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Conceptual and Theoretical Frame (Chapter Two of Classroom as Organization)

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2. Conceptual and theoretical frame

Sam had just finished teaching a class and was feeling discouraged. Her students seemed disengaged, sleepy, and uninterested. Their participation in the discussion was lackluster. They appeared eager to leave class and get on with their day. She felt unsure whether her teaching was connecting with the students: Did they get it? Were they really learning something useful? Did her teaching matter? For what seemed like the millionth time, Sam wondered aloud how she might build more engagement while making the course more practical and impactful for students.

As Sam returned to her office, she heard a commotion coming from Maria's classroom. She paused at the classroom door to see what was happening. Her mouth fell open in surprise. Students were talking, interacting, and moving around the room. They seemed 100 percent engrossed. Sam assumed that Maria was leading an activity, but she had to look around the room to find Maria observing the class from the back. The students were leading the class on their own. This classroom did not look like any Sam had ever seen before; in fact, it looked more like a typical workplace environment with multiple teams engaged in projects. What could Maria be doing to make her classroom function that way? Sam made a mental note to talk to Maria to learn more.

1. INTRODUCTION

Sam's conundrum is all too familiar: Educators want to create an engaging classroom environment where students are committed to their learning. And yet, many struggle in knowing exactly how to create that kind of environment. On the one hand, there is pressure to cover a defined set of concepts. On the other, it is important that students internalize and apply what they are learning. Given the inherent tension between covering content and student engagement (Hung et al., 2003), how do educators best serve students in terms of sharing conceptual ideas and developing their skills in applying that content?

This question is not new. However, the contemporary educational landscape makes the use of relevant and engaging teaching practices

more important than ever, so much so that the Association to Advance Collegiate Schools of Business (AACSB, 2020) includes experiential learning in the accreditation standard related to student success. In a world where students have access to content through endless resources at the click of a mouse, the value of attending a lecture-focused course is being seriously questioned (Webster, 2015; Poirier, 2017). Moreover, the global, interconnected, and multi-cultural context of modern organizational life emphasizes the necessity of applied skills, particularly the misnomered "soft skills" required in working with and through others (National Association of Colleges and Employers, 2018; Organisation for Economic Co-operation and Development, 2017). What can educators do to maximize the impact of a student's educational experience so that, in addition to learning *about* the course topic, they internalize knowledge and build skills?

The Classroom as Organization (CAO) approach is an engaged teaching methodology that directly addresses this question. It is a highly experiential way of teaching, at both the undergraduate and graduate level, that enables students to become fully engaged in their learning while practicing skills. It can be used to design courses around any topic where the objective is to help students learn not only the conceptual material but also the practical skills that are associated with this knowledge.

The essence of CAO is the creation of a functioning, student-run organization. Instead of the educator taking center stage, students are placed in relevant roles of the organization, allowing them to experience organizational dynamics while learning and implementing domain-specific knowledge. As described by Cohen (1976, p. 14), the objective of CAO:

> is not to simulate an organization, but rather to create genuine organizational issues for students, to put them in the position of an organizational member who must deal with such problems as: how does work get allocated; how does one work with others who bring different expertise to tasks; how does one influence and motivate subordinates, peers and superiors; how does one cope with ambiguity in solving difficult tasks which do not have any obviously correct single answer; how can disagreements among coworkers be resolved; and how will decisions be made.

Educators drawing on the CAO approach leverage the fact that a class is an organizational system. However, the CAO approach foregrounds this and fundamentally shifts the norms of a traditional classroom. The role of student shifts from a passive recipient of teaching to that of an active organizational member. The role of educator shifts as well: from the tra-

ditional roles of presenting and testing material to that of managing and facilitating teams and individuals. In enacting their roles as employees, managers, and/or consultants, each student is empowered to affect the entire organization (class). Therefore, students present content, assess the work of their peers, and fulfill organizational functions that vary depending on the purpose of the organization.

At first glance this idea may sound similar to many experiential learning strategies, and, in truth, it is. However, CAO designs leverage experiential learning by flipping the classroom and empowering students within an authentic context. The consequence is that the classroom becomes a living laboratory where students are both participants in organizational activities and observers of their own and others' activities in the organization. CAO courses often become highly sophisticated systems that emerge, develop, and evolve over the entire term of a course. Students generate and respond to real-time organizational dynamics as they learn content-related concepts.

The purpose of this book is to serve as a comprehensive resource for educators interested in adopting CAO. The intention is to enable more people to experiment and adopt this immersive, empowering, and relational teaching methodology. This chapter provides an overview of the historical context in which CAO emerged, a summary of the learning theories that underpin the methodology, and a synthesis of the CAO literature base. Building on this foundation, Chapter 3 addresses specific considerations for using CAO, including fit with one's teaching philosophy and instructional context. Chapter 4 provides a template example of a CAO course, for those interested in adopting a CAO design for their own purposes. Finally, Chapter 5 consists of an annotated bibliography of seminal articles in the CAO literature.

2. THE EMERGENCE OF CAO

The term "Classroom as Organization" emerged within the field of organizational behavior (OB) during the creative milieu of its nascent stage. The field of OB emerged sometime in the 1960s (Dickinson, 2000) and so was not part of the earliest business schools' curricula (Milner, 2002). Business education, both in the USA and Europe, initially emphasized economics, accounting, and finance (Kast, 1965; Cheit, 1985), with a technical applied orientation in the USA and a theoretical orientation in Europe. It was not until the 1950s that behavioral science developed, led by the work of B.F. Skinner (Dickinson, 2000). Around this same

time, business education in USA universities came under significant criticism (Goodrick, 2002) from independently commissioned reports from the Ford and Carnegie Foundations (i.e., Gordon and Howell, 1959; Pierson,1959, respectively). The results were consistent if not flattering: business education in the USA was perceived as low quality, narrowly vocational, and overly descriptive rather than research based. Both reports recommended increased input from the social sciences, including the disciplines of psychology, sociology, and cultural anthropology.

Attempts to integrate behavioral sciences into business education often fell flat (Cohen, 2019). The social science theory presented was perceived as complex, disconnected from organizational reality, and difficult to implement (Bradford and LeDuc, 1975; Cotton, 1975; Cohen, 1976; Clare, 1976). Early OB educators, many trained in the traditional social sciences such as psychology (Blood, 1994; Goodman and Whetten, 1998), reported that it was hard to get colleagues and students to value the contributions they could make to management education. According to Cohen (2019), "OB courses were terribly boring, and not highly regarded."

Given the many challenges regarding *what* and *how* to teach OB, a group of academics from 14 institutions gathered at the University of California, Berkeley in 1974 to share best practices in teaching organizational behavior. The gathering included a number of proponents of the T-Group (Training Group) – sensitivity training popularized through the US National Training Laboratories during the 1960s. In fact, "an astonishing number of T-group leaders were pioneers in the field of organizational behavior" (Highhouse, 2002, p. 278). This highly experiential approach to personal and group development was pioneered by Kurt Lewin and his colleagues. As described by McKeachie (1990, p. 193):

> During the 1960s, sensitivity training (T-groups, encounter groups) became the fad for high-level business executives as well as for government workers, teachers, and students. Originating in the group dynamics theories and practice of Kurt Lewin and his followers, sensitivity training groups met the 1960s generation's desire for self-analysis, confrontation of stereotypes, and overthrowing norms restricting the expression of personal needs and feelings. Many universities developed courses involving sensitivity training, and many faculty members incorporated elements of sensitivity training in conventional courses.

