managers are managers and faculty are faculty.” Manager 3 concurred, “If I say ‘managers are teachers,’ then who do you teach?” Instructor 4 saw the roles of managers and instructors as “inherently different.” Are these statements true indicators that managers and instructors do not share the same job functions, or do these sentiments offer a clue for one reason why there is such a radically different organizational structure for the two roles? A manager may only supervise 10 people when they are performing complex jobs; instructors routinely work with over twice as many students in each class while needing to provide complex learning activities.

This chapter will discuss the implications of the appearance of similarities between the participant perspectives of working with people as shown in the results of their Q sort and their comments during the post-sort interviews and focus group. The chapter will also provide a comparison of the opinions of the participants with span of control literature. The chapter will offer how the commonalities of the participant attitudes of working with people serve as a justification for reevaluating class size and rethinking educational structures. Finally the chapter will present suggestions for future study on class size and student learning.

### **Who are instructors and managers?**

Culture shapes our view of reality. Gramsci (1971) articulated the strong control culture has over the behaviors and attitudes of members of society. “We are all conformists of some conformism or other, always man in the mass or collective man” (p. 324). Our cultural views, therefore, will strongly influence how we see manager and instructor job functions and impact what we expect out of individuals performing these jobs and how we judge their effectiveness. One might ask then, how does society view instructors and managers?

The stereotypes portrayed in the media can be a way to examine the cultural views of society and provide understanding for social phenomena (Leistyna & Alper, 2008). Gerbner, Gross, Morgan, Signorielli, and Shanahan (2002), leading experts on television and culture posited, “Transcending historic barriers of literacy and mobility, television has become the primary common source of socialization and everyday information (usually cloaked in the form of entertainment) of otherwise heterogeneous populations” (p. 44). Thus an exploration of media images of managers and instructors may provide insight into society’s expectations of managers and instructors and one reason why the two roles are perceived as radically different. Over the years popular media have portrayed many different managers and instructors but not often in the same light.

### **Managers as authoritarians.**

When thinking about managers in general, it is not uncommon to recall images of the authoritarian manager who holds power over others and dictates every move of the employee. Images of a “Citizen Kane” type of boss are rife in the media. Movies,

television, and even comic strips provide plenty of examples. Most people can recall the hard-driving, screaming, fear-mongering Mr. Dithers of the Dagwood comic strip, and, more recently, the comic strip *Dilbert* depicts managers aligned with McGregor's (1960) Theory X.

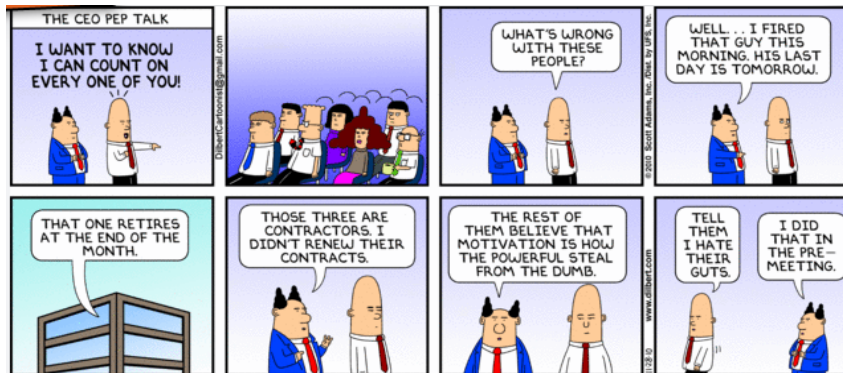


Figure 5. *Dilbert*: © Scott Adams/Dist. by United Feature Syndicate, Inc. Reprinted with permission.

Movie images provide plenty of examples of tyrannical bosses. Meryl Streep played Amanda Priestly, in *The Devil Wears Pravda*, a hard-driving, emotionally-distant woman who belittled her employees and wore them out faster than a pair of her many new shoes. But maybe the most quintessential of all bad bosses was Alec Baldwin playing Blake and Kevin Spacey playing John Williamson in *Glengarry Glen Ross*. There are so few media examples of a good boss, one must go into the genre of war movies or police television shows to find portrayals of leaders who people willingly follow into “hell.”

With this cultural view of managers, it is little wonder that instructors in the study had trouble seeing any crossover of their teaching roles with that of managers. Instructor 1 and Instructor 4 were initially unwilling to note any similarities they saw between the

Q sort results of the instructors and managers. The impression of Instructor 2 regarding the relationship between managers and instructors was negative:

In my doctoral program, I heard a lot of comments from people that were already in manager/administrative positions. And evenings with lots of wine, you'd start hearing some pretty negative comments, their impressions of faculty.

A possible explanation for the instructors' unwillingness to see any crossover with managers might be the cultural image of the "Boss." Instructors do not want to see themselves as authority figures in the classroom, even if they do exercise power over students. To be satisfied and successful at one's work requires an integration of worldviews with the job function. Instructors want to see themselves as positive influences with students and often use words such as "empowering" (Instructor 4), "safe environment" (Instructor 3), and "connection" (Instructor 1). Cultural images of managers may be incongruous with the personal belief structures of instructors.

Yet there are cultural images of educators with the same authoritarian attitudes portrayed by managers in the media. There are instructors who are pompous, aggrandizing individuals demonstrated by Professor Gerald Lambeau, played by Sean Mcguire, in *Goodwill Hunting*. There are also instructors who are distant and formidable, such as the portrayal by John Houseman of the demanding and unapproachable Mr. Kingsfield and his fear-provoking use of the "Socratic Method" in the *Paper Chase*. Everyone remembers having one of these instructors. Instructor 3 recalled, "As a student myself, I've had teachers who have pressured me, and I have 'performed' for them out of fear." While there are examples of difficult teachers in movies and television, it is far easier to find portrayals of motivating teachers than that of managers.

### **Teachers as super-personalities.**

A popular theme in the media is the super-teacher. It is easy to recall a movie or television program portraying the teacher, who, through talent and often sheer energy connects with a group of students, sometimes difficult ones, and leads, cajoles, and convinces them to learn and develop. The stories of these women and men provide insight into what society would like from its educators—teachers who transform their students by helping them see their true selves and the capacities they possess.

Fictional teachers in movies and television demonstrate that teaching and learning is dynamic, and that teaching can produce amazing outcomes in students while having just plain fun in the process. In 1962, the marvel of teaching was shown in the *Music Man*, during which the conman, Harold Hill, played by Robert Preston, was able to teach a group of children to play music using only their imaginations. After only a few sessions of his band classes, sans instruments, the students arrived at a public hearing to save Hill's reputation by miraculously playing musical instruments. Other fictional teachers include fun-loving practitioners of alternative teaching methods such as Mr. D., played by Ryan Reynolds in *School of Life* and John Keating, played by Robin Williams in *Dead Poets' Society*.

Movies also provide examples of real-life people who have had remarkable teaching success. In *Dangerous Minds*, Michelle Pfeifer played Louanne Johnson, an ex-Marine trying to find herself, and in the process helped a class of “loser” young adults become successful students. Meryl Streep played Roberta Guaspari, *Music of the Heart*, a single mother and violinist who was talked into taking a teaching job in order to make a living and wound up transforming her students as she saved the district's music program.



This inspirational film, directed by Wes Craven, director of *A Nightmare on Elm Street* and *Scream*, received an Academy Award nomination. In another award-winning film, Matthew Perry played Ron Clark in *The Ron Clark Story*—a small-town teacher who moved to New York City and through his own force of will, energy, and innovation was able to make a difference in the lives of his students.

These inspiring portrayals are important to society in that they show the positive outcomes possible through creative teaching. Bulion (2009) from Education World quoted Phillip Bigler, 1998 Teacher of the Year, "True 'teacher movies' show the nobility of the teaching profession and honor educators. They show how important teachers really are to society" (as cited in Bulion, para. 2). Bulion added:

Good 'teacher movies' draw future teachers into the profession and reinvigorate seasoned veterans. Often based on real-life events, the films show teachers reaching deep inside themselves in order to touch the lives and hearts of their students. (para. 1)

While these feel-good stories inspire and motivate, they also create a false reality of teaching. The stories of these charismatic teachers, capable of amazing results, plant the seed in the public mind that student transformation in large classes is possible. With the simplicity of storytelling, romanticized portrayals of these teachers make it look like anyone with the will to touch the lives of students can do the job effectively.

This portrayal of talented teachers provides the impression that education problems can be solved if only there were enough quality teachers as suggested by Rod Paige, Secretary of Education from 2001-2005. The U. S. Department of Education's 2003 report *Meeting the High Qualified Teacher Challenge* conveyed, "There is a wide consensus among researchers and policy makers that teacher quality is a key component

of school quality—perhaps *the* key component” [emphasis added] and that the cognitive abilities of teachers are “most strongly correlated with effectiveness” (p. 2). This message has been picked up by others.

Steve Halverson, CEO of a Florida architect firm and chairman of the Council of Education Constitution Amendments Task Force, wrote a position paper for the Florida Council of 100, a think-tank for the governor comprised of business leaders. In his report, Halverson (2002) reported that teacher quality and not class size was a factor in teaching and learning and dismissed class size as a factor in education effectiveness. Halverson provided a quote by former Secretary of Education Rod Paige, “I’d rather have my child in a room of 40 students with a quality teacher, than in a room of 20 students with a mediocre teacher” (as cited in Halverson, p. 2).

A study on class size by Buckingham—published in *Educational Research for Policy and Practice* in 2003—indicated that teacher quality was more important than class size. In her report, Buckingham proposed:

Class size has less effect when teachers are competent; and the single most important influence on student achievement is teacher quality. Research shows unequivocally that it is far more valuable, both in educational and fiscal terms, to have good teachers than lots of teachers. (p. 71)

Her report cites California’s fiasco of using uncertified and unqualified teachers in order to decrease class size in grades K-3 from 30 to 20 students as a justification for quality teachers versus smaller classes.

