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EXPLORING THE IMPACT OF AN ONLINE LEADERSHIP COURSE ON JAPANESE  
UNDERGRADUATE STUDENTS' CONCEPTIONS OF LEADERSHIP

by

Ryosuke (Reo) Watanabe

A dissertation submitted in partial fulfillment  
of the requirements for the degree of

Doctor of Philosophy

March 2022

Dissertation Committee

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**University of San Diego**  
**School of Leadership and Education Sciences**

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TITLE OF DISSERTATION: EXPLORING THE IMPACT OF AN ONLINE LEADERSHIP  
COURSE ON JAPANESE UNDERGRADUATE STUDENTS' CONCEPTIONS OF  
LEADERSHIP

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## ABSTRACT

Today's complex problems transcend borders and require a collective and adaptive learning response. Literature suggests that, because the traditional hierarchical or positional style of leadership cannot effectively address problems we face today, leadership should take a more collaborative and systemic form. Rost (1991) characterized this new approach as the postindustrial paradigm of leadership. Unfortunately, changing the existing conception of leadership is not easy. Furthermore, assessing people's leadership perceptions is challenging because leadership is often a tacit and latent construct. Because formal leadership education is still in its infancy in Japan, little is known about the impact of leadership education in higher education on students' understandings of leadership in the Japanese context. This study aims to understand how Japanese college students reshape their understandings of the postindustrial model of leadership through taking an online leadership course.

This mixed methods study adopted a one-group pretest-posttest study design to examine changes in students' understandings of leadership. An online survey composed of the Leadership Attitudes and Behaviors Scale and a request for participant-produced drawings of leadership images was administered at both the beginning and end of the semester to 124 students enrolled in a semester-long online leadership course at a large university in Japan. To gain more in-depth insight, I also employed semistructured interviews with 11 students enrolled in the course.

Survey results demonstrated students enrolled in the leadership course were, overall, less enthusiastic about hierarchical approaches to leadership and more enthusiastic about systemic approaches to leadership after taking the course. Interviews revealed two factors that affected shifts in students' understandings of leadership: past leadership experience and learning experience in class. Students' leadership experiences before attending the leadership course

shaped their understandings of leadership at the beginning of the course, and how students made sense of their past leadership experiences influenced shifts in thinking during the course. In addition, student learning experience in class impacted shifts in their conceptions of leadership. The study's findings about the impact of a leadership course in Japan support future leadership education in Japan. They also strengthened the academic legitimacy of leadership education in higher education generally.

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I would also like to thank Dr. Jiro Tamura, Professor of Law at Keio University, for his approval to use the *Leadership Basics* course as a research site. I am so grateful to the teaching assistants of the course for supporting in the logistics of this study. I extend my warm thank you to the 124 participants in the surveys, especially the 11 interview participants for their willingness to share their stories with me; I wish them lives filled with continued growth in leadership.

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## CHAPTER ONE

### FRAMING OF THE STUDY

Although leadership can be defined and described in multiple ways, there has been a shift over time in academicians' conceptions of leadership—from a focus on individuals to an emphasis on more reciprocal relationships and processes. After reviewing writings from 1900 to 1990, Rost (1991) concluded the paradigm for leadership studies in the 20th century was the individual. Leadership was defined as the activities of great positional leaders. Rost labeled this approach the industrial paradigm. Rost later conceptualized a new postindustrial paradigm for thinking about and practicing leadership. He stated leadership is “an influence relationship among leaders and collaborators who intend real changes that reflect their mutual purpose” (Rost, 1993, p. 99).

There have been other changes in the way people think about leadership. For example, Heifetz (1994) insisted leadership based on position and authority is inadequate for the challenges society would face in the 21st century; society needs leadership that increases its capacity to learn new ways of understanding, defining, and solving the complex problems it is facing. Examples of complex problems include the failure to act on climate change, food crises, and governance failures. These challenges are interrelated and require paradigm shifts in responses and leadership (Franco, 2020). The COVID-19 global pandemic relates to Commoner's (1971) first law of ecology, which stated, “Everything is connected to everything else” (p. 29). Recent complex problems transcend borders and require a collective, adaptive, and iterative learning response (Satterwhite et al., 2020).

Since Rost (1991) first discussed the postindustrial paradigm, the number of academic leadership programs across the United States has grown substantially and research conducted to

understand leadership, development, and education has also grown accordingly (International Leadership Association, 2020). However, changing existing images of leadership is not easy. According to implicit leadership theories (Eden & Leviatan, 1975), stereotypical leadership images are developed early. Ayman-Nolley and Ayman (2005) found children had no problem drawing a leader or differentiating what they considered a typical leader. These images are also influenced by culture; thus, they are socially shaped (House et al., 2002). Therefore, they are relatively stable even if the context changes (Epitropaki & Martin, 2004). Assessing people's leadership perceptions is further challenging because they are tacit and latent constructs (Schyns et al., 2011). They are outside of individuals' awareness; thus, oftentimes individuals are unable to engage in introspection about the impact of their perceptions (Chong et al., 2017). Probing phenomena that individuals are not consciously aware of is difficult with conventional research methods. Avolio et al. (2009) recommended researchers incorporate several alternative research designs—such as experimental designs and the use of multiple sources and mixed methods studies—to explore these phenomena.

Some literature revealed people's understandings of leadership, their sense of leadership identity, and their leadership behaviors reflect a developmental process (Day et al., 2008; Komives et al., 2005). These studies indicated people's understandings of leadership change over time and become more complex due to a variety of influences. Using a grounded theory approach, Komives et al. (2005) studied the process of how college students develop their leadership identity and developed the leadership identity development (LID) model, a model incorporating six developmental stages associated with six different leadership constructs. The LID model is useful to understand how students made meaning of their leadership experiences in the context of their current situations (Komives et al., 2009); however, the model reveals little

about what caused the shifts of students' understandings of leadership. Because leadership involves a range of behavioral, affective, and cognitive dimensions, it may be developed through different learning modes and at different rates (Leskiw & Singh, 2007). Therefore, a variety of teaching strategies can be used to engage students in leadership development programs (Rottmann et al., 2016). Lachance and Oxendine (2015) found the mix of didactic classroom teaching, experiential learning, and mentorship were identified as valuable from the student perspective; however, it was not clear what kind of mix was ideal for student leadership development. There remains a lack of consensus about academic leadership programs in higher education (Riggio, 2011).

### **Leadership Education in Japan**

Over the last 3 decades, Japan has experienced dynamic changes caused by a globalizing economy, technological innovation, and a declining/aging population. These changes have produced a series of unparalleled challenges, especially a stagnant domestic economy and the destruction of a traditional employment system such as life-long employment and a seniority system (Ministry of Education, Culture, Sports, Science and Technology–Japan, 2012). Historically, Japanese corporations took a long time to train their leaders internally based on the traditional employment system. However, because of the destruction of the traditional employment system, they now look for recent graduates who possess leadership and associated skills such as critical thinking, decision making, communication, initiative, and teamwork (Ministry of Economy, Trade and Industry–Japan, 2006; Ministry of Education, Culture, Sports, Science and Technology–Japan, 2008, 2018). In response to growing demands for leadership development in the last decade, more colleges and universities in Japan have launched leadership development programs. These programs tend to use experiential learning such as project-based

learning and group work to shift from traditional lecture-style teaching to learner-oriented education (Nakahara et al., 2018). For the most part, these courses have gained popularity among students and business recruiters. Despite the growing popularity of formal leadership education in Japan, there is limited empirical research to assess the effectiveness of leadership education. Thus, no clear academic conception of leadership education has been widely established yet in Japan (Izunitani & Yasuno, 2016).

### **Problem Statement**

Despite extensive research on the postindustrial (i.e., relational and systemic) model of leadership and changes in leadership education with the increasing attention on digital pedagogy in higher education, current literature has yet to explore how leadership education can be optimally implemented to achieve its goal (McCarron et al., 2020). Because formal leadership education is still in its infancy in Japan, research on the impact of leadership education is especially limited in the Japanese context. Although some research exists on college students' understandings of the postindustrial model of leadership through leadership interventions in the United States (Dunn et al., 2016; Fischer et al., 2015; Ho & Odom, 2015; Lumpkin & Achen, 2019), almost no research of these concepts exists in the Japanese context. In particular, little is known about how students shape their understandings of the postindustrial model of leadership through online leadership education in Japan.

This study sought to address three primary gaps in the literature: (a) describing the current college students' perceptions of leadership in Japan, (b) understanding the shifts of students' understandings of leadership through an online leadership program in Japan, and (c) identifying factors and experiences that influence the shifts of students' understandings of leadership in Japan.

## **Purpose of the Study and Research Questions**

The purpose of this study was to understand college students' understandings of leadership in Japan and examine the overall changes in their understandings of leadership through an online leadership course in Japan. In addition, this study explored the relative contributions of different aspects inside and outside the course in facilitating changes in students' understandings of leadership. This study employed a mixed methods approach to answer the following two questions:

1. How do college students understand the concept of leadership before and after participating in an online leadership course in Japan?
2. What factors inside and outside this leadership course do students indicate influenced the shifts in their understandings of leadership?

## **Methodological Overview**

This study employed a mixed methods approach using both a quantitative method of data collection and a qualitative method of data collection. I sought to answer Research Question 1 both quantitatively and qualitatively by employing online surveys and one-on-one interviews. I adopted a one-group pretest–posttest study design to examine changes in students' understanding of leadership. I also administered an online survey at the beginning and end of the semester to a group of students enrolled in a semester-long online leadership course at a large university in Japan.

Although there are limitations of doing an evaluation study based on the one-group pretest–posttest design, this strategy has been widely used in human services evaluation research. Thyer (2002) suggested preexperimental designs such as one-group pretest–posttest design are valuable strategies that could be meaningfully used in practical settings.

The online survey was composed of three parts: (a) the Leadership Attitudes and Beliefs Scale (LABS-III; Wielkiewicz, 2000, 2002); (b) a drawing question about leadership; and (c) a few demographic questions related to gender, age, academic classification (i.e., freshman, sophomore, junior, or senior), and intended major. The LABS-III is a 28-item instrument used to examine leadership mindset along two scales: hierarchical thinking and systemic thinking. Each scale consists of 14 items, which are measured on a 5-point Likert scale: 1 = *strongly disagree*, 2 = *disagree*, 3 = *neither disagree nor agree*, 4 = *agree*, and 5 = *strongly agree*. The hierarchical scale measures beliefs about leadership being more positional and the systemic scale measures beliefs about leadership being more relational (Wielkiewicz, 2000, 2002; Wielkiewicz et al., 2005). Convergent validity and content validity have been established on both scales (Lowhorn, 2011; Wielkiewicz, 2002).

I invited all 153 students in the course to participate in the survey. I did not provide extra credit or other compensation to participants. The 124 students who completed both the presurvey and the postsurvey were included in the study.

In addition to questionnaires that explicitly focused on leadership mindset in the LABS-III, I added an implicit measure, a drawing question, to the online survey. This drawing question was complementary to the LABS-III and used for triangulation. The question explored the respondents' implicit perceptions about leadership because implicit measures rely on different response formats geared toward gauging accessibility of the construct (Uhlmann et al., 2012). Participants were required to (a) freely draw their images of leadership on a paper or with any digital devices, (b) take a photo or save the file of their drawings after they completed them, and (c) upload the file to the online survey.

To gain more in-depth insight on how students shaped their perspectives about leadership through taking a leadership course, I employed semistructured one-on-one interviews with 11 students enrolled in an online leadership course. I selected interview participants through maximum variation sampling (Creswell & Plano Clark, 2018; Patton, 2015)—based on gender, age, classification, and intended major—to include cases which vary widely from each other. I conducted interviews after the course completed and after all evaluations were submitted to avoid unnecessary biases and conflicts among students. Employing a qualitative methodology allowed me to examine how students reflected, processed, and made meaning of their experiences in a leadership course. In the interviews, I asked students to verbalize their ideas in interpreting the drawings about leadership by showing them their two drawings at pretest and posttest. Using participant-produced drawings is useful for uncovering specific implicit knowledge; thus, it was particularly appropriate in this study because leadership is an implicit image each individual holds.

The interviews also addressed Research Question 2. Qualitative methods are beneficial for responding to this question because it allowed me to better understand how students experienced and learned through taking the course. I paid special attention to how students shaped and changed (if any) their understandings of leadership through taking a leadership course. The methods of this study are explained in more depth in Chapter 3.

### **Significance of the Study**

This study was the first attempt to understand college students' understandings of leadership in Japan from the perspective of Rost's (1991) postindustrial paradigm and empirically assess the changes of their understandings of leadership through taking an online leadership course in Japan. Furthermore, this study provided insights about what effective

teaching methods of leadership development look like when the goal is to teach the postindustrial model of leadership.

This study also shed light on online leadership learning, particularly on student learning experiences and the effectiveness of specific learning activities in online leadership education. Considering the growing demands for leadership development for the next generation in Japan, results offered tangible insights for future leadership education in Japan. Overall, the study can contribute to increasing an academic credibility of leadership education in higher education in Japan. The following chapter reviews relevant literature, including leadership definitions and college students' understandings of leadership.



## CHAPTER TWO

### LITERATURE REVIEW

This chapter provides a review of leadership definitions and college students' understandings of leadership. Although there is significant literature on different leadership concepts and college students' understandings of leadership, there are gaps when it comes to literature on how students develop their definitions of leadership and what triggers the shifts in their leadership understandings, especially in the context of Japan. This chapter overviews the gaps in research and literature on this topic. This study is rooted in the assumption these gaps are problematic, especially considering (a) there are the growing demands for leadership development in higher education in Japan and (b) a more comprehensive understanding of students' leadership understandings and shifts of their understandings can inform the development of leadership training and education initiatives in higher education in Japan.

First, I provide a summary of leadership definitions. Then, I examine and critique literature on students' understandings of leadership. Finally, I identify gaps in existing research and provide a rationale for the study.

#### **Defining Leadership**

Defining leadership is a difficult task because many different definitions, models, and theories attempt to describe this phenomenon. Stogdill (1974) wrote: "There are almost as many different definitions of leadership as there are persons who have attempted to define the concept" (p. 7). Despite the multitude of ways in which leadership has been conceptualized, there has been a shift over time from an emphasis on individuals to an emphasis on more collaborative processes. After reviewing literature from 1900 to 1990, Rost (1991) predicted the leadership paradigm had shifted from the industrial paradigm in the 20th century to the

postindustrial paradigm in the 21st century. He was inspired by Burns' (1978) definition of leadership that included the relationship and interplay of leaders and followers. Burns (1978) defined leadership, stating:

Leadership is the reciprocal process of mobilizing, by persons with certain motives and values, various economic, political, and other resources, in a context of competition and conflict, in order to realize goals independently or mutually held by both leaders and followers. (p. 425)

Uhl-Bien et al. (2007) also insisted leadership models of the 20th century had been products of top-down, bureaucratic paradigms. Although these models were quite effective for an economy premised on industrial production, they were no longer well-suited for a more knowledge-based economy of the 21st century.

According to Rost (1993), the industrial paradigm contains many conventional views of leadership that have dominated leadership perceptions throughout most of the 20th century. Those views have included: (a) leadership is the property of an individual, meaning one person provides leadership for a group; (b) leader and leadership have been used synonymously; and (c) the terms manager and leader have also been used interchangeably.

On the other hand, the postindustrial paradigm of leadership is based on assumptions such as: (a) leadership is based on relationships and does not belong to any individual; (b) leadership is meant to create change; and (c) leadership can be done by anyone, not just by people who are designated leaders (Rost, 1993). Rost (1993) defined leadership as "an influence relationship among leaders and followers who intend real changes that reflect their mutual purposes" (p. 99). Some of the postindustrial models of leadership are followership, authentic leadership, adaptive leadership, and complexity leadership.

## **Followership**

Followership is a key leadership concept in the postindustrial perspectives on leadership, particularly because of its focus on the relationship between leaders and followers. Followership theory challenges the traditional leader-centric views because it considers both leaders and followers as important parts of the leadership process, and an organization's success depends both on effective leaders and effective followers (Kellerman, 2008). This approach adds a realistic perspective to leadership studies because it often happens the same individual plays both the leader and follower roles depending on the context. Kellerman challenged the condition followers blindly and thoughtlessly obey orders by leaders; instead, followers have to be courageous, engaged, responsible, and contributing members who exercise critical thinking. Chaleff (2009) even emphasized that, as the world evolves to a more egalitarian culture, dynamic follower–follower relations become as essential as dynamic leader–follower relations.

## **Authentic Leadership**

Authentic leadership is a leadership theory expanded from Burns' (1978) transforming leadership. Luthans and Avolio (2003) defined authentic leadership “as a process that draws from both positive psychological capacities and a highly developed organizational context, which results in both greater self-awareness and self-regulated positive behaviors on the part of leaders and associates, fostering positive self-development” (p. 243). Authentic leadership stresses awareness of one's own and others' strengths, values, and perspectives and the larger environment where leadership takes place. It also has a strong focus on having an authentic leader–follower relationship and leadership for good beyond oneself (George, 2015). Authentic leadership has been a growing field in leadership studies, especially after a series of incidents of misconduct by top management in the Enron financial scandal in 2001 and the Lehman Brothers

shock in 2008. For example, International Leadership Association placed authentic leadership as the main theme in its 20th anniversary global conference in 2018.

### **Adaptive Leadership**

Adaptive leadership focuses on the adaptations required of people to respond to changing, complex environments (Northouse, 2016). Heifetz et al. (2009) defined adaptive leadership as “the practice of mobilizing people to tackle tough challenges and thrive” (p. 14). Adaptive leadership places a strong focus on change and adaptation. The word thrive describes the process by which an organism adapts to the changing conditions of the larger system in which it operates. This living system metaphor reflects a need for organizations to evolve and adapt for survival and evolution. Adaptive leadership clearly differentiates leadership from authority or persons in power. The theory provides different approaches in case of leadership with authority and without authority. It also differentiates adaptive challenges from technical problems (Heifetz, 1994). Technical problems are clear, and the solution is in realm of one’s capabilities and past experiences. In contrast, adaptive challenges are more difficult to identify, and the solutions are unknown. Adaptive challenges must be faced in new ways through adopting new beliefs and new behaviors to better address desired changes (Heifetz, 1994). Adaptive leadership abandons emphases on specific leader-centric characteristics such as traits and behaviors to identify processes that contribute to the resolution of adaptive challenges (Dugan, 2017).

### **Complexity Leadership**

Using the concept of complex adaptive systems (CAS), which has its roots in the physical sciences, Uhl-Bien et al. (2007) proposed leadership should be seen not only as position and authority, but also as emergent, interactive systems of dynamic, unpredictable agents that interact

with each other and are bonded by common purpose or outlook. Whereas the unit of analysis in traditional leadership theory is often an individual such as the leader, or a relationship between the leader and others, the fundamental unit of analysis in complexity leadership is referred to as a CAS. Complexity leadership is a framework for leadership, enabling the learning, creative, and adaptive capacity of CAS in organizations.

Complexity leadership identifies three leadership roles to explore: (a) adaptive, (b) administrative, and (c) enabling. Drawn on the same principles outlined by Heifetz (1994), adaptive leadership is a collaborative change movement that emerges from interactions among agents between CAS and with environments; it does not operate based on authority. On the other hand, administrative leadership is the traditional behavioral approach to leadership that focuses on coordination of tasks and alignment of actions with organizational goals. It is a top-down, hierarchical function based on authority and position. Uhl-Bien and Marion (2009) acknowledged tension that can exist between administrative and adaptive leadership and the importance of the two functions working together effectively. To ensure the two functions worked together effectively, Uhl-Bien and Marion added enabling leadership as a catalyst to enable adaptive dynamics and help manage the entanglement between administrative and adaptive leadership in organization.

### **Section Conclusion**

This section included a paradigm shift of leadership definitions from the industrial model to the postindustrial model. It also elaborated several postindustrial theories. The key characteristic of the theories presented here is the departure from a hierarchical, leader-centric perspective and takes a more inclusive, systemic approach. However, there is a gradation among these theories. For example, both followership and authentic leadership emphasize the

relationship between leaders and followers; however, the relationship is still based on a premise of the existence of positional leaders in power.

On the other hand, adaptive leadership and complexity leadership are unique because they treat leadership completely independent from positional leaders. These theories apply an organism metaphor to leadership and organizations, and go beyond the individual role of leader and beyond the group, expanding to the large system.

Whereas the new leadership paradigm that advocates for a relational, collaborative, and systemic approach to leadership was growing in popularity (Astin & Astin, 2000), there was evidence of a parallel increased emphasis on hierarchical and leader-centric perspectives in leadership practice (Salovaara & Bathurst, 2018). Interestingly, neither adaptive nor complexity theory reject the traditional hierarchical paradigm. Instead, both theories provide concrete prescriptions for the traditional paradigm. For instance, adaptive leadership clarifies different approaches to leadership with and without authority. Complexity leadership also offers a mitigating solution by proposing enabling leadership, in addition to administrative leadership (i.e., a more traditional approach) and adaptive leadership (i.e., a more contemporary approach), to make both administrative and adaptive leadership function well. Both theories may assume the paradigm shift of leadership is not necessarily unidirectional from a hierarchical approach to a systemic approach; rather it is inclusive to both approaches.

Another point to consider is all theories presented in this chapter as the postindustrial paradigm of leadership were developed in the United States and were mostly studied in the western context, especially from the U.S. perspective. There is limited evidence about leadership theory applicability in the nonwestern world and no evidence about their applicability in Japan. The next section summarizes research on college students' differing perspectives of leadership.

## **Students' Understanding of Leadership**

The previous section presented two different categories of leadership conceptualizations in the leadership studies field: industrial (i.e., leader-centric and hierarchical) and postindustrial (i.e., collaborative and systemic). There is evidence these two categories of leadership are also present in college students' understandings of leadership. For example, Shertzer and Schuh (2004) found the industrial model of leadership was the dominant view held by college students. This section introduces two major studies concerning college students' perceptions of leadership: the Leadership Attitudes and Beliefs Scale (LABS-III; Wielkiewicz, 2000, 2002) and the leadership identity development (LID) model (Komives et al., 2005, 2006).

### **Leadership Attitudes and Beliefs Scale**

The LABS-III (Wielkiewicz, 2000, 2002) was developed to assess attitudes and beliefs about leadership in college students in a manner consistent with Rost's (1991) industrial and postindustrial paradigms of leadership. This scale is unique because it was designed to provide a method of assessing the impact of leadership interventions in college students, independent of the students' experience in positions of leadership. The LABS-III consists of two scales: the hierarchical thinking scale and the systemic thinking scale.

The hierarchical thinking scale consists of 14 items, suggesting organizations should be structured in a stable, hierarchical manner with power and control focused on the upper levels of the hierarchy (Wielkiewicz, 2000, 2002). Hierarchical thinking is characterized by a belief that a top-down approach is the norm and organizational members should seek guidance from the level above them. Hierarchical thinking also captures the idea upper levels of the hierarchy are responsible for organizational success and members' safety and security.

The systemic thinking scale consists of 14 items reflecting an ability to relate a variety of ideas and concepts to organizational success such as ethics, the need for cooperation of all individuals to help the organization accomplish goals, the need for long-term thinking, and the need for organizational learning (Wielkiewicz, 2000, 2002). Thus, a belief in systemic thinking is flexibility and adaptation to a changing world are key elements of organizational success.

One study used the LABS-III with 552 students at two private, Catholic, single-sex, liberal arts colleges in the Midwest to examine the preferred leadership attitudes and beliefs of students by gender (Wielkiewicz, 2000). The results indicated male students had a stronger preference to hierarchical thinking and a lesser preference to systemic thinking than female students. Other studies, which examined incoming first-year college students, showed men had a stronger tendency to think hierarchically about leadership than women; however, men and women did not differ significantly in systemic thinking scores (Fischer et al., 2010; Wielkiewicz et al., 2012). Fischer et al. (2010) found White students demonstrated higher scores on hierarchical thinking than students of color. These results might indicate more dominant groups, male students and White students, had greater hierarchical thinking of leadership than their less dominant counterparts.

Ho and Odom (2015) used the LABS-III scale for program assessment to examine the shifts of leadership perspectives of 313 undergraduate students completing leadership degrees. They found male leadership students scored higher in hierarchical thinking than female leadership students, which aligned with previous studies (Fischer et al., 2010; Wielkiewicz, 2000; Wielkiewicz et al., 2012). Senior leadership students—typically in their last semester of studies—scored significantly lower in hierarchical thinking than juniors. Ho and Odom concluded the findings indicated formal leadership coursework influenced students' perspectives



of leadership and shifts of leadership perspectives could happen over time as students grow; thus, the shift could be developmental.

Dunn et al. (2016) surveyed 336 students enrolled in a Corps of Cadets program at Texas A&M University to examine their leadership mindsets and whether their participation in a formal academic leadership program simultaneously influenced their preferences to hierarchical and systemic thinking. Students in the formal academic leadership programs had lower hierarchical thinking scores and higher systemic thinking scores than those who were not in a formal leadership program. Other significant differences existed for gender and classification of students. Women scored higher in systemic thinking and juniors and seniors not enrolled in a formal academic leadership program scored lower in hierarchical thinking than freshmen and sophomores not enrolled in a formal academic leadership program.

Regardless of the wide use of the LABS-III in leadership literature, the scale has several limitations. First, because this scale is based on two specific frameworks, it limits the expression of students' understandings of leadership to the two frameworks of hierarchical thinking and systemic thinking. Another limitation is the scale relies on respondents' self-reported perceptions of leadership. Moreover, this scale examines students' fixed preferences of the two frameworks but does not address the process about how an individual develops leadership understanding over time. Lastly, so far the LABS-III has not been used to study students outside the United States. Thus, future studies could examine the applicability of the scale to students outside the United States.

### **Leadership Identity Development Model**

Using a grounded theory approach, Komives et al. (2005, 2006) examined the leadership perceptions and experiences of 13 college students who administrators and faculty identified as

demonstrating relational, exemplar leadership. The LID model resulted in a 6-stage developmental model of how students develop a leadership identity and how students' understandings of leadership shift over time and through experiences. Each of the six stages is briefly described in Table 1.

Table 1  
*Six Stages of the LID Model*

Stage	Description
1 Awareness	In Stage 1, children become aware of the concept of leadership for the first time. There is a developing recognition that leadership is outside themselves and that certain people in their environment such as parents, teachers, or elders in religious institutions, are leaders.
2 Exploration / Engagement	Those in Stage 2 become involved with groups, usually to make friends. To become group members, they come to feel they have some responsibilities to the group where they belong, such as boy/girl scouts, choirs, and sports teams.
3 Leader identified	The typical view of leadership in Stage 3 is leadership attributed to a hierarchical position. At the beginning of this stage, people are learning about the dynamics of groups. They see there are various roles in groups and the leader is a key person who takes responsibility to get the group's tasks done. In the middle of this stage, they identify leaders as the key individuals holding positional roles and see them as being in charge of groups. Then, some of them will gradually transition out of this stage as they begin to recognize the complexities of leadership processes and understand leaders cannot do everything themselves. The transition out of this stage may result from a crisis experience that leads them to question the traditional hierarchical model of leadership they have held. Without such experience, many individuals fail to transition out of this stage and keep holding on to a hierarchical view of leadership.
4 Leadership differentiated	In Stage 4, the focus shifts from the identified positional leader to viewing leadership as a process not controlled exclusively by positional leaders. Leadership is now seen as a collaborative group process. Positional leaders remain important, but they have a facilitative role and do not control the group or organization. Interpersonal connections are prioritized over command and control. Transitions out of this stage are triggered by mental shifts such as looking toward developing the group or organization, serving society, and planning for the sustainability of the group.
5 Generativity	Those in Stage 5 believe a leader is any person who participates in the process of leadership. They actively contribute to the development of others and the sustainability of the group, organization, or society. They have developed a set of their own core beliefs that sustains them. The transition out of this

stage is the result of deep level of reflection about what aspects of their own development are essential in any situations.

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6	Integration / Synthesis	Those in Stage 6 do not need to hold positional leader roles anymore. They recognize they will always learn a lot from others and commit themselves to life-long learning. At the same time, they assist others through the life-long developmental process and particularly help others get through the inevitable crises that are a key to growth. For those in this stage, being a leader remains a stable aspect of identity.
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*Note.* Informed by “Leadership Identity Development,” by S. R. Komives, S. D. Longerbeam, F. Mainella, L. Osteen, J. E. Owen, & W. Wagner, 2009, *Journal of Leadership Education*, 8(1), 11–47, & “A Leadership Identity Development Model,” by S. R. Komives, S. D. Longerbeam, J. E. Owen, F. C. Mainella, & L. Osteen, 2006, *Journal of College Student Development*, 47(4), 401–418.