Key characteristics of T-groups include: (1) a situational dilemma created by a lack of structure; (2) a focus on the here-and-now; and (3)

feedback loops that enable the group to learn from and about itself. Early attempts to apply the T-group process in the management classroom had varied success (Nath, 1975; Bradford and Porras, 1975); however it is possible to see the influence of the Lewinian movement in the emergence of CAO. A CAO classroom creates the situational dilemma, foregrounding and leveraging the organizational dynamics of the classroom to create a "here-and-now" common experience.

It is not surprising then, that CAO shares the T-group assumption that people can learn from the process of co-creating relational structures. But CAO departs from the loose structure of the T-group by including specific organizational structures: hierarchy, formal teams, and peer assessment serve as important feedback loops in a cycle of learning activities. It also differs in the willingness to influence the boundary conditions for the group process; the intention is for students to generate and experience organizational structures that align with specific content.

In order to better understand the CAO approach, it is helpful to foreground the teaching philosophy that underpins it: educational constructivism.

3. THE TEACHING PHILOSOPHY OF EDUCATIONAL CONSTRUCTIVISM

CAO emerged at a time when educators across many sectors of higher education were exploring the distinction between deep versus surface learning (Marton and Säljö, 1976; Dinsmore and Alexander, 2012) and the related teaching philosophy of educational constructivism (see Schneier, 1975; Magoon, 1977; Mishler, 1979). A "deep approach to learning is associated with student intention to understand and to distill meaning from the content to be learned … The surface approach is characterized by a student's intention to cope with course requirements" (Baeten et al., 2008, p. 359). Educators play a significant role in creating the context for deep learning (Smith and Colby, 2007). A constructivist teaching philosophy is based on the assumption that students learn at their deepest level when they have opportunities to construct knowledge through their own experience and in their own terms.

The term "constructivism" holds different meanings depending on the field of application. The beginnings of educational constructivism are attributed to the work of John Dewey (i.e., pragmatism), Jean Piaget (individual and cognitive constructivism), and Lev Vygotsky (social constructivism). Dewey suggested that "active participation and

self-direction by students are imperative and learner's experience and worldview are critical to problem-solving education" (Ültanır, 2012, p. 201). While theorists debate the details, there are some core ideas that underpin constructivist learning theories (Taber, 2006), including that:

- Learning is an active process undertaken by the learner constructing knowledge, not passively receiving it from an outside source.
- Although learners construct knowledge individually, it is dependent on their interaction with others and the world around them.
- Learners are not empty vessels. They bring established ideas and theories to the learning situation. Some ideas are unique to the individual learner and others, having been shaped by culture, are more broadly shared.

Constructivism directly challenges the mental model of a learner as a blank canvas on which teachers paint a body of knowledge by dictating information from the front of the classroom. Rather, in order for learning to occur, the constructivist philosophy of education posits that teachers must engage a learner's established knowledge base in order to meet the learner where they are at. This has significant implications for the role and identity of educators. The emphasis shifts away from how to deliver content and toward how best to engage learners in constructing their knowledge: this is the essence of student-centered learning (Estes, 2004). Constructivist philosophy underpins the practice of experienced-based learning (Boud et al., 2014; Dewey, 1938; Kolb, 1984; Weil and McGill, 1989), with many teaching methodologies emerging in recent years (e.g., active learning, problem-based learning, and the flipped classroom).

The CAO teaching method advocates that educators, explicitly or implicitly, incorporate constructivist assumptions into their teaching philosophy. Connecting CAO explicitly with the constructivist movement draws on a significant body of literature to support this approach to teaching. Since the introduction of constructivist education over a century ago, there is now significant evidence that meaningful learning requires active engagement and application of new information (Hake, 1998; Bransford et al., 2000; Knight and Wood, 2005; Albert and Beatty, 2014). The art and science of educating adults, andragogy (Knowles, 1980), advanced the ideas of constructivism and student-centered design by proposing that adults learn experientially, and are most engaged when solving applied problems. Three constructivist, experienced-based practices are par-

ticularly relevant to understanding CAO: authentic learning, the flipped classroom, and learning by teaching.

Authentic Learning

Authentic learning is a constructivist approach to teaching that aims to "align university teaching and learning more substantially with the way learning is achieved in real-life settings, and to base instructional methods on more authentic approaches, such as situated learning" (Herrington and Herrington, 2005, p. 3). The intention is to create learning experiences that lessen the gap between theory and practice, between knowing and doing. Drawing on the situated learning literature, Herrington and Oliver (2000) identified nine characteristics for designing authentic learning experiences that also characterize the CAO approach:

1. Authentic Context – Ensure that the physical space and context provide a "complex learning environment" (Herrington and Herrington, 2005, p. 4) that is consistent with environments where knowledge will be utilized in practice.
2. Authentic Activities – Students are challenged with "ill-defined activities that have real-world relevance, and which present complex tasks to be completed over a sustained period of time, rather than a series of shorter disconnected examples" (Herrington and Herrington, 2005, p. 5).
3. Access to Expert Performances – Exemplars of professional practice are available to enable students to learn from and model. This might involve real-world work products (i.e., memos, performance appraisal forms, etc.), interviews with experts, and/or videos of those experts' performances.
4. Multiple Roles and Perspectives – Encourage exploration of topics from different points of view.
5. Collaborative Construction of Knowledge – Group tasks are designed to require collaboration and group-level grading structures.
6. Reflection – There are formal opportunities for both individual and group-level reflection on the assigned tasks.
7. Articulation – Opportunities for students to publicly present their ideas, arguments, and thinking are included. The "very process of articulating enables formation, awareness, development and refinement of thought" (Herrington and Herrington, 2005, p. 7).

8. Coaching and Scaffolding – The teacher shifts from a didactic role to one that focuses on asking questions, and making observations, that invite students to think about their thoughts and actions: shifting from cognition to meta-cognition. In addition, other students can be a powerful resource for collaborative learning.
9. Integrated assessment of learning – Assessment is integrated with the learning activities.

By utilizing the structure of a functioning organization, CAO classrooms create an authentic context for learning about working with and through others. In particular, CAO designs replicate organizational dynamics through empowerment and interdependency.

The level of empowerment and interdependence within a particular CAO design will vary, as explored below (i.e., common elements of CAO). However, the results are predictable in two specific ways. First, empowered students become more self-reliant, more productive, and capable of increasing the amount and level of difficulty of work they can accomplish (Houghton and Neck, 2002). Additionally, students gain first-hand experience of the challenges, opportunities, and strategies for becoming more effective within complex interdependent systems. However, leveraging empowerment within an interdependent system requires time. More specifically, for students to be successful in executing authentic activities they need face-to-face time with other members of the organization. In order to focus class time on authentic activities, many CAO designs embrace the practice of flipping the classroom.