The argument of quality teachers is compelling. Who would not want to make a difference in the lives students like the teachers portrayed in popular media? But, Fullan (2001) provided a caution about charismatic leaders. “Superhuman leaders also do us

another disservice: they are role models who can never be emulated by large numbers” (p. 1). The expectation by society to have properly trained and credentialed teachers is reasonable, but the argument that the significant issue is teacher quality and not class size, diminishes the complexities of the human relationships involved in teaching human beings and creates a dilemma.

The desire to meaningfully touch the lives of students is juxtaposed within a system designed to work as a banking system (Freire, 2000). The difficulties endemic with this organizational structure impact the instructors’ sense of success and the quality of the student outcomes. During the focus group, Instructor 4 stated, “I wonder if there is a discrepancy between what we believe, and what we hope to achieve, and what we actually do.” Instructor 3 added:

I’m wondering the real-life relationship between our beliefs and ideals and goals and actually what happens in the classroom... Sometimes reality might hit us up the side of the head, and we go, “Oh, you know. This is too hard.”

The ability of a few talented people to accomplish great results against overwhelming odds should not influence how the profession is structured. Just like few doctors can perform at the standard set by the television physician Dr. Marcus Welby, few teachers can equal television’s Mr. Kotter from *Welcome Back Kotter*. And one should remember that Mr. Kotter only had seven students in his class.

### **Shifting roles.**

While the media portrays managers, and some instructors, as authoritarian, the reality the job of managers and instructors is about forming relationships and touching human lives. Research by McGregor (1960) on management styles and studies

conducted by Chickering (1969) on college student development demonstrate the shift that has occurred since the early 1900s from an authoritarian perspective. As the world takes on the postmodern, poststructuralist perspective, managers can no longer be Blake in *Glengarry Glen Ross*, and instructors cannot be Mr. Kingsfield in *The Paper Chase*. It is no longer effective to have authoritarian bosses who believe that “most people must be coerced, controlled, directed, threatened with punishment to get them to put forth adequate effort toward the achievement of organizational objectives” (McGregor, 1960, p. 10). Education does not work effectively with “banker” educators who merely pass content onto those lacking in knowledge (Freire, 2000). Instead, managers and instructors need to assist their employees and students to develop complex skills and to engage meaningfully in their work (Kuh et al., 2005; Shell, 2003).

With the idea that the dialectic can be understood as a way to look for truth in the other (Glaser & Glaser, 2010), management and education roles are becoming functions within the human experience within which people help each other move through Maslow’s (1970) hierarchy of needs in order to reach self-fulfillment. The relationships that managers and instructors have with employees and students have shifted from that of authoritarian, unidirectional activities to collaborative, interactive associations that facilitate human development (Hunter et al., 2007; McGregor, 1960).

The following two sub-sections explore the roles of managers and instructors as facilitators and include comments to that effect made by the study participants.

***Managers as learning facilitators who promote employee development.***

While it is obvious how instructors are involved with learning, it may not be so obvious that managers also act as instructors. This impression was articulated by

Manager 3 in the study. “If I say ‘managers are teachers,’ then who do you teach?” If teaching is viewed as supplying content for the “novice,” then it is inappropriate to think of a manager as an instructor. After all, employees are usually competent, trained adults as articulated by all the managers in the study. But if one approaches teaching from a Freirean perspective, teaching and learning are shared activities between capable human beings, so that managers may be viewed as teachers or facilitators of learning and growth in others. Fulfilling this role can be a critical managerial function.

This view of the manager as learning facilitator has become a corporate philosophy at Caterpillar, Inc. According to Jim Owens, chairman and CEO of Caterpillar, Inc., his company was faced “with the challenge of ensuring that our people... have the resources they need to learn and grow” (as cited in Glynn, 2008, p. 38). To address this training and learning challenge, Caterpillar set up the Engagement and Learning Council and hired lead learning managers in each division. Even the Board of Governors is involved with learning as it provides “direction and policies for the corporate learning function” (Glynn, p. 38). According to Caterpillar policies, managers are involved in the learning processes of employees.

The concern for learning and continued growth was expressed by the managers in the study. They talked of facilitating “growth,” “life-long learning,” and “professional development.” While Manager 3 stated disbelief that managers were instructors, this participant did show a strong concern for the continued growth of employees and identified the role of managers in facilitating the on-going learning of employees.

Manager 3

I wholeheartedly support professional development and lifelong learning in your role or your position, for myself and colleagues, actually

colleagues. I try to keep people connected to their professional organizations for conference attendance and papers if they're interested. I send website url links to people, and I pretty much know where people are coming from in terms of their professional lives. So I can get in there with them. And I put relevant articles on boards, and I say "Interesting because..."

Manager 1 and Manager 2 also saw the importance of professional development for employee growth leading to the overall efficiency of their departments. The managers recognized that employees needed encouragement to continue to develop personally and professionally.

Manager 1

If you can keep improving them to the point where I don't even have to help them get those kinds of skills, or they'll just do it on their own.

Manager 2

I think it's super important, that we encourage professional development; that we look for areas where we could develop as a team; that we work with institutional resources.

***Instructors as learning facilitators who promote student development.***

Teaching, as a profession, is several hundred years old with the first normal school appearing in Europe in the late 1600s. The concept of classroom management, however, is relatively new and coincides with the young science of studying human behaviors (Marzano, Marzano, & Pickering, 2001). Since the early 1900s, behavior theories have provided critical insights into human development and motivation that have allowed educators to continue to make their work with students more effective (Glasser, 1998; Maslow, 1970; Vygotsky, 1978). With a better understanding of human learning, education is moving away from expecting student outcomes to be behavior imitation and content mimicry. Learning is now understood as a set of complex behaviors involving

student engagement in which the student builds conceptual constructs through meaningful interactions with a knowledgeable instructor (Freire, 2000; Mezirow, 1991; Tinto, 1987).

Kuh et al. (2005) recognized a basic change in classroom practices. In their research, they found that instructors were managing student learning by promoting more student-centered teaching activities instead of lecturing. According to Kuh et al.:

Over the past two decades a discernable shift from a focus on teaching to an emphasis on student learning has taken place in many corners. A key element supporting the shift is systematic use of active and collaborative pedagogies. These activities include classroom-based problem-solving, peer-tutoring, service learning, and other community-based projects, internships, and involvement in a variety of educationally purposeful activities outside the classroom. What all these activities have in common are opportunities for students to practice what they are learning in the classroom, develop leadership skills, and work with people from different backgrounds. Many of these activities are easier to arrange when class sizes are reasonable—20 to 30 students. (p. 69)

With a richer understanding of human behavior, the line between teaching and managing has blurred as instructors try to gain a better understanding of their students in order to more effectively assign learning tasks that maximize student outcomes. Using theories from Maslow (1970) and Glasser (1998) and, in higher education, Chickering (1969) and Tinto (1987), instructors recognize the importance of their relationships with students as part of motivating them to adopt behaviors that promote learning. The quality personal interactions students have with their faculty improve their level of development (Baxter Magolda, 2004).

The instructors in this study identified their relationships with students as critical to promoting student learning. Similar to the observation by Manager 1, “I think it’s all about relationships,” Instructor 1 noted “That connection [with students] is how much

and how fast and how well they're going to participate in class." Instructor 3 remarked that students needed to feel they were safe to take risks and learn from these experiences: "She [the student] knows that she will be informed, corrected, and encouraged when she does not [achieve the highest score]. She believes the instructor truly cares that she succeeds, and that she is not another student on the list." Instructor 4 stated, "I build relationships with them.... I want them to feel... I know who they are." These comments concur with the finding by Kuh et al. (2005) in their research on student satisfaction: "There is no substitute for spending time with students..." (p. 80).

**Relationships with human beings is primary in management and education.**

Managers and instructors in the study identified "building relationships"/Theory Y as the most salient of the domains among the five affective management functions (a) building relationships, (b) promoting communication, (c) developing a collaborative work environment, (d) fostering independence, and (e) providing motivation and Theory Y or Theory X. For the composite scores of each of the domains, see Appendix E for the table, Average Composite Scores for Q Statements for Theory Y and Appendix F for the table, Average Composite Scores for Q Statements for Theory X. The study participants believed the relationships they had with others was key to promoting positive outcomes. Manager 4 observed, "It [building relationships] is a fairly critical part of getting the work done." Instructor 1 noted that the connections an instructor formed with students impacted how well the students engaged in learning.

Maslow (1970) recognized the importance of human relationships as a critical component of a person's development. Maslow posited that after satisfying basic survival needs of air, water, and food, an individual needed other people in order to grow



and develop. According to the hierarchy of need theory, an individual sought after satisfying, personal connections within groups and then wanted to feel like a competent, contributing member of those groups. After making these personal connections with others, an individual could then develop a sense of accomplishment, but even this was in relation to the human community.

Vygotsky (1978) regarded the development of an individual as socially and historically situated. People developed within their relationships with others which drove their conceptual understandings. The interactions people have with each other challenge them to adjust their mental constructs. This in turn allows them to include other ideas and provides them with a broader conceptual framework which makes them more productive and effective (Baxter Magolda, 2004; Gittel, 2001; McGregor, 1960; Mezirow, 1991). In order to maximize learning and growth, therefore, it is critical for managers and instructors to know their employees and students and the talents and capacities they bring into the work or learning environment. The ability of a manager and instructor to take care of the various human needs of the employees and students is a prerequisite to the development of employees and students and key to their positive engagement.

McGregor (1960) offered an employee's perspective, "Unless I perceive that you can somehow affect my ability to satisfy my needs, you cannot influence my behavior" (p. 20). Tinto (1987) observed a similar phenomenon in college students: "Contact with faculty and staff... may also influence [students'] judgments about the degree to which the institution, as reflected in the actions of its representatives, is committed to their

welfare” (p. 117). Tinto went on to explain how students’ perceptions of the college’s commitment to them impacted persistence.

While forming relationships was considered important, both the managers and the instructors in the study went one step further. Each group thought that taking care of the human needs of their employees and students was crucial. They rated statement 28, *I am concerned with the quality of my relationships with individuals. If the relationship is good, people will perform better*, as having the fourth highest importance with a composite score of 39.43.