Komives et al. (2009) suggested individuals proceed sequentially through the stages and need to explore earlier stages before transitioning into later stages. A key crisis occurs between Stage 3 and Stage 4. In Stage 3, individuals view leadership as being focused on positional leaders who function in a hierarchical organizational structure. The authors suggest moving beyond Stage 3 would take the individual to a more balanced perspective in which nonhierarchical and systemic views of leadership begin to take shape. Therefore, the transition from Stage 3 to Stage 4 can be classified as the shift between hierarchical and systemic thinking of leadership (Komives et al., 2005). Theoretically, skilled leaders at Stages 5 or 6 would be characterized by a tendency toward holding both hierarchical thinking and systemic thinking. They embrace both hierarchical and systemic forms of leadership (Wielkiewicz & Stelzner, 2005). The most effective leaders at Stage 6 (i.e., integration/synthesis stage) are characterized by a confidence in one’s ability to adopt a positional, hierarchical approach of leadership or a

nonpositional, systemic approach of leadership based on the context of the situation (Komives, 2011).

There are several studies based on the LID model that seek to further examine and validate the model through examining views, attitudes, and definitions of leadership from a different range of students, not just those who view and approach leadership as a relational concept. For example, Wagner (2011) used Q-methodology to validate the model and provided supportive evidence for the existence of Stage 3 and Stage 4 as described in the LID model. Furthermore, McKenzie (2018) expanded the LID model for female college students, using the grounded theory study.

There is one study of the LID model conducted in Japan. Izumitani and Yasuno (2016) used the grounded theory study to understand the processes Japanese students experienced in creating leadership identity. The authors found Japanese students processed similar stages to the LID model; however, the students missed several characteristics. For example, no respondents expressed self-efficacy that they could exercise leadership in any place. Additionally, no one mentioned life-long learning or believed they could continuously develop themselves. The authors also raised the potential issue about the crisis event to encourage students to reevaluate their beliefs and develop their identities in Japan. Because of the homogeneity of Japanese society, Japanese students may not have enough opportunities to experience diverse perspectives that cause a crisis for development.

The LID model is so far the only theory that explains the process of students' leadership identity development (Alizadeh et al., 2018). The LID model provided insight on how and why the leadership identity of students forms and changes through experience; however, specific learning experiences that trigger changes in students' understanding of leadership are still

unclear. This point is critically important for leadership instructors when they design a leadership program because the ways students define leadership may play a significant role in their perceptions of themselves as leaders (Shertzer & Schuh, 2004). The LID model does not provide clear guidance about what specifically triggers students' developmental shifts in leadership training.

### **Section Conclusion**

This section reviewed research on how college students understand and define leadership, specifically focusing on the LABS-III and the LID model. An overall conclusion from the reviewed literature is that various understandings of leadership exist on college campuses. There was evidence hierarchical views of leadership are prominent among younger college students, male students, and White students; whereas, older students, female students, and students of color have a preference for systemic perspectives of leadership.

The LID model suggests a crisis event is necessary for students' advanced development in their leadership perspectives and identities. However, the model does not provide what kind of interventions are effective in leadership training, which warrants additional research.

### **Summary of the Literature**

Despite extensive research on leadership definitions and students' understandings of leadership in the United States, little is known in the Japanese context. It is impossible for leadership educators in Japan to effectively design leadership curriculum without knowing students' mindsets to leadership in Japan. This study investigated how colleges students understand and define leadership and how they changed or did not change their understandings of leadership through taking a leadership course in Japan.

The LABS-III is a scientifically validated instrument and was appropriate for this study because it was specially designed to assess college students' perspectives to leadership. However, the scale has several limitations. The scale is based on two specific frameworks: hierarchical thinking and systemic thinking. As this review summarized, leadership definitions are not categorical into two frameworks; rather, they can be viewed as existing along a continuum between the two frameworks. Another consideration is the scale's reliance on respondents' self-reported perceptions of leadership. Day et al. (2008) explained leadership identity, rooted in values and beliefs, is less visible than specific skills and knowledge; thus, it is difficult to explore. Therefore, the study may need to add an alternative view of evaluation to provide respondents with the space to both explore and voice their emotions and feelings for complementarity and triangulation along with the existing assessment instrument.

The LID model introduced a process of how students define their leadership identity; however, it did not specifically provide what kind of experiences and instructions in leadership training were effective for students' stage transitions. Thus, this study explored students' experience and learning about leadership, particularly focused on shifts of students' mindsets to leadership during a leadership course in Japan.

This literature review provided an explanation of several key leadership definitions. It outlined students' understandings of leadership. Finally, it summarized gaps in the literature and provided a rationale for the study. The following chapter will outline this study's methodology.

## CHAPTER THREE

### METHODOLOGY

The purpose of this study was to understand college students' perceptions of leadership in Japan and examine overall changes in their understandings of leadership after taking an online leadership course in Japan. In addition, this study explored the relative contributions of different experiences inside and outside the course in facilitating changes in students' understandings of leadership. To achieve the study's objectives, I used a mixed methods design. This chapter provides an outline of the study's methodology. First, it explains the rationale for the mixed methods design. Next, it describes the research site and participant selection procedures. Lastly, this chapter concludes with a discussion of data collection and analysis procedures for the study.

#### **Overview of Research Methods**

The purpose of this study was to describe Japanese college students' perceptions to the concept of leadership and the lived experience of student leadership learning in an online leadership course in Japan. A mixed methods approach is effective for examining the complexity of the phenomenon of how students define leadership before and after taking a leadership course. As Creswell (2009) suggested, a mixed methods approach that draws on the strengths of both qualitative and quantitative methods could use both types of data to provide an expanded understanding of research problems.

In this study, I adopted the one-group pretest–posttest design to examine changes in students' understandings of leadership through taking a leadership course in Japan. I compared data collected at the beginning of the course (i.e., April 2021) to data collected at the end of the course (i.e., July 2021). Although there are limitations of an evaluation study based on the one-group pretest–posttest design, this approach has been widely used in human services evaluation

research and is a valuable strategy that could be meaningfully used in practical settings (Shek et al., 2017; Thyer, 2002).

I also used a qualitative case study approach (Yin, 2017) to explore how participants defined leadership and what they experienced and learned in a specific leadership course. Case studies can be helpful for exploring the uniqueness of situations and can generate knowledge that might not be accessible otherwise (Merriam, 1998). Therefore, the case parameters of this study were limited to a single online leadership course scheduled from April to July 2021 at Keio University, a large private research university in Tokyo, Japan. All research was conducted in Japanese.

The study proceeded in two phases: a quantitative data collection and analysis phase and a qualitative data collection and analysis phase. I conducted quantitative analysis on the survey data to determine students' understandings of leadership as they started the leadership course and whether their understandings changed by the end of the course. I administered the presurvey in April 2021 and the postsurvey in July 2021 (see Appendices A and B). During the quantitative phase, I employed a sample of 124 participants out of all 153 students enrolled in the leadership course. Participation was based on whether a participant filled out both the presurvey and the postsurvey. Of 153 students enrolled in the course, 146 (95%) students completed the presurvey and 139 (91%) students completed the postsurvey. Among them, only 125 (82%) students completed both the presurvey and postsurvey. Because one set of responses was excluded as an outlier, the final dataset of this study consisted of 124 students, resulting in a response rate of 81%.

To examine college students' understandings of leadership and overall shifts that occurred through taking the leadership course, the survey consisted of two items: the Leadership



Attitudes and Beliefs Scale (LABS-III; Wielkiewicz, 2000, 2002) and a drawing question about leadership. The survey also asked a few demographic questions such as gender, age, academic classification (i.e., freshman, sophomore, junior, or senior), and intended major.

In this first phase of the study, participant-produced drawings about leadership were coded and quantitatively used to triangulate and complement the quantitative data gathered from a preexisting survey instrument, the LABS-III. Denzin (1988) defined triangulation in social sciences research as the combination of methodologies in the study of the same phenomenon. Bryman (2006) explained complementarity as elaborating on results using another method. Participant-produced drawings are useful for both triangulation and complementarity because drawings can provide rich data and tap into emotions not easily captured by conventional quantitative methods (Ward & Shortt, 2012).

Next, the qualitative component of the research involved in-depth interviews (see Appendix C), which were used for two purposes: (a) to gain deeper insights about students' understandings of leadership and any shifts of their leadership definitions between the presurvey and the postsurvey, and (b) to gain insights into the question of what factors inside and outside the course students felt influenced shifts in their understandings of leadership. I conducted interviews with 11 students who were selected using a maximum variation strategy (Patton, 2015) that employed the procedures described later. As part of the interview, I asked students to talk about their presurvey and postsurvey leadership drawings. The drawing method of research had an advantage because participants directly experienced the prevailing differences or similarities between the presurvey and the postsurvey by themselves. Participants could realize how differently or similarly they constructed leadership between the two drawings, which enabled a more in-depth exploration.

After analyzing data generated during Phases 1 and 2, I integrated the quantitative and qualitative findings to develop metainferences about the data (Tashakkori & Teddlie, 2008).

Table 2 provides an overview of the research design, including phases of data collection and analysis.

Table 2  
*Overview of Research Design Phases*

Phase	Procedure	End product
Quantitative data collection	Qualtrics survey, drawing question	Numerical, nominal, and drawing data
Quantitative data analysis	Coding of drawings, statistical analysis	Codes of drawings, descriptive and inferential statistics
Case selection, interview protocol development	Selecting sample based upon maximum variation sampling	Interview protocol
Qualitative data collection	Semistructured one-on-one interviews	Interview transcripts
Qualitative data analysis	Coding and thematic analysis	Codes and themes
Integration of methods	Interpretation	Discussion and implications

### **Research Site and Participant Selection**

In this section, I first explain my selection of the site and leadership course for this research and rationale for my selection. Then, I provide the detailed procedures of participant selection.

## Site and Course Selection

I had several criteria for the selection of a research site that included not only access and support, but also academic credibility and characteristics of the leadership course. For the purposes of this research, I needed to locate an institution that offered a leadership course with emphasis on understanding of leadership. Fortunately, since 2015 I have had the benefit of helping teach the first semester-long leadership course for undergraduates at Keio University in Tokyo, Japan. I was involved in designing the curriculum and have taught a part of the course as a member of the teaching team. Because this course is still the first and only leadership course at the university, the course deals with different important aspects of leadership so students could think about leadership and identify their own perceptions about leadership. I also coconducted preliminary research with Professor Jiro Tamura, the director and main instructor of the course, to assess students' development in the course (Tamura et al., 2019). Because of the positive outcomes from the preliminary study and the high popularity of the course among students, the university decided to list the course in its regular curriculum in 2016. Since then, 300–400 students have applied to take the course every year. Through a competitive selection process that requires three application essays, only around 150 students are selected to enroll in the course each year. When I requested permission to conduct my study at Keio University, Professor Tamura accepted my request to conduct my research during the leadership course held for 13 weeks from April to July 2021.

Keio University was an ideal location for this study because the university had established a credibility and had a respected reputation as one of the prominent universities in Japan; it ranked 11th in Japan (Times Higher Education, 2022) and 201st in the QS World University Ranking (QS Top Universities, n.d.). The course was titled *Leadership Basics* and

was the first and only leadership course offered at Keio University. The course was taught in Japanese and employed an omnibus format focused on various aspects of leadership ranging from career design, logical thinking, coaching, negotiation, dialogue, public speaking, and adaptive leadership, in addition to a guest speaker session over the 13-week period (see Table 3). Since the outbreak of the COVID-19 global pandemic in 2020, the course had been offered fully online.

Table 3  
*2021 Course Outline of Leadership Basics*

Week	Date	Topic(s)
1	4/12	Introduction
2	4/19	Leadership overview
3	4/26	Career design and leadership journey
4	5/3	No class – Constitution Memorial Day
5	5/10	Logical thinking
6	5/17	Coaching
7	5/24	Negotiation
8	5/31	Dialogue
9	6/7	Public speaking (1)
10	6/14	Public speaking (2)
11	6/21	Adaptive leadership (1)
12	6/28	Adaptive leadership (2)
13	7/5	A guest speaker session and closing

Professor Tamura supervised the course and invited six adjunct instructors—who were specialists in their respective fields—to coteach different aspects of leadership with him. I was in charge of teaching the three classes on leadership overview and adaptive leadership (Heifetz, 1994) during Weeks 2, 11, and 12. During these three classes the curriculum focused attention to the implications of the postindustrial paradigm of leadership and adaptive leadership. The course

ended with a guest speaker session where a successful entrepreneur in a financial industry was invited and introduced his leadership story as a real case to the students.

Typically, undergraduate courses in Japan are lecture based where students passively listen to lectures that provide unidirectional knowledge transfer (Yamada & Yamada, 2018). These courses are generally characterized by low level of engagement between instructors and students in classroom-based teaching and learning. Students are expected to do little homework and reading and instructors are not expected to motivate students to learn (Aoki, 2010).

Compared to other standard undergraduate courses in Japan, this course had several unique characteristics. First, in addition to the traditional, one-way lecture approaches, the course emphasized active and participatory learning methods including case studies, discussions, group work, role play, and presentations. Through these exercises, students could not only learn new knowledge and skills, but also gained hands-on experience for dealing with various leadership issues.

Next, teaching assistants played an important role in this course, especially in the online active learning components (Tamura & Watanabe, 2020). In this course, 17 volunteer teaching assistants worked with the course director and other instructors to help with some key tasks of online teaching, including: (a) having a preparatory meeting with each instructor, (b) managing Zoom, (c) facilitating class activities and breakout sessions, (d) organizing assignments, and (e) serving as mentor to students enrolled in the course. Each teaching assistant served as a mentor and was responsible for a small group of nine students; they provided feedback to students through questions, conversations, and discussions throughout the course period.

Reflection was another key element of this course. Students were encouraged to reflect on their concrete experiences during the course to develop self-awareness and systems thinking.

After every class, students had a small group meeting for around 30 minutes to 1 hour—led by a teaching assistant—to reflect on their learning in the class and share their opinions with other group members. They were also required to submit their reflections every class. These reflective practices assisted students in uncovering a deep set of beliefs and reframing their assumptions. As I focused on exploring implications of participants’ understanding of leadership during the online course, the opportunity to conduct my research in this setting was serendipitous.

### **Participant Selection Procedures**

For the quantitative phase, I recruited 125 volunteers from the 153 students who enrolled in the leadership course titled *Leadership Basics*. The 125 students were selected because each had completed both the precourse and the postcourse surveys.

Participants ranged from freshmen to seniors; their ages were between 18 and 27 and most were juniors and seniors in the university. I visited the first orientation class in April 2021 and the last class in July 2021 to invite all those registered for the course to participate in my online survey research (see Appendix D). The volunteer students completed the survey during class time.

For the qualitative phase, after the course finished and grading was completed, I purposefully recruited 11 participants using maximum variation sampling in terms of gender, age, classification, and intended major to explore common patterns across great variation (Glesne, 2016). When I selected candidates, I did not pay attention to the survey results, but only focused on maximizing variation of demographics. I sent an email invitation to ask whether they would be willing to participate in my interview research in September 2021 (see Appendix C). I sent invitations and conducted interviews only after all grades were finalized and submitted so students could clearly differentiate my dual roles between instructor and researcher.

### **Phase 1: Quantitative Data Collection and Analysis**

Phase 1 of this study involved survey data collection from participants to measure their leadership mindset. The survey instrument was the LABS-III, a measure constructed from existing scales that have previously demonstrated their reliability and validity. It also contained a question asking participants to produce a drawing that illustrated leadership and a few demographic questions. The details of the survey instrument will be discussed in a later section.

I attended the first class and last class of the course to recruit survey participants. During the classes, I explained the purpose and potential benefits of the study to the students. I especially emphasized participation was completely voluntary and was not related to grading at all. I also assured them survey results would remain confidential but not anonymous because I needed identifying information to connect results between the presurvey and the postsurvey. Then, I sent a Qualtrics survey link to the students using the Zoom chat function. The students who agreed with the study conditions participated in the survey during class time. A few students had a technical difficulty in completing the survey—particularly in uploading their drawing files—during class time; thus, I kept the survey link open for 2 days after each class finished. The goal in keeping the link open was to provide enough time for students to complete the survey while minimizing potential for time-lagging effects.

#### **Survey Response Rates and Participant Demographics**

Of 153 students enrolled in the course, 146 (95%) students completed the presurvey in April 2021 and 139 (91%) students completed the postsurvey in July 2021. Among them, only 125 (82%) students completed both the presurvey and postsurvey. Because one set of responses was excluded as an outlier, the final dataset of this study consisted of 124 ( $N = 124$ ) students, resulting in a response rate of 81%. Participants included 67 (54%) male students and 57 (46%)

female students. The majority of participants were juniors ( $n = 88$ ; 71%), followed by seniors ( $n = 29$ ; 23%), sophomores ( $n = 6$ ; 5%), and freshmen ( $n = 1$ ; 1%). Participant ages ranged from 18 to 27 years old with 96% of participants between the typical college ages of 19 and 22.

Of 124 students in my sample, 60 (48%) were law majors, 32 (26%) were economics majors, 21 (17%) were pursuing a major in commerce, and 11 (9%) were humanities majors. A summary of demographics of the sample is presented in Table 4.

Table 4  
*Survey Sample Demographics (N = 124)*

Demographic		Number	%
Gender	Male	67	54
	Female	57	46
	Prefer not to disclose	0	0
	<b>Total</b>	124	100
Classification	Freshman	1	1
	Sophomore	6	5
	Junior	88	71
	Senior	29	23
	<b>Total</b>	124	100
Age	18	1	1
	19	4	3
	20	64	52
	21	41	33
	22	10	8
	23	3	2
	27	1	1
	<b>Total</b>	124	100
Intended major	Law	60	48
	Economics	32	26
	Commerce	21	17
	Humanities	11	9
	<b>Total</b>	124	100



## Survey Instrument

The survey instrument was composed of three parts: (a) the LABS-III (Wielkiewicz, 2000, 2002), (b) a drawing question asking survey respondents to illustrate leadership, and (c) demographic questions. The LABS-III is a 28-item instrument used to examine leadership thinking with two constructs: hierarchical thinking and systemic thinking. Each scale consists of 14 items, which are measured on a 5-point Likert scale: 1 = *strongly disagree*, 2 = *disagree*, 3 = *neither disagree nor agree*, 4 = *agree*, and 5 = *strongly agree*. The hierarchical thinking scale measures beliefs about leadership being more about a position and positional leaders being responsible for the success or failure of an organization. The systemic thinking scale measures beliefs that leadership is everyone's responsibility and open communication and adaptability provide a stronger chance for an organization's success (Wielkiewicz, 2000, 2002). Convergent validity and content validity have been established for both scales (Lowhorn, 2011; Wielkiewicz, 2002). Other research studies have established the LABS-III as a valid tool for measuring college students' understanding and evaluation of leadership (Dunn et al., 2016; Fischer et al., 2015; Ho & Odom, 2015; Thompson, 2013; Wielkiewicz et al., 2005).

I calculated a change in hierarchical thinking scores for each participant by subtracting the hierarchical thinking score in the presurvey from the hierarchical thinking score at the postsurvey. Therefore, a positive change in the hierarchical thinking scores indicated a greater affinity for hierarchical leadership at the July 2021 postsurvey than at the April 2021 presurvey. Similarly, I calculated a change in the systemic thinking scores for each participant by subtracting the systemic thinking score at the presurvey from the systemic thinking score at the postsurvey. Again, a positive change in the systemic thinking scores indicated a greater affinity for systemic leadership at the postsurvey to the presurvey.

In addition to the LABS-III, I added a drawing question about leadership. Participants were required to freely draw their images of leadership on a paper or any digital device, take a photo or save the file of their drawings after they completed them, and upload the file to the online survey. Furthermore, I incorporated four demographic questions for data analysis purposes. Demographic questions included gender, academic classification (i.e., freshman, sophomore, junior, or senior), age, and intended major.

In total, this survey consisted of 33 questions and took respondents between 15–30 minutes to complete. The complete survey instruments can be found in Appendices A and B. Table 5 provides a summary of the survey instrument I used in this study.

Table 5  
*Survey Instrument Summary*

Variable of interest	Survey instrument	Number of items	Types of questions
Hierarchical thinking	Leadership attitudes and belief scale	14	5-point Likert scale ( <i>strongly disagree</i> to <i>strongly agree</i> )
Systemic thinking	Leadership attitudes and belief scale	14	5-point Likert scale ( <i>strongly disagree</i> to <i>strongly agree</i> )
Leadership image	Participant-produced drawing	1	Creative expression
Demographic variables	Questions about demography	4	Numerical and nominal questions

### Quantitative Data Analysis

The quantitative analysis of this study served to answer Research Question 1. To conduct the quantitative data analysis techniques, I used Microsoft Excel and statistical analysis software

IBM SPSS. First, I cleaned the data. Then, I coded drawings and aggregated the data. Finally, I conducted the analysis using statistical tests to address Research Question 1.

**Data cleaning.** I cleaned the data in Excel before inputting the dataset into SPSS. With regard to missing data, I excluded from the data all cases in which respondents failed to complete the LABS-III items and demographic questions either in the presurvey or the postsurvey because I could not compare any changes between the two periods. This action narrowed the sample size to 125 respondents.

Next, I examined unusual behaviors in student responses. I found one respondent only answered 1 = *strongly disagree* and 2 = *disagree* in all 28 questions of the LABS-III instrument in the postsurvey. I implemented a preliminary analysis to determine descriptive statistics for the 125 individuals. Because of this response, the systemic thinking score in the postsurvey (19) was far from the normal distribution of the other sample (see Figure 1). Similarly, this respondent's difference of systemic thinking scores between the presurvey and postsurvey (-35) was also far from the normal distribution of the other sample (see Figure 2). Therefore, I identified the respondent as an outlier and decided to omit the response. Accordingly, the final dataset became 124 respondents. Of the 124 respondents, nine respondents did not upload their drawing files in either the presurvey or the postsurvey. Thus, I collected and analyzed 115 pairs of drawings—or 230 drawings in total—in this study.

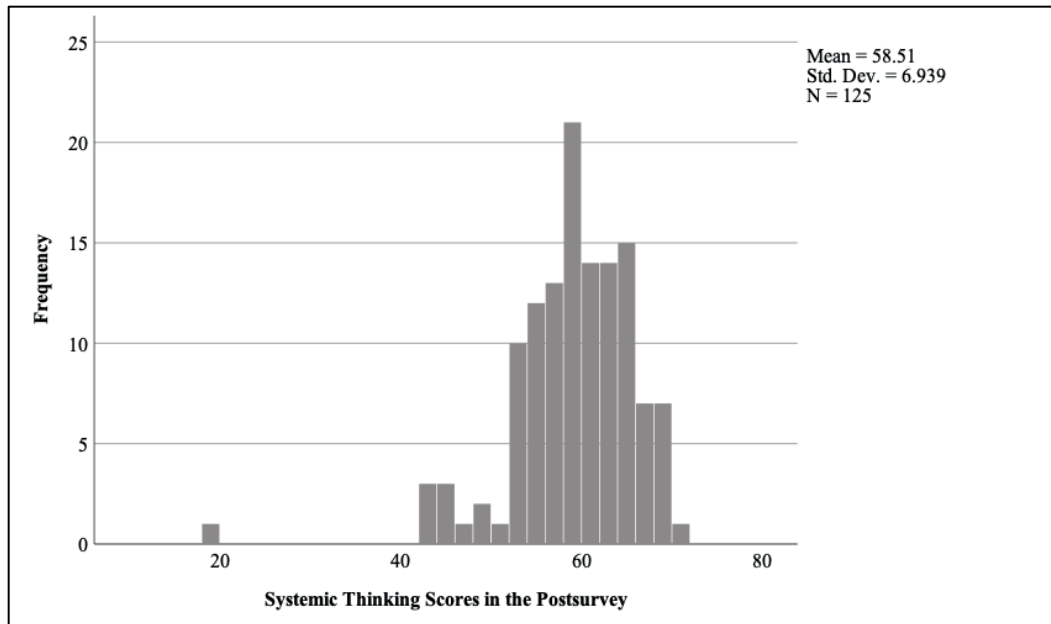


Figure 1. Distribution of systemic thinking scores at postsurvey

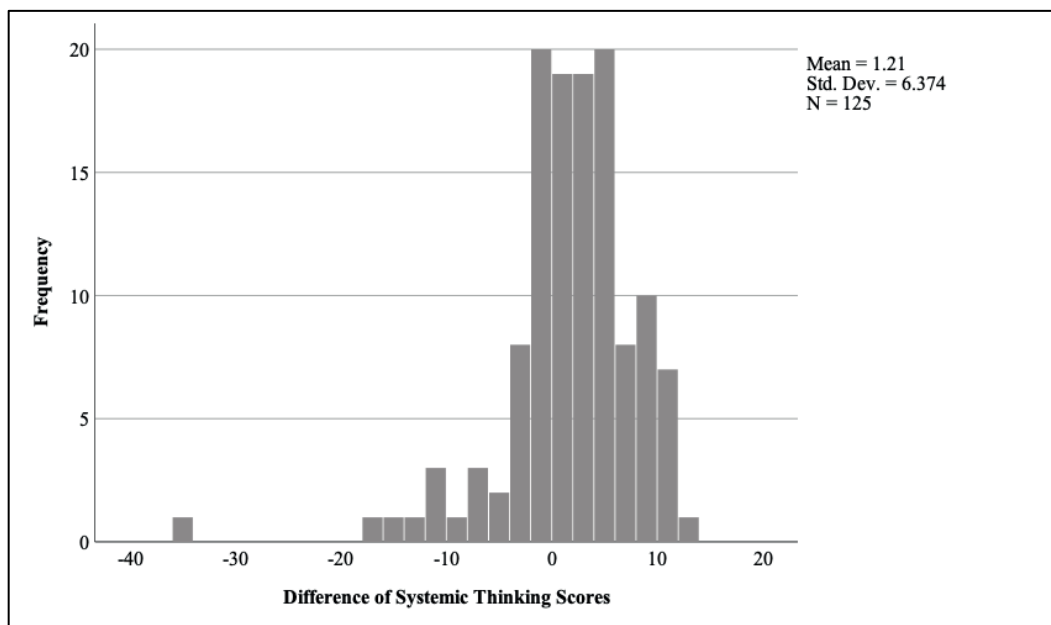


Figure 2. Distribution of differences of systemic thinking scores between presurvey and postsurvey

**Coding of drawings.** To analyze the drawings at this quantitative phase, I intentionally tried to minimize interpretation to avoid researcher subjectivity and biases. Instead, I focused on

content analysis (Lofland & Lofland, 1995; Weber, 1990) and created an inventory of the main features in the drawings. When I developed a coding system, I referenced Schyns et al.'s (2012) approach for coding students' images of a leader and I coded the drawings using nine categories.

I first coded if the participants used multiple colors (i.e., Code 1). Next, I coded the drawings—specifically whether humans, nonhuman objects, or both—were depicted (i.e., Code 2). I also noticed some drawings contained captions, sentences, or both; thus, I added this code to my scheme, but I did not interpret the meaning of the words here (i.e., Code 3). I coded drawings that indicated collaboration among people (i.e., Code 4). Because some drawings indicated some forms of purposes of a group, I coded what kind of purposes were drawn, specifically if they were general purposes or specific purposes (i.e., Code 5). Because leadership is a social construct, I paid special attention to how people, including a leader, were described in the drawings from Code 6 to Code 8. I coded if students depicted an individual leader (i.e., Code 6). I also coded if students drew multiple people, including an individual leader (i.e., Code 7). Furthermore, I coded relative sizes of people, especially compared to the leader when the individual leader was depicted (i.e., Code 8). To identify to what degree differences existed or not in drawings between the presurvey and the postsurvey, I compared the previous eight codes between the presurvey and postsurvey and calculated the number of the differences between the two (i.e., Code 9). The codes derived are presented in Table 6.

Table 6  
*Coding Categories Found in Drawings*

#	Category	Coding
1	Color	1: A single color only 2: Multiple colors used
2	Object	1: Human(s) only 2: Nonhuman object(s) only 3: Both human(s) and nonhuman object(s)
3	Explanation	0: Neither 1: Caption(s) only 2: Sentence(s) only 3: Both caption(s) and sentence(s)
4	Collaboration	0: No 1: Yes
5	Purpose	0: None 1: General purpose(s) 2: Specific purpose(s)
6	Individual leader	0: No 1: Yes
7	Multiple people	0: No 1: Yes
8	Size of people	0: Not applicable 1: A leader bigger than others 2: All same sizes 3: Various sizes 4: Others bigger than a leader
9	Number of differences in Codes 0–8 between pretest and posttest	0 to 8

Figure 3 presents one student's presurvey and postsurvey drawings (i.e., Sample 1 and Sample 2). I coded the Sample 1 presurvey participant-produced drawing about leadership using the nine categories as follows:

- The student drew Sample 1 with only one color, so the color category was coded as 1.
- This drawing involved several people, a mountain, and a road; therefore, it contained both humans and nonhuman objects. Thus, I coded the object category as 3.

- Because it did not contain any captions or sentences, the explanation category was coded as 0.
- This drawing depicted one person leading others, but no collaboration was described. Therefore, the collaboration category was coded 0.
- A flag on the top of the mountain implied a purpose or a goal of the group, but its meaning was not specific. Thus, it could be analyzed as a general purpose rather than a specific purpose. As such, I coded the purpose category as 1.
- Because the far-left person was clearly drawn as a leader to lead (or even drag) others, I coded the individual leader category as 1.
- Because several people were depicted in the drawing, I coded the multiple people category as 1.
- Because the student depicted an individual leader larger than other people, I coded the size of people category as 1.