Flipped Classroom

Flipping the classroom (FTC), also referred to as the inverted classroom, is a constructivist practice that "moves the lecture outside the classroom and uses learning activities to move practice with the concepts inside the classroom" (Strayer, 2012, p. 171). The aim is for the students' first exposure to material – and the lowest level of cognitive work (i.e., gaining knowledge through transmission of information) – to move outside the classroom, reserving class time for application, analysis, and synthesis (Brame, 2013). Often technology, in the form of online videos, is used to replace traditional in-class lectures. However, the medium through which content is delivered can vary – i.e., assigned reading, PowerPoint slides (narrated or not), etc.). Abeysekera and Dawson (2015) explain FTC broadly as "a set of pedagogical approaches that:

1. move most information-transmission teaching out of class; 2. use class time for learning activities that are active and social; and 3. require students to complete pre- and/or post-class activities to fully benefit from in class work" (p. 3).

FTC is an active-learning approach that engages the student with the material they are learning. The range of in-class activities employed is as broad as the imagination of the educator. It includes any and all experiential learning strategies: large group discussions, interactive quizzes using clicker response technologies, traditional quizzes, small group activities (e.g., cases, problems, role plays, etc., think-pair-share activities, student presentations, debates, etc.), and simulations. Van Alten et al. (2019) concluded that "students in flipped classrooms achieve significantly higher assessed learning outcomes than students in traditional classrooms" (p. 15). Two factors specifically leverage this ability of FTC: maintaining the amount of face-to-face time in the classroom, and utilizing quizzes (van Alten et al., 2019). In this way, FTC complements the CAO approach by reserving class time for the authentic activities described above.

Research on student satisfaction with FTC is varied. Drawing on self-determination theory (Ryan and Deci, 2000), Abeysekera and Dawson (2015) suggest that FTC methodologies contribute to greater intrinsic and extrinsic motivation by satisfying learners' needs for competence, autonomy, and relatedness. Despite claims that FTC contributes to greater student satisfaction (Mason et al., 2013), meta-analyses of empirical evidence suggest a more measured assertion: FTC does not negatively impact student satisfaction ratings (van Alten et al., 2019). This may be in part because students vary in their self-regulated learning (SRL) capability, and those who are unfamiliar with the increased importance, and responsibility, of preparing for class may need time to adjust to new classroom norms (Mason et al., 2013; Lo et al., 2017). However, another meta-analysis found that students increase SRL capabilities more in flipped classrooms than in traditional classrooms (Tan et al., 2017). There is of course a learning curve in implementing any new methodology, both for the educator and the students, and the nuances of FTC are no exception. As FTC becomes more established, both educators and students will gain competence with the practice. In the interim, it seems decreased satisfaction does not mean decreased learning. For example, in a quasi-experimental design, Missildine et al. (2013) found that students in the FTC group had higher examination scores but lower satisfaction with the teaching method.

Evidence suggests that FTC does foster greater peer-to-peer and student-to-educator interaction (Bergmann and Sams, 2012; Sun and Wu, 2016; Yu and Wang, 2016; Zainuddin and Attaran, 2016). One of the ways that CAO designs encourage such interaction is by including the practice of learning by teaching.

Learning by Teaching

Learning by teaching includes the cooperative learning strategies (e.g. Slavin, 1983) of peer teaching and assessment. As described by Topping (1996): "People from similar social groups who are not professional teachers [are] helping each other learn and learning themselves by teaching" (p. 322). Students learn from and with each other in both formal and informal ways (Boud et al., 2014). For example, informal peer learning takes place outside the classroom when a learner asks a fellow student for help. CAO formalizes peer learning through the intentional strategies of peer teaching and assessment. The benefits include increased skill in: working with others; critical enquiry and reflection; communication and articulation of knowledge, understanding, and skills; managing learning and how to learn; and self- and peer assessment (Boud, 2001).

Peer teaching maximizes student responsibility for learning and enhances cooperative and social skills (Goldschmid and Goldschmid, 1976). The act of preparing to teach requires students to pay more attention to the material and organize it in a meaningful way (Carberry and Ohland, 2012), and the teaching act itself can deepen understanding of the material (Fiorella and Mayer, 2013; Okita et al., 2013; Koh et al., 2018). Taking a teaching role can improve attitudes toward life-long learning (Peng et al., 2019) and teamwork skills (Zhou et al., 2019). There is evidence that peer teachers may have greater influence in shifting learners' pre-existing beliefs (Chrispeels et al., 2019). This is helpful in addressing the constructivist assumption that learners can carry established ideas that are inaccurate and/or inconsistent with scientific understanding.

Peer assessment "is an arrangement for learners to consider and specify the level, value, or quality of a product or performance of other equal status learners" (Topping, 2009, p. 20). Wide variation in the use of peer assessment (also referred to as peer grading, peer evaluation, peer review, peer feedback and peer interaction) means there are few absolutes within the literature (Topping, 1998; Ashenafi, 2017; Kollar and Fischer, 2010; Strijbos and Sluijsmans, 2010). Variables for consideration in peer-assessment designs include whether it is: formative or summative;

one-off or iterative; mutual or anonymous; verbal and/or written; individual, dyadic, or group-based; and delivered inside or outside of class time. Regardless of the design, developing peer-assessment skills through scaffolded training is a critical success factor for learning (Topping, 2009; van Zundert et al., 2010; Könings et al., 2019). One of the benefits of peer assessment is the potential for greater amounts of formative assessment (i.e., assessment *for* learning as opposed to assessment *of* learning) by expanding the source of that feedback from the teacher to members of the whole class. In addition, peer assessment results in cognitive gains for both the assessor and the assessed (Topping, 2005). In their meta-analysis of studies comparing peer and teacher marks, Falchikov and Goldfinch (2000) concluded that, on average, there was agreement between peer and teacher assessments. They also concluded that agreement was more likely when there were well-specified assessment criteria that were both student-defined and well-understood.

However, both peer assessment and peer teaching need to be carefully structured to be efficient (Fischer et al., 2013; King, 2002; Michinov et al., 2015). The quality and impact of peer teaching can be improved with structures that require meaningful interaction between the students (Roscoe, 2014): in other words, structuring the teaching assignment so that students move beyond summarizing the material and instead teach by "generating inferences and actively reflecting upon [their] own understanding of the material" (Fiorella and Mayer, 2016, p. 729). Similarly, the structure of providing a feedback template with pre-specified and mutually discussed criteria can significantly increase the quantity and quality of peer assessment (Gielen and De Wever, 2015).

In summary, CAO is a teaching approach that draws on multiple teaching practices from the constructivist paradigm: authentic learning, the flipped classroom, and learning by teaching. However, the early pioneers of the CAO methodology were experimenting with the precursors to these practices long before they were named with these labels. The next section outlines the contributions from these CAO pioneers, and then explores the variations and adaptations that have evolved.