Instructor 3 recognized an instructor’s facilitation in the student’s developmental process:

It is my hope that because she will have prospered in the safe environment of my classroom, she will be encouraged to continue on her educational quest which, in itself, is bound to help her feel a little more self-actualized.

Instructor 1 also saw the need to know the students in order to teach them:

I think students come in such a collection of different styles, that I have to be, have an awareness of what their needs are, of what their learning styles are, and what they need as humans to feel comfortable.

Manager 2 realized the importance of knowing the employees’ passions:

I think that knowing what motivates people, knowing the people’s skill set, and maybe most importantly knowing what they have a passion for and like doing, is critical to promoting positive outcomes in those individuals.

Manager 3 expressed a sense of pride in knowing who the employees were as professionals:

I pretty much know where people are coming from in terms of their professional lives, so I can get in there with them [to provide professional development].

The instructors in the study did not see themselves as content deliverers or controllers of knowledge but as individuals facilitating the growth of other human beings.

Instructor 1

That connection [with students] is how much and how fast and how well they're going to participate in the class.

Instructor 2

[people with different needs] can excel in my classes.

Instructor 3

For a student to feel "safe" in a classroom... she knows that just as she will be rewarded by a grade or a comment, when she achieves the highest score, she will be informed, corrected, and encouraged when she does not.

Instructor 4

I think I try in my job, first of all, is to create that safe environment. I want them to feel like when they come into my room, they have a face and with their name on it, and I know who they are.... I just don't believe that in the long run people work well with me being the authority.

Like the personal goal of instructors to help people develop as part of their work, managers, also, articulated this attitude. Far from being dictatorial, managers shared similar thoughts about the way they wanted to work collaboratively with their employees. None of them liked using an authoritarian approach.

Manager 1

I think that generally people are capable. And my biggest job is to let them know how it is, that they are, and that they can.

Manager 2

I don't think top/down management styles are effective.... Constant pressure doesn't allow for creativity.... It doesn't allow for individual interpretations of task.

Manager 3 was most clear:

Authority has no purchase.

Manager 4 believed in the importance of taking care of the employee:

You address the whole person not only just their work there. Try to support them in all the parts of their lives.

Instead of holding positions of authority or power over others, managers and instructors believed that they needed to have “positive give-and-take” relationships with employees and students as part of accomplishing a task. Statement 26, *Engaging with individuals to form positive, give-and-take relationships is important to helping them do their work effectively*, was considered by managers and instructors as particularly salient and ranked this statement second overall among all the Q sample statements with a composite score of 47.45.

The manager participants in the study mirrored the current philosophy of management theory which dismissed the use of authority as a way to get work done.

According to Eitington (1997):

Supervisors with the best productivity records focused on the human aspects of worker problems in an effort to build effective work groups with high performance goals. Supervisors who operated along more traditional lines of management-scientific management or Theory X style, had lower-producing work units. (p. 145)

By addressing workers’ human needs, as identified by Maslow (1970), they produced more.

Manager 1

If I don’t help them do that [gain skills], especially with the shortage of resources that we have, we’re not going to be able to move forward at all.

Manager 2 also recognized the benefit of employees using their talent: I want to have people working with me that have different skill sets than I do. Hopefully they’re better at things than I am, because then we have a greater expanse of expertise.

Educators have also dismissed the traditional teaching model with its implied power relationships. They recognize the old method of the teacher controlling knowledge and universally imparting it to the students as insufficient for training students

to be productive members of the rapidly changing information world where they now live. In their article, *Literacy Education for the 21<sup>st</sup> Century: It's Time to Close the Factory*, Leland and Kasten (2002) called for an education model that recognized “individuality, the recognition of diversity, and multiple ways of knowing” (p. 6). Their model did two things. It helped students learn how to respect the perspectives of others, which was important in the diverse communities where they would live and work. The model also enabled the instructor to challenge each student to think more critically.

In the study, Instructor 1 enjoyed providing “personal coaching” by helping students develop new intrapersonal skills. “Have you tried playing around with this in an auditory way?” Instructor 2 wanted students to explore their own thinking as they became exposed to new concepts:

To really push students not to agree or disagree with me or buy what I'm selling but to just kind of allow the material to wash over them and for them to kind of practice deep self-reflection on what they think about this material.... I give them a personal guarantee that I'm not trying to indoctrinate them, pushing toward values or ways of thinking on them.

Like managers, instructors believed by working with their students, they could help them develop more effectively.

### **Summary.**

The stereotypes of managers as authoritarians and instructors as super-teachers does not take into account the shift in roles that has occurred within the last several decades. In order to effectively facilitate the development of employees and students, managers and instructors recognize the importance of building relationships. With the recognition of Maslow's (1970) theory of a hierarchy of need, managers and instructors realize that human connections are critical to successful outcomes. The old model of a

remote authoritarian is not as effective as the interpersonal collaborator who works closely with individuals encouraging them to engage. In addition, managers and instructors recognize the necessity of taking care of the human needs of their employees and students.

### **The study questions.**

The participants responded to the two study questions during the post-sort interviews: (1) How do the viewpoints of managers and instructors compare in regards to their role in facilitating employees and students in developing higher level thinking and problem-solving skills? (2) How do the viewpoints of managers and instructors compare in regards to their role in facilitating employees or students to become self-actualized? In the process of responding to these open-ended questions, the participants provided additional insights regarding the attitudes they shared about working with people. This study also explored the perceptions of managers and instructors concerning their work with employees and students within the context of the five affective management functions found in span of control literature: (a) building relationships, (b) promoting communication, (c) developing a collaborative work environment, (d) fostering independence, and (e) providing motivation.

This section will examine the results of the participants' Q sort of the statements created from the span of control affective management functions and analyze the comments made by the managers and instructors about the two research questions. The Q sort results and participant comments are considered in relation to the literature on these topic areas.

### **Span of control affective management functions.**

Managers and instructors in the study showed the most interest in three span of control affective management functions, “building relationships,” “promoting communication,” and “developing a collaborative environment.” Of these functions, the participants made several comments in the post-sort interviews and focus group relating to collaboration and personal relationships. It appeared that both managers and instructors considered working with people more productive than telling people what to do. This was also apparent by their overwhelming placement of Theory Y, collaborative, statements on the left, “most agree,” side of the Q sort grid. See Table 6, Q Sort Results by Participants Showing Theory Y and Theory X.

The following two sub-sections connect the comments made by the managers and instructors with literature associated with “building relationships” and “developing a collaborative work environment.” Since one may consider “promoting communication” implied within each of these two functions, and the manager and instructor participants made few specific comments about communication, an elaboration on “promoting communication” is not included here.

#### ***Affective management function—“building relationships.”***

Maslow (1970) wrote that after human beings no longer feared for their survival, they were driven to bond with other human beings. This drive to belong to a social group is so strong that people will modify their behaviors to maintain membership in the group (Glasser, 1998). Trust is critical to building these relationships. In his 1998 book, *Choice Theory*, Glasser expounded on the importance of quality relationships as a factor of productivity in the workplace. “High quality depends on a level of trust between

workers and managers that cannot be achieved by bossing” (p. 291). The importance of building relationships and communication is ubiquitous through management literature (Herzberg, 2003; Maslow, 1970; McGregor, 1960; Shell, 2003). Education literature also explains the importance of developing a bond between instructor and students (Baxter Magolda, 2004; Komarraju et al., 2010; Kuh et al., 2005; Mezirow, 1991; Tinto, 2005).

The primary importance of building relationships as key to getting work done was apparent in the results of the Q sort, post-sort interviews, and focus group comments. Manager 1 seemed to speak for the group, “It’s all about relationships.” Managers and instructors overwhelmingly believed that developing relationships was most important. Statement 30, *Building relationships with people is critical to promoting positive outcomes in individuals*, had by far the highest composite score from the Q sort with 71.70. This score was supported by comments made by the participants during the post-sort interviews and focus group. See Chapter 4. Manager 1 provided a caveat concerning a critical difference between manager relationships with employees and instructor relationships with students. “Managers have people around for a while, so you do have the opportunity to build a relationship and know their strengths better.”

Education literature supports the efficacy of establishing one-on-one relationships. Kuh et al. (2005) wrote about one of the schools in project DEEP:

The small size of the full-time student body and the human-scale campus make it easy for students and faculty members to connect outside of class to discuss ideas presented in class, graduate school options, and other matters. (p. 80)

In their study of faculty and student relationships, Eames and Stewart (2008) found that students developed deeper relationships with their faculty as the students progressed in



school, but “an important factor influencing this deepening relationship is the progressively smaller class size in each progressive senior year, and the extended time over which relationships are formed” (p. 319).

***Affective management function—“developing a collaborative work environment.”***

Management research indicates that employees using higher level skills may be self-sufficient, but this does not mean they work best in isolation (McGregor, 1960). Instead, people involved in complex work, who must problem-solve and use creativity, require a special kind of supervision and more time to discuss work issues (Cathcart et al., 2004). Students, working on research and learning in the upper levels of Bloom’s taxonomy, gain these complex skills while collaborating with a faculty mentor (Hunter et al., 2007). Both employees and students seek after and appreciate the benefit of social interactions with knowledgeable others and recognize that complex problems are solved in rich dialogue with them (Komarraju et al., 2010; Shell, 2003). Working at these higher levels requires more time for communication and developing a collaborative relationship with the manager or instructor (Kuh et al., 2005; McGregor, 1960).