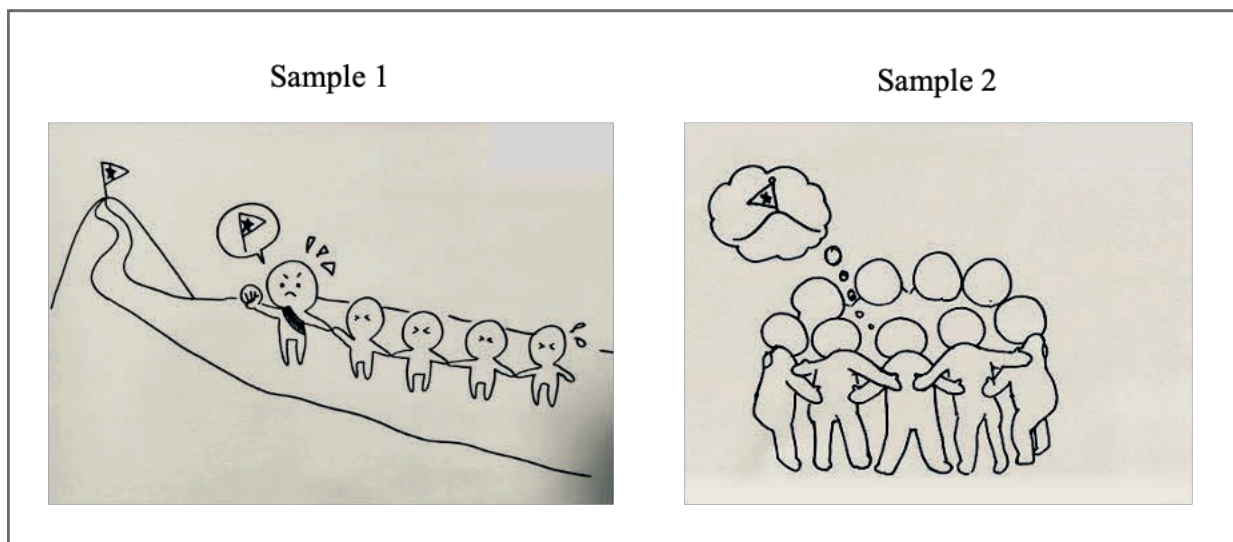


Figure 3. Samples of participant-produced drawings

Figure 3 also depicts the postsurvey Sample 2. I coded this drawing as follows:

- Because this drawing used only a single color, I coded the color category as 1.
- This drawing contained both several people and a mountain, which are humans and nonhuman objects, so I coded the object category as 3.
- I coded the explanation category as 0 because there were no captions or sentences in the drawing.
- The student clearly emphasized collaboration among people in this sample because the people are huddled up in a circle to aim at a goal. As such, I coded the collaboration category as 1.
- A flag can be interpreted as a symbol of a purpose or a goal for the group. However, it is not specific, so I coded the purpose category as 1.
- This drawing does not identify an individual leader, so I coded the individual leader category as 0.
- Because the student drew a group of people in this sample drawing, I coded the multiple people category as 1.
- I coded the size of people category as 2 because all people were depicted as a similar size in this drawing.

Comparing the coding results of the two sample drawings, results were different in 3 of 8 coding categories: collaboration, individual leader, and size of people. Thus, I calculated the difference as 3. Table 7 summarizes coding results of Samples 1 and 2 in Figure 3.



Table 7  
*Coding Samples of Drawings*

Drawing category	Color	Object	Explanation	Collaboration	Purpose	Individual leader	Multiple people	Size of people	# of dif.
Sample 1	1	3	0	0	1	1	1	1	
Sample 2	1	3	0	1	1	0	1	2	3

I conducted an interrater reliability test of coding of the drawings using two external coders. Neither coder was involved in the research process to this stage. The decision to use innocent coders was to ensure the influence of prior knowledge and assumptions was minimized. I randomly selected drawings corresponding to 25 participants—20.2% of the sample—to validate coding. That process produced 91% agreement between the primary researcher and the external coders. After individual coding, the three coders had a discussion on disagreed results until we reached agreement. Based on the agreement, I coded all 230 drawings once again and finalized coding.

**Quantitative data analysis procedures.** In this study, I used Excel and SPSS for data analysis. To answer Research Question 1, I performed an analysis to determine the descriptive statistics to describe students' perspectives about leadership using constructs of hierarchical thinking and systemic thinking. Descriptive data included frequencies, mean scores, and standard deviations. I also employed a descriptive statistics analysis to describe participant-produced drawings about leadership images based on eight coding categories for complementarity and triangulation with the LABS-III scales. Descriptive data included frequencies and percentages. Furthermore, I used a paired samples *t* test for both hierarchical and systemic thinking scales at the  $p \leq .05$  level to determine whether students demonstrated a shift in their understandings of leadership through taking the leadership course. For visual presentation, Table 8 matches the research questions for this study with the analytical techniques used to address them.

Table 8  
*Research Questions and Corresponding Analytical Techniques*

Research questions	Analytical techniques
1. How do college students understand the concept of leadership before and after participating in an online leadership course in Japan?	Descriptive statistics Paired Samples <i>t</i> tests Two-sample <i>t</i> tests Qualitative analysis
2. What factors inside and outside this leadership course do students indicate influenced the shifts in their understandings of leadership?	Qualitative analysis

### **Phase 2: Qualitative Data Collection and Analysis**

The purpose of Phase 2 of this mixed methods study was to provide a deeper investigation of the quantitative results from Phase 1. This section describes the methodological design of this phase, participant selection process, data collection procedures, and data analysis process.

#### **Comparative Case Study Design**

Phase 2 employed a comparative case study approach to explore factors that influenced the shifts of 11 students' understandings of leadership after taking the leadership course that comprised a subset of participants from the survey responses (Merriam & Tisdell, 2015). Comparative case studies involve data collection from multiple cases, which can potentially capture greater variation across cases and lead to more convincing interpretations. The individual student was the unit of analysis for this portion of the study.

#### **Participant Selection (Maximum Variation Sampling)**

I intentionally selected 11 students from the 124 quantitative data sample to participate in the qualitative portion of this study. I employed a form of maximum variation sampling (Patton,

2015), striving to include students from different classifications like age, major, and gender. To examine the demographic characteristics of the interview sample compared to the total population of students participating in the study, I employed two-sample  $t$  tests to determine whether the means of the two populations (i.e., the sample in the quantitative study and the 11 participants in the qualitative study) for hierarchical and systemic thinking about leadership were consistent.

Table 9 presents demographics of interview participants and dates I conducted interviews. This approach allowed me to consider any common patterns that emerged in the core experiences of the students. Given the small size of interview sample, I acknowledged findings were not able to be generalized in the traditional scientific sense.

Table 9  
*Interview Sample Demographics and Interview Dates*

#	Name ID	Gender	Classification	Age	Intended major	Interview date
1	A	M	Junior	20	Commerce	9/14/21
2	B	M	Junior	20	Law	9/14/21
3	C	M	Junior	21	Economics	9/13/21
4	D	M	Junior	22	Law	9/13/21
5	E	M	Senior	22	Law	9/11/21
6	F	M	Senior	27	Commerce	9/13/21
7	G	F	Sophomore	20	Economics	9/17/21
8	H	F	Junior	20	Humanities	9/18/21
9	I	F	Junior	20	Law	9/14/21
10	J	F	Senior	21	Commerce	9/11/21
11	K	F	Senior	21	Economics	9/18/21

### **Qualitative Data Collection Procedures**

This study used semistructured interviews to collect data from participants. I conducted 11 interviews in Japanese and virtually via Zoom from September 11 to September 18, 2021. Each interview lasted approximately 60 minutes and was audio recorded. I employed an

interview guide to structure the conversations and ensure all relevant topics were addressed (see Appendix E). The interviews aimed to cover how students changed (or not) their understandings of leadership, what specific experiences inside and outside the course they thought contributed (or not) to influence the changes, and why they thought that way. After conducting interviews, I transcribed audio recordings to produce verbatim records of the students' responses.

In the interviews, I asked students to verbalize their ideas in interpreting the drawings. Using participant-produced drawings is useful for uncovering specific implicit knowledge; thus, it was particularly appropriate in this research because leadership is an implicit image each individual holds. Drawings can help students surface tacit or latent constructs (Stiles, 2004), which may be difficult to achieve when exclusively using verbal techniques in interviews. The other advantage of using a drawing method of research was students could directly experience the prevailing differences or similarities between the presurvey and postsurvey by themselves. Students could realize how different or similar they constructed leadership between the two drawings, which enabled a more in-depth exploration.

### **Qualitative Data Analysis**

In the qualitative analysis phase, I used thematic content analysis. I first identified the experience and shifts in students' thinking of leadership related to the effects with supporting quotes from transcripts of the 11 interviews. Next, I focused on comparing and contrasting the transcripts to address the questions of what students said were their key experiences that influenced how they shaped their understandings of leadership during the course. I sorted elements of the transcriptions and assigned codes to particular passages and grouped them by theme. I used NVivo to employ descriptive and in vivo coding.

To focus on specific shifts of the respondents' understandings of leadership, I allocated the codes developed in the initial coding into three profile groups depending on the degree of the shift of hierarchical and systemic thinking scores between the presurvey and the postsurvey (see Table 10). The three profile groups included: (a) those who scored below the mean on the systemic thinking scale at pretest and remained below the mean on the systemic thinking scale at posttest, (b) those who scored below the mean on the systemic thinking scale at pretest but demonstrated a large increase in the systemic thinking scale beyond the mean at posttest, and (c) those who scored much higher than the mean on the systemic thinking scale at pretest and maintained the higher score in the systemic thinking scale over time.

Table 10  
*Interview Participant Profile Groups*

#	Profile group description	Participants ( <i>n</i> = 11)
1	Below mean on ST at presurvey and demonstrated small shift in ST	3
2	Demonstrated large positive shift in ST from below mean to above mean	5
3	Above mean on ST at presurvey and demonstrated small shift in ST	3

*Note.* ST means the systemic thinking scale.

In the second cycle of coding, I attempted to generate grounded hypotheses about what commonalities existed in participant experiences in each respective profile group and what differences existed between different profile groups. In the analysis, I paid special attention to Group 2 and compared this group with the other two groups because those in Group 2 demonstrated a large positive shift in their systemic thinking scale, which meant they developed a postindustrial way of thinking about leadership through taking the leadership course.

### **Phase 3: Integration of Methods**

I used a convergence model of triangulation design in Phase 3. In this model, I collected and analyzed qualitative and quantitative data separately, compared the results, and made interpretations (Creswell & Plano Clark, 2018). Creswell and Plano Clark advised researchers might use a convergence model of the triangulation type of mixed methods design when they would like to compare results or to validate, confirm, or corroborate quantitative results with qualitative findings. The purpose of this model was to end up with valid and well-substantiated conclusions about a single phenomenon, which was how students shifted (or did not shift) their understandings of leadership through taking a leadership course in this study.

This convergence model of triangulation design matched well with this study. It offered the benefits of validating the quantitative findings with qualitative findings and allowed an investigation of the lived experience of student leadership learning from a variety of complementary angles. I analyzed the qualitative and quantitative survey items separately, including data from the survey instrument, creative expression, and individual interviews. Findings were merged in the presentation and interpretation of the results (see Chapters 4 and 5).

## CHAPTER FOUR

### FINDINGS

Chapters 1, 2, and 3 provided background information about the research problem, reviewed relevant literature, and explained the methods used in this study. This section delineates the findings from the data analysis.

The purpose of this study was to understand how college students shaped their understandings of the postindustrial model of leadership through taking an online leadership course in Japan. To be more specific, this study aimed at understanding the participating college students' understandings of leadership and overall changes in their understandings of leadership through taking an online leadership course in Japan. Additionally, this study explored the contributions different factors inside and outside the course made in facilitating changes in students' understandings of leadership. The research questions that guided this study were:

1. How do college students understand the concept of leadership before and after participating in an online leadership course in Japan?
2. What factors inside and outside this leadership course do students indicate influenced the shifts in their understandings of leadership?

#### **Procedures to Answer Research Question 1**

I investigated the research questions using a mixed methods approach. I addressed Research Question 1 by analyzing quantitative survey data from 124 respondents and qualitative interview data from 11 participants.

#### **Quantitative Data Analysis**

The quantitative survey was composed of three parts: (a) the Leadership Attitudes and Belief Scale (LABS-III); (b) a question asking participants to draw how they envisioned and

thought about leadership; and (c) a few demographic questions about gender, academic classification (i.e., freshman, sophomore, junior, or senior), age, and intended major. In the accompanying analysis, I paid particular attention to changes between the presurvey results and postsurvey results of the LABS-III instrument and the drawing question coding data. I conducted several paired samples *t* tests to determine whether students demonstrated shifts in their understandings of leadership through taking the leadership course.

**Leadership Attitudes and Belief Scale.** The LABS-III instrument consists of two scales representing divergent patterns of leadership attitudes and beliefs: the hierarchical thinking scale and systemic thinking scale (Wielkiewicz, 2000, 2002). The hierarchical thinking scale is based on a hierarchical pattern of thinking about leadership, which is a characteristic of the traditional top-down, leader-centric structure. This scale emphasizes a tightly controlled decision-making process with an authoritarian mode of operation and communication. On the other hand, the systemic thinking scale emphasizes an organization's ability to adapt quickly to changing environments by employing the knowledge and wisdom of organizational members through communication and collaboration, which is paramount to success in organizations. Therefore, in this scale, leader effectiveness depends on their ability to successfully facilitate and leverage a participatory decision-making process rather than dictate and control what happens from the top of a hierarchical structure.

**Drawing images of leadership.** In addition to responding to the LABS-III instrument used to answer Research Question 1, participants were asked to create a drawing of an image that captured their view of leadership. Adding a drawing method was particularly useful in this study because leadership is an implicit image each individual holds. Drawings can help respondents surface tacit or latent constructs (Stiles, 2004), which may be difficult to achieve when



exclusively using an existing survey instrument. I coded drawings by eight main features in the drawing based on content analysis, including: (a) color or mono; (b) object(s); (c) explanation added; (d) collaboration described; (e) purpose described; (f) an individual leader identified; (g) multiple persons described; and (h) comparative size of persons, especially to an identified leader. Lastly, I calculated the number of changes through the eight coding categories in drawings to analyze to what degree the two drawings signaled a student's view of leadership had changed.

### **Qualitative Data Analysis**

Additionally, I incorporated a qualitative data analysis to gain a more in-depth insight about changes on the students' perspectives of leadership as a result of taking the course. Employing a form of maximum variation sampling (Patton, 2015), I intentionally recruited 11 students from the 124 quantitative data sample for a semistructured, one-on-one interview. In the interviews, I asked participants to verbalize their ideas about interpreting the drawings of their images of leadership at presurvey and at postsurvey by showing them the two images. Using a drawing method in the qualitative phase this way had an advantage because participants directly experienced the prevailing differences or similarities between the presurvey and the postsurvey. They realized how different or similar they constructed leadership between the two drawings, which enabled a more in-depth exploration of their precourse and postcourse thinking during interviews.

### **Procedures to Answer Research Question 2**

To address Research Question 2, in addition to asking them to talk about their drawings, I asked interview participants about their experience in the course. More specifically, I asked what they thought had caused changes in their understandings of leadership and if they recognized

their thinking had changed. The findings that emerged from interviews with these 11 participants are also presented in this chapter.

### **Final Phase of Analysis**

After data generated during the previous two phases were analyzed, I integrated all the quantitative and qualitative findings from both phases to make sense of the impact, if any, of the leadership course at the center of this dissertation study. The answers to the research questions reflect this integration effort during the third and final phase of the analysis process. The subsequent sections of this chapter delineate the findings from the data analysis.

### **Research Question 1**

Research Question 1 was: “How do college students understand the concept of leadership before and after participating in an online leadership course in Japan?” To address Research Question 1, I used both a quantitative analysis with data from presurvey and postsurvey responses of the 124 students who took the survey and a qualitative data analysis of one-on-one interview data generated with the 11 students who were selected to participate in the qualitative interviews. As noted previously, the survey included the LABS-III, which measured: (a) two constructs, hierarchical thinking and systemic thinking; (b) a drawing question about their leadership image; and (c) demographic questions.

### **Descriptive Statistics of Survey Respondents**

Out of 153 students enrolled in the course, 146 (95%) completed the presurvey in April 2021 and 139 (91%) students completed the postsurvey in July 2021. Among respondents, 125 (82%) students completed both the presurvey and postsurvey. Because one set of responses was incomplete and omitted, the final dataset for this study consisted of 124 responses, resulting in a response rate of 81%.

The sample consisted of 67 (54%) male students and 57 (46%) female students. The majority of participants were juniors ( $n = 88$ ; 71%), followed by seniors ( $n = 29$ ; 23%), sophomores ( $n = 6$ ; 5%), and freshmen ( $n = 1$ ; 1%). Participant ages ranged from 18 to 27 years, with 96% being between the typical college ages of 19 to 22. Of the 124 students in the sample, 60 (48%) were law majors; 32 (26%) were economics majors; 21 (17%) were pursuing a major in commerce; and 11 (9%) were humanities majors.

I calculated scores for both the hierarchical thinking and systemic thinking scales; scores on both scales ranged from 14 (*low*) to 70 (*high*). Table 11 details descriptive statistics for the hierarchical thinking scale means based on participant's gender, classification in school (i.e., freshman, sophomore, junior, or senior), age, and intended major at presurvey and at postsurvey. Table 12 presents descriptive statistics for the systemic thinking scale means based on participant's gender, classification in school, age, and intended major at the two time points.

Interpretation of the descriptive statistics requires the reader to understand 1 = *strongly disagree* on a 5-point Likert scale and 5 = *strongly agree*. Therefore, higher values on the hierarchical and systemic thinking scores suggest stronger endorsement of the principles associated with each construct. In the presurvey, the range of hierarchical thinking scale scores was 25 to 63, with an overall average of 43.66, which is a little higher than neutral (42). The range of systemic thinking scale scores was 46 to 70, with an overall average of 57.33. At postsurvey, the range of hierarchical thinking scale scores was 23 to 66, with an overall average of 42.33, which is 1.33 lower than the average of the presurvey scale scores and only slightly higher than neutral (42). The range of systemic thinking scale scores was 42 to 70, with an overall average of 58.83, which is 1.50 higher than the average of the presurvey scale scores.

Table 11  
*Descriptive Statistics for Hierarchical Thinking Scales by Characteristic*

Characteristic	N	<u>Hierarchical thinking</u>				<u>Difference</u> Mean
		<u>Presurvey</u>		<u>Postsurvey</u>		
		Mean	SD	Mean	SD	
Total	124	43.66	7.90	42.33	9.04	-1.33
Gender						
Male	67	45.06	7.53	43.58	8.46	-1.48
Female	57	42.02	8.08	40.86	9.54	-1.16
Classification						
Freshman	1	40.00	-	43.00	-	3.00
Sophomore	6	44.83	7.60	43.83	9.30	-1.00
Junior	88	43.10	7.91	41.64	8.99	-1.46
Senior	29	45.24	8.09	44.10	9.33	-1.14
Age						
18	1	40.00	-	43.00	-	3.00
19	4	45.75	9.50	43.50	9.15	-2.25
20	64	43.05	7.86	41.80	9.22	-1.25
21	41	43.07	7.90	40.88	8.67	-2.19
22	10	50.40	7.04	50.30	8.35	-0.10
23	3	41.67	4.04	45.00	4.58	3.33
27	1	41.00	-	43.00	-	2.00
Intended major						
Law	61	42.15	8.84	41.18	9.95	-0.97
Economics	32	45.63	7.12	43.38	6.92	-2.25
Commerce	20	44.95	6.78	44.30	9.68	-0.65
Humanities	11	44.00	5.00	42.09	8.03	-1.91

*Note:* Score ranges are from 14 (*low*) to 70 (*high*).

Table 12  
*Descriptive Statistics for Systemic Thinking Scales by Characteristic*

Characteristic	N	Systemic thinking				Difference Mean
		Presurvey		Postsurvey		
		Mean	SD	Mean	SD	
Total	124	57.33	5.18	58.83	5.98	1.50
Gender						
Male	67	56.91	5.36	58.36	6.00	1.45
Female	57	57.82	4.97	59.39	5.96	1.57
Classification						
Freshman	1	62.00	-	62.00	-	0.00
Sophomore	6	61.67	4.50	63.50	4.28	1.83
Junior	88	56.82	4.98	58.90	5.49	2.08
Senior	29	57.83	5.60	57.55	7.32	-0.28
Age						
18	1	62.00	-	62.00	-	0.00
19	4	62.25	4.35	63.00	5.03	0.75
20	64	56.50	5.24	58.52	5.97	2.02
21	41	56.73	4.92	58.10	6.30	1.37
22	10	62.30	3.06	62.30	4.17	0.00
23	3	59.67	2.52	58.33	7.02	-1.34
27	1	54.00	-	56.00	-	2.00
Intended major						
Law	61	57.57	5.31	58.54	6.25	0.97
Economics	32	56.78	4.77	58.69	5.63	1.91
Commerce	20	56.65	6.12	58.60	6.57	1.95
Humanities	11	58.82	3.87	61.27	4.27	2.45

*Note:* Score ranges are from 14 (*low*) to 70 (*high*).

To examine whether differences, if any, existed in students' understanding of leadership before and after the students participated in an online leadership course in Japan, I employed a paired samples *t* test to examine whether statistically significant differences existed in the LABS-III data between the presurvey results and postsurvey results. The paired samples *t* tests revealed significant differences in aggregate hierarchical thinking scores and significant differences in aggregate systemic thinking scores between the presurvey results and postsurvey results (see

Table 13). These results indicated a weakening of beliefs in hierarchical thinking and strengthened beliefs in systemic thinking among students enrolled in the leadership course, across time.

Table 13  
*Comparison of Mean Scores Between Presurvey and Postsurvey (N = 124)*

Measure	Presurvey		Postsurvey		<i>t</i>	<i>p</i> value*	<i>Effect size</i>
	<i>Mean</i>	<i>SD</i>	<i>Mean</i>	<i>SD</i>			
Hierarchical thinking	43.66	7.90	42.33	9.04	1.99	0.03	0.18
Systemic thinking	57.33	5.18	58.83	5.98	-3.04	0.00	-0.27

*Note.* \* *p* value for one-tailed paired samples *t* test comparing presurvey and postsurvey

This section presented the descriptive statistics for both hierarchical thinking and systemic thinking scales as measured by the LABS-III (Wielkiewicz, 2000, 2002). The scores were disaggregated based on participants' gender, classification in school (i.e., freshman, sophomore, junior, or senior), age, and intended major at presurvey in April 2021 and at postsurvey in July 2021. This section also examined whether statistically significant shifts existed in the two scales between the presurvey results and postsurvey results. Next, I introduced the coding results of drawing data from the online survey and analyzed shifts in the drawings between the presurvey and postsurvey.

### **Coding Results of Participant-Produced Drawings About Leadership Images**

Nine of the 124 respondents in the sample did not submit their drawings of leadership images either at presurvey or at postsurvey. Consequently, I collected and analyzed 115 pairs of drawings—230 drawings in total—in this study. As noted previously, participant-produced drawings about their images of leadership were coded in nine categories. I first coded if the drawings used multiple colors or not (i.e., Code 1). Next, I coded what types of objects students

drew, specifically whether they depicted humans, nonhuman objects, or both (i.e., Code 2). I also noticed some drawings contained captions, sentences, or both; thus, I added this code to my scheme but did not interpret the meaning of the words (i.e., Code 3). I coded drawings that indicated collaboration among people (i.e., Code 4). Because some drawings indicated some forms of group purposes, I coded what kind of purposes students drew, specifically general purposes or specific purposes (i.e., Code 5). Because leadership is a social construct, I paid special attention to how students described people, including a leader, in the drawings from Code 6 to Code 8. Accordingly, I coded if students indicated an individual leader (i.e., Code 6). I also coded if students drew multiple people, including an individual leader (i.e., Code 7). Furthermore, I coded the relative sizes of people, especially compared to the leader, when students drew an individual leader (i.e., Code 8). To identify to what degree differences existed in drawings between presurvey and postsurvey, I compared the previous eight codes between the presurvey and postsurvey and calculated the number of differences between the two (i.e., Code 9).

Table 14 shows frequencies, percentages, and shifts of the nine categories found in the participant-produced drawings about leadership images at presurvey and at postsurvey. In terms of number of colors used, most respondents used a mono color, including 60% at presurvey and 55% at postsurvey. The majority of respondents drew human(s) only at presurvey (62%) and at postsurvey (68%).

Although 51% of respondents did not contain any literal explanations at presurvey, the percentage decreased to 41% at postsurvey. This decrease indicated most respondents (59%) added some explanations using either captions (39%), sentences (4%), or both (16%) in their

drawings at postsurvey. Among them, those who added captions to their drawings at postsurvey increased by 10%, from 29% to 39%.

Although only 29% of drawings indicated any forms of collaboration at presurvey, the percentage jumped up to 64% at postsurvey. In 80% of drawings at presurvey, no purpose was identifiable, but that percentage dropped to 57% at postsurvey. The percentage of students that depicted general purposes increased by 19%, from 17% at presurvey to 36% at postsurvey.

At presurvey, 80% of respondents described an identifiable individual leader. At postsurvey, only 46% indicated an identifiable individual leader in their leadership images. Most respondents described multiple people, including metaphors such as dots and circles both at presurvey (87%) and at postsurvey (90%). In 50% of drawings at presurvey, students drew an individual leader bigger than other persons; however, the percentage significantly decreased by 31% at postsurvey (18%). Instead, 53% of respondents drew all persons around the same size at postsurvey.

Finally, in terms of the number of differences in the previous eight coding categories between the presurvey results and the postsurvey results, 92% of respondents drew their images of leadership differently in at least 1 of 8 coding categories. Around half of respondents (49%) drew their images differently in more than 4 coding categories of 8 between the two time periods.



Table 14  
*Frequencies and Percentages of Categories Found in Participant-Produced Drawings (n = 115)*

#	Category	Coding	Presurvey		Postsurvey		Gap (n)	Gap (%)
			Frequency	%	Frequency	%		
1	Color	1: A single color only	69	60	63	55	-6	-5
		0: Multiple colors used	46	40	52	45	6	5
2	Object	1: Human(s) only	71	62	78	68	7	6
		2: Nonhuman object(s) only	15	13	12	10	-3	-3
		3: Both human(s) and nonhuman object(s)	29	25	25	22	-4	-3
3	Explanation	0: Neither	59	51	47	41	-12	-10
		1: Caption(s) only	33	29	45	39	12	10
		2: Sentence(s) only	6	5	5	4	-1	-1
		3: Both caption(s) and sentence(s)	17	15	18	16	1	1
4	Collaboration	0: No	82	71	42	37	-40	-35
		1: Yes	33	29	73	63	40	35
5	Purpose	0: None	92	80	65	57	-27	-23
		1: General purpose(s)	19	17	41	36	22	19
		2: Specific purpose(s)	4	3	9	8	5	4
6	Individual leader	0: No	23	20	62	54	39	34
		1: Yes	92	80	53	46	-39	-34
7	Multiple people	0: No	15	13	11	10	-4	-3
		1: Yes	100	87	104	90	4	3
8	Size of people	0: Not applicable	18	16	17	15	-1	-1
		1: A leader bigger than others	57	50	21	18	-36	-31
		2: All same sizes	37	32	61	53	24	21
		3: Various sizes	2	2	15	13	13	11
		4: Others bigger than a leader	1	1	1	1	0	0
9	Number of differences in Codes 0–8 between pretest and posttest	0			9	8		
		1			11	10		
		2			21	18		
		3			18	16		
		4			30	2		
		5			15	13		
		6			10	9		
		7			1	1		
		8			0	0		

### **Presurvey and Postsurvey Shifts**

Quantitative results of the LABS-III data and coding results of participant-produced drawings about leadership demonstrated several important shifts between the presurvey and postsurvey. A paired samples *t* test indicated statistically significant differences existed with the LABS-III data between the two time periods. More specifically, findings suggested a decreasing preference for hierarchical thinking and a growing preference for systemic thinking among students after they took the leadership course.

In addition, coding data from drawings of leadership images demonstrated several significant differences between the presurvey and postsurvey results. For example, significant shifts (i.e., more than 30% differences) occurred in 3 of 8 coding categories in the drawings about leadership image, including (a) collaboration, (b) depiction of an individual leader, and (c) a comparative size among people.

Most respondents (63%) portrayed some form of collaboration in their leadership image at postsurvey compared to only 29% of respondents who did this in the presurvey. Only 46% of respondents identifiably indicated an individual leader in their drawings at postsurvey; whereas, a vast majority of respondents (80%) identifiably drew an individual leader at presurvey. There were also visible shifts in the comparative sizes of people in the drawings. Half of respondents (50%) drew an individual leader larger than other people in the presurvey. In the postsurvey, the percentage dropped to 18% and the majority of them (53%) drew all the people at around the same size.