4. THE BEGINNINGS AND EXPANSION OF CAO

There are four primary contributions in the early CAO literature: Bradford and LeDuc (1975), Cotton (1975), Cohen (1976), and Clare (1976). These seminal articles, appearing in the first two years of *The*

Teaching of Organizational Behavior journal, each called for a departure from the traditional student and teacher roles. These pioneers were experimenting with different strategies for teaching an applied subject. Each model went beyond using experiential activities, and made the classroom a living organization. Their articles describe how their CAO functioned, the elements that were successful, and the difficulties they encountered. These are not empirical articles, as the authors' primary intention was to share their designs to encourage more creative implementation of CAO. Of the four original CAO designs, three focused on small groups where students completed team-level assignments related to the content of the course (Bradford and LeDuc, 1975; Cohen, 1976; Clare, 1976). In contrast, Cotton created a functioning hierarchical organization with a defined output. The four designs, in chronological order of publication, include:

- a "two-tier" design that linked a first-year MBA OB course with a second-year MBA OB course and utilized a small group, discussion-based model (Bradford and LeDuc);
- a hierarchical design that included functional departments with an external focus for the organization – a resume distribution service for graduating students (Cotton);
- a small group design where assignments were completed in teams, peer assessment was utilized, and the team leader met with the professor regularly (Cohen);
- a course design that extended Cohen's model by incorporating differentiated roles within teams and a more elaborate peer-assessment scheme (Clare).

Although all four of these CAO models evolved around the same time, there seems to have been little if any collaboration between the authors. Much of the literature cites Cohen as the initiator of CAO, although a careful review of the literature reveals that the other models have been equally influential.

Over the next few decades, CAO methodologies proliferated by building on the ideas put forth by these first four works. Each article on CAO demonstrates how the author(s) created an organization by integrating the broad topic of the course with specific organizational concepts in order to allow students to live within and learn from certain organizational realities. In a myriad of ways, they adopted the perspective of manager and consultant to view the classroom as an opportunity to create organi-

zational dynamics that matched their learning objectives. While there are many nuances, the following categories are helpful in understanding the CAO literature: the interdependent organization versus leadered group design (André, 2011); the external versus internal focus of CAO; various adaptations; and, finally, broad common elements.

Interdependent Organization vs. Leadered Group Design

In the four seminal articles the basic tenet of CAO was present: create an organization within the classroom. While each was unique, they can be organized in three categories (Figure 2.1), two of which have continued to evolve over time in the literature: interdependent organization CAO (Cotton, 1975) and small group-based CAO, also called leadered group design (Cohen, 1976; Clare, 1976).

In Figure 2.1 *interdependent organization* is a label to describe designs that focus on creating an organization in which each group is assigned responsibilities that affect the whole organization: groups are dependent on one another to produce their final product or service. *Leadered group* is a label to describe designs that focus on small groups; this often involves giving specific roles to group members, including manager or team leader. In the leadered group design, each group is given an assignment to do; and, although they must work together to produce the assignment, their efforts are not dependent upon, nor do they impact, other teams.

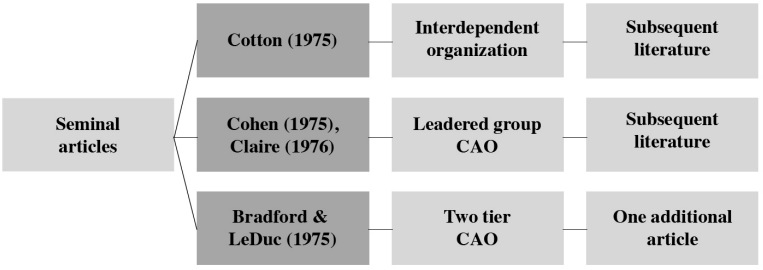

Figure 2.1 *Seminal CAO articles: interdependent organization v. leadered group design*

The first published example of the interdependent organization design was from Cotton, who created a hierarchical organizational structure for his CAO. The organization ran a resume distribution service which included the "maximum number of business functions and operate[d] in realistic ways" (Cotton, 1975, p. 25). The goal was to create a business with real output in order to engage students in all levels and functions of the business. Cotton's intention was to enable students to experience organizational behavior within the reality of life in a hierarchical organization. Students were placed in teams with built-in interdependence with the whole organization. For example, the sales/marketing team was responsible for the sale of the product but had to work interdependently with all other teams to ensure successful delivery of that product. Cotton, utilizing the interdependent organization model, went to great lengths to mimic the realities of a functioning hierarchy. For example, only managers were allowed to speak with the CEO (the educator). He found that his design so closely reflected the realities of a strict hierarchy that he also recreated the realities of a disenfranchised working class at the bottom of the pyramid.

In the end, Cotton declares this design a "disaster" because it was too realistic: students in management positions had a great experience, while students occupying lower-level positions were frustrated, disempowered, and disillusioned. His article provides evidence that CAOs can indeed mimic organizational realities, giving students insight into how organizations work and the opportunity to develop the requisite skills. However, Cotton's conclusion regarding the limitation of creating a hierarchical bureaucracy is a valid concern. Subsequent CAOs based on his example worked to alleviate the difficulties found in a strict hierarchy by creating flatter organizational structures and/or meaningful roles for each student. Cotton's CAO marks the beginning of a branch of CAO models that utilize an interdependent organization design. Other educators have found it to be a viable and powerful way to design CAOs where each member of the class is both a part of a department and linked into the whole organization.

The leadered group design was first published by Cohen (1976) and quickly adapted by Clare (1976). In these examples of the leadered group design, the emphasis was on role differentiation within the team. There was no built-in interaction or dependencies between teams. In this design, all output comes at the group level, not the organizational level, and each group acts independently of other groups. Specific roles were assigned to individual group members, including a group manager, to ensure that

each student took responsibility for some aspect of the assignments and that all group-level tasks were completed. The educator fulfilled the role of the organization's senior manager by meeting with team managers regularly to provide feedback and assess the quality of the group output. Students were held accountable to their group via peer assessment, feedback from their team manager, and assessment of individual work by the senior manager.

While Bradford and LeDuc's two-tier CAO is part of the seminal literature and was published around the same time as the other articles, only one subsequent CAO article builds upon it directly. Bradford and LeDuc created a design to accommodate 300 MBA students in an introductory-level course while leveraging the advanced Master of Business Studies (MBS) students as discussion leaders in the introductory MBA course. Lectures delivered by the professor were used for part of the introductory course. In addition, the discussion groups facilitated deeper and more individualized learning for MBA students, as well as a chance for MBA students to lead in an organizational context. The only other article in the literature that builds on this model modifies the design to an undergraduate course (Graf and Couch, 1984).

The labels of interdependent organization versus leadered group design help name an important and enduring distinction within the CAO literature. However, the evolution of CAO designs is not captured with this single categorization.

External vs. Internal Focus

Another important distinction between CAO designs is the direction of focus for the organization's purpose: external or internal. Externally focused CAO designs deliver a product or service outside of the organization. This might include running a community event or designing and implementing a business for external stakeholders. Within externally focused CAOs, students are typically organized into functional groups in order to successfully deliver a product or service to customers. Internally focused CAO designs deliver the service of leveraging individual and collective learning from the dynamics that occur within the organization as members take responsibility for teaching the subject of the course. Within internally focused CAOs, activities focus on both deep learning of content and the execution of organizational tasks that occur at the team and/or whole organization level. For both external and internal CAO designs, reflection and learning about group and organizational dynamics

emerges from action: either product/service delivery, peer teaching and assessment, or some combination of both.