In her research on span of control, Shirey (2006) reported that nurse managers experienced greater stress when they felt disconnected from their own supervisors. Gittell (2001) reported that workers who had close contact with their supervisors were able to address difficulties more quickly and showed better problem-solving. Eitington (1997) wrote, “People who come to work ordinarily bring their motivation—the will to do—with them. However, the style of the manager will determine whether that motivation will be unleashed or stifled” (p. 145). Doran et al. (2004) reported that a good manager

could not compensate for a large span of control; the group was just too large to maintain positive contact. Das (2003) wrote that employees left as soon as they were able if they did not have a good relationship with the manager. In education, Tinto (1987) saw a similar situation:

It is the daily interaction of the person with other members of the college in both the formal and informal academic and social domains of the college and the person's perception or evaluation of the character of those interactions that in large measure determine decisions as to staying or leaving. (p. 126)

The study participants concurred with each other on the importance of working with others. They agreed with most of the Q sample statements created from McGregor's (1960) Theory Y collaborative management philosophy as shown by their placement of Theory Y statements on the "agree" side of the Q sort grid. The participants showed genuine concern for the progress of their employees and students and expressed the need to address the different human needs of the people with whom they worked. Manager 3 and Instructor 1 enjoyed the idea of "getting" where their employees and students were at and helping these people as a result of this knowledge. Manager 4 and Instructor 4 both saw the importance of taking care of employee and student human needs as part of providing for a positive work environment. Managers and instructors valued the "give-and-take" relationships they could develop with employees and students.

**Question 1:**

***How do you see your role in helping employees (or students) to develop higher level thinking and problem-solving skills?***

Baxter Magolda (2004) found in her study on student knowledge development that people "experienced growth in complex, fluid environments that emphasized social

construction of knowledge, the participants' role in it, and mutual engagement with experts in knowledge construction" (p. 41). Complex learning did not occur in isolation but in what she termed "learning partnerships" (p. 41).

Both manager and instructor participants in this study were concerned with individuals developing and using higher level thinking skills. The participants saw the benefits that came with employees and students developing these skills and recognized their roles in assisting people in their development. Study participants regarded their relationships with employees and students as key to helping people develop skills.

During the post-sort interviews and focus groups, the participants talked about how they worked with employees or students to help them develop higher level skills. Manager 4 and Instructor 4 both saw the benefit of encouraging people to expand their thinking. They saw that growth came from the struggle to accomplish a difficult objective.

Manager 4 - in the focus group

I encourage people to stretch so that their skills improve.... I tend to support ideas that are pretty far out of the box, but not too far out of the box, in terms of reality. And whenever possible to treat an unanticipated outcome not as a failure but as an opportunity for further inquiry.

Instructor 4 - in the post-sort interview

I think my role is to provide them [students] with opportunities that they have to think for themselves and think outside the box a little bit. And then I try to demonstrate the process of struggling and figuring out. And by that I mean, sometimes, I might give an example of a problem that I face, and I didn't know what to do. And kind of share that with them. It's really important to students to see that. That it's ok. "Oh, she does that, too." Really make sure people know that when they ask questions or when they make a mistake... To say, "That's great!"

As a component of encouraging people to take risks and push their thinking, both

Manager 4 and Instructor 4 talked about the importance of individuals talking with them and even asking for help. Neither thought it was appropriate for employees or students to work alone in this.

Manager 4 - in the post-sort interview

This is an environment, of course, where you start off well equipped to do that [problem-solving], and usually because they have some skills you can play off those skills to have them see factors that might bear on a particular situation. You do a lot of talking.

Instructor 4 - in the post-sort interview

They ultimately do look at you as an authority figure, And [I] just let them know that they can come for help. Slowly letting them know that I actually really welcome those things.

The role of the manager to help individuals feel safe enough to take risks as part of learning to do a job is critical for promoting positive outcomes. Shell (2003) wrote:

It is particularly important that the supervisor be willing to step-up for employees and to take an interest in their problems. Professionals should feel that it is useful to sit down and talk with superiors about their problems. These kinds of supervisory practices often determine whether employee and work group attitudes will be favorable or unfavorable. (p. 165)

Education literature identifies the benefit of risk-tasking as part of learning. In their study with students in a summer mentoring relationship with faculty, Hunter et al. (2007) reported that faculty began to observe a change in students they worked with. The students “began to exhibit behaviors and attitudes that underpin research work, such as curiosity and initiative, becoming less fearful of “being wrong,” and more willing to take risks” (p. 50). Hunter et al. provided a quote by a faculty participant, “One of the things that pleases me in a student is one who isn’t afraid to get in there and just get their hands dirty, and just try something” (p. 50).

Clyne (2009) wrote of the need for faculty and students to engage in meaningful dialogue:

Analytical thinking, in my opinion, is best taught through rigorous debate and argument driven writing. Students must develop their own ideas and they must have these ideas challenged again and again. This requires significant personalized attention, serious intellectual energy, and cannot be done in conveyor belt lecture halls. (para. 4)

Instructor 1, who worked with students one-on-one, believed it was important to have meaningful conversations with students and felt that this helped students succeed. Instructor 1 regarded knowledge of the student as a prerequisite to appropriately helping the student progress:

They [the students] all appreciate that connection to their experiences. So you try to make them have a positive experience and with self-acceptance, look at who they are and their mistakes, and other stuff. Then that becomes an ok territory.

Similar to Instructor 1, Manager 1 and Manager 3 saw the importance of working closely with people to help them see different perspectives and focus on personal development issues.

During the focus group, Manager 2 talked about working with people's strengths as a way to help them develop complex skills. Instructor 3 echoed this, "I really agree with the statement about teaching to strengths." In the post-sort interview, Instructor 3 saw an instructor's role in preparing students, so they could think critically:

I believe facilitating the development of higher level thinking and problem-solving skills to be of utmost importance, not just for students to use in their academic careers, but for everyone to use throughout life.... Critical thinking takes time, depth. I'm afraid that if it's not emphasized in education, many will fall for whomever can 'sell' an argument or concept in seven words or less via the newest, flashiest gizmo.

Both managers and instructors wanted to help employees and students develop their skills in order to learn how to solve complex problems. During the focus group discussion, the participants recognized the similarities in their functional roles within the experience of human development.

## **Question 2**

*How do you see your role in helping employees (or students) to become self-actualized?*

Both managers and instructors help other people develop skills as an integral component of their job functions. “Human beings have to teach, and human beings have to manage” (Manager 2 in the focus group). As part of this human experience, Maslow’s (1970) theory provides guidance for how people’s social interactions facilitate this process. People satisfy their complex, developmental needs through their meaningful relationships with others. The study participants, both managers and instructors, believed in the value of collaborative relationships with employees and students as seen in Appendix C with their placement of Theory Y, collaborative, statements in the “agree” columns and Theory X, authoritarian, statements in the “disagree” columns. Management and education literature support the need for collaborative relationships as the means for encouraging employee and student development (Kuh et. al, 2005; McGregor, 1960).

Maslow (1970) saw self actualization as the final stage of the human being’s quest for personal growth. By progressing through ever more complex social relationships, an individual finally connects to that which drives her or him. Maslow noted, “A musician must make music, an artist must paint, a poet must write, if he is to be

ultimately at peace with himself. What a man *can* be, he *must* be. He must be true to his own nature” (p. 46).

Helping people reach self actualization is not simple. In order to feel good about their work, people need to feel successful in their tasks and engage in work that is meaningful. In their Achievement Motivation Theory, McClelland, Atkinson, Clark, and Lowell (1953) wrote that people needed an appropriate level of risk or complexity with a task in order to be motivated to perform it. If the task was too difficult, the individual would not attempt it because of the risk of failure. Even upon mastery, the task must continue to be complex enough to sustain interest. Without this challenge, an individual was likely to become bored and seek other more interesting work. The study participants gave Q sample statement 20, *My role is to establish an environment where people feel safe enough to take the risks necessary to improve their skills*, the fifth highest value with a composite score of 34.08. The managers and instructors believed in the importance of providing a place where employees and students were motivated to develop greater skills.

“Within the sphere of motivational determinants any behavior tends to be determined by several or all of the basic needs simultaneously rather than by only one of them” (Maslow, 1970, p. 55). In order to assist employees or students to move toward self-actualization, it is necessary for a manager or instructor to work closely with them in order to understand their myriad needs, the passions that excite them, and the goals that drive them. Management and education scholars recognize this function as seen in the literature by Herzberg (2003) and Kuh et al. (2005).

A critical difference between the structures of the two disciplines is that managers work with only a few employees for an extended period of time, while instructors

routinely work with over a hundred students for only a few months. According to the span of control literature, the number of people a manager works with determines the level of understanding about each employee. This affects the ability to address each person's specific needs which ultimately affects productivity. In education, however, class size has not yet been categorically identified as a factor in student learning. Instead, some assume the failures of education are a lack of teacher quality as identified by Education Secretary Rod Paige (U. S. Department of Education, 2003), or a lack of student quality as suggested by the recent Associated Press/Stanford University public opinion poll (Gorski, 2010).

McGregor (1960) addressed a similar perspective about worker quality with his focus on authoritarian management practices. He noted that when employees did not perform appropriately, it was considered the employees' fault: "It is *their* stupidity, or *their* uncooperativeness, or *their* laziness which is seized on as the explanation of what happened, not management's failure to select appropriate means for control" (p. 10).

Regardless of organizational structure, however, the managers and instructors in the study identified the commonalities of their work with employees and students. Both managers and instructors wanted to have meaningful, collaborative relationships with their employees and students. The participants' work focused on helping employees and students gain skills and move toward self actualization. Manager 2 stated, "My role in facilitating that is... staying with people in the developmental stages of wherever it is that they're developing." According to Instructor 3:

It is my hope... that because she will have (hopefully) prospered in the safe environment of my classroom, she will be encouraged to continue on



her educational quest which in itself, is bound to help her feel a little more self-actualized.

### **Summary.**

In the study, there appeared to be significant agreement between the perceptions of managers and instructors about their roles in working with employees and students. During the Q sort, post-sort interviews, and focus group, members of each group indicated agreement in recognizing the importance of building relationships and working collaboratively with others. In general, there was as much agreement between the managers and the instructors as there was within the group of managers and the group of instructors. If one looked at the comments of each without the label of manager or instructor, the role of the individual would often be indistinguishable.

### **Group size and human relationships.**

The size of a group impacts the effectiveness of that group (Lowry et al., 2006). Group size affects people's ability to work effectively with each other. Therefore, one can make a reasonable assumption that the efficacy of the span of control affective management functions "building relationships" and "developing a collaborative work environment" also hinge on the size of the group.