These results suggested students portrayed more collaborative and less hierarchical approaches to leadership in the imagery they created. This finding is consistent with the

decreased scores for hierarchical thinking and increased scores for systemic thinking in the postsurvey LABS-III data.

### **Qualitative Interview Results**

Next, to gain a more in-depth exploration about students' understandings of leadership and changes of their understandings that occurred after taking the leadership course, I present findings from the one-on-one qualitative interviews with 11 students in the qualitative portion of the study. This discussion has three parts. First, I offer descriptions of the study's 11 participants with their LABS-III scale results at presurvey and at postsurvey. Next, I present the three groups that illustrate shifts in the LABS-III results documented by the quantitative analysis. Finally, I introduce their images of leadership at presurvey and at postsurvey times and compare these data with their LABS-III scores and coding results of their drawings.

**Participant profiles from qualitative interviews.** The study's qualitative strand employed semistructured one-on-one interviews with 11 students enrolled in the leadership course. I selected participants based on maximum variation sampling using demographic information about gender, classification (i.e., freshman, sophomore, junior, or senior), age, and intended major. To introduce interview participants prior to presenting key findings that emerged from analyzing the qualitative study, descriptions of 11 participants are summarized in Table 15.

Table 15  
*Descriptions of 11 Interview Participants*

ID	Gender	Class	Age	Intended major	Hierarchical thinking			Systemic thinking		
					Pre	Post	Gap	Pre	Post	Gap
A	M	Junior	20	Commerce	46	45	-1	57	66	9
B	M	Junior	20	Law	47	48	1	55	64	9
C	M	Junior	21	Economics	52	53	1	50	59	9
D	M	Junior	22	Law	53	46	-7	57	56	-1
E	M	Senior	22	Law	42	59	17	65	66	1
F	M	Senior	27	Commerce	41	43	2	54	56	2
G	F	Sophomore	20	Economics	41	35	-6	56	62	6
H	F	Junior	20	Humanities	41	51	10	51	61	10
I	F	Junior	20	Law	50	60	10	62	66	4
J	F	Senior	21	Commerce	43	33	-10	50	52	2
K	F	Senior	21	Economics	53	50	-3	63	64	1

To examine demographic characteristics described in Table 15 compared to the total population of students participating in the study, I conducted two sample *t* tests to determine whether the means of the two populations (i.e., the sample in the quantitative study and the 11 participants in the qualitative study) for hierarchical and systemic thinking about leadership were consistent. These data are summarized in Table 16.

Table 16  
*Descriptive Statistics for LABS-III Scores by Population*

Population	<i>n</i>	Minimum	Maximum	Mean	SD
<u>Total sample</u>					
Hierarchical thinking at presurvey	124	25	63	43.66	7.90
Systemic thinking at presurvey	124	46	70	57.33	5.18
Hierarchical thinking at postsurvey	124	23	66	42.33	9.04
Systemic thinking at postsurvey	124	42	70	58.83	5.98
<u>Interview sample</u>					
Hierarchical thinking at presurvey	11	41	53	46.27	5.00
Systemic thinking at presurvey	11	50	65	56.36	5.18
Hierarchical thinking at postsurvey	11	33	60	47.55	8.56
Systemic thinking at postsurvey	11	52	66	61.09	4.78

Two sample  $t$  tests revealed no significant differences in means for either hierarchical thinking or systemic thinking scores at presurvey and at postsurvey between the total sample and the interview sample at the  $p \leq .05$  level of significance (see Table 17). Therefore, I proceeded to analyze the interview data. The results of that analysis are presented in the next section.

Table 17  
*Summary of Two Sample  $t$  tests*

	Mean difference	Std. error difference	$t$	$df$	Sig. (2-tailed)
Hierarchical thinking scale at presurvey	-2.61	2.43	-1.07	133	0.28
Systemic thinking scale at presurvey	0.97	1.63	0.60	133	0.55
Hierarchical thinking scale at postsurvey	-5.22	2.83	-1.84	133	0.07
Systemic thinking scale at postsurvey	-2.26	1.86	-1.22	133	0.23

**Three groups representing three shifts in understanding leadership.** In this section, I describe the responses of three groups of interview participants that represent somewhat different shifts in thinking about leadership after they were students in a leadership class in Japan. I constructed the groups by using the LABS-III scores. My goal was to compare and contrast what interview participants from each group said about their experiences with the class and any out-of-class experiences they mentioned. I first summarize the shifts in the LABS-III scores represented by each of the three groups, focusing on the systemic thinking scale.

Figure 4 graphically summarizes the shifts in thinking about leadership represented by the two LABS-III scales of the 11 interview participants from the presurvey results to postsurvey results.

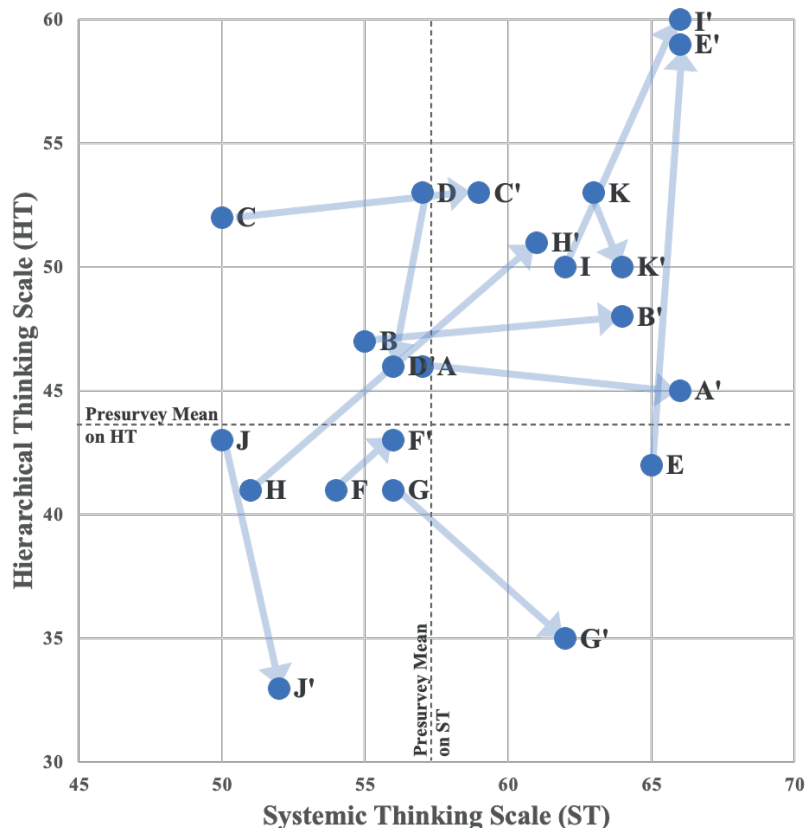


Figure 4. Shifts in LABS-III scores of interview participants between presurvey and postsurvey

The overarching purpose of this study was to understand how students shaped their understandings of the postindustrial model of leadership (Rost, 1991) through taking a leadership course in Japan. Because the postindustrial model of leadership is consistent with the systemic thinking scale in the LABS-III instrument (Wielkiewicz, 2000, 2002), I paid special attention to differences of the shifts in the systemic thinking scale among interview participants. As Figure 4 indicates, 8 of 11 participants (i.e., A, B, C, D, F, G, H, and J) scored below the mean on the systemic thinking scale at presurvey. Among them, five participants (i.e., A, B, C, G, and H) demonstrated a significant increase in their systemic thinking scale in the postsurvey. Other participants (i.e., D, F, and J) showed a minimal shift in their systemic thinking scales and stayed below the mean over time. I thought it might offer in-depth insights for this study to explore

what caused the differences of shifts, especially between the two groups. The remainder of participants (i.e., E, I, and K) scored significantly beyond the mean on the systemic thinking scale at presurvey and maintained the high score at postsurvey.

I classified interview participants into three groups for qualitative analysis purposes. Group 1 demonstrated a small shift but stayed below the mean on the systemic thinking scale over time. Three participants (i.e., D, F, and J) were categorized in this group. Group 2 demonstrated tangible positive shifts in the systemic thinking scale from below the mean at presurvey to above the mean at postsurvey. Five participants (i.e., A, B, C, G, and H) were categorized in this group. Group 3 scored significantly higher than the mean on the systemic thinking scale at presurvey and stayed much higher than the mean throughout the process. Three participants (i.e., E, I, and K) were categorized in this group. Figure 5 graphically presents the three groups.

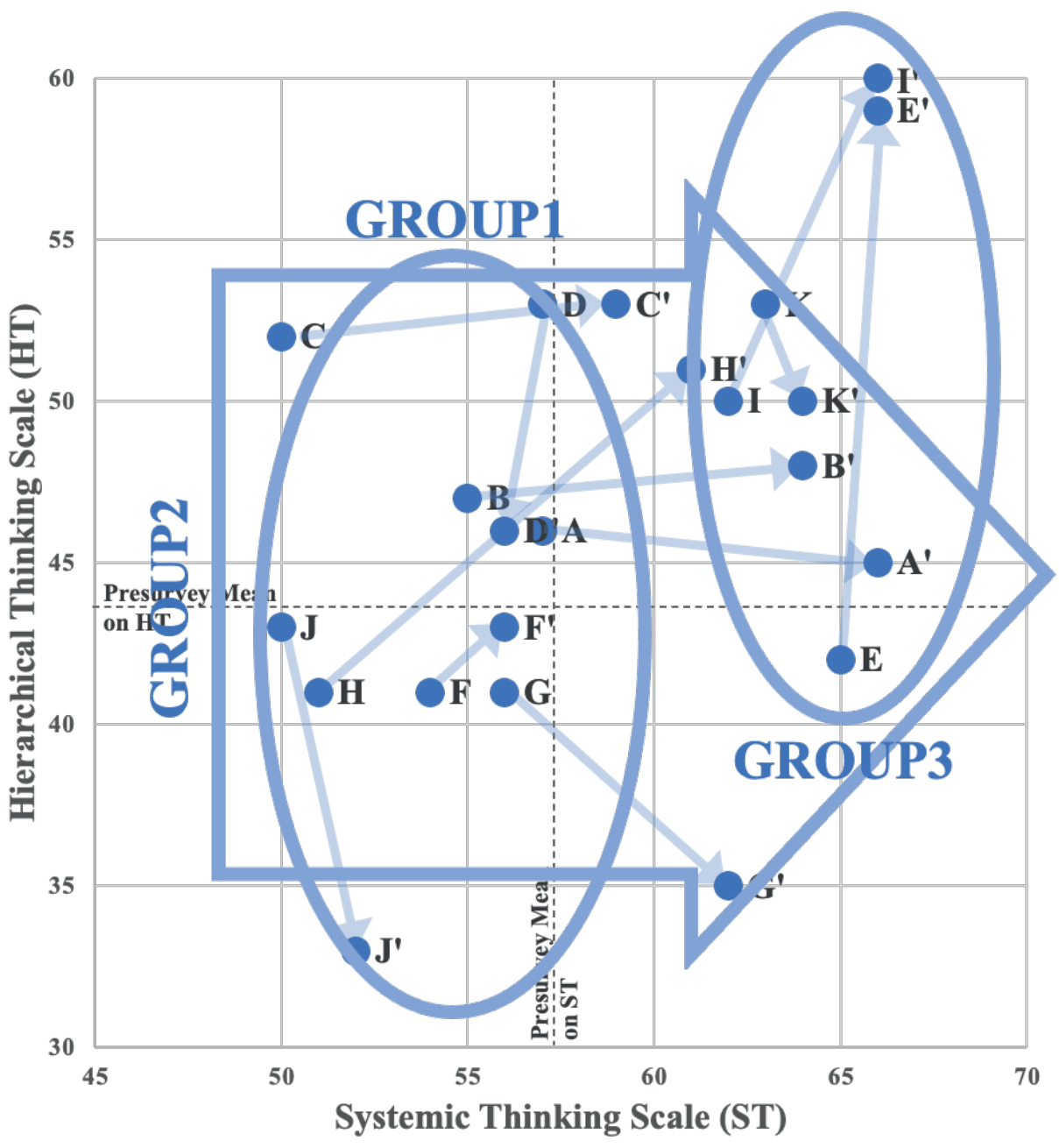


Figure 5. Three groups of shifts in LABS-III scores

Table 18 summarizes how the 11 interview participants were allocated into the three profile groups for qualitative analysis purposes based on the degree and trend of the shift of the systemic thinking scale.



Table 18  
*Allocation of Interview Participants to Three Profile Groups*

#	Profile group description	Participants
1	Below mean on ST at presurvey and demonstrated small shift in ST	D, F, J
2	Demonstrated large positive shift in ST from below mean to above mean	A, B, C, G, H
3	Above mean on ST at presurvey and demonstrated small shift in ST	E, I, K

*Note.* ST means the systemic thinking scale.

To summarize, this section identified three distinct groups based on the shifts of responses to the LABS-III results of the 11 interview participants, specifically focusing on shifts of the systemic thinking scale. In the next section, I introduce a description of each of the three groups that emerged after each participant was associated with 1 of 3 groups. I also detail discussion of 11 interview participants' drawings about leadership in the context of the three different groups.

**Descriptions of three groups and interview participants in each group.** This section provides a description of each of the three groups and detailed profiles of interview participants in each group, including their LABS-III scores and their drawings of leadership at presurvey and at postsurvey times.

**Group 1.** Participants in this group scored below the mean on the systemic thinking scale at presurvey and remained below the mean on the systemic thinking scale after having taken the leadership course. Based on their scores, Participants D, F, and J were assigned to this group. However, two of them demonstrated significant decreases on the hierarchical thinking scale. I introduced the detailed profiles of these three participants in the following sections.

Participant D was a male, junior student, aged 22 years old, majoring in law. Tables 19 and 20 show the summary of his profile, including his demographic data, LABS-III results, and

coding results of his drawings about leadership at presurvey and postsurvey. He was not confident enough to lead before he took the course because he believed a leader needed to have charisma but thought he did not have this quality. Because he had a dream to become a middle school teacher in the future, he decided to take the leadership course to build confidence in leadership he would have to exhibit to run a classroom when he would become a teacher.

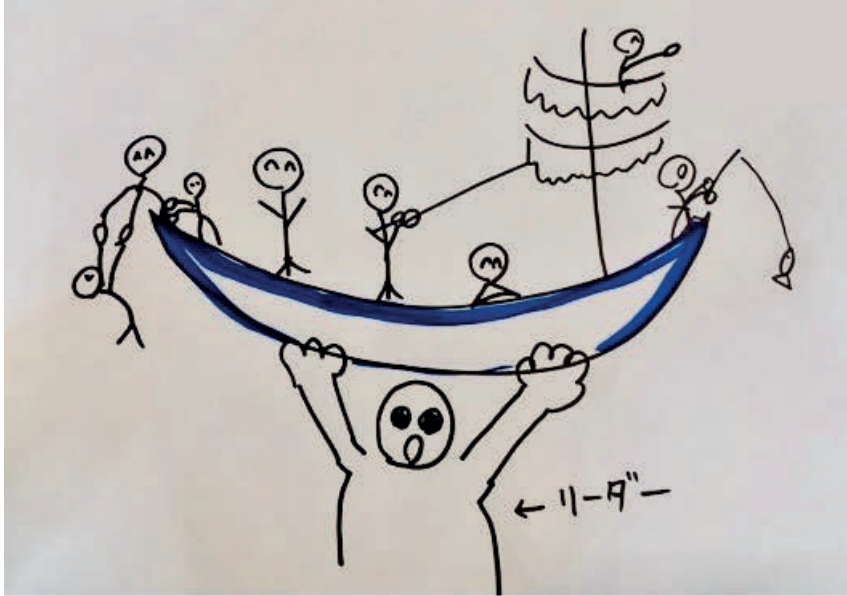
Table 19  
*Summary of Participant D's Profile*

Gender	Class	Age	Intended major	Hierarchical thinking			Systemic thinking		
				Pre	Post	Gap	Pre	Post	Gap
M	Junior	22	Law	53	46	-7	57	56	-1

Table 20  
*Coding Results of Participant D's Drawing*

Drawing category	Color	Object	Explanation	Collaboration	Purpose	Individual leader	Multiple people	Size of people	# of dif.
Presurvey	0	3	1	1	0	1	1	1	
Postsurvey	0	3	1	0	0	0	1	2	3

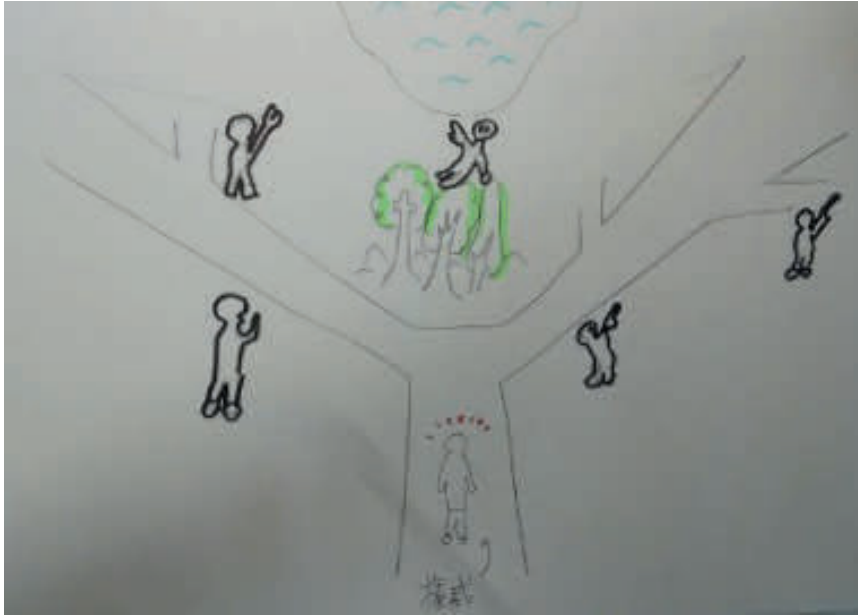
At presurvey, Participant D drew a person who supported the whole ship behind the scenes. The person signified a leader, according to the interview data. Thanks to the leader's support portrayed in the background, all members on the ship could spend a meaningful and happy life without even noticing the leader's effort; however, the drawing demonstrated the leader's contribution to the group was significant. Figure 6 presents Participant D's presurvey drawing.



*Figure 6.* Participant D's drawing of leadership at presurvey

At postsurvey, Participant D shared he differentiated leadership from authority. He did not indicate an individual leader; instead, he indicated an individual authority in his drawing this time (see Figure 7). A person at the bottom of the drawing was an authority figure responsible for deciding which direction to go. However, this time, other people exercised leadership by making suggestions or recommendations about the next step to the authority. For example, the person on top of the trees suggested to the authority figure a boat was needed if he would like to move on to the above direction. By the time he did his drawing as part of the postsurvey, Participant D believed a wide variety of suggestions from members were especially helpful for the authority when the authority figure faced unforeseeable difficult challenges with no clear solutions. Participant D's leader/authority figure's attention shifted from supporting the group to getting advice from the group. The shift suggested Participant D thought of leadership more collaboratively but the center of his focus was still on an authority figure. This focus explained

why Participant D's systemic thinking score remained relatively low, especially when compared to his hierarchical thinking score, even at postsurvey time.



*Figure 7.* Participant D's drawing of leadership at postsurvey

Participant F was a male, senior student, aged 27 years old, who was majoring in commerce. Tables 21 and 22 show the summary of his profile, including his demographic data, LABS-III results, and coding results of his drawings about leadership in the presurvey and postsurvey. Participant F was not a traditional-age college student. He had worked at a factory for a few years after finishing high school and then decided to attend college. He was accepted by one of the premier universities in Tokyo, Japan. Although he had not ever held leadership positions, Participant F decided to take the leadership course because he was interested in learning about leadership. He thought leadership was an ambiguous concept and was curious about whether such an ambiguous concept could be taught in an academic setting.

Table 21  
*Summary of Participant F's Profile*

Gender	Class	Age	Intended major	<u>Hierarchical thinking</u>			<u>Systemic thinking</u>		
				Pre	Post	Gap	Pre	Post	Gap
M	Senior	27	Commerce	41	43	2	54	56	2

Table 22  
*Coding Results of Participant F's Drawing*

Drawing category	Color	Object	Explanation	Collaboration	Purpose	Individual leader	Multiple people	Size of people	# of dif.
Presurvey	0	1	1	0	0	0	1	2	
Postsurvey	0	1	1	0	0	0	1	2	0

Participant F's LABS-III scores did not change much over time; similarly, his images of leadership did not change much, either. In the presurvey, he drew three persons in three different colors: red, blue, and green. At the top of the drawing, he stated a Japanese proverb: "10 people, 10 colors," which has a similar meaning to an English proverb: "Different strokes for different folks" (see Figure 8). He believed each person should have their own style and image of leadership.

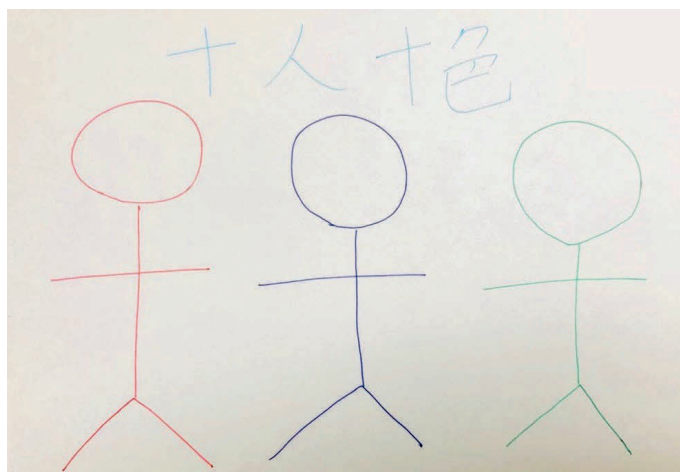
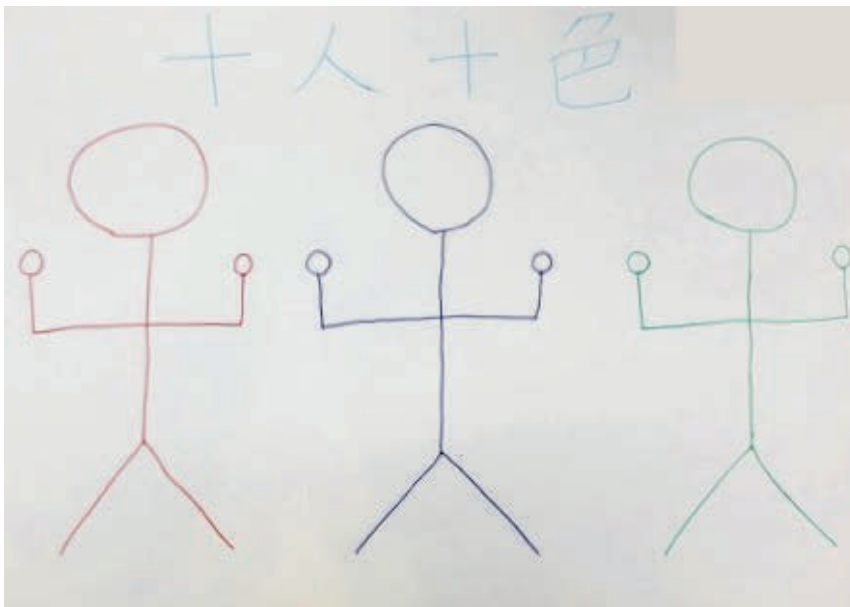


Figure 8. Participant F's drawing of leadership at presurvey

At postsurvey, Participant F drew a quite similar image but changed the arms because he indicated he had wanted to add power to each person in his drawing (see Figure 9). Through taking the leadership course, he understood leadership needs some power or force to mobilize a group of people to challenge ambiguous, unsolved problems, even if he still believed each person should pursue a different leadership style. A key characteristic of his drawings was he drew leadership descriptively and objectively. He indicated in his interview that he, personally, was not represented by the three persons in his drawings.



*Figure 9.* Participant F's drawing of leadership at postsurvey

Participant J was a female, senior student, aged 21 years old, majoring in commerce. Tables 23 and 24 show the summary of her profile, including her demographic data, LABS-III results, and coding results of her drawings about leadership at presurvey and postsurvey. She had held almost no formal leadership positions before taking the leadership course; however, she

expected she would have opportunities to exercise leadership in the near future because she would start working for a large manufacturing company as a full-time employee after graduating in the following year. Therefore, she took the leadership course because she wanted to gain at least some leadership knowledge and skills for her future career.

Table 23  
*Summary of Participant J's Profile*

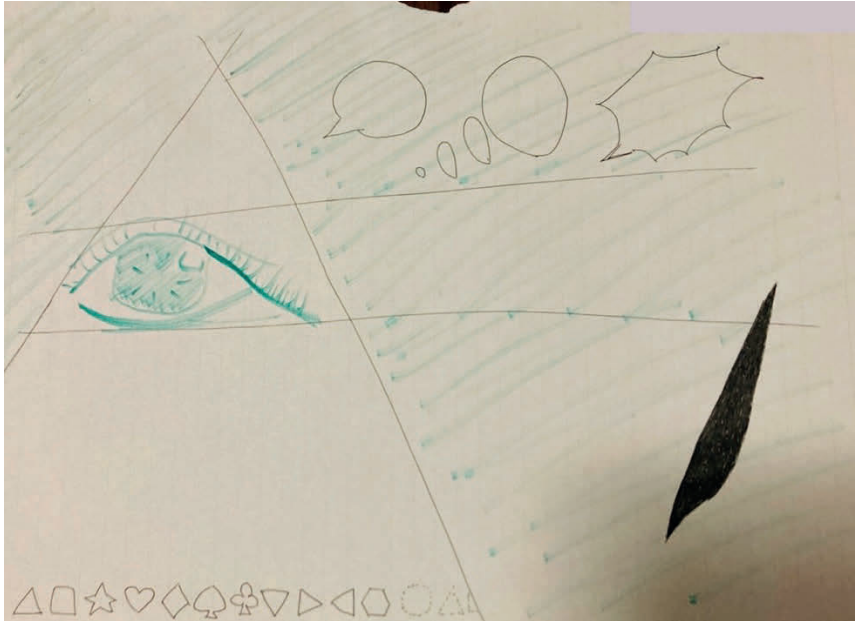
Gender	Class	Age	Intended major	<u>Hierarchical thinking</u>			<u>Systemic thinking</u>		
				Pre	Post	Gap	Pre	Post	Gap
F	Senior	21	Commerce	43	33	-10	50	52	2

Table 24  
*Coding Results of Participant J's Drawing*

Drawing category	Color	Object	Explanation	Collaboration	Purpose	Individual leader	Multiple people	Size of people	# of dif.
Presurvey	0	3	0	0	0	1	1	0	
Postsurvey	0	3	0	1	2	0	1	2	4

Participant J's presurvey image suggested she viewed leadership as something associated with individuals, such as individual leaders (see Figure 10). She first drew an eye because she thought a leader needed to be equipped with skills to observe her surroundings. The triangle around the eye indicated cross-cutting beams of light, which meant the eye could come into focus. A white space symbolized the leader's internal world and the green shaded space was external environments. The three shapes at upper right stood for various information in an outer world and several different small shapes at bottom left meant internalized information processed through the eye. Influenced by Fontana's spatial concept (Whitfield et al., 1999), Participant J

slashed the drawing and created a cut on the paper. With the cut, she expressed leadership is not complete at an individual level; rather, it expands to the outer space and to other people.



*Figure 10.* Participant J's drawing of leadership at presurvey

At postsurvey, Participant J described leadership quite differently (see Figure 11). She admitted her postsurvey drawing had been deeply influenced by other students' drawings when they shared their presurvey drawings with each other in a small group discussion at the beginning of the course. She also mentioned her image was influenced by comments from the course instructors in class. She indicated she had probably wanted to express in her new drawing that leadership was not an individual act; rather, it was a collaborative work or process. Therefore, she drew a lot of dots, arrows, and a clock. The dots indicated people and a clock and the arrows expressed a process. However, Participant J confessed she was not completely sure whether those things were what she had been trying to express with her drawing. Her ambiguous reflection on her drawing might indicate she tried to draw a socially desirable image, rather than



one that accurately reflected her thinking. If that assumption is true, the drawing could be biased by her social desirability motives.