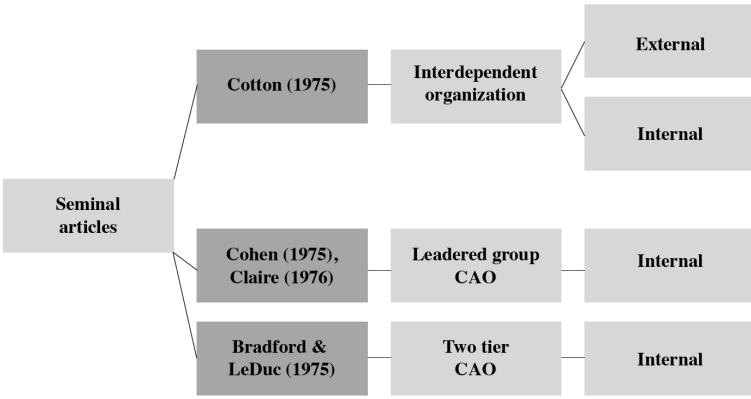

Figure 2.2 Seminal CAO articles: internal v. external designs

Figure 2.2 provides a simplified picture of how the CAO literature has evolved in relation to the two key distinctions discussed thus far: (1) interdependent organization versus leadered group, and (2) internal versus external focus. All of the leadered group designs in the CAO literature, dating back to the seminal articles by Cohen (1976) and Clare (1976), are internally focused. The key stakeholders are the members of the organization (i.e., class) and the focus is on the learning of course material. In contrast, the interdependent organization designs in the CAO literature, instigated by Cotton (1975), include both internal and external foci (Figure 2.3).

In the externally focused interdependent organization designs of CAO there are two main models: create a business (Randolph and Miles, 1979; Miller, 1991; Goltz, 1992) and event planning (Sheehan et al., 2009; McDonald et al., 2011). In the *create a business* external design, Randolph and Miles present a series of simulations in which students, placed in functional groups of an organization, are asked to solve problems presented to them. The students act as an organization while solving business problems and are subsequently scored by the professor on their solutions. Oddou (1987) builds on this model, integrating a semester-long simulation of a hierarchical business that requires students to fabricate and sell fake circuit boards. The process is simplified since the students

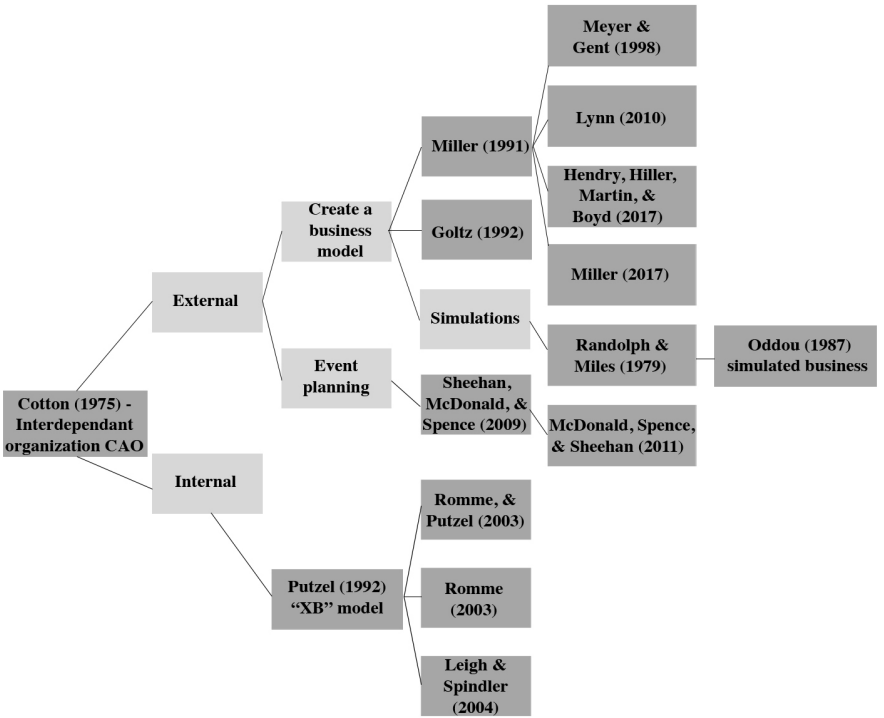

Figure 2.3 Evolution of CAO literature from Cotton (1975)

do not actually create and run a real business, but work through a simulated business model over the semester. Goltz (1992) creates a hierarchical organization with the goal of creating a college survival guide tailored to their university.

The most prolific of these external create a business designs originates with Miller's (1991, 2017) Management 101 Project out of Bucknell University. Miller's model of CAO is an external interdependent organization design where student groups plan, organize, and run a for-profit business during the course of a semester. The class meets three times a week for regular lecture-style teaching, and twice a week in a lab where groups plan, organize, and run the business. The topics of this course are carefully orchestrated so students learn what they need to know at each stage of the business. This design has been running continuously for 30 years at Bucknell University (Hendry et al., 2017; Miller, 2017) and has been the inspiration for creative iterations at other universities (Meyer and Gent, 1998; Lynn, 2010).

Another long-running external interdependent organization design is an event-management CAO in which students are in charge of managing and marketing a sports festival (Sheehan et al., 2009). This model, which has been running consecutively for 17 years, integrates theory and soft skills through traditional teaching as well as the experience of planning and managing the actual event. In addition to enabling students to practice management and organizational skills, this model facilitates interesting opportunities for students to partner with university-wide events.

While the external designs of CAO take multiple forms, there is only one published model of the internal interdependent organization design: Putzel's (1992) eXperiential Based Learning (XB). Putzel's internal interdependent organization design focuses on the interpersonal dynamics of accomplishing work through others in a complex organization. The purpose of the organization is to create individual- and organization-level learning: students are tasked to teach specific content, provide feedback, assess learning, oversee the overall functioning of the class, and recommend final grades. Students work in teams that have interdependent functions. In addition, each student has a unique role with specific responsibilities, often with organization-wide influence. Putzel's model has been utilized in a handful of universities and has spawned a number of research articles (Romme and Putzel, 2003; Putzel, 1992; Bright et al., 2012; Leigh and Spindler, 2004).

Cotton's original design includes five levels of hierarchy and Putzel employs three levels. The authors of this book have created their own design of CAO, building on Putzel's model while simplifying it significantly for the first-time user. This design, outlined in Chapter 4, simplifies the hierarchy in favor of emphasizing the self-organizing and positive organizational dynamics that are possible. The aim is to give students the opportunity to be a part of a highly functional system in the hope that they will know when they experience it again in the workplace, and even work toward recreating it.

Romme (2003) adapts Putzel's internal interdependent organization CAO for the purpose of chairing multiple masters projects concurrently. This CAO, referred to as a thesis ring, has the goal of providing a supervisory relationship to students who are completing a master degree thesis. Whereas students usually meet one-on-one with their chair during this process, Romme invites five to seven students with thesis topics that are in the same discipline to be a part of a thesis ring. In addition to significant responsibilities related to peer editing, students share the rotating roles of meeting chair and/or scribe. The thesis ring meets every three weeks, when students, as well as the educator, provide feedback on each other's writing. The members of the thesis ring are empowered to make the final decision regarding whether a thesis has been successfully defended. The learning emphasis is on the skills of critical thinking, writing, and discipline-related concepts. CAO thesis rings are ongoing presently in six European universities (Romme and Putzel, 2003) and are fostering ongoing research (van Seggelen-Damen and Romme, 2014).