Research indicates that groups with three to six people show greater productivity and experience fewer conflicts (Gittell, 2001; Lowry et al. 2006; Wheelan, 2009). The effort of dialogue in groups of nine is more difficult than smaller groups; turn-taking becomes a more disciplined effort for extraverts (Glaser & Glaser, 2006). In their study of effective communication and group size, Lowry et al. found that when groups reached six members, the quality of communication declined. They reported that with smaller

groups “inappropriate communication would be more difficult to hide with the reduced opportunity to maintain anonymity in small groups” (p. 654).

Literature on span of control identifies how the smallness of the work group makes it possible to form meaningful relationships, and greater worker productivity is the net result (McManus, 2007; Meyer, 2008). Gittell (2001) reported that managers with fewer employees were able to form cohesive work groups and maintain effective communication. These managers were able to build teams that showed more mature interdependency than larger groups. Cathcart et al. (2004) reported that employee engagement dropped when groups became larger than 15. This was supported by Wheelan (2009) with her research of effective group size: “As size increased, cohesion and intimacy decreased. Members of large groups perceived those groups to be more competitive, less unified, and more argumentative” (p. 247). She found that groups larger than nine members showed a deterioration of worker satisfaction and levels of trust.

Despite the amount of research on group size, instructors must work with large groups of students in their classes as they try to hold meaningful discussions with students and provide complex learning activities (Clyne, 2009; van Merriënboer & Sluijsmans, 2009). Some instructors organize their classes into smaller groups to facilitate bonding among students and to encourage dialogue, so students can challenge each other’s ideas and work (M. Bayless, personal communication, December 16, 2010). While the small groups allow the students to form close relationships, the existence of many small groups in a class comes with problems.

The difficulty with student dialogues is that the groups are comprised of “novices” within the subject area, and there is a risk of sharing incorrect information during the student discussions. Working with fellow students, members of the group will not know enough about the content to challenge comments by other students. The instructor must move quickly from group to group monitoring progress and hoping that the active learning between students is aligned with the content and shared goals of the class. The situation is similar to the one described by McManus (2007) such that employees working within a large span of control must make decisions on their own which may or may not be connected with the corporate goals.

### **Differences between managers and instructors.**

In the study, both managers and instructors talked about facilitating the growth of employees and students, but the way they described their relationships differed. The managers used words that indicated close relationships with their employees. They talked about one-on-one sessions with employees:

- Manager 2 was focused on the specifics about an individual: “I can ask the staff a lot of questions. ‘How did you come to this decision?’”
- Manager 3 alluded to meetings with small groups in which the manager guided the discussion for maximum learning: “I work one-on-one with people”
- Manager 4 took care of individuals: “You address the whole person... what else is going on in their lives and how it influences their own sense of well-being.”

Compared to the managers’ language which had greater focus on working closely

with individuals, the instructors' language was concerned with environmental factors.

- Instructor 2: Presenting information that challenged the student thinking in a non-threatening way.
- Instructor 3: Making the environment safe for learning.
- Instructor 4: Making sure students felt cared for by learning their names.

Only Instructor 1, a tutor who worked with students one-on-one, talked about "getting where their heads are at."

Except for Instructor 1, only managers mentioned using personal and specific, guiding questions and statements, such as Manager 2, "I like the way that email went out. I know you're really concerned about this topic" or Manager 1, "What would you do?" These types of statements were absent in the instructors' descriptions of their work with students. While the instructors did talk about helping their students' progress, the instructors did not use language similar to managers that indicated a close, personal relationship of working with people to meet their specific growth needs. The instructors' comments were framed within a class environment and denoted a large group perspective.

The difficulty of instructors forming meaningful relationships with large numbers of students may be a factor in this language difference. The instructors' language and teaching examples in the focus group and post-sort interviews reflected a distance between the instructors and their students. Instructor 2 talked about exposing students to new concepts and then requiring the students to write self-reflective essays. Feedback to students was in the way of comments the instructor wrote on the papers; there was no dialogue. Instructor 4 mentioned modeling problem-solving but did not talk about this

process with respect to the conceptual needs of individual students. This participant relied on group discussion for students to hear “different ways of digesting information.” Instructor 3 talked about whole group discussions as a way to address the writing problems in a student’s paper, a format that may help one student but which does not help other students’ specific writing problems or questions. The whole group discussion may not address an individual student’s needs. Even statements that included words like “she” were general in nature and still in reference to a whole class setting.

This distance with students did not occur because the instructors were less willing to form relationships with them. In the Q sort, managers and instructors rated “building relationships” and “developing a collaborative work environment” as their highest value and shared many of the same perspectives about their work with people, and most participants recognized commonalities between their two roles. The fundamental distinction between the roles of managers and instructors may be the basic organizational structure of the relationships between a manager and employees and the instructor and students and impacts the success of each.

Managers work with just a few individuals and for an extended period of time as noted by Manager 1. “Managers have people around for a while, so you do have the opportunity to build a relationship and know their strengths better.” In addition, the manager has a personal investment in helping employees grow because it can make the manager’s job easier. Essentially attending to the needs of the employees will be attending to the needs of the manager. Productivity goes up and dissatisfaction goes down as a manager addresses employees’ personal and professional needs. Manager 1 observed, “I think that [developing higher level thinking skills in people] is a big part of

my role, because if I don't help them do that, especially with the shortage of resources we have, we're not going to be able to move forward at all."

Instructors, on the other hand, have influence over students for only a few months, interact with hundreds of students during that time, and in the content silos of today's colleges and universities may only work once with students whose interests may be in different disciplines. Regardless of the importance of establishing shared goals in order to achieve success, as presented in literature from both management (Shell, 2003) and education (Kuh et al., 2005), it is hard to fabricate a common culture within such transitory affiliations. Management recognizes the need for close relationships with employees in order to develop their skills. Higher education is expected to help students develop complex skills with a constant swapping of the individuals who work with them.

This infrastructure of higher education that minimizes the instructors' ability to form relationships with students may decrease the sense of responsibility instructors have for student success. Over the course of the year, instructors have many different students which may make it difficult for the instructors to feel responsible for the attrition of any specific student. Instructor 4 made an interesting observation:

If the workers of the manager, they don't perform, or they don't do well, or they don't blossom, the organization collapses. I think in a classroom, although I like to help my students grow, I'm just saying, in a general sense, not what I believe in. But if students don't do well, they suffer. And you, as a teacher, really doesn't affect you too much. You like it to affect you, in terms of how to help them better, but they are the ones with the failing grade.

New accountability standards placed on higher education and society's expectations of student outcomes may find a shift in the idea that the college does not fail when students fail.

An interesting note about education is that it does recognize and practice organizational structures similar to business. Meier and Boehte (2003) studied the span of control between administrators and teachers and found that a small span of control *between management and teachers* was necessary for student learning in complex teaching situations. Kuh et al. (2005) described a college that facilitated small, staff-development, study groups for instructors:

One manifestation of Miami's commitment to improving undergraduate education is the Faculty Learning Community, cross-disciplinary faculty groups of 5 or more faculty members (8 to 12 is the recommended size) who take part in year-long programs to examine issues related to scholarship of teaching and learning. (p. 68)

In higher education, like in business, employees do not have managers who are changed every six months, and college administration usually works with the average span of control ratio. Managers and employees are able to form the relationships critical for employee satisfaction, engagement, and productivity. Unfortunately this same structure of small group size in college administration is not applied in the classroom.

Span of control literature indicates that complex problems require in-depth conversations between the manager and employee (Hatrup and Kleiner, 1993), stronger interpersonal connections with the manager to assure the employee makes work decisions aligned with the project (McManus, 2007), and additional opportunities for collaboration with the manager to resolve barriers to workflow (Gittell, 2001). The concerns a manager has for working closely with employees to develop their skills are similar to those of an instructor for the students. Instructors must work closely with students to know their current level of understanding in order to challenge them to think more deeply (Kuh et. al, 2005), make sure that students are not forming erroneous constructs which

have to be unlearned before developing a fuller understanding of a concept (Vygotsky, 1978), and talk with students in order to understand and address conceptual barriers to their understandings of an issue (Mezirow, 1991). All these functions take time and close contact in order to address them properly. With large classes, instructors will only be able to do this with students who approach them. Many students, however, for a variety of reasons, do not feel capable of forming a relationship with instructors and will opt to leave the college when staying in school takes a toll on their feelings of competency (Tinto, 1987; Vianden, 2009).

### **The intersect of management and instruction.**

It appears that among the study participants as well as within management and education literature managers and instructors share the same concerns for the growth of their employees and students, enjoy working with people in order to help them grow, and see the importance of their roles in helping people develop skills and become self-actualized. In the study, managers and instructors believed that creating relationships with people was most important. While the results of the study with only eight participants should not be extrapolated to the larger community, the literature of both disciplines supports the importance of building relationships and shares many of the same perspectives on human development. Both managers and instructors work with people in order to perform complex tasks that require higher level skills and problem-solving, but managers do this with 10 people and instructors must do this with twice as many. Literature on class size is not as supportive of small groups as literature on span of control.



### **Efficiency of a small span of control.**

A small span of control is necessary when the managers and employees are working on complex problems that require in depth conversations and creative solutions that come from close collaboration (Hattrup & Kleiner, 1993). Managers are not able to address workflow issues with employees when the group is too large. A small span of control allows the manager to regularly connect with employees to assure that the employees' work aligns with the project goals (McManus, 2007). Business recognizes that a large span of control is only functional when the employees are performing routine labor requiring low-level skills, but even in these circumstances, the group must not be so large that the manager cannot maintain a healthy relationship with employees (Gittell, 2001). Davison (2003) noted that business with a small span of control of 1:6 had higher growth rate, upwards of 20%, than businesses with a larger span of control of 1:8.

Instructors share many of the same perspectives and work issues as managers. Instructors must communicate with students to ensure accurate understanding and monitor for proper completion of assignments. Yet, instructors must accomplish their objectives with much larger numbers of students.