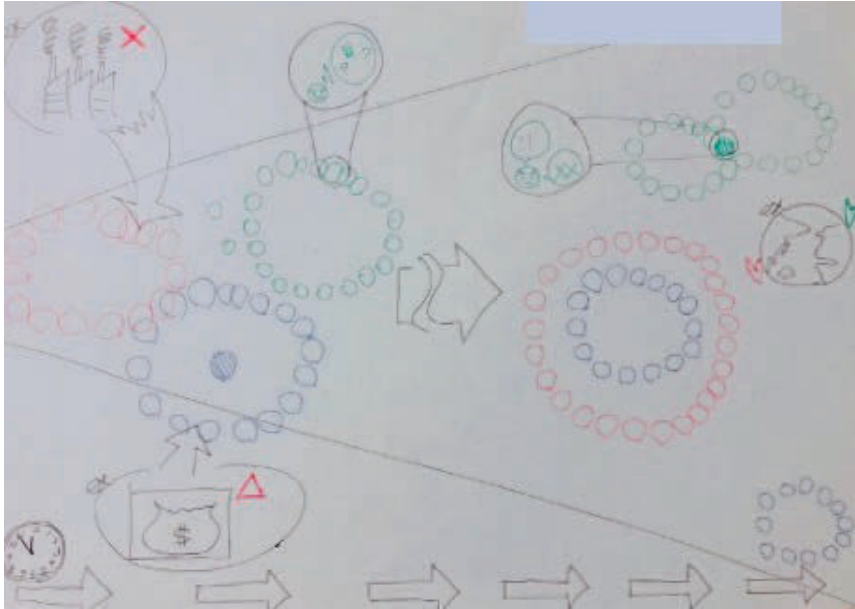


Figure 11. Participant J's drawing of leadership at postsurvey

**Group 2.** Participants in this group scored below the mean on the systemic thinking scale in the presurvey; however, they demonstrated a tangible increase in the systemic thinking scale beyond the mean in the postsurvey. Group 2 was the largest group and included five participants: A, B, C, G, and H. There were three directional shifts in the hierarchical thinking scale for the five students who demonstrated substantial increases in the systemic thinking scale. Three participants (i.e., A, B, and C) did not change much in the hierarchical thinking scale and stayed beyond the mean throughout the course. Participant H demonstrated a significant increase in the hierarchical thinking scale at postsurvey time. Participant G showed a significant decrease in the hierarchical thinking measure. Detailed profiles for each of the five students in this group are included in the following sections.

Participant A was a male, junior, aged 20 years old, majoring in commerce. Tables 25 and 26 show the summary of his profile, including his demographic data, LABS-III results, and coding results of his drawings about leadership at presurvey and postsurvey. Participant A had been a coach of a highly competitive high school baseball team. He took the leadership course because he wanted to improve his leadership skills and become more influential with his team as their coach.

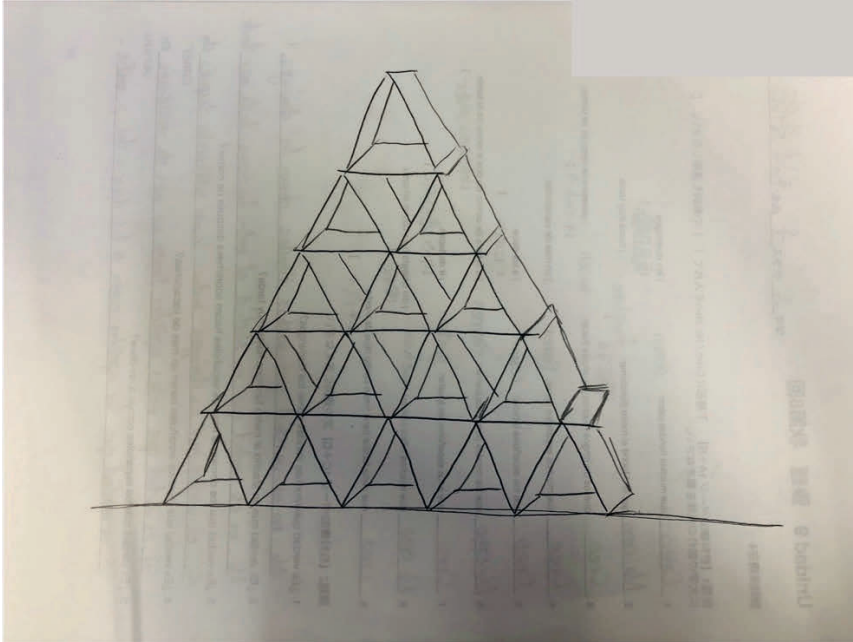
Table 25  
*Summary of Participant A's Profile*

Gender	Class	Age	Intended major	<u>Hierarchical thinking</u>			<u>Systemic thinking</u>		
				Pre	Post	Gap	Pre	Post	Gap
M	Junior	20	Commerce	46	45	-1	57	66	9

Table 26  
*Coding Results of Participant A's Drawing*

Drawing category	Color	Object	Explanation	Collaboration	Purpose	Individual leader	Multiple people	Size of people	# of dif.
Presurvey	1	2	0	1	0	0	0	0	
Postsurvey	1	2	0	0	0	0	0	0	1

At presurvey time, Participant A drew leadership hierarchically as a pile of card (see Figure 12). In his interview, he indicated leadership is significant when all the members collaborate well. Even if only one person did not cooperate, the whole system would collapse.



*Figure 12.* Participant A's drawing of leadership at presurvey

On the other hand, for the postsurvey, Participant A drew leadership as a comb (see Figure 13). After studying coaching skills in class, he experimented using skills with his team's players and changed the way he gave feedback to them. Before taking the course, he tended to accuse and criticize players when they made mistakes; however, after taking the course, he indicated he began to ask them questions rather than criticize his players for their mistakes. For example, he indicated he might ask a player when the player made a mistake, "What do you think about your performance right now?" or "How do you feel about your performance?" He noticed the questions facilitated communication with the players that permitted him to have a more productive dialogue with them. Participant A used a metaphor to portray all of these findings in an image. He told me he felt as if he had combed tangled hair neatly by changing his communication style. He added, "I had an abstract image about leadership in spring, but when I actually used leadership as a tool or a means, I more clearly understood what it is like.

Leadership works like a comb to me." The new drawing demonstrated he internalized the

systemic way of thinking about leadership by postsurvey time. This self-description is consistent with the fact he had one of the highest systemic thinking scores of all 11 interview participants by the time I administered the postsurvey.



*Figure 13.* Participant A's drawing of leadership at postsurvey

Participant B was a male, junior student, aged 20 years old, majoring in law. Tables 27 and 28 show the summary of his profile, including his demographic data, LABS-III results, and coding results of his drawings about leadership at presurvey and postsurvey. When Participant B was a sophomore, he had a chance to be a representative in a club. He decided to take the leadership course because he wanted to establish a better leadership image by combining his past leadership experience with leadership theories he would learn about in the course.

Table 27  
*Summary of Participant B's Profile*

Gender	Class	Age	Intended major	<u>Hierarchical thinking</u>			<u>Systemic thinking</u>		
				Pre	Post	Gap	Pre	Post	Gap
M	Junior	20	Law	47	48	1	55	64	9

Table 28  
*Coding Results of Participant B's Drawing*

Drawing category	Color	Object	Explanation	Collaboration	Purpose	Individual leader	Multiple people	Size of people	# of dif.
Presurvey	0	3	2	0	0	1	1	1	
Postsurvey	1	1	0	0	0	1	1	1	3

At presurvey time, Participant B drew a submarine to describe leadership (see Figure 14). A man with a cap was a designated leader and others in the drawing were members. Because only the leader had a periscope, only the leader could access higher and wider views. With his wider perspective, only the leader had the capability to foresee the future. Therefore, he was qualified to lead the others.

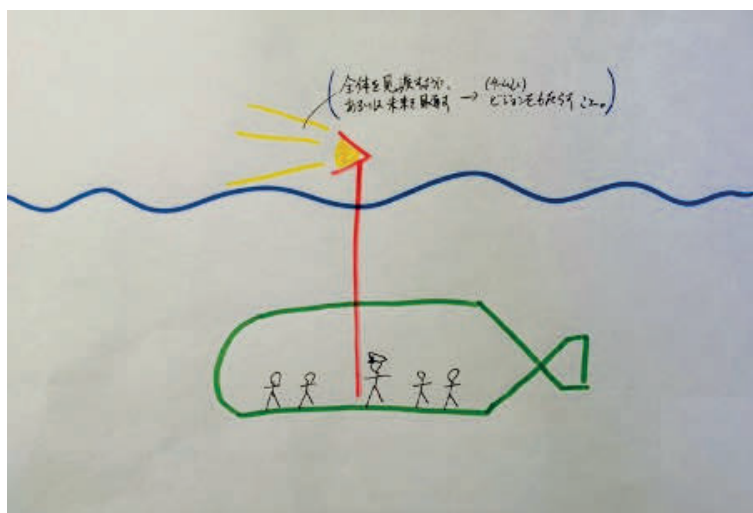
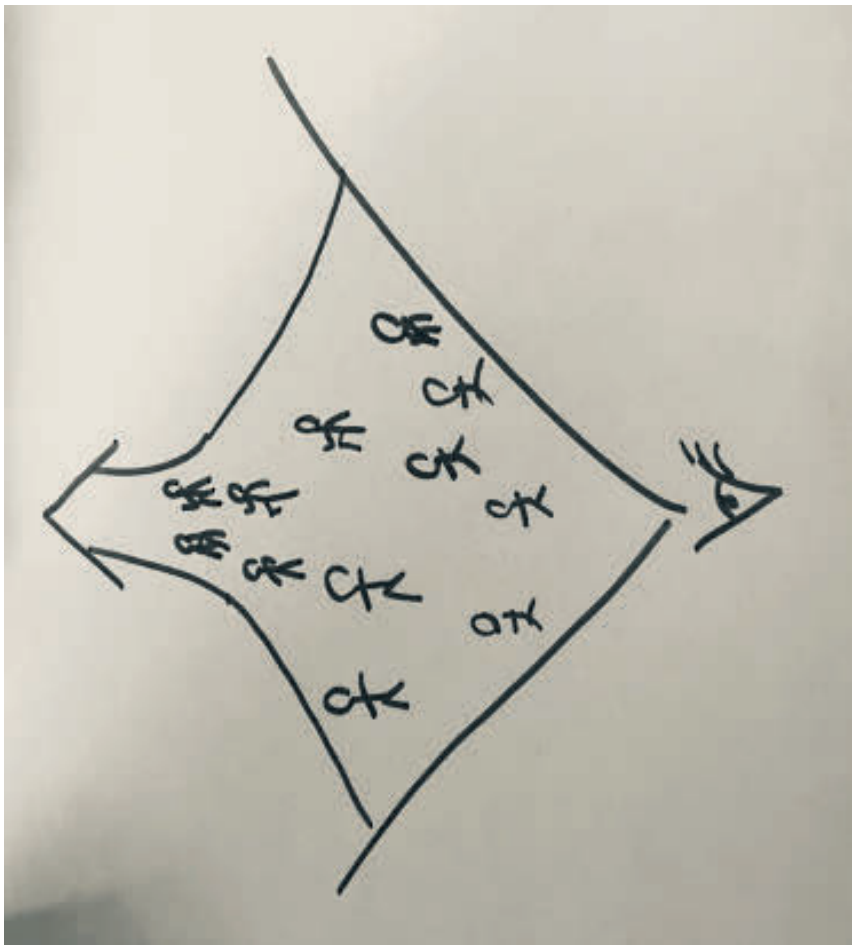


Figure 14. Participant B's drawing of leadership at presurvey

By the time I administered the postsurvey, Participant B drew leadership in a slightly different way (see Figure 15). A big eye at right stood for a leader's eye. Only the leader could observe not only the outside environments, but also the whole team more objectively than other members. Although Participant B still maintained a leader-centric view about leadership, his leadership image was at least somewhat more comprehensive than the one he drew previously.



*Figure 15.* Participant B's drawing of leadership at postsurvey

Participant C was a male, junior, aged 21 years old, who majored in economics. Tables 29 and 30 show the summary of his profile, including his demographic data, LABS-III results, and coding results of his drawings about leadership at presurvey and postsurvey. Participant C

applied for the leadership course because he was intrigued by the omnibus style of the course that covered different aspects of leadership such as leadership theory, coaching, public speaking, and negotiation. He planned to succeed his father in the family business and serve as the chief executive officer in the future. Therefore, he wanted to improve his leadership skills.

Table 29  
*Summary of Participant C's Profile*

Gender	Class	Age	Intended major	<u>Hierarchical thinking</u>			<u>Systemic thinking</u>		
				Pre	Post	Gap	Pre	Post	Gap
M	Junior	21	Economics	52	53	1	50	59	9

Table 30  
*Coding Results of Participant C's Drawing*

Drawing category	Color	Object	Explanation	Collaboration	Purpose	Individual leader	Multiple people	Size of people	# of dif.
Presurvey	0	1	1	0	2	1	1	1	
Postsurvey	1	1	1	1	1	1	1	1	2

As suggested by Participant C's drawing in presurvey (see Figure 16), Participant C indicated he believed leadership is something like steering a ship. A leader makes a decision by choosing from several options raised by team members. The leader and other members ride on the same ship because they should share the same story, vision, and destiny. He believed the leader's decision should be valuable to all stakeholders, including the team and society.





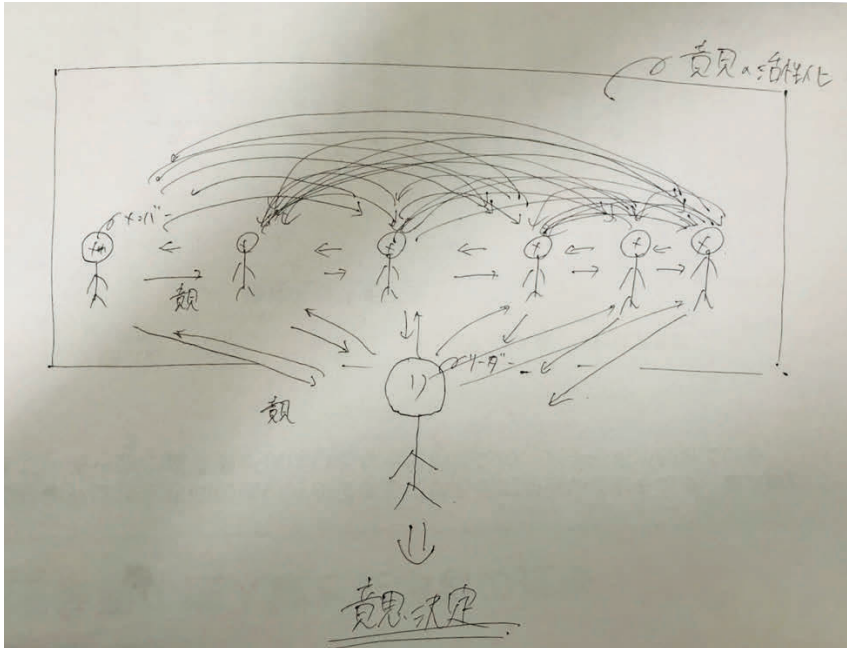


Figure 17. Participant C's drawing of leadership at postsurvey

Participant G was a female, sophomore student, aged 20 years old, and an economics major. Tables 31 and 32 show the summary of her profile, including her demographic data, LABS-III results, and coding results of her drawings about leadership in the presurvey and postsurvey. Participant G decided to take the leadership course because, although she had held several leadership positions before taking the course—such as a captain in an orchestra club at middle school and a captain in a Japanese archery club in high school—she had never deeply thought about leadership. Furthermore, she had a terrible experience when she led the Japanese archery club in high school. She noticed many club members lost their motivation to participate in the sport, but she could not offer them any solutions. She described her struggle in the interview, sharing, “I ended up with fighting a lone battle as a captain.” The experience triggered her to want to learn practical leadership skills in the course.

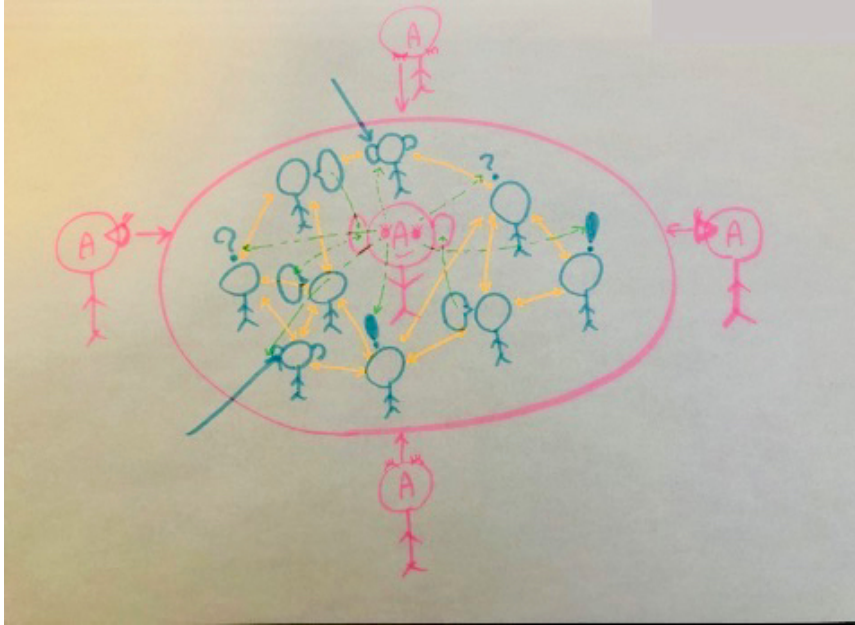
Table 31  
*Summary of Participant G's Profile*

Gender	Class	Age	Intended major	<u>Hierarchical thinking</u>			<u>Systemic thinking</u>		
				Pre	Post	Gap	Pre	Post	Gap
F	Sophomore	20	Economics	41	35	-6	56	62	6

Table 32  
*Coding Results of Participant G's Drawing*

Drawing category	Color	Object	Explanation	Collaboration	Purpose	Individual leader	Multiple people	Size of people	# of dif.
Presurvey	0	1	0	1	0	1	1	1	
Postsurvey	0	1	1	1	1	0	1	3	4

During the presurvey, Participant G drew her leadership image as an individual leader in pink in the center of a pink circle; others in the picture were green (see Figure 18). According to Participant G, different colors demonstrated a leader is distinct and understands other colleagues' opinions, ideas, and questions better than other members of the group. Four people in pink outside the circle represented the leader's birds-eye views, suggesting a leader can observe the whole system from different angles; consequently, a leader can be more objective than other group members.



*Figure 18.* Participant G's drawing of leadership at presurvey

At the time of the postsurvey, Participant G did not specify an individual leader; rather, she portrayed everyone with a heart mark collaboratively exercising leadership to deal with a specific problem together (see Figure 19). Some people exchanged their opinions with others and other people observed the whole system from the balcony. During my interview, Participant G expressed all these activities and processes add up to leadership.

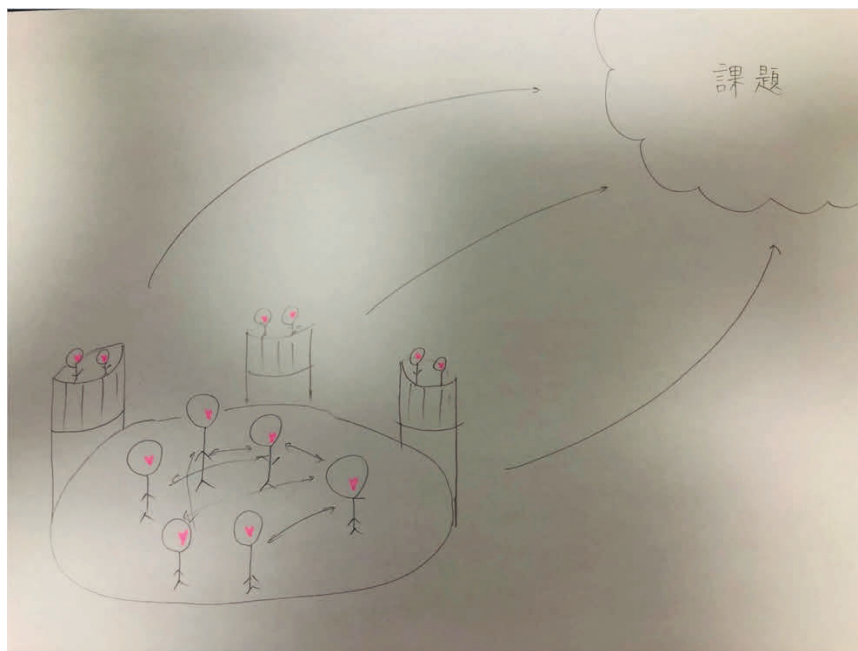


Figure 19. Participant G's drawing of leadership at postsurvey

Participant H was a female, junior student, aged 20 years old, who was majoring in humanities. Tables 33 and 34 show the summary of her profile, including her demographic data, LABS-III results, and coding results of her drawings about leadership at presurvey and postsurvey. Participant H indicated she had experienced failure as a leader when she was assigned as a project leader in a club the previous year. It was her first leadership position and the failure experience triggered her to take the leadership course, seeking to improve her leadership capabilities.

Table 33  
*Summary of Participant H's Profile*

Gender	Class	Age	Intended major	<u>Hierarchical thinking</u>			<u>Systemic thinking</u>		
				Pre	Post	Gap	Pre	Post	Gap
F	Junior	20	Humanities	41	51	10	51	61	10

Table 34  
*Coding Results of Participant H's Drawing*

Drawing category	Color	Object	Explanation	Collaboration	Purpose	Individual leader	Multiple people	Size of people	# of dif.
Presurvey	1	1	1	0	0	1	1	1	
Postsurvey	1	1	0	1	0	1	1	1	2

At presurvey, Participant H believed it is a leader who makes decisions, provides directions to others, and leads them after the leader listens to others' opinions (see Figure 20). She drew a leader in black to clearly differentiate the leader from others.

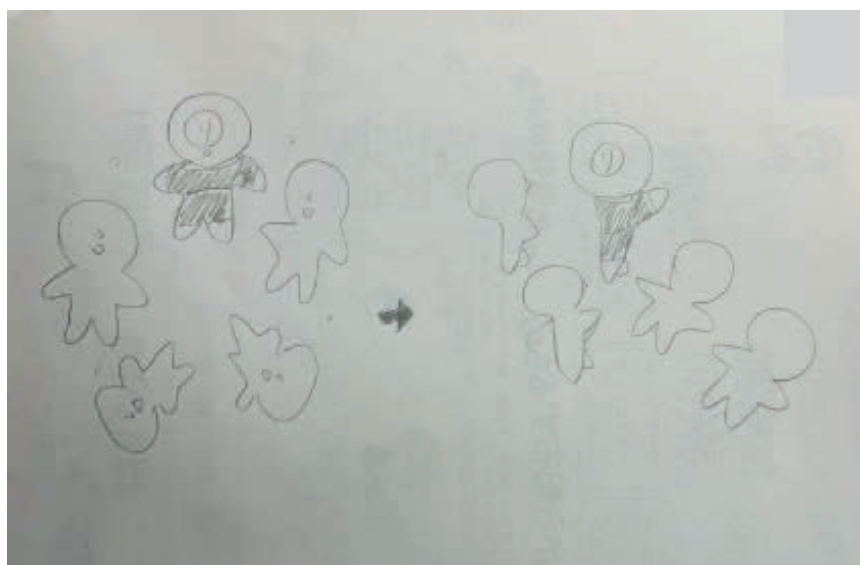
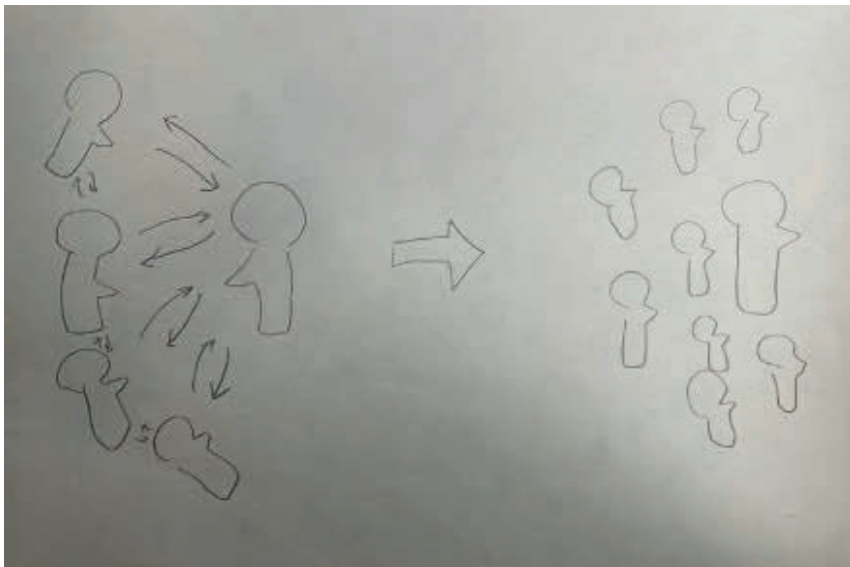


Figure 20. Participant H's drawing of leadership at presurvey

After taking the course, Participant H indicated she understood a leader does not have to make decisions or show directions alone; rather, all the members, including a leader, should collaboratively discuss and consent to the next step to take together. This thinking is what Participant H attempted to capture in her drawing (see Figure 21). Participant H told me she initially believed a leader must be a charismatic and powerful individual; however, after taking

the course, she believed an individual needs leadership capabilities even if they are not a leader. Thus, everyone needs to exercise leadership in their own way. As a result of taking the course, she indicated she no longer believed only individuals capable of leading many people can become a leader. Rather, she felt everyone can provide leadership and indicated the course helped build her confidence that she could exercise leadership.



*Figure 21.* Participant H's drawing of leadership at postsurvey

**Group 3.** Participants in the third and final group scored much higher than the mean on the systemic thinking scale at presurvey time and maintained the higher score in the systemic thinking scale over time. Participants E, I, and K had scores that put them in this group. Two participants (i.e., E and I) also visibly increased their hierarchical thinking scores at postsurvey whereas the other (i.e., Participant K) did not demonstrate a tangible change in the hierarchical thinking scale.

Participant E was a male, senior student, aged 22 years old, and a law major. Tables 35 and 36 show the summary of his profile, including his demographic data, LABS-III results, and

coding results of his drawings about leadership at presurvey and postsurvey. Participant E held leadership positions in two organizations: a lifesaving team and a nationwide nonprofit organization. He decided to take the leadership course because of the course's good reputation among past students and a strong recommendation from his friends who had enrolled in the course before.

Table 35  
*Summary of Participant E's Profile*

Gender	Class	Age	Intended major	Hierarchical thinking			Systemic thinking		
				Pre	Post	Gap	Pre	Post	Gap
M	Senior	22	Law	42	59	17	65	66	1

Table 36  
*Coding Results of Participant E's Drawing*

Drawing category	Color	Object	Explanation	Collaboration	Purpose	Individual leader	Multiple people	Size of people	# of dif.
Presurvey	0	1	1	1	0	1	1	1	
Postsurvey	0	1	1	1	0	0	1	3	2

In the presurvey, he drew an image suggesting there were three steps in leadership (see Figure 22). First, he explained during my interview with him that a leader must produce tangible results. The second step, he noted, was a leader must be at the hub of an organization and connect all members with one another so they can maximize their capabilities. He also added he believed the ultimate step in leadership involved the leader eventually moving out of the organization and organization functioning without the leader.

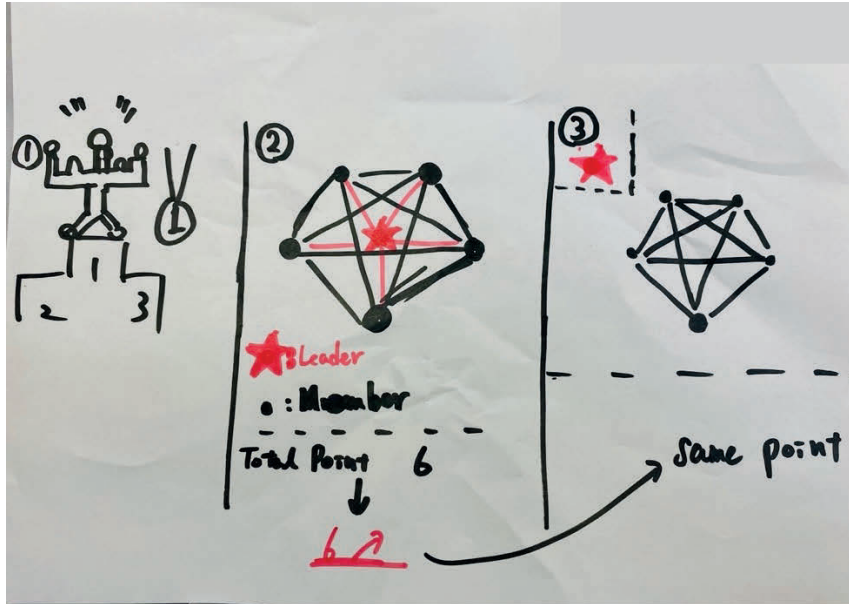


Figure 22. Participant E's drawing of leadership at presurvey

Participant E's leadership image did not dramatically change at postsurvey (see Figure 23); however, he mentioned his image of leadership became more concrete after taking the course. For example, in Step 2, although he again described a leader as a hub of an organization, he added an image suggesting a leader holds and supports other members so the members could maximize their capabilities and create a synergy to produce results more than the sum of their capabilities. In the last step, every member must take turns being a leader and exercising leadership so an organization does not have to count on a specific individual anymore but can sustain itself for a long time without an individual leader. The biggest change in his leadership image between presurvey and postsurvey was how his old belief in a leaderless organization shifted to his new conviction in a leaderful organization to maximize synergies. Participant E noted the formula,  $1+1 > 6$ , indicates such a belief.