In summary, these works demonstrate how the CAO literature contains internally and externally focused designs, both of which have merit depending on the purpose for which they are used. The external format (Cotton, 1975; Miller, 1991) facilitates a realistic experience of serving external stakeholders and the necessary interdependence of functional departments (i.e., marketing, sales, product design, etc.). On the other hand, the internal model enables an increased attention to and exploration of the interpersonal realities of an organizational environment (Putzel, 1992). Of the interdependent organization design, the Management 101 Project's external and XB's internal CAOs have been the most influential. For instance, each has inspired subsequent related articles and have been adopted at other universities. However, there are interesting differences between the Management 101 Project and XB that illustrate some of the many nuances contained in the CAO literature: the Management

101 Project presents the content through traditional lecture-style class sessions – students apply concepts during lab time; XB uses the organizational design to make students responsible for presenting course content. Both designs reflect their respective course content and objectives. The Management 101 Project emphasizes the various business functions as well as management skills within these functions. The XB course focuses on the organizational realities of getting things done through others. Despite both Miller and Putzel using the interdependent organization CAO design, each adapted it to their unique context. This is common in the CAO literature, and therefore makes it challenging to distill simple categorizations.

Variations and Adaptations

Beyond the distinctions discussed above, there are many variations and adaptations within the CAO literature. It is difficult to summarize these in a simple table because of the nuances within and overlap between individual contributions. However, four themes emerge as one way to understand this literature: students designing elements of the course; instructors creating content variations; simulations that involve splitting the class; and in-depth attention to particular developmental aspects. The majority of these adaptations come from the small group or leadered group designs of CAO (Cohen, 1976; Clare, 1976), as can be seen in Figure 2.4.

The first theme in the CAO literature relates to articles that emphasize the processes of empowering and guiding students in making many of the decisions about course policy and structure: What textbook will be used? How many tests will there be and when will they be scheduled? What assignments will students undertake and how will they be graded? The focus is on partnering with students to design the learning experience and creating a course with full engagement. The organizational learning comes through designing the class and then implementing the design together. These processes are found in both undergraduate (Weil, 1988) and MBA courses (Brown and Murti, 2003).

The second theme in the CAO literature concerns how to utilize the method to teach different content areas, including policy (Balke, 1981), oral and written communication skills (Finan, 1992), and high-commitment management (Lawrence, 1992). Balke provides an entire course design for a policy course which could be adapted to different topics. He utilizes functional departments as well as individ-

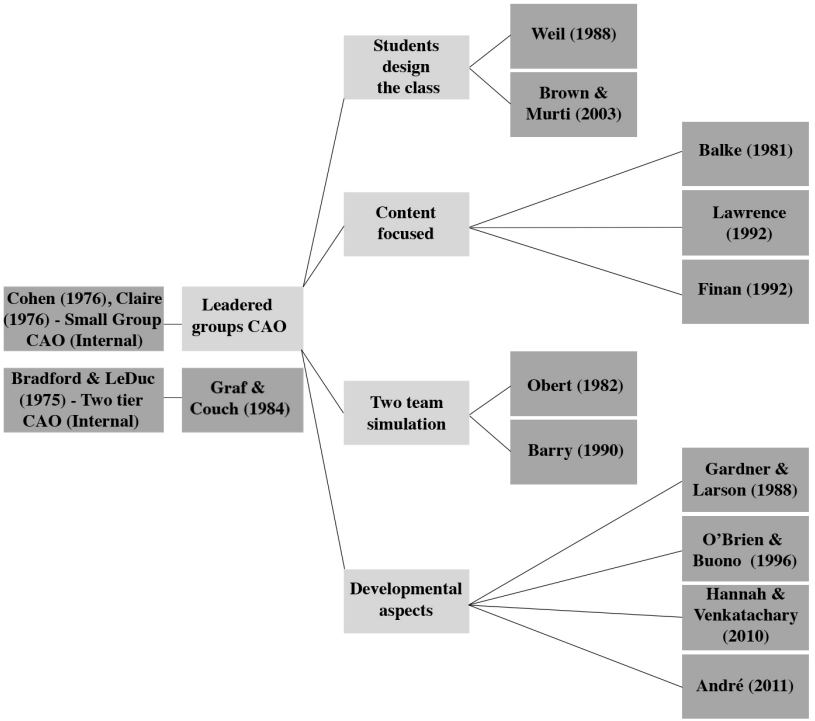

Figure 2.4 CAO literature: leadered groups

ual roles within groups. Balke runs class time as a meeting within an organization, often having students present content, lead discussions, or take part in debates. Finan redesigned a traditionally taught communications course into a CAO course, focusing on developmental learning in a number of practical business-related skills. Lawrence demonstrates how to build CAO around a particular theory (in this case high-commitment management theory). She systematically describes the tenets of high-commitment management and how she implements those principles in this graduate-level human resources (HR) course. These articles illustrate that it is possible to adapt CAO to accommodate various course topics and offer practical insight into how this is accomplished.

The third theme in the CAO literature relates to designs that split the class into two groups in order to extract learning opportunities from a combination of observation, experience, and reflection. In Obert's (1982) design, the two groups compete on assigned tasks during a series of simulations. The resulting competition, tension, and conflict are leveraged to teach about change, influence, and power. Barry (1990) also splits the class in half. While one group completes a complex task the other group observes them: the observing group acts as a consulting organization and prepares a report based on their analysis. The teams switch these responsibilities back and forth throughout the semester.

The fourth theme concerns articles that focus on a particular developmental aspect. André (2011) emphasizes the importance of rotating leadership responsibilities to ensure all students get to practice leading and assessing their peers' skills, while O'Brien and Buono (1996) highlight the importance of supporting group development and share a framework for intentionally experiencing and learning from management roles. Gardner and Larson (1988) specifically address a number of problems encountered in CAO, such as "the selection of team members, non-performing team members, peer grading, and student attitudes and abilities in handling group work" (p. 13). The authors share procedures, policies, and practices to address these issues. These course designs illustrate how developmental aspects can be emphasized through the CAO methodology.

The themes identified above summarize some of the similarities found within the CAO literature and demonstrate the many ways that CAO has been implemented and developed. Drawing on the distinctions discussed thus far (i.e., interdependent organization versus leadered group, internal versus external focus, and the four themes), Figures 2.5a and 2.5b provide a picture of key articles in the CAO literature. However, each article con-

tains interesting nuances and complexities that are not captured with this simplification. Given the impossibility of a simple summary, what are the common elements to a successful CAO?