### **Cost benefit of small class size.**

One reason for a dismissal of decreasing class size is the financial costs involved. While creating small classes denotes serious budget issues, it is a factor that business addresses in span of control. The ability of employees to work closely with the manager affects the employees' development and use of skills which impacts their level of productivity. This, in turn generates capital. The bottom-line for business is that taking care of workers' needs equates to the financial health of the organization. Business

recognizes the cost effectiveness of maintaining a positive manager/employee relationship and is willing to pay the extra expense of having additional managers in order to maintain a small span of control. Davison (2003) explained that companies with a small span of control (1:6.5) experienced “the highest revenue growth rates (over 20%). Organizations with the highest medians, 1:8.1 and 1:7.02, had low (less than 5 percent) or medium (5 to 20 percent) growth rates” (p. 25).

When comparing instruction and management, one may be compelled to question why small class size is not considered cost effective like span of control. On face-value, it appears that business generates money and public education uses money. Yet, a more global view of society shows that public education plays a key role in cultivating a financially dynamic community and in a broader analysis does generate capital, and to use a colloquialism, “It takes money to make money.”

Higher student graduation rates have long-term financial benefits to society, because people with post-secondary degrees earn more money and therefore have more money to spend. According to the U. S. Department of Labor’s Bureau of Labor Statistics, in October 2010, the average weekly earnings for individuals with a bachelor’s degree was \$1,158 almost twice the earnings of high school graduates with no college, \$622. In addition, the average 2010 unemployment rate for college graduates, 4.7%, was less than half of that for high school graduates, 10.42%. Besides the personal financial hardship these numbers denote, college graduates are less likely to require unemployment benefits provided by the government.

According to Thomas Brock (2010), over a lifetime, individuals with a bachelor’s degree will earn about \$2.1 million dollars or one-third more than those with a high

school diploma. Considering an average 25% tax bracket for both workers (and a simple level of calculations), individuals with a bachelor's degree will pay about \$525,000 in taxes over their lifetime or \$350,000 more in taxes than those with a high school diploma. This sizeable difference in taxes more than pays for the average 2010 cost of \$30,500 for a bachelor's degree from a four-year public institution (College Board Policy and Advocacy Center, 2010). In July 2009, President Obama established the goal for increasing the number of college graduates by 5 million by 2020 (Lumina Foundation, 2009). This increase in the number of college educated citizens has the potential of producing \$125,000,000,000 in additional tax revenues.

Additional benefits to the economy include the much larger disposable income of college graduates that pumps an economy with dollars. A college graduate's additional level of income translates into billions of dollars in the Gross Domestic Product (GDP). According to the Department of Education (2004), education levels have an impact on the economy. "Significant improvement in education over a 20-year-period could lead to as much as a 4% addition to the Gross Domestic Product or over \$400 billion in today's terms" (p. 1).

The positive cost benefit for college graduation appears to be a similar justification to improve educational systems as the 20% higher growth rate experienced by companies with a small span of control of 1:6. The relationships instructors have with their students are important to retention and graduation. When instructors attend to the needs of students, the students are more likely to finish college and move on to their personal career goals. These college graduates, in turn, stimulate the economy.

Besides generating income, student retention practices can also save money. The American Institutes for Research (AIR) found that states lose billions of dollars each year from students who received financial aid, but who left college prematurely (Schneider, 2010). In addition, education literature provides data on the financial impact of student success on colleges. In 1985, Noel, Levitz, and Saluri introduced the idea that it was less expensive to retain students than it was to recruit them, and therefore student retention provided a better return on investment than recruitment. The researchers devised a formula that showed how a college that implemented programs and policies that retained students could save as much as \$5,000 per student for each year the student stayed in the institution.

Kokkelenberg et al. (2006) articulated a similar strategy from their research on class size and students grades. In their study, they found that students in large classes received lower grades than students in smaller classes. Although they offered several possibilities for this phenomenon, one being instructors of small classes may be more likely to give better grades, the researchers were concerned with the ramifications of decreased student success within large classes. Kokkelenberg et al. wrote:

We conclude that there are diseconomies of scale associated with a deterioration of student outcomes as class sizes grow larger. The cost of this deterioration is not quantifiable with our data, as much of the costs are nonmarket costs and unobservable. For example, these costs may include lost revenue due to a decrease in student persistence and a resulting lower student retention rate as well as the loss of reputation caused by lower graduation rates. We do conclude that any institutional benefits from larger classes must be set against the short and long-term costs associated with the resulting poorer student performance. (p. 14)

While college graduates earn more and therefore can spend more than students who do not complete college, this is just one factor of the positive benefit small classes

can have on the economy. Students also need to learn complex skills in order to be ready for today's job market (Christensen et al., 2008; van Merriënboer & Kirschner, 2007). Baxter Magolda (2004), Hunter et al. (2007), and Hayes and Devitt (2008) found that students in smaller classes were more likely to develop higher level thinking and problem-solving skills, because the instructors were able to scaffold the students to more complex thinking. Students who graduate with these complex skills will be ready to be effective workers in today's rapidly changing, technology and information-driven workplace.

Large class size inhibits instructors from identifying the students' learning needs and thus is an inefficient model for helping students develop complex skills. Baxter Magolda (2004) reported that most students gained higher levels of knowledge awareness after they entered their careers and had closer contact with supervisors than they had with instructors. According to Gittel (2001), the workplace has an average span of control of 1:8.5.

If business wants college graduates to enter the workplace ready to use these skills, then higher education needs to implement structures in which students have the same close, mentoring relationship that managers have with their employees. If society does not want to pay for smaller classes, then it needs to stop expecting students will be able to graduate with complex skills from an educational structure that business recognizes as ineffectual for producing these results. If class sizes remain large, then, as observed by Baxter Magolda (2004), college graduates will continue to be trained in complex thinking skills only after they leave school and enter the work world where the span of control drops to an average of 1:8.5 (Gittel, 2001).

### **Summary.**

Maslow's (1970) theory on a hierarchy of human needs offers a guide for managers and instructors on providing appropriate support for employees' and students' skill development. Management and education literature suggest that the relationships that managers form with their employees and instructors form with their students is critical to the employees' and students' level of engagement and satisfaction with their work. An important commonality between managers and instructors is that both actively participate in the development of human beings.

The managers and instructors in the study shared many of the same concerns and strategies for helping employees and students grow and develop their skills. The participants believed that building collaborative relationships with employees and students was important for outcomes. The participants also recognized the importance of addressing employees' and students' needs as part of this process.

In order for managers to address the different personal and professional needs of their employees, business uses span of control or ratio of manager to employees of 1:8.5 (Gittel, 2001). Managers recognize that the complexity of the human experience allows them to effectively work with only a small group of employees. Even though, in the study and in general, managers and instructors seem to share similar perspectives concerning their work with employees and students, the organization of higher education is antithetical to the model of an effective ratio used by business and supported by management research. Class sizes are much larger than 10. In fact, in large universities, the class size of the lower division classes is upwards of several hundred. The dialogue critical to building relationships between the instructor and students is impossible in these

large classes. Communication cannot be two-way when several hundred students are working with one instructor. An instructor will build relationships with only those students who seek out contact after class.

Furthermore, these large classes are counterproductive for the objective of students' development of complex skills, as recognized by business's span of control. Business recognizes that a small span of control is particularly critical when the employees must solve complex problems and use higher level thinking. Higher education, on the other hand, uses large class sizes that are similar to the span of control ratio for routine, low-skilled labor.

Similar to the managers' comments about their close relationships with employees, one instructor in the study stated that, as a tutor, it was helpful for a student's development to be able to form a one-on-one relationship. This instructor noted that instructors in classrooms do not have this luxury. Instructor 3 articulated the frustration and hope of trying to form meaningful relationships with students: "This ideal may be very hard to maintain in large classes for the few short weeks of a term, but it is what motivates me."

### **Implications for future research.**

The Q method was an important research tool of this study. The method provided an effective way to compare the perceptions of managers and instructors and appeared to be more effective than a survey. Other researchers may want to consider using the Q method when intending to study attitudes of individuals or groups. Using the results of the Q method as a springboard for the focus group discussion was also particularly fruitful in stimulating a robust conversation among the participants. Combining Q

method and focus group techniques as a way to gather a richer data set may also be effective for future studies, and researchers may want to consider using them together.

The results of this study, from both the Q sort and the focus group, appear to show a significant level of agreement between the perceptions of managers and instructors about their work with employees and students. If the nature of managers' and instructors' work and expectations are so similar, then is it feasible, using span of control as a lens, to expect that instructors can produce the same outcomes when they work with more than twice as many people as managers?

Additional research in this area would reveal the implications of this question. With only eight participants, the findings of this study can hardly be generalized to the larger population. Therefore, it is recognized that this study serves only as a preliminary exploration of a possible intersect of the complexities of the tasks of managers and instructors and offers what may be a more meaningful lens to study the efficacy of instructional organization. Additional research in this area may discover other similarities in the facilitation processes used by managers and instructors to develop the skills of employees and students.

One limitation of this study is the small number of participants, and another is the setting in a community college. Since the participant managers were at one time instructors, one may presume they would share similar attitudes as the participant instructors in the study. The study participants recognized this condition. Future research in this area would benefit from including managers with careers outside the field of education. Other researchers may wish to explore how K-12 teachers' attitudes about their work with students compare with those of managers. Since relationships between



K-12 teachers and their students are less transitory than those in higher education, studies including these teachers may provide additional insight about the nature of teaching work compared to managing.

From this study, it appears that future research on class size should incorporate span of control's definition of an appropriate workgroup size when studying class size. The ratio of instructor to students in class size research is wider than what is suggested as appropriate by literature on span of control (Gittell, 2001; Hanushek, 1998). Research on class size does not study classes smaller than 15 which Cathcart et al. (2004) found to significantly diminish employee engagement in the workplace. The positive results on student outcomes obtained in the research by Hunter et al. (2007) on faculty mentoring offers support for research on class size smaller than 15.