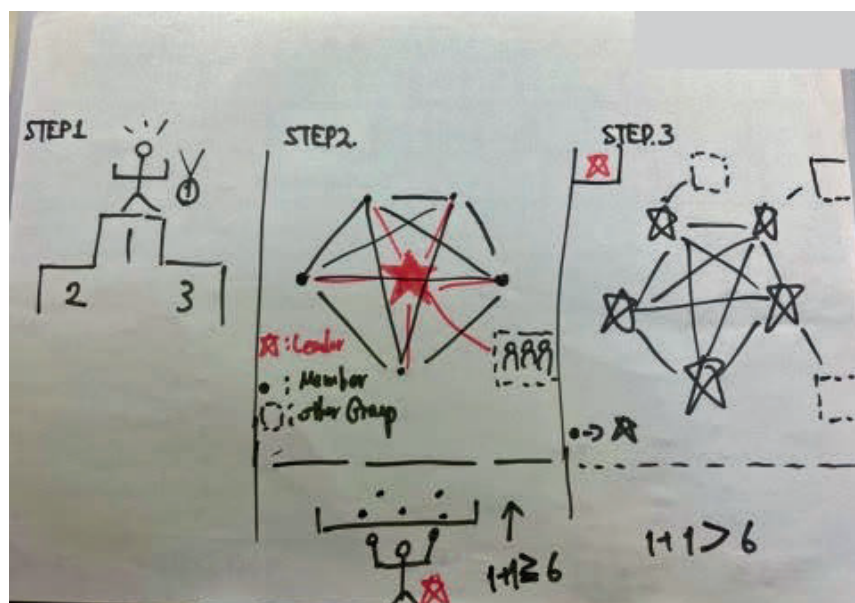


Figure 23. Participant E's drawing of leadership at postsurvey

Participant I was a female, junior student, who was 20 years old and a law major. Tables 37 and 38 show the summary of her profile, including her demographic data, LABS-III results, and coding results of her drawings about leadership at presurvey and postsurvey. During her interview, Participant I indicated she had held several leadership positions before she attended college, such as chairman of elementary school student council, vice chairman of middle school student council, and captain of a high school English language club. In retrospect, she noticed she had only focused on gaining leadership titles or positions before and accepted the fact her leadership had been somewhat autocratic. Learning from her previous leadership experience, she decided to pay more attention to others' opinions after she attended college. She noticed the attitude had somewhat an opposite effect on her; she became somewhat more hesitant to share her opinions confidently, presumably because she paid too much attention to others' opinions. Thus, in the leadership course, she wanted to explore a balance between being simply a member

of a group and being the group's leader so she could function more efficiently in a group regardless of her role and title.

Table 37  
*Summary of Participant I's Profile*

Gender	Class	Age	Intended major	<u>Hierarchical thinking</u>			<u>Systemic thinking</u>		
				Pre	Post	Gap	Pre	Post	Gap
F	Junior	20	Law	50	60	10	62	66	4

Table 38  
*Coding Results of Participant I's Drawing*

Drawing category	Color	Object	Explanation	Collaboration	Purpose	Individual leader	Multiple people	Size of people	# of dif.
Presurvey	0	2	0	0	0	0	0	0	
Postsurvey	0	3	0	0	1	1	1	0	4

In the presurvey, Participant I drew a bouquet of various flowers and a ribbon (see Figure 24). She explained the ribbon was a metaphor for leadership. It symbolized the fact leadership had something to do with uniting various talents.



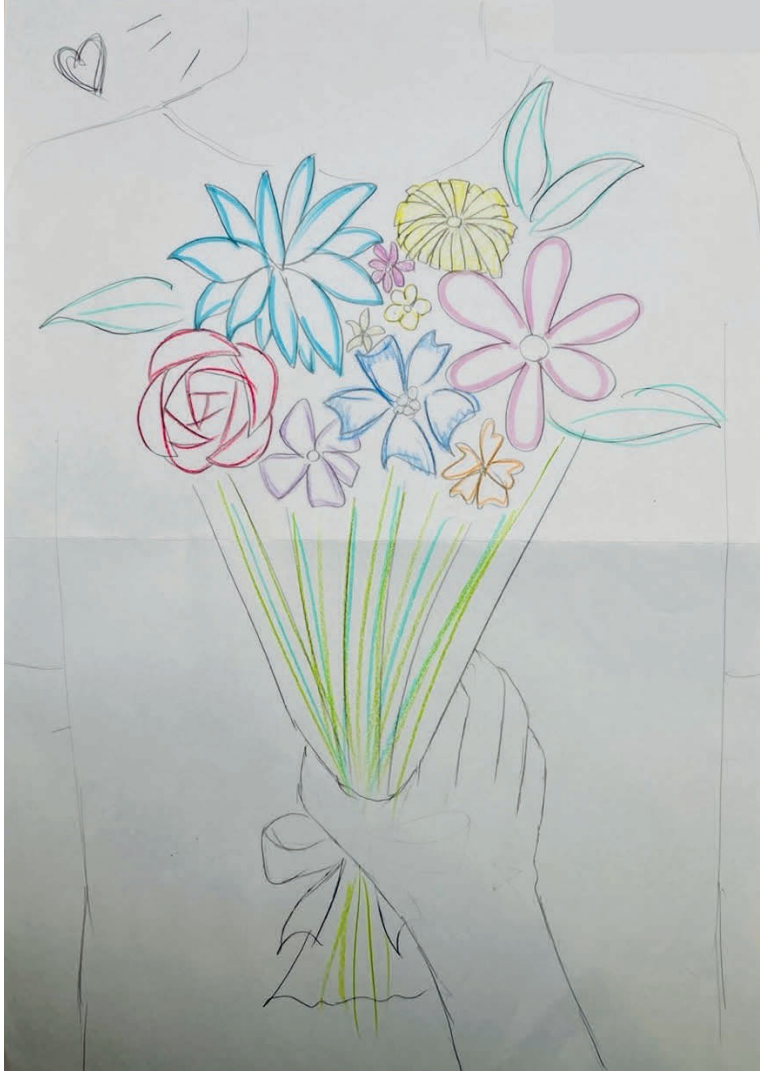
*Figure 24.* Participant I's drawing of leadership at presurvey

At postsurvey, Participant I drew leadership in a slightly different way. She added two figures to her previous drawing: an opponent and a hand. After taking the leadership course, she still believed uniting multiple talents is important for a leader to do but it was not enough to exercise effective leadership. After taking the course, she indicated she believed leadership not only means uniting a group, but also making all members shine to achieve a shared purpose. Thus, she added two figures to her previous drawing: an opponent that represents a shared purpose and a hand that demonstrates taking initiative to unite all members to achieve the

purpose (see Figure 25). She also mentioned the one holding the bouquet is herself. She believed she was able to become more proactive about leadership by taking the leadership course and she was very glad she could clearly express the change about her leadership image in her drawing at postsurvey time. In the interview, she mentioned:

One of the things that left a deep impression on me during the survey was that we were asked to draw a picture of our own leadership and my picture changed slightly before and after the survey. The first time I drew a picture, I drew a bouquet of flowers with a single ribbon holding together many kinds of flowers. I drew that picture first because I thought that leadership is about uniting various personalities, and if flowers are personalities, then leadership is about uniting them. However, through taking the *Leadership Basics* class, the last picture I drew was also a bouquet of flowers. But this time, I drew a picture of a bouquet of flowers with a person holding it. The reason is that I realized that leadership is not only about bringing people together, but also about having an objective or goal. And if that goal is the other person, then the team will unite toward that common goal and each person will shine. I was very happy to be able to express this as a picture.

This comment suggested she established a much clearer image about leadership with confidence over time.



*Figure 25. Participant I's drawing of leadership at postsurvey*

Participant K was a female, senior student, aged 21 years old, majoring in economics. Tables 39 and 40 show the summary of her profile, including her demographic data, LABS-III results, and coding results of her drawings about leadership at presurvey and postsurvey. During her interview, she indicated she had a few chances to hold leadership positions in a club when she was a sophomore. However, she admitted she made mistakes and failed almost every time. Therefore, she wanted to learn how to efficiently lead others by taking the leadership course.

Table 39

*Summary of Participant K's Profile*

Gender	Class	Age	Intended major	<u>Hierarchical thinking</u>			<u>Systemic thinking</u>		
				Pre	Post	Gap	Pre	Post	Gap
F	Senior	21	Economics	53	50	-3	63	64	1

Table 40

*Coding Results of Participant K's Drawing*

Drawing category	Color	Object	Explanation	Collaboration	Purpose	Individual leader	Multiple people	Size of people	# of dif.
Presurvey	1	1	0	1	0	1	1	2	
Postsurvey	1	1	3	1	0	1	1	2	1

At presurvey, she drew a pyramid as a leadership metaphor with a leader located at top (see Figure 26). Although there were a lot of interactions among all members—including the leader—and two arrows indicated both directions from top to bottom and from bottom to top, the overall image was an image that suggested a hierarchical leadership style.

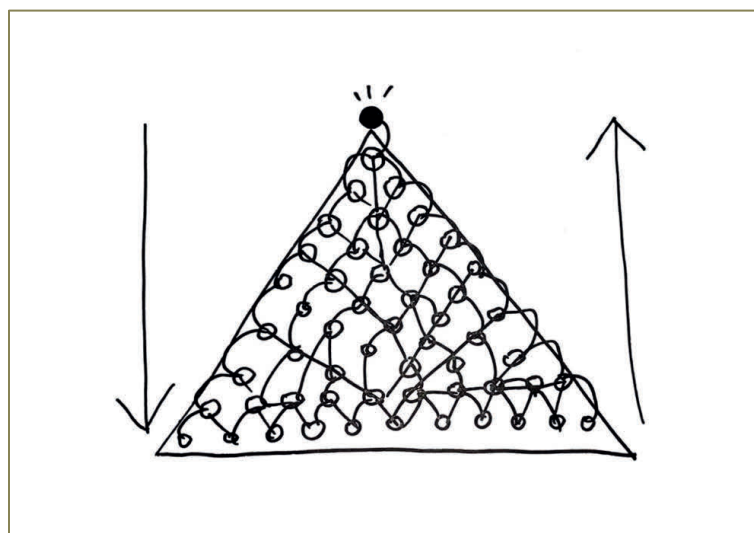


Figure 26. Participant K's drawing of leadership at presurvey

During my interview with her, Participant K was surprised to notice she drew her leadership image completely differently at postsurvey (see Figure 27). She mentioned how surprised she was at seeing a dramatic change between the presurvey and postsurvey images. For the postsurvey, she drew three persons of equal size standing on the same ground; one was a leader and other two were organizational members. A leader still decides a direction; however, their decision is based on suggestions from other members. In captions, she emphasized collaboration is key in leadership.

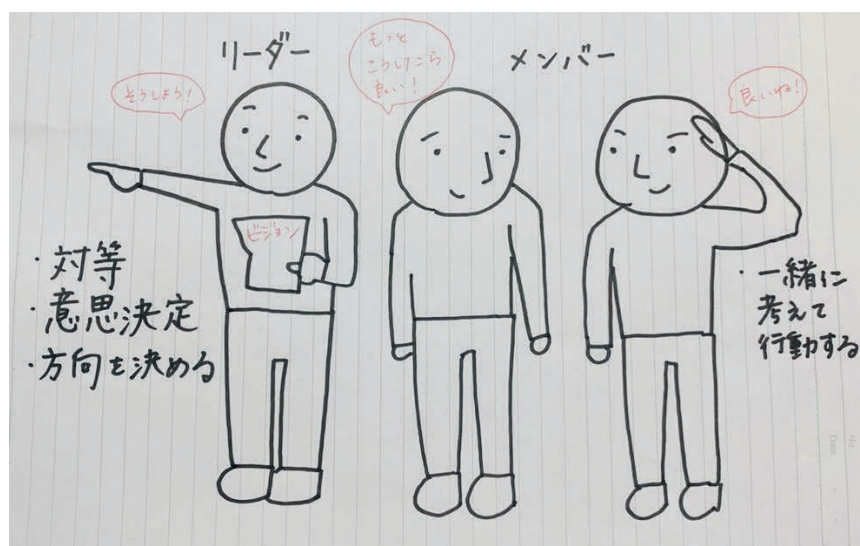


Figure 27. Participant K's drawing of leadership at postsurvey

**Summary of participant profile discussion.** In this section, I presented detailed profiles of the 11 interview participants in the study. The discussion included explanations of the leadership images they drew based on the three groups they were put into using their LABS-III survey results. Each participant drew their images of leadership differently; however, they all

demonstrated some shifts in their leadership images between the presurvey administered before they took the leadership course and the postsurvey administered after they completed the course.

Treating each of the three groups as unit of analysis, and particularly when comparing the drawings of Group 1 with those of Group 2, it seems clear participants in Group 2 emphasized collaboration more intensely in their images than those in Group 1 at postsurvey time. In addition, those in Group 2 more visibly shifted their attention from an individual leader of the group to the overall system in their drawings at postsurvey time. Each of the three participants in Group 3 drew their images of leadership quite differently. However, those in Group 3 generally provided clearer images about leadership than participants in the other two groups did.

### **Conclusion: The Answer to Research Question 1**

To answer Research Question 1, “How did college students understand the concept of leadership before and after participating in an online leadership course in Japan?” I used both descriptive and inferential analyses, including one-tailed paired samples *t* tests and coding results of participant-produced drawings about leadership images with the survey data. In addition, qualitative data were generated from 11 interviewees selected through maximum variation sampling. A substantial part of these interviews focused on images the 11 students constructed after responding to an item that had been included in the survey that asked students to draw their images of leadership. The analysis of qualitative data involved first dividing the 11 participants into three different groups based on their scores on the systemic thinking scale of the LABS-III part of the survey. Then, I explored what people in the different groups said and compared what group members said to what those in other groups said.

The paired samples *t* tests about the LABS-III data revealed the statistical difference between the presurvey and postsurvey results, which indicated students in the course weakened



their beliefs in hierarchical thinking and strengthened their beliefs in systemic thinking across time. The coding results of the participant-produced drawings about leadership images suggested the vast majority of students drew their images of leadership differently at postsurvey. At presurvey, most students drew a leader as an identifiable individual and many of them drew the leader larger than other people in their drawings. At postsurvey, most students emphasized collaboration in their drawings. Most students also made an individual leader less identifiable and drew all the people at a similar size in their postsurvey drawings.

Qualitative data revealed all 11 interview participants demonstrated some shifts in their leadership images over time. One group of participants expressed less interest in a leader-centric view about their leadership images. Another group of participants emphasized collaboration and systemic perspectives on their leadership images. The other group of participants developed a more integrated and clearer leadership perspective combining both hierarchical and systemic ways of thinking. These findings indicated students shifted their understandings of leadership through taking the leadership course in Japan. Based on these analyses, I address Research Question 2 in the next section.

### **Research Question 2**

Research Question 2 was: “What factors inside and outside the leadership course do students feel influenced shifts in their understandings of leadership?” Having addressed Research Question 1 with both the quantitative data from an online survey of the students in the leadership class and the qualitative data about students’ drawings of leadership images from one-on-one interviews, I now turn my attention to a more in-depth exploration from the interviews. In the following section, I present the findings to Research Question 2. Specifically, I offer the two key themes that emerged in the thematic and cross-case analysis. These themes illustrated factors that

influenced students' understandings of leadership and shifts of their understandings among three groups I constructed from data generated from those 11 interviews.

Before proceeding, I should reiterate the groups were differentiated by their scores on the survey data. Group 1 was the group of participants who demonstrated a small shift but stayed below the mean on the systemic thinking scale over time. Three participants (i.e., D, F, and J) were categorized in this group. Group 2 was a group of participants who demonstrated tangible positive shifts in the systemic thinking scale from below the mean at presurvey to above the mean at postsurvey. Five participants (i.e., A, B, C, G, and H) were categorized in this group. Group 3 was the group of participants who scored significantly higher than the mean on the systemic thinking scale at presurvey and stayed above the mean over time. Three participants (i.e., E, I, and K) were categorized in this group.

### **Two Key Themes**

The qualitative data revealed two themes that influenced the shifts of students' understandings of leadership: past leadership experience and the learning experience in class. The following sections explore these themes among the three aforementioned groups. The discussion includes illustrations from the participants' interviews and my analysis and interpretation.

**Past leadership experience.** The qualitative data revealed students' past leadership experience before attending the leadership course influenced their understandings of leadership and affected how they shifted throughout the course. In other words, how they made sense of their past leadership experience influenced the directions of the shifts of their leadership conceptions afterward. Each of the three groups I constructed from the survey data had unique characteristics in terms of past leadership experience. All three participants in Group 1, for

instance, did not have any past leadership experience or lacked confidence to be a leader. All five participants in Group 2 got through significant leadership failures prior to enrolling in the leadership course. The three participants in Group 3 had comparatively abundant leadership experience and had already experimented with different types of leadership before they participated in the leadership course.

**Group 1.** As previously noted, the three participants in this group did not have any tangible past leadership experience or lacked confidence in leadership even if they had some opportunities to hold a leadership position before. Two of 3 members of this group, Participants D and J, demonstrated tangible negative shifts in hierarchical thinking; however, they did not show any significant shifts in systemic thinking. Participant F demonstrated only small shifts in both scales and stayed below the mean on systemic thinking.

The first case in this group was Participant J, a female senior student who was majoring in commerce. She did not have any leadership experience before taking the course; therefore, she wanted to theoretically learn leadership theory before she started working after graduation. She demonstrated a 10-point decrease in hierarchical thinking but only a 2-point increase in systemic thinking.

Another student classified in Group 1, Participant D, was a male junior student who was majoring in law. He did not have confidence to be a leader prior to taking the course and demonstrated a 7-point decrease in hierarchical thinking but only a 1-point decrease in systemic thinking. He mentioned:

In all my life, I have never been a very confident leader. I thought leaders were supposed to be charismatic, and to be honest, I was really scared of being a leader. I didn't have that kind of charisma and I didn't have the confidence to lead others. However, when I

thought about my future career choice, I wanted to become a junior high school teacher, and I thought it would be tough to become a teacher without leadership skills. So, my initial motivation [for taking the course] was to acquire leadership skills through the *Leadership Basics* course.

The third case in Group 1 was Participant F. He scored below the mean on both thinking scales at presurvey and demonstrated only small shifts in both thinking scales at postsurvey. He had not held a significant leadership role before but was interested in learning specific skills related to leadership. He was also curious about the course because he wondered if he could learn leadership in an academic setting. Therefore, he decided to attend the course mainly out of intellectual curiosity. He mentioned:

When I saw the syllabus for this course, I thought it would be interesting to learn about leadership, negotiation, and many other related topics, so I wanted to take it. That was the first reason, but the second reason was that I expected I could learn leadership, something vague and tacit, something that I did not know whether I could acquire or not, from an academic point of view.

The fact Participant F did not demonstrate any tangible shifts in either thinking scale might suggest intellectual curiosity, itself, is not enough to cause a tangible shift in one's way of systemic thinking about leadership.

Overall, participants in Group 1 aimed to (a) learn about leadership theoretically to make up for the lack of real-life leadership experience, (b) build confidence to become a leader for their future career, or (c) satisfy their academic curiosity about leadership.

**Group 2.** Participants in this group had failed in exercising leadership in the past and demonstrated significant shifts from below the mean to above the mean on the systemic thinking

scale after taking the leadership course. In other words, this group appeared to embrace the postindustrial paradigm of leadership in the course.

For example, Participant C, a junior, male student who was majoring in economics, demonstrated a 9-point increase in systemic thinking and only a 1-point increase in hierarchical thinking. He had a plan to succeed his father in a family business in the future. He admitted his leadership style was hierarchical because of his serious commitment to run his father's company. He stated:

In terms of hierarchy, when I had a vision of taking over the family business, the current organizational structure of the family business is hierarchical, so I think I have been influenced by the culture. Before taking this course, I think my systemic thinking was quite low, and my hierarchical thinking was quite strong.

Participant C experienced a significant challenge to his hierarchical leadership approach the previous summer before he participated in the leadership course. In the leadership identity developmental (LID) model (Komives et al., 2009), it is a crisis experience in the hierarchical understanding of leadership characterized by Stage 3, *Leader Identified*, that leads to the key transition and subsequent commitment to collaborative leadership characterized by Stage 4, *Leadership Differentiated*. The crisis experience could trigger him to explore a new way of thinking about leadership other than hierarchical thinking. He recounted:

Last summer, I was participating in a business contest, and it was a rather long program that lasted about for 2 weeks. In one of the exercises, when I was leading the team in decision making, I was trying to get the team to go into a direction that I thought was the right direction, no matter what. If I had to choose between direction and collection, I would say I took a directional style leadership. My mentor saw this and told me that it

was the worst thing I could do. At first, I was pretty stubborn, thinking that it wasn't true and that what I was doing was right. Since he said it in front of everyone, I really didn't like it. The first thing that came to my mind was that I didn't like it, but later I realized that he was saying it because he wanted me to change. I think it was a process of going up to the balcony.

His comment demonstrated this crisis experience could trigger him to reconsider his conviction that leadership should be hierarchical. However, at that moment before taking the leadership course, he could not identify what an alternative style of leadership would look like. The class provided an alternative.

Another example of Group 2 is Participant G, a female, sophomore student who was majoring in economics. She demonstrated a 6-point increase in systemic thinking and a 6-point decrease in hierarchical thinking. She had held several leadership positions when she was in middle school and high school. Among the leadership experiences, she had a significant leadership failure when she was a captain of Japanese archery club at high school. She shared:

I had a bitter experience where I tried too hard to do my best, and the result was that I failed like I was falling down a hill. I believed it was important for me to do my best, but I wish I had been able to see the whole picture more calmly. At the time, I couldn't realize this on my own, and I had the impression that I kept worrying about what I should really do and how I should do it, and then everything was over. That was overwhelming for me and I had no idea what was wrong with me. This was something that kept dragging on in my mind even after I retired from the club in the summer of my senior year.

Similar to Participant C's case, Participant G got through a significant leadership failure. At that moment, she was not sure about what caused the failure or what to do as a leader. She decided to take the leadership course because she wanted to explore these questions.

**Group 3.** The participants in this group had comparatively abundant leadership experiences prior to taking the leadership course and had already experimented with different types of leadership through their real-world experiences. Members of this group already had high systemic thinking scores at the start of the course and two out of three in this group demonstrated a significant increase in hierarchical thinking after taking the course.

One of the typical examples in this group was Participant E, a male, senior student who was majoring in law. Participant E demonstrated a 17-point increase in hierarchical thinking and his systemic thinking score had stayed high at 65 at presurvey time and 66 in the postsurvey. He actively held multiple leadership positions, including captain of a lifesaving team and a regional leader of a nationwide nonprofit organization to support career development for college and graduate students. He had already believed in and exercised systemic leadership before participating in the course. He explained the ideal leadership style he believed in based on his leadership experience as a leader of a lifeguard team, sharing:

I think that my lifesaving experience has had a big impact on me to think about leadership. To be more specific, when you are a lifeguard, you alone could probably save only three people at most. However, when you team up with other one or two lifeguards, you could save not just 6 to 9 persons, but could save 100 to 200 persons. If you organize well and work together, you could save 200 to 300 people. Based on this experience, I find it very attractive and valuable to form an organization or a team that could multiply the performance rather than simply add the performance.

Participant E's strong belief in a collaborative style of leadership caused him to reject an individualistic view about leadership at the beginning. That conviction might be a reason for his low hierarchical thinking score at presurvey time. However, through learning about a wide variety of leadership styles in the course, he became more generous about different styles of leadership, which resulted in more acceptance of a hierarchical style of leadership. He made a comment demonstrating the shift, sharing:

If I were to speak in my own words, I think it would be more ideal if the organization is in a state of perpetuity. If leadership depends on an individual, an organization in which only the leader is great will probably fall into disuse someday. Instead, I believe that the ideal leadership is one that can create a situation where the organization can sustain no matter what the time period or who the leader is. . . . Personally, I think systemic approach is better for a team or an organization, but I also think that in really important situations, a leader may have to take final responsibility for a decision. For example, in the early stage of a company's establishment or when it is just starting out, it may not be possible for everyone to do this. Of course, there are organizations that can do this, but I feel that there are also organizations that cannot. In such cases, I really felt that hierarchical style is necessary to some extent, depending on the time and situation. . . .

Before the course, I had a rather rigid image of leadership, but after the course, I feel that I have become much more tolerant. Before the course, I was overly confident in my own leadership style and had a narrow view of not accepting other styles, but after the course, I think I became more tolerant of various types of leadership styles.

Another student classified as being part of Group 3 was Participant I, a female, junior student who was majoring in law. She demonstrated a 10-point increase in hierarchical thinking



and a 4-point increase in systemic thinking. She had numerous leadership experiences before taking the leadership course and a very concrete purpose for attending this leadership course. She stated:

Until now, before I entered university, I had encountered relatively more leadership situations than other people; or rather, I had relatively more situations in which I had to show leadership. For example, I was the vice president of the student council, the president of the children's council in elementary school, and the head of the English club in high school. I think I have experienced a relatively large number of roles in which I had to stand above others, but when I have reflected on those times, I strongly regret that I did not think about how I could demonstrate leadership and help people in the community perform at their best. When I saw the title of the *Leadership Basics* class, I wanted to take it because I felt that there were things I could have done as a leader, such as listening to the members a little more. On the other hand, because of the reflections that I have been leading the group in an autocratic style, however, after entering university, I tried to pay so much attention to other people's opinions that I could not express my own. I decided to take the course because I wanted to find out a balance between a harmony as a group and the power that I should show in the group, both as a member as well as a leader.

After taking the course, she had developed a more integrated view about leadership that embraces both hierarchical thinking and systemic thinking. She made a comment indicative of her shift in thinking, stating:

I strongly feel that my awareness of leadership itself has become a little more solidified. I have always had a high level of systemic thinking in my mind. After this class, I feel that

this feeling has become even higher. But, at the same time, I realized that hierarchical thinking is equally important, and that there are advantages and disadvantages to both ways of thinking [about leadership]. If a problem can be solved by systemic thinking, I think that is the best way to go. But, at the same time, I think that eliminating hierarchical thinking completely is not the way to go.

As these two cases indicated, abundant leadership experience had already established a high level of systemic thinking for the students before they participated in the course. Therefore, the course provided an opportunity for these two students to reevaluate the advantages of a hierarchical leadership style and redefine their beliefs about leadership in a more integrated way.

The last unique case in Group 3 was Participant K. She showed the highest scores in both the hierarchical and systemic thinking scales among all 11 interview participants at presurvey time and demonstrated a slight decrease in the hierarchical thinking scale and a slight increase in the systemic thinking scale in the postsurvey. Through having held several leadership roles in a theater club, she had already established an integrative view embracing both hierarchical thinking and systemic thinking about leadership (Wielkiewicz & Stelzner, 2005). She had a previous failure experience but did not have a clear reason before attending the course. She commented:

When I was a leader before, I thought that I had to look after the whole group, and I often exceeded my capacity and had a very hard time. In this course, however, I learned that it is better for the organization as a whole to have a system where a leader supervises his direct subordinates, who, in turn, supervise their subordinates, rather than having a leader trying to directly supervise all of them, so that the organization as a whole is smooth and open, and the leader does not have to be overly tyrannical.

This comment indicates how Participant K reflected on her over commitment as a leader and how she reframed her understanding about leadership, in part because of her experiences in the course. This self-reflection might have caused a slight decrease in her hierarchical thinking scale and a slight increase in her systemic thinking scale. However, given she had already scored high on both scales—which suggested she had established an integrative view to embrace both hierarchical thinking and systemic thinking about leadership before taking the course at presurvey time—she did not have much space in which to shift her thinking; thus, the shifts ended up being small.

As the cases of the three groups demonstrated, past leadership experience is critically important because it is a foundation on which people shape their understandings of leadership when taking a leadership course. In the LID model, Komives et al. (2009) found hierarchical thinking characterized students in Stage 3, *Leader Identified*, whereas systemic thinking emerged in Stage 4, *Leadership Differentiated*. According to the model, the transition from Stage 3 to Stage 4 may result from a crisis experience that leads them to question their belief in the hierarchical model of leadership. For Group 1 with neither tangible leadership experience nor confidence in exercising leadership, this leadership course could be the first crisis experience to prompt them to start renegotiating with their thinking about hierarchical way of leadership. Therefore, two of three groups demonstrated a significant decrease in hierarchical thinking but no tangible shifts in systemic thinking.

Furthermore, Komives et al. (2009) suggested moving beyond Stage 3 would take an individual to a more balanced perspective in which nonhierarchical and systemic views of leadership begin to take shape. For Group 2 who experienced significant leadership failures before taking the leadership course, this course could play a transitional role in exploring a

systemic view of leadership. Therefore, they showed a significant increase in systemic thinking during the course.