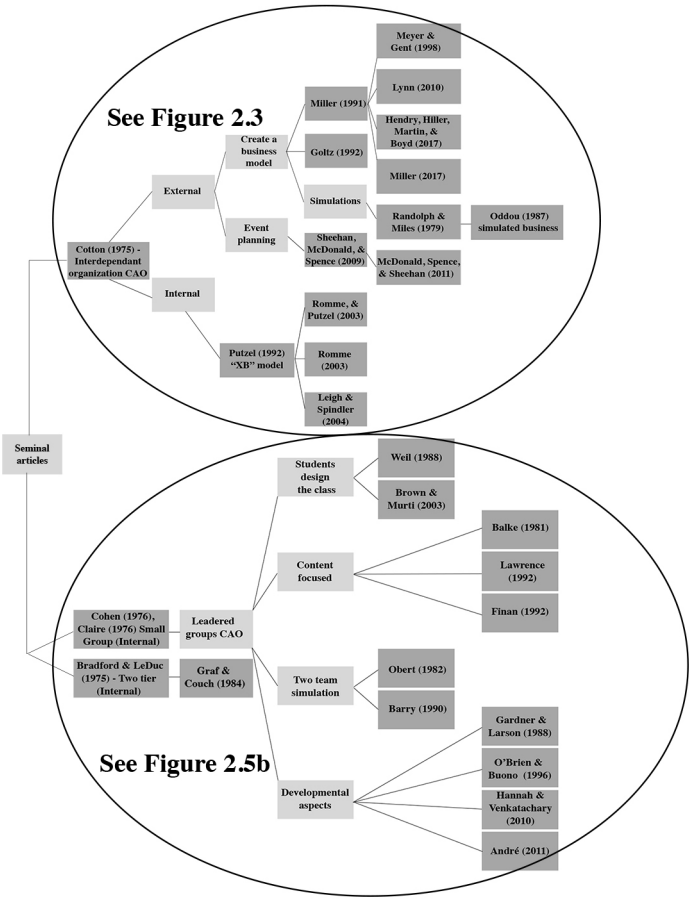

Figure 2.5a CAO literature: the full picture

5. COMMON ELEMENTS IN CAO

Recognizing the diversity of both published and unpublished CAO designs, Romme and Putzel (2003) suggested five principles as boundary

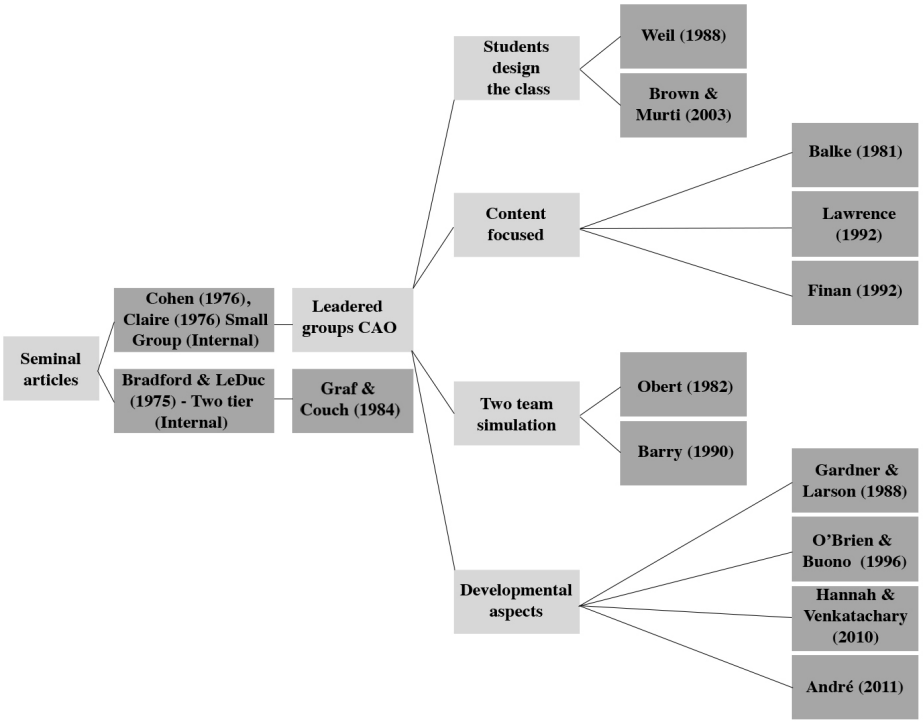

Figure 2.5b CAO literature: the full picture

conditions for a CAO design. In this section, their "design-in-the-large" (p. 513) principles are updated and adapted in order to discuss the CAO literature: (1) leverage interdependence; (2) utilize peer assessment; (3) give students both learning and management roles; (4) delegate as a senior manager; and (5) balance structure and ambiguity to support learning. Although presented as five distinct elements that define CAO, as with most teaching practices, these are interrelated: they happen all together in real time. Furthermore, each educator emphasizes or deemphasizes certain points depending on their course objectives and preferred teaching style.

Element #1: Leverage Interdependence

Interdependence involves an "organizational relationship where individuals are assigned … roles where they are required to share the inputs, throughputs and outputs of their work" (Yakubovich and Burg, 2019, p. 1014). Interdependence is ubiquitous in organizational life requiring coordination between individuals, between individuals and teams, between teams, and so on (Worren, 2018). Interdependence is a distinguishing factor between team-based learning and the CAO approach. Team-based learning assigns the same task to different teams: task differentiation between the teams is low; task differentiation within each team varies depending on their process and the instructions received from the educator. There is little need to collaborate with people outside one's assigned team in order to meet the learning objective of working collaboratively to generate team project work. There is a fundamental shift when each team description includes a unique element of inter-team task interdependence: a specific but unique task is assigned to that team, which requires the team to work with organizational members beyond the team in order to successfully accomplish their responsibilities.

Romme and Putzel (2003; also Romme, 2003) emphasize the importance of building interdependence into the organization to recreate some of the complicated dynamics that occur naturally in organizations. They advocate for class-wide interdependence, meaning that each team has responsibilities that impact the whole organization. Forming interdependent relationships between students and teams is a powerful tool to create an authentic organization that is central in CAO designs.

Early CAO designs created a level of interdependence within teams, but did not create organization-wide interdependence between those teams. For example, Cohen (1976) used a leadered group design with

managers and gave each group tasks that they completed concurrently. Similarly, Clare (1976) used the leadered group design, adding specific roles for each person within the team to increase interdependence and personal responsibility. Both of these designs demonstrate that while the leadered group model does not support class-wide interdependence, group-level interdependence can be built in by creating roles for individuals in the group. These early CAO models were criticized because the leadered group design fails to introduce the organization-wide interdependence that is necessary for students to experience authentic organizational interactions (Pendse, 1984; Barry, 1990).

Pendse proposed that, to become an authentic organization, groups need to have distinct roles that affect the whole organization in such a way that they cannot be successful unless the entire organization coordinates efforts. Barry identified interdependence between groups to be one of the necessary features for CAOs to be relevant and applicable to learning business skills. He proposed that interdependence creates the need to work together across teams to produce products and services. Barry's Twincorp design is created from a conglomeration of small group design (Cohen, 1976), consultancy approach (Tubbs, 1985), and the split halves organizational development approach (Obert, 1982; Steenberg and Gillette, 1984) in an attempt to replicate the realities of an authentic organization. For the classroom to act as an authentic organization, interdependence must be created from the beginning and reinforced throughout the course. Whole class interdependence will create the most robust and interesting authentic organizational interactions (Putzel, 1992; Romme and Putzel, 2003).

In an effort to create greater authenticity, some CAO designs are based on highly interdependent hierarchical organizations that provide the requisite complexity (Cotton, 1975; Putzel, 1992). While Cotton created a five-level hierarchical organization to produce a resume service for seniors, Putzel created an internal design with three levels of hierarchy to teach OB. However, these designs also replicate some of the difficulties and weaknesses of the hierarchical organization. Many other organizational forms exist that can be utilized to create CAOs with the interdependence of an authentic organization, and will be further discussed in subsequent chapters.