An often articulated reason for maintaining large classes is the expense associated with supporting small classes. Yet, Davison's (2003) findings of higher growth rates for companies with 1:6 span of control ratios suggest a benefit for conducting a longitudinal cost analysis of small class size. Baxter Magolda's (2004) research on student's cognitive growth as a result of close interaction with faculty suggests there may be a financial benefit of small class size in regards to student skill development. This analysis could include business's expense of training graduates who leave college without acquiring critical thinking and developed writing skills and may help society recognize the cost effectiveness of assuring that students graduate college with the complex skills required in the workplace.

Another area requiring future study is the need for instructors' professional development in pedagogy. Slavin (1999) observed that instructors do not change their

teaching styles when they teach in small classes, although, in light of span of control, one may question whether these classes were truly small enough to make a difference. Future studies on class size could include teaching instructors how to use social constructivist strategies in order to maximize their teaching/learning relationships with students.

Future studies may want to focus on creative solutions for increasing students' quality interactions with faculty and staff in higher education. Christensen et al. (2008) recommended using technology as a robust learning tool in their book, *Disrupting class: How disruption innovation will change the way the world learns*. With the expanding sophistication of technology, including new instructional software, it may be possible to offer students hybrid classes, part online and part face-to-face. This model may provide smaller classes for greater interaction with faculty in order to promote the higher level learning of Bloom's (Marzano & Kendall, 2007) taxonomy and at the same time use technology to offer a suitable format for the lower-level content learning that students may be able to do independently. Future studies can explore how combining technology with the essential personal interactions with faculty can improve student outcomes.

Other studies on college organization can focus on making better use of a college's academic advisors and tutors as a way to strengthen students' academic and social relationships with others. Researchers can study the efficacy of cohort seminars that keep students connected with the same group of students and instructor. Studies conducted with learning communities and first year experience classes offer indicators that this organization yields positive results in student engagement (Tinto & Engstrom, 2008).

A span of control ratio of 1 manager to 10 employees or less is a common practice in business. In higher education, however, the span of control of manager to employees may be much wider. A manager participant in the study discussed having over 80 instructors who were direct reports. Business has determined that this size ratio is appropriate for redundant, non-complex labor. Yet, in higher education, much of the work requires creative thinking and problem-solving.

The study by Meier and Bohte (2003) indicated that there was a negative impact on student outcomes when there was a wide span of control between the principal and teachers in elementary and middle schools. Kuh et al. (2005) reported that faculty study groups with eight members were able to work effectively to improve their pedagogy skills. Future research could be conducted on the impact of student outcomes on the wide span of control of managers to faculty in higher education. Does the wide span of control between academic deans and their faculty cause job dissatisfaction as well negatively impact the development of teaching skills? Does a large department, which has a wide span of control, cause faculty isolation from and disconnection with colleagues, and does this impact teaching and learning outcomes?

Finally an area of research that may be critical for students' future success in higher education is to study how the passive learning environment in K-12 promotes behaviors in students that make it difficult for them to take responsibility for their learning in college (Messineo et al., 2007). Lowering class size in K-12 closer to the average span of control of 1:8.5 used by business may change altogether the outcomes of higher education, because students enter college with the skills and the attitudes that make complex learning more likely.

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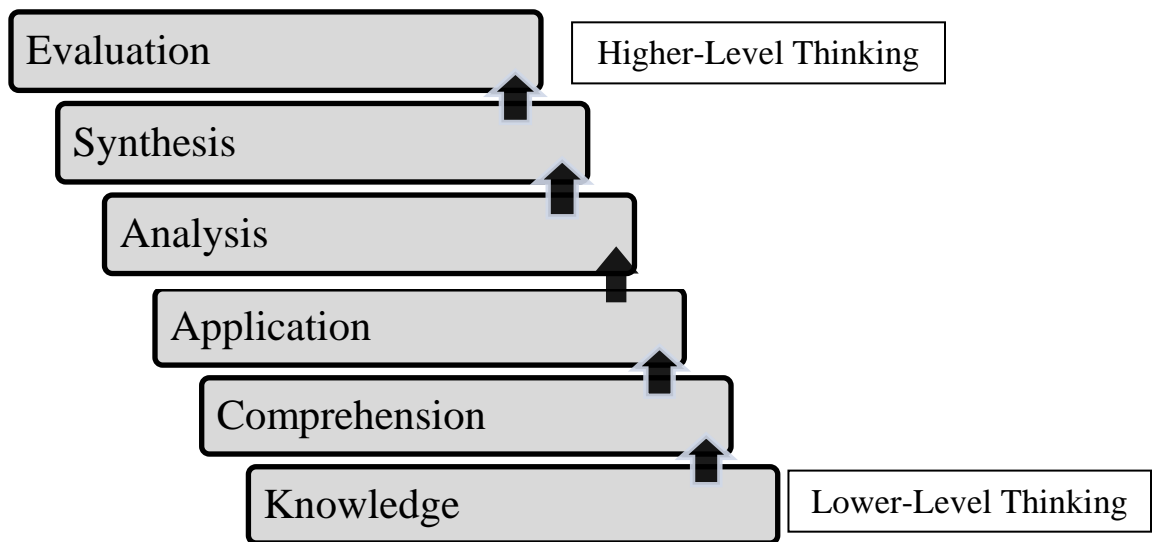
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## Appendices

## Appendix A: Bloom's Taxonomy



(Marzano &amp; Kendall, 2007)

## Appendix B: Participant Recruitment Email

DATE

Dear (faculty name),

I am a doctoral candidate at Oregon State University in the Teacher Leadership program and would like to invite you to participate in the research for my dissertation. I'm inviting you because you were listed as one of several people whom division deans recognized as an instructor who maintains a positive relationship with students, recognizes students' potential and provides supports so students can maximize this potential, and motivates students to work to capacity. I drew your name randomly from this pool of names.

I am studying if span of control, the ratio of manager to employees (an average of 1:10), can be applied to higher education as a way to look at class size. Business recognizes that the span of control should be small when the employees' work requires higher level thinking, problem-solving and creativity. Please note, that in this regard, "control" should not be thought of as a dominating influence, but a process relationship; a small span of control allows the manager to work closely with employees to help them develop skills and meaningful jobs, increase engagement, and maintain high job satisfaction. These manager job functions sound very close to what instructors do with students. Take out the words "job" and "work," and insert "school" and "learning" and the relationships that instructors have with students seem to be similar to that of managers with employees. I would like to study if managers and instructors think of their jobs similarly. If so, should the typical span of control of 1:10 be a way to think of class size in higher education?

I am asking four faculty and four managers at Lane to participate in the study. To study the participants' opinions about their job functions, each person will individually sort a set of 30 statements about working with people. The sort takes about 15 minutes. After the sort, I will talk with each participant for no more than 30 minutes about her/his thinking process used to sort the cards. I will also ask for her/his opinion about people developing higher level thinking and problem-solving skills and becoming self-actualized. When all the participants have conducted the sort, the entire group will meet for a one hour focus group to discuss the results and their thinking about the topic. I plan to hold the focus group during a mealtime in order to ease schedule conflicts. I will buy the meal. If you decide to participate, your total time commitment will be less than 2 hours.

If you would like to participate, I would like to set up a time to meet with you to do the sort and interview during the weeks of (DATE HERE). After brief instructions, you will conduct the sort. Afterwards, I will ask you to explain your thinking about why you placed the statements the way you did. The focus group will be held sometime in late September/early October after all the participants have finished their sorts. I will inform you of the focus group meeting time when I have everyone's schedule.

Your participation, of course, is voluntary. If you decide to participate, but later change your mind, there will be no problem. Please let me know by (DATE HERE), if you would like to participate. If you agree to participate, I will send you an informed consent form that outlines your personal rights as a research participant. If you have any questions, please let me know.

Thanks for your consideration,  
Carol McKiel



### Appendix C: Participant Q Sort Results

Even numbers denote Theory Y statements. Odd numbers denote Theory X statements.

Statements with the highest salience among participants

Theory Y

|   |  |   |
|---|--|---|
| 30. Building relationships with people is critical to promoting positive outcomes in individuals. (from affective management function–“building relationships”) | 26. Engaging with individuals to form positive, give-and-take relationships is important to helping them do their work effectively (from affective management function–“building relationships”) | 12. Communication is important for providing support for people to accomplish their tasks. (from affective management function–“promoting communication”) |
|---|--|---|

Statements with the least salience among participants

Theory X

|   |  |  |
|---|--|--|
| 3. People are reluctant to take on the responsibilities needed to do the task. My role is to push them, so they will work hard. (from affective management function–“providing motivation”) | 23. People work best when one person determines the goals for them. (from affective management function–“developing a collaborative work environment”) | 25. My relationship with individuals centers around my authority to set the work agenda. (from affective management function–“building relationships”) |
|---|--|--|

Manager 1

|    |    |    |    |    |    |    |    |    |   |
|----|----|----|----|----|----|----|----|----|---|
|    |    |    |    | 10 | 21 |    |    |    |   |
|    |    |    | 14 | 16 | 1  | 17 |    |    |   |
|    |    | 24 | 28 | 15 | 19 | 3  | 13 |    |   |
|    | 26 | 20 | 12 | 8  | 2  | 4  | 29 | 23 |   |
| 18 | 30 | 6  | 11 | 9  | 22 | 27 | 5  | 25 | 7 |

Manager 2

|    |    |    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|----|----|
|    |    |    |    | 29 | 28 |    |    |    |    |
|    |    |    | 26 | 6  | 13 | 27 |    |    |    |
|    |    | 10 | 20 | 5  | 22 | 1  | 3  |    |    |
|    | 11 | 24 | 14 | 15 | 9  | 7  | 23 | 21 |    |
| 30 | 16 | 12 | 4  | 8  | 18 | 25 | 2  | 19 | 17 |

Manager 3

|    |    |    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|----|----|
|    |    |    |    | 4  | 1  |    |    |    |    |
|    |    |    | 12 | 10 | 9  | 21 |    |    |    |
|    |    | 8  | 22 | 18 | 17 | 29 | 7  |    |    |
|    | 26 | 28 | 24 | 11 | 15 | 3  | 27 | 23 |    |
| 30 | 20 | 16 | 14 | 2  | 6  | 5  | 19 | 13 | 25 |