The story was somewhat different with Group 3. Wielkiewicz and Stelzner (2005) claimed a skilled leader at Stage 5, *Generativity*, and Stage 6, *Integration/Synthesis*, theoretically, would be characterized as having a tendency toward holding both hierarchical thinking and systemic thinking. For those in Group 3 who demonstrated a significant increase in hierarchical thinking while holding a high level of systemic thinking throughout the course, the leadership course could become a triggering experience to reevaluate the advantages of hierarchical thinking and establish a more integrated view about leadership.

**Students' perspectives of learning experience in class.** The leadership course at the focal point of this study emphasized active and participatory learning methods, including group work, discussion, analysis of case studies, role play, and presentations, in addition to traditional lectures. To facilitate active and participatory learning, the course introduced some unique norms for an undergraduate course in Japan, such as, "Don't reject others' opinions but listen to and learn from them" and "Use polite words to others, regardless of age, academic classification, and gender." These norms were particularly important for students to have a frank and active discussion when the backgrounds of the students in the course are diverse because Japan maintains a hierarchical collectivist culture (Watanabe & Watanabe, 2022). The norms worked to eliminate the hierarchical pressure among students.

In addition, this course offered multiple opportunities for students to reflect on their concrete experiences during the course. For example, after every class, students had a small group meeting for around 30 minutes to 1 hour to debrief their experiences in the class with other group members; a teaching assistant served as a facilitator for these debriefing sessions. Students

were also required to write a reflection journal after every class. All participants expressed these different components in the course were beneficial for their understandings about leadership.

Participant J, a female, senior student who was majoring in commerce, represented the general views of students about the course structure and components, sharing:

I think the journal reflection assignment at the end of every class was good because it allowed me to summarize my thoughts and review them. It was good to be able to remember what I liked about in class. Other than the reflection, I think it was good to have a set of lecture and actual practice. That way, I could learn how to do it and how other people felt about it. For example, you don't just read a book on leadership, but because it's a leadership class, you need to understand how to put it into practice, and I think the class environment where students were encouraged to experiment it together contributed to my learning deeply.

However, the qualitative data also revealed students in three groups made sense of their learning experiences differently. Interestingly, the difference influenced the direction of shifts in their hierarchical and systemic thinking scale scores. In this section, I present how participants in each group characterized the learning in the course and analyze how their sense making about the learning experiences influenced shifts in their leadership mindsets.

Each of three groups defined the main learning experience in the course differently. The differences caused or prohibited from a specific shift of their perspectives about leadership. For example, participants in Group 1 tended to focus mostly on absorbing knowledge and skills from the course instructors. Conversely, participants in Group 2 focused more on understanding diversified perspectives of others and readjusting their thinking based on the understanding of others. Finally, those in Group 3 tried to understand leadership holistically and began to explore

a dialectic way of thinking about leadership. They did not see hierarchical thinking and systemic thinking as polarities; rather, they saw them as one overarching concept.

As presented previously, Group 1 demonstrated no significant changes and stayed below the mean on systemic thinking. Group 2 demonstrated significant increases in systemic thinking. Group 3 had comparatively high systemic thinking scores at the beginning and maintained the high scores over time.

**Group 1.** Participants in Group 1 tended to focus mostly on gaining theories and skills of leadership from the course, or from the course instructors, without critical reflection. Table 41 presents quotations from students' interview responses that indicate how participants in Group 1 described their main learning experience in class.

Table 41  
*Group 1's Main Learning Experience in Class*

Participant	Comment
D	When I took the class, my thinking about leadership itself changed. I realized that leadership is not about giving strong instructions and getting everyone moving, but about clarifying the adaptive challenges that we learned about in class and trying to solve them together. I learned the process is leadership. I felt a little at ease and became more confident that I can do leadership. . . . I was able to acquire a highly applicable standard technique or skills that will be useful in my future life. I hope I can use the skills to solve various problems in a positive way.
F	In terms of knowledge base, I think the biggest change was that I was able to learn about leadership in a systematic way. I didn't completely change in consciousness or experience a Copernican revolution, but it was as if my previous knowledge were 75 and then it became 80 or 85. It's as if it was built up. The omnibus format of each class introduced me to different concepts I didn't know. To be honest, I didn't know anything about leadership but negotiation science before.
J	I think the assignment at the end of every class was a good one because it allowed me to summarize what I learned in class and review it. It was good to be able to remember what I liked about it.

A typical example from Group 1 was Participant D, a male, junior student who was majoring in law. He demonstrated a 7-point decrease in hierarchical thinking and only a 1-point decrease in systemic thinking. He faithfully absorbed the concepts and skills about leadership from the course and became more proactive about being a leader. However, his learning centered on himself and his own development. For example, he did not express any reflections about diverse perspectives from other students. His learning experience suggests he understood leadership in less hierarchical terms but did not build a systemic perspective about leadership during the course. For example, he recounted:

Leadership starts with one person, and it is that flexibility that allows any person to become a leader. The other thing is that a leader does not necessarily have to be a person

with authority. . . . Before the course, I thought I had a very strong hierarchical mindset. I guess that's why I feel that way. As I took the course and worked on various group work, I realized that hierarchy-based thinking does not work very meaningfully.

To summarize, this Group 1 student understood the limitations of hierarchical thinking through lectures and group work in the course. His understanding of leadership became less hierarchical; however, it was still based on an individual leader-centric view.

Participant F, a male, senior student who was majoring in commerce, demonstrated a 2-point increase in hierarchical thinking and a 2-point increase in systemic thinking. Both his initial scores were below the class average in the presurvey: 41 in hierarchical thinking, 3 points lower than the class average, and 54 in systemic thinking, 3 points lower than the class average. He could be categorized as having ambiguous thinking (Thompson, 2013) because he scored below the mean on both the hierarchical and systemic thinking scales, indicating an indistinct preference for the salient attributes of either perspective. His learning style in this course focused on the accumulation of knowledge. He admitted during his interview he felt challenged in group reflection. Consistent with this admission, in the interview, he did not demonstrate critical reflection about himself, other classmates, or the overall course. A lack of critical reflection can result in no tangible shifts in leadership thinking scales, as was the case with Participant F.

Participant J, a female, senior student who was majoring in commerce demonstrated a 10-point decrease in hierarchical thinking and only a 2-point increase in systemic thinking. She used reflection assignments not for reflection about her experience in class, but to review class content. She commented on the significant drop in hierarchical thinking in the postsurvey, sharing:



I think my hierarchical thinking dropped due to the influence of the *Leadership Basics* course. The lectures emphasized that leadership was not about the hierarchical type. The other point is a rather calculated one. I think I have a habit of seeking the right answer. After attending the class, I felt that leadership is more systemic than hierarchical these days. Because of this stereotype, I think there is a little bit of thinking that it would be nice to have the right answer. That's what I thought. I have a tendency to seek the right answer. At the end of the course, I think I answered the questions in the way they should be correct.

Participant J's comment suggested she not only absorbed the concepts about leadership taught in the course, but also did little critical reflection about the concepts and what they meant to her. Her goal seemed to be to respond to the survey questions correctly even if there were no correct answers to the questionnaire. In this case, social desirability response bias might have influenced her responses in the survey, which could have resulted in the decrease in her hierarchical thinking score. Interestingly, the bias did not produce a tangible shift in systemic thinking, which could demonstrate she did not develop an appreciation of systemic thinking through taking the leadership course.

These comments from Group 1 members presented so far indicated Group 1 members had a strong interest in learning specific skills and knowledge about leadership from the course and following the instructors' directions. They also suggested a lack of critical reflection about the course contents. Almost certainly, this lack of reflection is responsible for the absence of tangible shifts in systemic thinking scores.

**Group 2.** Participants in Group 2 focused on learning others' diverse perspectives in class and using these diverse perspectives to reflect on their own thinking. Table 42 provides quotes from each Group 2 student that illustrate how they viewed the main learning experience in class.

Table 42  
*Group 2's Main Learning Experience in Class*

Participant	Comment
A	<p>We had a lot of discussions in class and group discussions had a big impact on me. There were many opinions from many people. Because of the COVID-19 pandemic, I haven't had many opportunities to get involved with others outside the baseball team. Through the <i>Leadership Basics</i> course, I had the opportunity to talk with many different people, and I remember I strongly confirmed that there were many different values. It was an experience that made me keenly aware of the fact that there are many values that are completely different from my own. . . . If it is an adaptive task, I value the fact that my opinion is not necessarily the correct one, since it is unanswerable. . . . I'm now able to change my opinion a little bit, or rather, I'm able to listen to their opinions, and when I see people who cannot change their opinions, I wish they could. . . . I think the reason why I can change my opinion is because I was able to learn about the various positions of people in class.</p>
B	<p>I think the biggest experience was the group work in each class and the communication in the group. By applying what I learned about leadership, I gradually became more proactive in the group, and as a result, I began to understand what the other group members were thinking. It was an experience that allowed me to look at the team as a whole more comprehensively, rather than just being a part of the group. . . . Coaching was especially interesting. There, I learned the skill of working with other people and trying to bring out their strengths, but as I gained such experience, I realized that I needed to imagine the other person's intentions and what they were thinking. I became gradually able to imagine the intentions and thoughts of others. For example, when I was doing group work, I was able to imagine what direction this person wanted to go into. I can now understand what my team members are thinking . . . so I am able to deepen my understanding of others and their needs. I think that is the biggest realization and change for me.</p>

C	<p>What changed the most was that I recognized the importance of people who disagree with me, which was a great learning experience. So, when I go out into the world and create an organization in the future, it is because I took the <i>Leadership Basics</i> course that I have developed an awareness of the importance of people who are willing to say no to my opinions. In that sense, I think that the incredible <i>Leadership Basics</i> course has broadened my options. . . . In a nutshell, I think it's the ability to tolerate others. To put it simply, before I took this course, I used to focus on myself, but after I took the course, I think I changed to the point where I have to make my goals everyone's goals, and work on them together. In order to achieve the goals, I have to involve others, and in that process, I have to accept what others say.</p>
G	<p>When I was the captain of the archery club in high school, I had a lot of problems. I had a lot of trouble figuring out how to motivate everyone. I did not know how to do it. But when I took the course, I realized that it was not the leader that should show leadership, but that I should think about how to maximize the power of everyone on the team. It was eye-opening for me. This course was very beneficial in that sense for me.</p>
H	<p>I feel that my thinking about leadership changed quite a bit after the course. The reason for this change is probably the class lectures, but I think I was also influenced by the leadership style of each member of the group. Of course, there are hierarchical thinkers who want to be a leader, but there are also systemic thinkers who want to maximize the abilities of everyone on the team. I think I'm pretty much a systemic thinker. I was able to gain confidence in my own thinking. On the other hand, I think I was able to accept the hierarchical way of thinking at the same time. When I hear people talking about authority and if it goes a little too far, I think it's not leadership, but when I hear them say that they think leadership is pulling people along, I think they might be right. I think that there can be many forms of leadership.</p>

Participant A, a male, junior student who was majoring in commerce, showed a 9-point increase in systemic thinking and only a 1-point decrease in hierarchical thinking. His comment demonstrated he enhanced his self-awareness and adaptability through understanding and accepting others' diverse opinions. Another example case of Group 2 was Participant B, a male, junior student who was majoring in law, demonstrated a 9-point increase in systemic thinking and just a 1-point increase in hierarchical thinking. He did not only focus on absorbing

leadership skills in class, but also tried to apply them to understand other individuals and groups in his class, which could lead to a significant increase in his systemic thinking scale.

The next example case in this group is Participant H, a female junior majoring in humanities, who demonstrated a 10-point increase in systemic thinking and a 10-point increase in hierarchical thinking. She explored her own leadership image through learning diverse opinions about leadership from classmates during the course. By learning different types of leadership from other classmates and comparing hierarchical thinking with systemic thinking about leadership in class, she identified her own leadership conception with confidence, which entailed not rejecting either hierarchical or systemic thinking. When she was asked how she gained the confidence in her belief and tolerance to different types of leadership, she replied:

I think I felt it in class. I think that foreseeing the future is one of the most important roles of leadership in this changing era. When we learned about adaptive leadership theory and the fact that we are facing a growing number of difficult challenges without clear solutions, I think it is important to look into the future. I thought that perhaps, by learning about these pieces of the puzzle in various activities in class, and combining them, I was able to accept many forms of leadership.

**Group 3.** Data suggested participants in Group 3 focused on exploring a more complex sense making. Those in this group tried to understand leadership holistically. They had already had comparatively high systemic thinking scores at the beginning of the course and two out of three showed an increase in hierarchical thinking through taking the course. Table 43 summarizes how those in this group described their main learning experience from the course.

Table 43  
*Group 3's Main Learning Experience in Class*

Participant	Comment
E	I think it was important for me to realize that each person has a completely different way of thinking through various group work in the class. Triggered by the learning in the class, I started differently engaging in dialogue with various people at the outside organizations I lead, and I realized that an ideal leader is different to each person, and that the way we perceive and feel things is also different. That is why I am now able to consider multiple options before expressing my opinions when I want to produce outputs. . . . I used to be the type of person who talked too much, but I start thinking about what the other person thinks before I speak, and I start thinking about the intention of what the other person says before I speak, rather than I immediately react to what they say. So, although the number and volume of my comments has decreased, I think each discussion has become more fruitful.
I	I was able to refine my listening skills, and I also learned how to contribute to the team by not only listening but also expressing my own opinions. I tried to listen to what people had to say and focus on what they were thinking and feeling. In the first half of the <i>Leadership Basics</i> course, there were many occasions where I was unable to express my opinions because I was ruminating on whether or not I should. However, as the class went on, I came to be able to express my opinions frankly without being too conscious of them.
K	When I took the course, it became clear to me why I had been failing in leadership in the past. I had been trying to appeal to people's sense of belonging, but I realized that unless we could share our own experiences and goals, we would not be able to attract people's attention. Especially through the exercises in the public speaking class, I was able to really feel it, and it was like an "aha" experience for me.

Participant E, a male, senior student who was majoring in economics, was a prime example in this group. He demonstrated a 17-point increase in hierarchical thinking while maintaining a high systemic thinking score of 65 at presurvey to 66 at postsurvey. His comments indicated his high level of self-awareness and systems awareness. He did not only accept diversified opinions of others, but also strategically used this awareness to exercise leadership.

His learning experience indicated he reevaluated the advantage of hierarchical thinking while continuing to believe in the value of systemic thinking.

Another example of Group 3 is Participant I, a female, junior student who was majoring in law. She demonstrated a 10-point increase in hierarchical thinking while maintaining a high level of systemic thinking of 62 at presurvey and 66 at postsurvey. Her statement demonstrated how she progressed in terms of her confidence as a leader and how seriously she considered the views of others in the course by carefully listening to their voices. When she learned coaching in the course, she stated how she made meaning of the learning, sharing:

In the coaching class, I had the opportunity to think about what I wanted to do, what I could do, and what I had to do, and I had the chance to discuss it with other members of the team. I think I changed my way of thinking from “leadership is for leaders” to “what I can do to help each member show their individuality and shine at their best.”

This comment illustrated Participant I’s serious commitment to exercising leadership while showing respect for others. Both Participants E and I did not only learn through the diversity of opinions in class, but they also explored how to progress in their own development as leaders, planning to leverage the diversity they were exposed to in the course when they exercise leadership.

The other example case in this group was Participant K, a female, senior student who was majoring in economics. She demonstrated a 3-point decrease in hierarchical thinking and 1-point increase in systemic thinking. Although her survey responses did not shift very much, she had already demonstrated high scores on both scales at presurvey time. Her initial score in hierarchical thinking was 53, 9 points higher than the class average. Her initial systemic thinking

score was 63, 6 points higher than the class average. Therefore, she can be categorized as engaging in integrative thinking (Thompson, 2013) both before and after she took the course.

Students classified as engaging in integrative thinking scored above the mean on both the hierarchical thinking and systemic thinking scales, indicating an equal preference for each perspective's salient attributes. Participant K did not only absorb the course concepts, but also leveraged feedback from others for self-reflection. She stated:

In one of the first classes, when the teacher encouraged us to observe from the balcony, I tried to do so, but one of the group members said to me, "You're watching from the balcony, but you're just watching and not saying anything." That made me realize that I was being overly cautious and not saying anything at all.

She described the challenges in class, sharing:

The whole class was already rather challenging, but the fact that I had to face myself was very difficult at first. If I had to pick one, I would say that the class that we talked about our own stories was the most difficult. It was an opportunity for me to show not only who I am now, but also what kind of experiences I have had and what kind of background I have grown up with, including my negative aspects. It was quite mentally taxing, but at the same time, I feel that through this experience, I was able to gain a deeper understanding of what has made up my personality.

To summarize, Participant K deeply reflected on the challenges of leadership and turned them into a learning experience through reflection. This kind of learning experience could cause cognitive shifts in her understanding about leadership even if the shifts were not necessarily reflected in large shifts in the metrics employed in this study. In the interview, she commented on how her understanding of leadership changed during the course, sharing:

At presurvey in April, I drew a kind of mutual network as an image of leadership. However, it was based on a pyramid after all. On the other hand, at the end of the semester, I drew a picture where a leader and the other two members were standing on the same ground, and they were exchanging their opinions. When I compared the two, I felt that I had changed a lot. I think the change was caused by the lectures given by the professors that I learned that dialogic leadership is not a pyramidal style. Other than that, I think it was because I learned the importance of dialogue through group work, and I recognized that this is what leadership looks like and leaders need.

This comment suggested Participant K clearly shifted her perception about leadership after taking the course, even though she demonstrated only limited numerical shifts in hierarchical thinking and systemic thinking. One possible interpretation is her initial scores were already so high in the presurvey that the scales did not have enough numerical room to capture a shift in thinking in the postsurvey. If this ceiling-effect explanation is correct, for those in the integrative thinking category, the direction of shifts could be more important than the degree of shifts.

As the cases of the three groups demonstrated, how students make sense of their learning experience in class was a critical factor that influenced the directions of the shifts of their understandings of leadership. Data identified the three groups made different meaning of the course. Those in Group 1 focused on absorbing leadership skills and knowledge and did not pay much attention to other students' diverse opinions. Not surprisingly, they did not show a tangible shift in systemic thinking. By contrast, those in Group 2 focused on exploring the diversity of others' opinions and perspectives and leveraging their understanding of the diversity to rethink their own views of leadership. Those in Group 2 demonstrated a significant increase in systemic thinking scores. Finally, those in Group 3 focused on developing a more holistic view to explore



a balance between appreciating the diversity of voices and attaining their own leadership purposes. They had already established a high level of systemic thinking beforehand and demonstrated a tangible increase in hierarchical thinking afterward. Their scores suggested they developed a more integrative view about leadership through taking the leadership course.

### **Overall Summary of Findings**

The purpose of this study was to understand how college students shaped their understandings of the postindustrial model of leadership through taking an online leadership course in Japan. To be more specific, this study aimed at understanding participating college students' understandings of leadership and overall changes in their understandings of leadership after taking an online leadership course in Japan. Additionally, this study explored the contributions of different aspects inside and outside the course in facilitating changes in students' understandings of leadership. The mixed methods study generated several significant findings from the analysis of quantitative and qualitative findings and the comparison of both sets of findings.

First, aggregate survey findings indicated students enrolled in the leadership course, overall, were less enthusiastic about hierarchical approaches to leadership as measured by the survey's hierarchical thinking scale and more enthusiastic about systemic approaches to leadership measured by the systemic thinking scale after taking the course. This finding indicated students embraced rather than rejected the more postindustrial model of leadership. This finding coincided with other literature in the United States that demonstrated the potential for leadership education in higher education to change participants' thinking about leadership (Cress et al., 2001; Dunn et al., 2016; Fischer et al., 2015; Ho & Odom, 2015). Cress et al. (2001) found students who participated in leadership programs are more relational, cooperative, and systemic

than those who did not participate in a leadership program. Ho and Odom (2015) also found participating in academic leadership courses influenced a student's leadership mindset. As the number of academic leadership courses a student takes increases, the more likely the student is to shift their leadership mindset from a hierarchical perspective to a systemic perspective.

Second, the coding results of the participant-produced drawings about students' images of leadership reinforced this first finding. Many students, for example, drew their images of leadership differently between the presurvey and postsurvey. Around half of students changed their drawings in more than 4 of 8 coding categories. Approximately 80% of the students portrayed a specific individual as a leader in their drawing for the presurvey, but less than half (46%) of students did portray an individual leader in their postsurvey drawing. In terms of the comparative size between a leader and other people, 50% of students drew an individual leader larger than other people in the drawing at presurvey time, but the percentage shrunk dramatically to only 18% in the postsurvey, whereas more than half (53%) of students drew all people—including a leader—at a similar size at postsurvey. In addition, collaboration and purpose were much more emphasized at postsurvey than at presurvey time. These changes in their drawings indicated students cognitively shifted their understandings of leadership and developed the more postindustrial way of leadership through taking the leadership course.

Third, the qualitative analysis of interviews with 11 students enrolled in the leadership course identified three different groups in terms of the shifts of their scores on the hierarchical and systemic thinking scales. The qualitative data elaborated how at least the 11 students studied specifically shifted their leadership understandings during the course by comparing participant-produced drawings about leadership between the two time periods.

The qualitative analysis of interviews also revealed two core themes that affected shifts in their understandings of leadership: past leadership experience and the learning experience in class. Students' past leadership experience (or, in some cases, their lack of prior experience) before attending the leadership course shaped their understandings about leadership at the beginning of the course. In addition, how students made sense of their past leadership experience influenced directions of the shifts of their leadership mindsets afterwards. Those with no past leadership experience or lack of confidence as a leader did not show a tangible positive shift in systemic thinking. On the other hand, those with significant leadership failure experiences in the past demonstrated a significant positive shift in systemic thinking. Those who had abundant leadership experience and had already experimented with different types of leadership maintained their high scores in systemic thinking over time.

In addition, student learning experience in class impacted shifts of their perspectives about leadership. Those who focused on absorbing knowledge and skills from the professors and did not engage in deep reflection demonstrated no significant shift in systemic thinking and maintained their below-the-mean scores on systemic thinking throughout the course period. On the other hand, those who focused on considering the diversified views of other people in the course and reflected on what these diverse views meant for how they thought about leadership demonstrated a significant increase in systemic thinking between the before-course presurvey and the after-course postsurvey. Those who focused on developing a holistic way of thinking about leadership demonstrated high systemic thinking scores throughout the course period. The next chapter will present a discussion of, and consider the implications of, the quantitative and qualitative findings and limitations and significance of this study.

## CHAPTER FIVE

### DISCUSSION

The purpose of this study was to understand how college students shaped their understandings of the postindustrial model of leadership through taking an online leadership course in Japan. To be more specific, this study aimed at understanding participating college students' understandings of leadership prior to taking an online leadership course in Japan and overall changes in their understandings of leadership after completing the course. Additionally, this study explored different factors inside and outside the course that appeared to contribute to changes in students' understandings of leadership.

Previous literature suggested that, because the traditional hierarchical or positional style of leadership cannot effectively address many of today's complex problems, leadership should take a more collaborative and systemic form (Allen et al., 1999; Rost, 1993; Uhl-Bien et al., 2007). Rost (1993) characterized this new approach as the postindustrial paradigm of leadership. Unfortunately, changing existing images of leadership is not easy (Epitropaki & Martin, 2004). Furthermore, assessing people's leadership perceptions is challenging because leadership is often a tacit and latent construct (Schyns et al., 2011). Therefore, little is known about what changes people's understandings of leadership and whether changes can occur in classroom contexts, including online classroom contexts. More research was needed to address this question.

Since Rost (1993) first discussed what he called the postindustrial paradigm of leadership, the number of academic leadership programs has grown substantially (International Leadership Association, 2020). Because formal leadership education is still in its infancy in Japan, there is a dearth of research that investigates the impact of leadership education in higher

education on students' understandings of leadership in the Japanese context. This study was designed to begin to address this lacuna.

More specifically, this study aimed to (a) explore current Japanese college students' perceptions of leadership, (b) document shifts in students' understanding of leadership after taking an online leadership course in Japan, and (c) identify factors and experiences that appeared to influence shifts in students' understandings of leadership in Japan. These three purposes were translated into the following two research questions:

1. How do college students understand the concept of leadership before and after participating in an online leadership course in Japan?
2. What factors inside and outside this leadership course do students indicate influenced the shifts in their understandings of leadership?

This chapter summarizes the findings of this study and connects the findings to relevant literature. It also discusses the study's limitations and directions for future research.

### **College Students' Understandings of Leadership Before and After Taking an Online Leadership Course in Japan**

Both quantitative and qualitative data were used to examine the current Japanese college students' understandings of leadership in this study. Quantitative data involved the Leadership Attitudes and Beliefs Scale (LABS-III) survey results and results of the coding of participants' drawings about their conceptions of leadership. Qualitative data were generated from semistructured one-on-one interviews.

#### **Leadership Attitudes and Beliefs Scale Survey Results**

As part of the study, I collected and analyzed quantitative data about Japanese college students' understandings of leadership before and after they participated in a leadership course.

This study is the first empirical research in Japan that examined students' understandings of leadership using the LABS-III instrument (Wielkiewicz, 2000, 2002). The instrument measured both hierarchical thinking and systemic thinking about leadership. The instrument's hierarchical thinking scale measures the extent to which students associate leadership with a position and positional power and assume individuals are primarily responsible for the success or failure of an organization. The systemic thinking metric is a measure of the extent to which people think of leadership as everyone's responsibility and open communication and adaptability provide a stronger chance for an organization to be successful.

The LABS-III results revealed students enrolled in the leadership course shifted their perspectives about leadership over time. This shift was presumably—at least in part—because they had taken the leadership course. Generally, students' beliefs in hierarchical thinking were weakened and their beliefs in systemic thinking were strengthened after they completed the leadership course. Because of the COVID-19 global pandemic, this study was not a quasi-experimental study as was planned in the study's original design developed prior to the outbreak of COVID-19. Consequently, I cannot make definitive claims about there being a causal relationship between taking the leadership course and shifts in students' conceptualizations about leadership. However, because this course was the only leadership course offered at the university during the period and there were numerous opportunities for students to discuss and think about leadership during the course, it is feasible to say this course almost certainly had some impact on the shifts of students' understandings about leadership.

### **Coding Results of Participants' Drawings about Their Conceptions of Leadership**

I added a request for students to draw how they viewed leadership to both this study's presurvey and postsurvey instrument, which were composed primarily, though not entirely, of

the LABS-III instrument. This drawing activity seemed important given conceptions of leadership are often subconscious and not necessarily verbalized; as such, I coded both the presurvey and postsurvey drawings.

The coding results of participant-produced drawings about leadership images demonstrated several important shifts in the students' conceptions about leadership after they participated in the leadership course. Most students created a visually different drawing about their images of leadership after they completed the leadership course. The differences were particularly noticeable in how they depicted collaboration, an individual leader, and the comparative size among people in their drawings. After they finished the leadership course, more participants illustrated leadership as involving some form of collaboration and fewer participants drew an individual leader. Furthermore, after they took the course, more participants drew all people pictured as being roughly the same size.

These visible shifts suggested most students changed their images of leadership and shifts were consistent with the postsurvey LABS-III results (i.e., results that showed decreasing scores for hierarchical thinking and increasing scores for systemic thinking). Because there is no other research study that combined the LABS-III instrument and a drawing method to assess students' perceptions about leadership, this study contributed a new way to triangulate findings about how research participants conceptualized leadership.

### **Qualitative Interview Results**

I also conducted interviews with 11 purposefully selected students who had taken the leadership course. The qualitative analysis of the interview data, much of which focused on their comments about the leadership images they had drawn, revealed all 11 students interviewed demonstrated some shifts in their leadership images over time. Participants were categorized into

three different groups based on their scores and shifts of their scores on the systemic thinking part of the LABS-III data. Each group demonstrated somewhat different sorts of shifts in their systemic thinking about leadership. First, even those who scored low on the LABS-III systemic thinking scale over time expressed less commitment to a leader-centric view of leadership in their leadership images after they had taken the leadership course. Second, those who scored low on systemic thinking in the presurvey but demonstrated an increase in systemic thinking after they had taken the course emphasized more collaboration and systemic perspectives in their leadership images. Third, those who scored high on systemic thinking in both the presurvey and postsurvey did not normally reject a hierarchical thinking view of leadership at postsurvey time. Rather, they portrayed a more integrated view of leadership in the images they drew after taking the course. Interview data suggested they believed both a hierarchical way and a systemic way of thinking about leadership may be useful depending on the context in which leadership occurs.

### **Factors Inside and Outside a Leadership Course That Influenced Shifts in Students' Understandings of Leadership**

I also analyzed qualitative interview data to learn about factors that appeared to have influenced shifts in thinking about leadership. Two general sources of shifts emerged during the analysis, including: (a) past leadership experience and (b) learning experience in class. At times, these two factors appeared to interact with each other. For example, the study revealed students who had leadership experience before attending the leadership course were influenced by their leadership experiences. Additionally, those experiences normally contributed, in some way, to their shifts in thinking about leadership during the course.