## Appendix C: Participant Q Sort Results (continued)

Manager 4

|    |    |    |    |    |    |    |    |    |   |
|----|----|----|----|----|----|----|----|----|---|
|    |    |    |    | 20 | 15 |    |    |    |   |
|    |    |    | 14 | 4  | 9  | 19 |    |    |   |
|    |    | 28 | 2  | 18 | 6  | 29 | 21 |    |   |
|    | 10 | 26 | 16 | 22 | 5  | 17 | 23 | 25 |   |
| 30 | 12 | 8  | 24 | 11 | 7  | 1  | 27 | 13 | 3 |

Instructor 1

|    |    |    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|----|----|
|    |    |    |    | 10 | 19 |    |    |    |    |
|    |    |    | 18 | 6  | 13 | 29 |    |    |    |
|    |    | 20 | 14 | 4  | 9  | 21 | 1  |    |    |
|    | 12 | 16 | 26 | 24 | 15 | 25 | 23 | 3  |    |
| 28 | 30 | 22 | 2  | 8  | 11 | 7  | 5  | 27 | 17 |

Instructor 2

|    |    |    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|----|----|
|    |    |    |    | 18 | 21 |    |    |    |    |
|    |    |    | 16 | 4  | 29 | 23 |    |    |    |
|    |    | 10 | 30 | 2  | 24 | 7  | 19 |    |    |
|    | 12 | 28 | 8  | 5  | 14 | 9  | 3  | 1  |    |
| 26 | 22 | 11 | 20 | 6  | 15 | 27 | 13 | 25 | 17 |

Instructor 3

|    |    |    |    |    |    |    |    |   |    |
|----|----|----|----|----|----|----|----|---|----|
|    |    |    |    | 1  | 29 |    |    |   |    |
|    |    |    | 2  | 28 | 24 | 22 |    |   |    |
|    |    | 6  | 12 | 16 | 9  | 23 | 27 |   |    |
|    | 15 | 30 | 11 | 14 | 18 | 5  | 19 | 7 |    |
| 20 | 8  | 10 | 26 | 21 | 4  | 25 | 17 | 3 | 13 |

Instructor 4

|    |    |    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|----|----|
|    |    |    |    | 15 | 18 |    |    |    |    |
|    |    |    | 20 | 2  | 9  | 19 |    |    |    |
|    |    | 22 | 14 | 10 | 1  | 5  | 17 |    |    |
|    | 24 | 28 | 8  | 6  | 21 | 13 | 29 | 7  |    |
| 30 | 12 | 26 | 16 | 11 | 4  | 3  | 27 | 23 | 25 |

# Appendix D: Value of Each Statement as Assigned by Participants in the Q sort

Odd numbers developed with Theory X (shaded in gray)

Even numbers developed with Theory Y

Affective management function for statements

1-6: providing motivation

7-12: promoting communication

13-18: fostering independence

19-24: developing a collaborative work environment

25-30: building relationships

| Statement                                     | Mgr 1 | Mgr 2 | Mgr 3 | Mgr 4 | Instr 1 | Instr 2 | Instr 3 | Instr 4 |
|---|-------|-------|-------|-------|---------|---------|---------|---------|
| 1   | 0     | -1    | 0     | -1    | -2      | -3      | 0       | 0       |
| 2   | 0     | -2    | 0     | +1    | +1      | 0       | +1      | 0       |
| 3   | -1    | -2    | -1    | -4    | -3      | -2      | -3      | -1      |
| 4   | -1    | +1    | 0     | 0     | 0       | 0       | 0       | 0       |
| 5   | -2    | 0     | -1    | 0     | -2      | 0       | -1      | -1      |
| 6   | +2    | 0     | 0     | 0     | 0       | 0       | +2      | 0       |
| 7   | -4    | -1    | -2    | 0     | -1      | -1      | -3      | -3      |
| 8   | 0     | 0     | +2    | +2    | 0       | +1      | +3      | +1      |
| 9   | 0     | 0     | 0     | 0     | 0       | -1      | 0       | 0       |
| 10  | 0     | +2    | 0     | +3    | 0       | +2      | +2      | 0       |
| 11  | +1    | +3    | 0     | 0     | 0       | +2      | +1      | 0       |
| 12  | +1    | +2    | +1    | +3    | +3      | +3      | +1      | +3      |
| 13  | -2    | 0     | -3    | -3    | 0       | -2      | -4      | -1      |
| 14  | +1    | +1    | +1    | +1    | +1      | 0       | 0       | +1      |
| 15  | 0     | 0     | 0     | 0     | 0       | 0       | +3      | 0       |
| 16  | 0     | +3    | +2    | +1    | +2      | +1      | 0       | +1      |
| 17  | -1    | -4    | 0     | -1    | -4      | -4      | -2      | -2      |
| 18  | +4    | 0     | 0     | 0     | +1      | 0       | 0       | 0       |
| 19  | 0     | -3    | -2    | -1    | 0       | -2      | -2      | -1      |
| 20  | +2    | +1    | +3    | 0     | +2      | +1      | +4      | +1      |
| 21  | 0     | -3    | -1    | -2    | -1      | 0       | 0       | 0       |
| 22  | 0     | 0     | +1    | 0     | +2      | +3      | -1      | +2      |
| 23  | -3    | -2    | -3    | -2    | -2      | -1      | -1      | -3      |
| 24  | +2    | +2    | +1    | +1    | 0       | 0       | 0       | +3      |
| 25  | -3    | -1    | -4    | -3    | -1      | -3      | -1      | -4      |
| 26  | +3    | +1    | +3    | +2    | +1      | +4      | +1      | +2      |
| 27  | -1    | -1    | -2    | -2    | -3      | -1      | -2      | -2      |
| 28  | +1    | 0     | +2    | +2    | +4      | +2      | 0       | +2      |
| 29  | -2    | 0     | -1    | -1    | -1      | 0       | 0       | -2      |
| 30  | +3    | +4    | +4    | +4    | +3      | +1      | +2      | +4      |
| Total of statement values of each participant | 0     | 0     | 0     | 0     | 0       | 0       | 0       | 0       |

## Appendix E: Average Composite Scores for Q Statements for Theory Y

### Building Relationships - Y Theory

|   |       |
|---|-------|
| 30. Building relationships with people is critical to promoting positive outcomes in individuals.                                   | 71.70 |
| 26. Engaging with individuals to form positive, give-and-take relationships is important to helping them do their work effectively. | 47.45 |
| 28. I am concerned with the quality of my relationships with individuals. If the relationship is good, people will perform better.  | 39.43 |
| Average composite score =   | 52.86 |

### Promoting communication - Y Theory

|  |       |
|--|-------|
| 12. Communication is important for providing support for people to accomplish their tasks.       | 47.34 |
| 8. I need to provide coaching and feedback to people, so they can complete a task appropriately. | 25.78 |
| 10. Individuals need to be recognized for jobs well done.  | 19.62 |
| Average composite score =  | 30.91 |

### Developing a collaborative work environment - Y Theory

|   |       |
|---|-------|
| 20. My role is to establish an environment where people feel safe enough to take the risks necessary to improve their skills. | 34.08 |
| 24. People work best when there are shared goals that they helped establish.  | 28.22 |
| 22. Individuals need to feel part of a cohesive group in order to do their jobs well.   | 23.24 |
| Average composite score =   | 28.51 |

### Fostering independence – Y Theory

|  |       |
|--|-------|
| 16. An objective of my job is to help individuals develop their unique capacities                                    | 27.64 |
| 14. I encourage individuals to take the initiative with their tasks.   | 17.75 |
| 18. In general, people are quite capable, and I only have to help them see their capacities for them to do the work. | 9.06  |
| Average composite score =  | 18.15 |

### Providing motivation – Y Theory

|   |       |
|---|-------|
| 6. People learn to exercise self-direction under appropriate conditions.  | 5.94  |
| 2. People are basically self-motivating, My role is to remove barriers and provide support, so they can perform their tasks well. | 3.78  |
| 4. People enjoy taking on responsibility. My role is to help them do this.  | -0.21 |
| Average composite score =   | 3.17  |

## Appendix F: Average Composite Scores for Q Statements for Theory X

### Building Relationships

|   |        |
|---|--------|
| 29. My relationship with individuals is not as important as making sure they know what is expected of them. | -22.70 |
| 27. I am concerned with the quality of the work. My relationships with people is not as important.          | -39.13 |
| 25. My relationship with individuals centers around my authority to set the work agenda.                    | -62.39 |
| Average composite score =   | -41.40 |

### Developing a collaborative work environment

|   |        |
|---|--------|
| 21. The environment is not as important as my message to individuals that I expect them to work hard.                     | -17.60 |
| 19. My role is to establish an environment where people learn that good work is rewarded and mistakes are not acceptable. | -27.82 |
| 23. People work best when one person determines the goals for them.   | -49.59 |
| Average composite score =   | -31.67 |

### Fostering independence

|   |        |
|---|--------|
| 15. An objective of my job is to get individuals to do their work effectively.                | 3.78   |
| 13. Individuals develop primarily because of my pressure on them to perform.                  | -40.14 |
| 17. Part of my job is to keep constant pressure on people in order to keep them working hard. | -40.29 |
| Average composite score =   | -25.55 |

### Providing motivation

|   |        |
|---|--------|
| 1. People often require reward and punishment in order to become motivated.   | -15.54 |
| 5. People want to be closely directed in their activities.  | -18.14 |
| 3. People are reluctant to take on the responsibilities needed to do the task. My role is to push them, so they will work hard. | -41.57 |
| Average composite score =   | -25.08 |

### Promoting communication

|   |        |
|---|--------|
| 11. Communication is important for getting people to do their assigned tasks.                         | 11.67  |
| 9. Individuals need to know about the mistakes they make.   | -2.10  |
| 7. I need to tell people how to do every detail of a task, so they can complete the task effectively. | -39.22 |
| Average composite score =   | -9.88  |