Interestingly, members of each of the three groups I created from the LABS-III measures of systemic thinking displayed a different pattern with respect to prior leadership experience.



Those in Group 1 who scored low in systemic thinking over time either did not have any past leadership experience or lacked confidence they could become a leader. Those in Group 2 who scored low in systemic thinking at the beginning and showed a dramatic increase in systemic thinking after taking the leadership course experienced significant leadership failures before participating in the leadership course. Those in Group 3 who maintained high scores in systemic thinking throughout the course had comparatively abundant leadership experience and desire to seek their own leadership styles before they started attending the course.

The study also revealed how students made sense of their learning experience in class was a critical factor that influenced directions of the shifts in their understandings of leadership. Data suggested the three groups I had assembled based on their systemic thinking scores constructed different meanings from their learning experiences in class. Students in Group 1 focused on self-improvement by acquiring theories, knowledge, and skills about leadership from the course. They had a desire to learn from instructors but did not show any strong interest in understanding other students' diverse opinions about leadership or learn anything else from their fellow students. They also did not evidence engaging in a deep level of reflection.

Students in Group 2 showed strong interest in understanding other students' often diverse thinking about leadership and learning from them. They tried to simultaneously integrate lectures in class with comments they heard and feedback they received from classmates. Those in Group 2 were ready to critically reflect on their own beliefs based on feedback from others. They displayed tolerance for different ways of thinking and accepted the idea their beliefs may not always be correct. Their learning experiences were focused on a relational level.

Finally, students in Group 3 were already systemic thinkers before taking the leadership course. In fact, this was the defining characteristic of Group 3 when it was formed. These

students were eager to explore their own leadership model based on the awareness of diverse leadership models. They maintained high scores in systemic thinking over time. However, 2 of 3 participants in this group demonstrated a dramatic increase in hierarchical thinking and ended up generating high scores in both hierarchical and systemic thinking on the posttest. By contrast, the other student in this group maintained high scores in both hierarchical and systemic thinking from the beginning to the end of the course. This scoring meant all three participants in Group 3 established an integrative view about leadership on the posttest.

### **This Study's Findings in Relation to Existing Literature**

The survey analysis showed many students changed their understandings of leadership through the course period. The qualitative portion of this study illustrated a more in-depth elaboration about the different levels of changes that occurred in students' understandings of leadership while taking the leadership course. The qualitative data also sought to understand what led to changes in students' conceptualizations of leadership. For the most part, these findings are consistent with findings reported in existing literature, virtually all of which was not generated in a Japanese context. This claim was made for a number of reasons.

First, students enrolled in the leadership course generally strengthened their beliefs in systemic thinking over time. This finding was in line with existing studies that indicated a formal academic leadership program promoted what the LABS-III survey instrument called systemic thinking about leadership (Cress et al., 2001; Dunn et al., 2016; Fischer et al., 2015; Ho & Odom, 2015).

Next, students exhibited different conceptions of leadership before taking the online leadership course. Even after students completed the course, significant differences in thinking about leadership remained. This finding was more or less consistent with Komives et al.'s (2009)

leadership identity development (LID) model. The model identified six developmental stages of how someone builds a leadership identity and how someone's understanding of leadership shifts over time. Stage 1 of the LID model, *Awareness*, typically occurs during childhood and represents leadership as external and independent from self. Stage 2, *Exploration/Engagement*, is focused on the development of self-concept and self-confidence and is influenced by adults and peers. Stage 3, *Leader Identified*, suggests individuals identify a leader in a positional capacity responsible for an organization's outcomes at this stage. At Stage 4, *Leadership Differentiated*, individuals are moving beyond believing leadership is the responsibility of a positional leader to believing leadership is everyone's responsibility in an organization. At Stage 5, *Generativity*, individuals begin accepting responsibility for developing others into interdependent leaders. In Stage 6, *Integration/Synthesis*, leadership is seen as a life-long development process where the leader is striving for congruence.

In this study, students in Group 1 focused on hierarchical perspectives about leadership and could be characterized as being in Stage 3, *Leader Identified*. Students in Group 2 could be seen as being at Stage 4, *Leadership Differentiated*, at least by the end of the course. Finally, students in Group 3 developed more comprehensive views about leadership in class and may have been at later stages such as Stage 5, *Generativity*, or Stage 6, *Integration/Synthesis*.

Finally, the differences in how students in the three different researcher-constructed groups made sense of their learning experiences aligned with O'Conner and Day's (2007) observation that leadership expands from the individual and the relational identity levels to the collective identity level. However, the caveat is not all students who took the course had fully expanded their view of leadership. The students in Group 1, for instance, were mainly concerned with their individual development and did not show strong interests in others' thinking. Because

of the lack of interest in others' perspectives, they might not demonstrate a deep level of self-reflection in the interview. Otherwise, they might not be deeply reflective enough to see others' perspectives. On the other hand, students in Group 2 were eager to understand others' diverse perspectives and ready to reflect on their own thinking about leadership based on their awareness of the diversity of others' opinions and perspectives. Their focus expanded from an individual level to a relational level. Finally, students in Group 3 were eager to solidify their own leadership styles based on a deep level of systemic awareness through dialogue and practice with others. Their focus expanded further to a collective systemic level.

To summarize, the findings in this study were, for the most part, consistent with what literature already said about the impact of teaching leadership on students' conceptions of leadership. However, this study also made a number of new and different contributions. For example, unlike previous studies, this study was conducted in Japan. Also, the course was an online course. The online nature of the course was a necessary response to the COVID-19 global pandemic; undoubtedly, online teaching is likely to increase in the future, even without a pandemic pushing the teaching of leadership toward the internet. The study at least suggested an online course on leadership can impact students' thinking, even though it cannot provide unequivocal evidence of a causal relationship because there was no control group in the design after the COVID-19 global pandemic outbreak. The study also made at least one additional contribution to the literature. In attempting to ferret out participants' tacit and possibly subconscious conceptions of leadership, it employed—including in its research design—a drawing exercise combined with a survey instrument and follow-up interviews. This is a unique methodological strategy that had not been previously employed in the literature.

## Limitations

Although a mixed-methods study can compensate for many of the limitations of both quantitative and qualitative methods, this mixed-methods study still exhibited significant limitations. The first limitation relates to concerns with the internal validity of the quantitative data. I conducted this study with a one-group pretest-posttest design. Because of its preexperimental design, I could not definitively establish cause-and-effect relationships. I could only report correlations and associations between particular aspects of this leadership course and changes in students' understandings of leadership. In other words, this study could not definitively conclude the leadership course *caused* any shifts of students' leadership perceptions; it could only suggest participation in this leadership course was clearly and significantly associated with such change. It is certainly conceivable this association has more to do with students being attracted to the leadership course than the course causing students to shift their understandings of leadership.

There was an external validity problem with the quantitative data. The results of this study were limited to a single case, which was a single leadership course offered in a single university in Japan. Furthermore, although this study was conducted at a large university in Japan, it only sampled students enrolled in a single leadership course. Therefore, the quantitative findings from this study are not generalizable to college students in general or to students at other universities in Japan. Because each university attracts certain kinds of students, those selection effects may have influenced the sample and impacted the generalizability of findings.

The third limitation of this study was an issue related to the validity of the coding categories used in analyzing participant-produced drawings. When I chose nine coding categories, I focused on content analysis to increase the reliability of coding results. As a result, I

prioritized selecting visually clear coding categories and eliminated other coding categories that would require coders to engage in more interpretations of the drawings. Therefore, there is no guarantee the nine coding categories comprehensively analyzed students' perceptions about leadership in their drawings. The nine coding categories used to analyze students' drawings could conceivably miss important aspects of students' leadership images.

Fourth, my study depended on self-reported information. Both the quantitative and qualitative data were generated by what students said in either written or oral form rather than what they actually learned or experienced. It is possible that, at least to some degree, what the respondents offered reflected the students' aspirations and self-concepts more than their actual learning from the course. Therefore, this study may have been influenced to an unknown degree by social desirability biases. For many students, survey and interview questions may have intimated a preferred answer. If that was the case, it is likely some percentages of students were influenced to an undeterminable degree by a desire to provide a socially acceptable response.

Fifth, my positionality as a researcher–instructor must be acknowledged as a significant factor that potentially shaped the way in which I perceived and interpreted data in this study and the way in which participants behaved and responded in the study. Because I conducted this study in the leadership course where I was engaged as one of the instructors, I especially needed to be mindful of my dual role as researcher and instructor because my positionality might have led to researcher biases.

As one of the course instructors, I expected students would change their leadership perspectives through their experiences in the leadership course. Therefore, I needed to admit the potential threats this expectation posed and to keep attention on ways it was affecting the study. I had to constantly reflect on and attempt to manage the impact of my positionality as a

researcher–instructor. For example, when I recruited participants for the interview, to help students differentiate between the different roles I represented, I sent a recruitment letter to possible interview participants only after all the grades for the course were finalized and submitted to the students.

Of course, the role of researcher–instructor offered not only complications to be managed, but also opportunities. My positionality provided deep insights about what was happening and had happened in the course, which were insights only an insider would have. I was able to triangulate my observations in the class with data from surveys and interviews to enhance validity of the study. Having developed a rapport with the students, I was also able to have an interview with students naturally and to elicit deep reflections about their learning and experience in the course from them during the interview.

### **Managing Subjectivity**

Before proceeding, I should acknowledge most of the problems listed previously emerged from the subjective element in all research, even research that employs instrumentation with stellar psychometric properties. Peshkin (1988) cautioned although social scientists generally acknowledge subjectivity is invariably present in their research, they are not necessarily conscious enough of it. He insisted researchers should be attentive to their own subjectivity because, if their subjectivity remains unconscious, they insulate rather than knowingly clarify their personal biases and assumptions. Wolcott (1990) argued researchers should actively mitigate against subjectivity and bias by using several approaches I employed in this study.

I kept a reflection journal throughout the study as a mitigating approach. Particularly during the interview period, I noted any reactions, insights, or personal opinions I had while interviewing and analyzing the data. In fact, at the start of each of the 5 days I spent conducting

online interviews, I reviewed journal notes from the previous days' sessions. Although I still adhered to the basic structure of the interview guide, my review of reflection journal entries from prior days proved useful in adjusting my way of creating a holding environment with interview participants. For example, one of my notes was prompted by the fact that, during the previous day's interviews, I noticed participants saw and even read their reflection papers on the screen when they responded to my questions. In my journal, I had written, "I feel it seems that participants try to tell me model answers to the questions I ask. How can I create an environment for them to express their opinions more freely and frankly?" After reflecting on this insight before the next day of interviews, I decided to emphasize to participants they did not have to refer to any papers or other documents during the interview and their frank and critical opinions would be very much appreciated in this study. This emphasis drew out rich information from participants about their perceptions about learning and experiences in the course in a way that seemed to make participants feel they did not have to worry about giving correct answers.

As an additional strategy to address researcher subjectivity, I used member checking. I sent interview transcripts to all interview participants to give them a chance to clarify and confirm their thoughts while reading through their transcripts. Most of them returned their transcripts with no requests for changes; however, one participant gave me a few corrections and several reflections he had since the interview a couple of months before. His feedback provided additional insights during data analysis. This description represents just some of the things I did to manage my subjectivity and increase trustworthiness of interview data. By acknowledging and constantly reflecting on my personal bias during each step of this process and other components of the data collection and analysis process, I attempted to minimize researcher subjectivity issues and enhance validity of the study.



## Implications

Despite the limitations mentioned previously, this study enhanced the existing body of literature on students' conceptions about leadership and leadership education in several meaningful ways. First, although there is growing attention to academic leadership education in Japan (Izumitani & Yasuno, 2016; Nakaraha et al., 2018), prior to this study there were virtually no studies that examined the impact of an online leadership course on students' conceptualization about leadership in Japan. Therefore, this study provided foundational evidence to demonstrate how taking an online leadership course is associated with shifts in students' thinking about leadership and moving their perceptions in what Rost (1991) characterized as a more postindustrial direction in Japan. Therefore, this study not only demonstrated the importance of offering leadership courses in Japan, but also suggested even an online leadership education in Japan can have a desired impact.

Next, this mixed methods study harnessed the strengths of each methodology used in the study—the LABS-III instrument, drawing method, and follow-up interviews—to obtain a more comprehensive understanding of students' conceptions of leadership and assess shifts in their conceptions after taking a leadership course. This study employed a combination of the LABS-III instrument and a drawing task focused on creating images of leadership that produced data used to triangulate the LABS-III results. In fact, each data set enhanced credibility of the other data set; consequently, it contributed to the credibility of the study as a whole.

The drawing method was especially helpful because it helped surface participants' tacit or latent leadership constructs (Stiles, 2004), which is difficult to achieve when exclusively using a traditional survey instrument. Moreover, because the drawing method was language

independent, it is not restricted to a list of characteristics; it allows for contextual information to be included in the imagery created by participants.

This study also revealed a combination of drawing method and follow-up interview had several advantages because the use of an integrated approach (image and verbal) offered a way of exploring multiplicity and complexity in human experience (Guillemin, 2004). In addition, discussing images with participants during interviews offered an even more in-depth and precise exploration to understand how the drawings were generated and what participants meant about their leadership images. Drawings, in short, functioned as catalysts helping participants to articulate feelings that had been implicit and were hard to define. Furthermore, this participatory approach shifted the power imbalance in the researcher–participant relationship and created rapport with each other. As soon as I showed interview participants their drawings during the interview, I noticed a more intimate atmosphere was created in the interview, presumably because it was the interviewee and not the interviewer leading the discussion. This more intimate atmosphere allowed for eliciting deep thought about assumptions and beliefs behind their drawings.

This study also revealed students enrolled in the leadership course were diverse with a vast collection of different leadership perspectives that were shaped differently by their different past leadership experiences. It is an important insight when leadership educators design a leadership course because experience-created diversity is not normally visible; rather, it is more hidden than other student diversity such as gender, race, and classification (i.e., freshman, sophomore, junior, or senior). Although a growing body of literature addresses diversity in leadership studies, much less is known about the hidden aspect of diversity (i.e., past leadership experiences). However, leadership educators need to be aware of the diversity of students’

understandings of leadership based on their prior experience, or lack of experience, with leadership, particularly when the course they are teaching aims to change their students' leadership understandings to include more systemic thinking about leadership.

To make students and instructors aware of the diversity of leadership perspectives in a class and turn that diversity into a collaborative learning opportunity, a leadership course can start with sharing students' past leadership experiences. Students can discuss differences in small groups and in plenary sessions so they can understand how differently their past leadership experiences influenced their current perceptions of leadership. These sorts of activities could heighten self-awareness and lead the individual to challenge their basic beliefs and assumptions about leadership.

This study also revealed the more abundant past leadership experience students had before attending a leadership program, the more systemic ways of thinking about leadership they were likely to have and the more they were likely to develop through a course. In that sense, providing a real or simulated leadership experience for students as part of a class, especially for students who lacked previous leadership experience, seems critical to change their leadership mindset. Educators can design every learning opportunity in class in a way that students can have a leadership experience by emphasizing a leader-member structure in every class activity. For example, a course instructor can assign a student a class duty and ask them to make an opening remark. An instructor can also assign a designated leader for each small group activity in the course. By doing so, students can become aware of a leader-member structure in a social system and accumulate practical leadership experience in the course. In this way, an instructor's awareness of students' diversity in terms of past leadership experience may facilitate growth in students' understandings of leadership.

Finally, this study revealed teaching knowledge and skills do not directly impact students' systemic thinking because developing a systemic way of leadership requires students to renegotiate with their existing traditional ideas about leadership. This renegotiation effort requires a deep level of self-reflection. This study demonstrated there were two groups of students in terms of shifts about systemic thinking. One group did not shift their systemic thinking scores and the other demonstrated a significant increase from below the mean to above the mean in systemic thinking over time. Group 1 tended to focus on acquiring knowledge and skills from instructors, whereas members of Group 2 were eager to learn from other students. Educators need to assess and understand each student's readiness for deep self-reflection. Their readiness can be evaluated by reviewing their weekly reflection papers. As demonstrated in Chapter 4 of this dissertation, students in each group made different meaning of their learning and experience in the course largely because of their readiness to alter their conceptions of leadership. Once their readiness has been assessed, educators can identify appropriate interventions for each student's level of readiness. To develop more systemic leadership thinking in students, educators should create an environment or opportunity for students to become more ready for self-reflection so they begin to question their basic beliefs and assumptions.

Overall, this study was the first of its kind to attempt to capture the complex and hidden diversity of students' conceptions of leadership and explore factors that caused shifts of their leadership conceptions through an online leadership course in Japan. Undoubtedly, findings from this research have generated new avenues for research. These new avenues will be discussed in the following section.

### Future Research

The most direct implication for additional research was how the one-group pretest-posttest design prevented me from definitively demonstrating a cause-and-effect relationship between the leadership course and shifts of students' conceptions about leadership. The original design for this study included a control group made up of students from the same university who were not taking the leadership course, but this design could not be implemented because of the COVID-19 global pandemic. There is a need to redo this study using control and experimental groups.

The COVID-19 global pandemic had another impact on this study. Because the majority of students enrolled in the course were juniors and seniors, they were hunting for either an internship or a job while they took the course. As it turned out, they had a hard time getting an internship or job offer because many corporations had frozen or decreased hiring because of the uncertainty caused by the COVID-19 global pandemic. This situation could have influenced their perspectives about leadership. Furthermore, many students had various leadership experiences during college years that conceivably could have impacted their understandings of leadership. The unique context in which this study occurred is yet another reason for redoing this study. Hopefully, future duplication of this study would include a control/experimental design to determine whether the unique environment created by the COVID-19 global pandemic impacted this study's findings.

There was a third reason additional studies are needed to explore the impact of a leadership course on students' conceptions of leadership. This particular study examined the impact of an *online* leadership course on students' conceptions of leadership during a unique period when all courses were offered remotely because of the COVID-19 global pandemic.

Therefore, this study did not compare in-person learning with online learning. More research is necessary to better understand the differences between in-person learning and online learning and the potential impact of each type of learning on student leadership mindset. In the event there is an opportunity to concurrently offer an in-person course and an online course, future research should compare student learning between the two ways of delivering a course. This would enhance understanding of the impact of online leadership education on students' conceptions of leadership.

Finally, it would be beneficial to replicate this research in other universities in Japan and in universities in other countries. Doing so would produce more generalizable knowledge about the impact of leadership education on students' conceptions of leadership. The data would help determine whether most leadership courses produced the same sorts of results this study documented. With this study, we only know shifts in conceptions of leadership are associated with taking a single leadership course in only one university in Japan.

### **Conclusion**

This research was the first empirical study to explore an influence of an online leadership course on students' conceptions about leadership in Japan. This study revealed many students shifted their conceptions of leadership into a more systemic way during the online leadership course period. In addition, this study offered some insights about factors inside and outside the leadership course associated with shifts of students' understandings of leadership. Past leadership experience and students' perspectives about the learning experience in class were key factors in making sense of how students shifted their leadership conceptions.

Leadership educators need to recognize the diversity of leadership conceptions among students caused by their past leadership experience prior to participating in a leadership course

when they design and implement a leadership course. Leadership educators also need to create multiple opportunities for students to engage in deep levels of self-reflection in class because the shift toward systemic thinking requires renegotiation with students' traditional beliefs and assumptions about leadership.

Considering the growing demands for postindustrial systemic leadership development for the next generation in Japan, results offered tangible insights to support leadership education in the future in Japan. Ultimately, this study contributed to establishing an academic legitimacy for leadership education in higher education in Japan.

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## APPENDIX A

## PRESURVEY INSTRUMENT

(Please note: This is English translation. The survey was conducted in Japanese and formatting was different for the electronic form.)

## DEMOGRAPHIC QUESTIONS:

Name: \_\_\_\_\_ Student Number: \_\_\_\_\_

Intended Major: \_\_\_ Gender: \_\_\_ Age: \_\_\_

Student Classification: \_\_\_ Freshman \_\_\_ Sophomore \_\_\_ Junior \_\_\_ Senior

## LEADERSHIP ATTITUDES AND BELIEFS SCALE

(1 = *strongly disagree*, 5 = *strongly agree*)

1. Individuals need to take initiative to help their organization accomplish its goals.
2. Leadership should encourage innovation.
3. A leader must maintain tight control of the organization.
4. Everyone in an organization needs to be responsible for accomplishing organizational goals.
5. Leadership processes involve the participation of all organization members.
6. A leader must control the group or organization.
7. A leader should maintain complete authority.
8. A leader should take charge of the group.
9. Organizational actions should improve life for future generations.
10. The main task of a leader is to make the important decisions for an organization.
11. Leadership activities should foster discussions about the future.
12. Effective leadership seeks out resources needed to adapt to a changing world.
13. The main tasks of a leader are to make and then communicate decisions.
14. An effective organization develops its human resources.
15. It is important that a single leader emerges in a group.
16. Members should be completely loyal to the designated leaders of an organization.

17. The most important members of an organization are its leaders.
18. Anticipating the future is one of the most important roles of leadership processes.
19. Good leadership requires that ethical issues have high priority.
20. Successful organizations make continuous learning their highest priority.
21. Positional leaders deserve credit for the success of an organization.
22. The responsibility for taking risks lies with the leaders of an organization.
23. Environmental preservation should be a core value of every organization.
24. Organizations must be ready to adapt to changes that occur outside the organization.
25. When an organization is in danger of failure, new leaders are needed to fix its problems.
26. An organization needs flexibility in order to adapt to a rapidly changing world.
27. Leaders are responsible for the security of organizational members.
28. An organization should try to remain as stable as possible.

Wielkiewicz, R. M. (2000). The Leadership Attitudes and Beliefs Scale: An instrument for evaluating college students' thinking about leadership and organizations. *Journal of College Student Development* 41(3). 335–346.

The hierarchical thinking score consists of items 3, 6, 7, 8, 10, 13, 15, 16, 17, 21, 22, 25, 27, and 28. The remaining items make up the systemic thinking scale.

#### LEADERSHIP DRAWING QUESTION:

Please freely draw your image of leadership on paper or with any digital devices. After you complete it, take a photo or save the file of your drawing and upload the file to the survey.

## APPENDIX B

## POSTSURVEY INSTRUMENT

(Please note: This is English translation. The survey was conducted in Japanese, and formatting was different for the electronic form.)

## DEMOGRAPHIC QUESTIONS:

Name: \_\_\_\_\_ Student Number: \_\_\_\_\_

## LEADERSHIP ATTITUDES AND BELIEFS SCALE

(1 = *strongly disagree*, 5 = *strongly agree*)

1. Individuals need to take initiative to help their organization accomplish its goals.
2. Leadership should encourage innovation.
3. A leader must maintain tight control of the organization.
4. Everyone in an organization needs to be responsible for accomplishing organizational goals.
5. Leadership processes involve the participation of all organization members.
6. A leader must control the group or organization.
7. A leader should maintain complete authority.
8. A leader should take charge of the group.
9. Organizational actions should improve life for future generations.
10. The main task of a leader is to make the important decisions for an organization.
11. Leadership activities should foster discussions about the future.
12. Effective leadership seeks out resources needed to adapt to a changing world.
13. The main tasks of a leader are to make and then communicate decisions.
14. An effective organization develops its human resources.
15. It is important that a single leader emerges in a group.
16. Members should be completely loyal to the designated leaders of an organization.
17. The most important members of an organization are its leaders.
18. Anticipating the future is one of the most important roles of leadership processes.
19. Good leadership requires that ethical issues have high priority.

20. Successful organizations make continuous learning their highest priority.
21. Positional leaders deserve credit for the success of an organization.
22. The responsibility for taking risks lies with the leaders of an organization.
23. Environmental preservation should be a core value of every organization.
24. Organizations must be ready to adapt to changes that occur outside the organization.
25. When an organization is in danger of failure, new leaders are needed to fix its problems.
26. An organization needs flexibility in order to adapt to a rapidly changing world.
27. Leaders are responsible for the security of organizational members.
28. An organization should try to remain as stable as possible.

Wielkiewicz, R. M. (2000). The Leadership Attitudes and Beliefs Scale: An instrument for evaluating college students' thinking about leadership and organizations. *Journal of College Student Development* 41(3): 335–346.

The hierarchical thinking score consists of items 3, 6, 7, 8, 10, 13, 15, 16, 17, 21, 22, 25, 27, and 28. The remaining items make up the systemic thinking scale.

#### LEADERSHIP DRAWING QUESTION:

Please freely draw your image of leadership on paper or with any digital devices. After you complete it, take a photo or save the file of your drawing and upload the file to the survey.

## APPENDIX C

## EMAIL FOR QUALITATIVE INTERVIEW

(Please note: This is English translation. The email was written in Japanese.)

Dear prospective participant,

This invitation to be a participant in a research study is being extended to you because you have registered for the course titled as Leadership Basics this semester. I am a doctoral student in Leadership Studies at the University of San Diego. I am conducting this study for my dissertation, which will explore student experience and learning about leadership in the course.

The study will entail an online 60-minute interview to ask you about your experience and learning during the course. All the information would remain confidential.

If you are interested, please let me know your interest by email. I will follow up with you to set a schedule of the interview. Thank you very much for your consideration!

Sincerely,

Ryosuke Watanabe



## APPENDIX D

## COMBINATION RECRUITMENT AND CONSENT FORM FOR SURVEY

(Please note: This is English translation. The form was written in Japanese, and formatting was different for the electronic form.)

Hello,

My name is Ryosuke Watanabe. I am a doctoral student in leadership studies at the University of San Diego in San Diego, CA. I am conducting a research study about exploring student experience and learning in the course titled as *Leadership Basics* and I would like to invite you to participate.

The purpose of this study is to explore student experience and learning about leadership in the course. You are invited to participate because you have registered for the course. If you decide to participate, you will be asked to complete an online survey twice at the beginning of and the end of the course. Each takes about 30 minutes to complete. Therefore, the total participant time will be 60 minutes. I will ask you your level of agreement or disagreement on statements like: "Leadership should encourage innovation." and "An organization should try to remain as stable as possible." You will also be asked to draw an image of leadership and a few questions about yourself, such as your name, student number, intended major, gender, age, and college year.

This study involves no more risk than the risks you encounter in daily life. Your responses will be confidential, and all your information will be coded with a number. Your email or IP address will be deleted, and nobody will know your identity. I will keep the study data for a minimum of 5 years.

You will receive no compensation for your participation in the study. Taking part in this study is optional. Choosing not to participate will have no effect on your grades, or any other benefits to which you are entitled. You may also quit being in the study at any time or decide not to answer any specific questions. Should you decide to participate, please print out a copy of this page for your record.

I will be happy to answer any questions you have about the study. You may contact me anytime.

Thank you for your consideration.

Ryosuke Watanabe

If you would like to participate, please click on the link to begin the study.

[Survey link]

APPENDIX E  
QUALITATIVE INTERVIEW GUIDE

(Please note: This is English translation. The interview was conducted in Japanese, and virtually through Zoom.)

*Investigator confirmed to have received a consent form.*

Welcome and thank you for participating in this interview.

The purpose of this interview is to get your feedback about your experience in the leadership course titled as *Leadership Basics*. Especially, I want to explore whether and how your understanding of leadership changed through taking the course, and which experiences in the course (activities, exercises, assignments, etc.) were most beneficial to your learning about leadership.

The interview will last about 60 minutes. With your permission, I will digitally record this interview so I can accurately capture what you share.

I would like to remind you that to protect the privacy of the interviewees, all transcripts will be coded with pseudonyms. Please respond spontaneously and honestly. As I continue to go further with the interviews and analyze the data, with your permission, I may contact you again for clarification and/or to ask additional questions that may arise in later interviews.

Do you have any questions before we begin?  
If you have any questions at any time, please ask me.

Interview Questions:

1. Before the leadership course started, did you have any intentions or expectations about the course? Were you consciously aware of any growth you wanted to explore in the course?
2. What stands out for you as you reflect on your experience of the leadership course?
3. (Show the participant-produced drawings of leadership at pretest and posttest.) Could you please explain your drawings?
4. How, if any, did your perspective about leadership change through the experience of the course?
5. What specific class or activity do you think was the most beneficial/useful for you to shape your understanding of leadership? And why?
6. What is the most important lesson you learned in the course? Why is it important for you?
7. What was the biggest challenge when you took the leadership course? And why?
8. Do you have any ideas or proposals to improve the course?

Date: 2021/08/03

IRB #: IRB-2020-231

Title: Leadership Education and Student Adult Development in Japan

Creation Date: 2020/02/07

End Date:

Status: **Approved**

Principal Investigator: Ryosuke Watanabe

Review Board: USD IRB

Sponsor:

## Study History

Submission Type	Initial	Review Type	Expedited	Decision	<b>Approved</b>
Submission Type	Modification	Review Type	Expedited	Decision	<b>Approved</b>
Submission Type	Renewal	Review Type	Expedited	Decision	<b>Approved</b>
Submission Type	Modification	Review Type	Expedited	Decision	<b>Deferred</b>
Submission Type	Incident	Review Type	Unassigned	Decision	

## Key Study Contacts

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