The importance of students learning to function and thrive in interdependent teams is evident in the business community. A CAO classroom with interdependent teams offers realistic practice that will transfer to the business context (Barry, 1990; Sheehan et al., 2009). While traditional

methodologies teach students to be passive consumers of information, the interdependent, authentic organization design requires that they fully engage, influence one another, and work together to succeed in the classroom (Oddou,1987). However, it is important to understand that replicating managerial reality with intentional interdependence is also related to the disorientation and frustration that students can have in CAO (Mezoff et al., 1979). The experience of increased intensity (Sleeth and Brown, 1984), turbulence (Leigh and Spindler, 2004), fear, and frustration (Oddou, 1987; Mezoff in Mezoff et al., 1979) is well documented. In short, while interdependence is central to creating a CAO design and replicating organizational realities, it is not easy for students or educators. The creation of interdependence, along with deciding how to deal with the resulting tensions, must be recognized and planned for early in the design process (e.g. Mezoff et al., 1979).

Whether the organization is a leadered group design (e.g. Cohen, 1975) or an interdependent organization design (e.g. Cotton, 1976; Miller, 1991; Putzel, 1992), or whether it has an internal or external focus, the purpose is to foreground and utilize the dynamics of an authentic, functioning organization in the classroom, which necessitates creating interdependence throughout the organization.

Element #2: Utilize Peer Assessment

Students are the primary resource in any CAO design and planning how to utilize them will significantly boost the efficacy of the learning environment. Romme and Putzel (2003) encourage us to "acknowledge and involve students as potential supervisors, team leaders, co-teachers, co assessors, and so forth" (p. 525). This represents an effective use of human resources as well as utilizing empowerment principles, all great ways to model positive organizational dynamics in CAO (Romme and Putzel, 2003). Peer assessment has been part of CAO models from the beginning (Bradford and LeDuc, 1975; Cotton, 1975; Cohen, 1976; Clare, 1976), and continues to be a core element of CAO designs. Peer assessment is valuable for student learning since it provides multiple perspectives on student work, offering more feedback than an educator alone could provide. Furthermore, learning to assess others' work and provide meaningful feedback is a valuable skill to develop for the workforce. CAO proponents point out that despite the reticence of students to assess one another, valuable managerial skills are developed through this aspect of the course (Mezoff et al., 1979). Both informal peer assessment

(i.e., formative feedback) and formal peer assessment that is part of the summative grading system will be further explored in this section.

Feedback is a form of informal peer assessment that is critical for effective CAOs. Bright and Turesky (2010) argue that feedback is one of the foundational tools that "helps students generate a powerful, flourishing, and dynamic classroom experience" (p. 2). They suggest that the benefits of feedback to the CAO classroom include that it: (1) enables students to make sense of their shared experiences; (2) fosters bonding and self-organizing which increases their ownership of the experience as well as increasing accountability; and (3) increases the amount and quality of feedback given to each student from what the educator alone could provide. For it to be effective both positive and constructive feedback is needed. Bright and Turesky intentionally teach students the feedback process and provide examples of feedback templates that they use in their CAO to guide the process. Hendry et al. (2017) also intentionally teach students how to give feedback by focusing on non-defensive communication strategies to encourage open-minded thinking. They intentionally model these skills in the classroom while giving feedback to students or teams.

CAO utilizes peer-to-peer feedback more extensively than other constructivist methods (Bright et al., 2016). The skill of giving and receiving feedback is valuable in the workplace and features prominently in CAO designs (e.g., Bradford, 1975; Gardner and Larson, 1988; Bright and Turesky, 2010; Hannah and Venkatachary, 2010; André, 2011; Bright et al., 2012, 2016; Hendry et al., 2017). Specific strategies include incorporating feedback into written assignments, presentations, managerial or team-based skills, or other course deliverables. Feedback can also be given at different levels: individuals within teams can provide feedback to one another; teams can give feedback to other teams; or the whole class can give feedback on presentations or teamwork (e.g. Putzel, 1992; Bright et al., 2016; Gardner and Larson, 1988). Furthermore, receiving personal feedback from multiple sources gives each student insight and data for reflection that can prove valuable in their personal and professional growth, enhancing the depth of learning.

While formative assessment is an important part of CAO design, summative peer assessment is also used consistently. The early authors of CAO utilized summative peer assessment as a part of the grading system in their leadered group designs (Bradford and LeDuc, 1975; Cohen, 1976; Clare, 1976). Cohen had a fairly simple peer-assessment system where the team manager assigned grades to team members for one major

assignment. Clare created a more elaborate system with different weights of peer grading for managers and non-managers. Putzel (1992) created a complex evaluation system in which students collected and organized hundreds of assessment data points for each student which were used to recommend end-of-semester grades. While some authors dedicate a small percentage of the grade to peer assessment (e.g., Balke, 1981), with the majority of the final grade determined by educator-assessed work, Putzel's model is 100 percent peer assessed.

While CAO practitioners advocate for peer grading as an effective form of learning, and as a source of student engagement and motivation, they also recognize that it causes a certain amount of student anxiety. Mezoff et al. (1979) found that formal peer assessment stifled enthusiasm for their course. Cohen (in Mezoff et al., 1979) argues that peer assessment is an important business skill that students must master to become effective: the peer-assessment process builds trust and cohesion in teams, creating higher levels of team accomplishment. Educators need to address student reticence toward peer grading from the beginning as benefits are worth the effort involved in helping students overcome their fears.

Element #3: Give Students both Learning and Management Roles

For CAO to become a flourishing organization that offers the opportunity for deep learning experiences, students must have learning and management roles, both of which are directly related to Kolb's Experiential Learning Theory. Learning, according to Kolb (1984), is "the process whereby knowledge is created through the transformation of experience. Knowledge results from the combination of grasping and transforming experience" (p. 41). The management role gives students the impetus to be actors, attempting to influence others in order to succeed in their assigned role. The learning role encourages students to reflect on the complex set of interactions and outcomes happening in the classroom. Reflecting serves the purpose of allowing them to construct their understanding of the course content as well as offering the opportunity to adjust their behavior and develop skills. In this way, the active role of manager and the reflective role of learner are constantly in play for each member of the class. Translated into Kolb's definition of learning, the manager role creates experiences, while the reflective learning role assists students in grasping and transforming that experience into usable, actionable knowledge.

Educators must carefully design student roles to have both an active influencing component (i.e., manager role) and a reflective learning component in order to leverage organizational interactions for deep learning. When students attempt to enact their roles, they discover the authority of the role alone does not always produce the desired influence; through a combination of reflection and coaching, they can explore various influence tactics to get work done (Romme and Putzel, 2003). A CAO that integrates the manager and learner roles not only sets a foundation for experiential learning to flourish, but also sets the stage for the interdependent relationships that create an authentic learning context. Student roles that combine both learning and managerial responsibilities result in powerful learning experiences that integrate theory and practice.

Management roles are not confined to being group leaders. Although some designs designate group leaders, ideally every student in the class has a role that specifies something that they manage. The form of the management role differs according to the CAO design. In leadered group designs the students' management roles are within their teams (e.g. Cohen, 1976; Clare, 1976). In the interdependent organization design there are also management roles that extend to the whole organization. This expands the management experience from influencing only the group to influencing a complex organization. In the externally focused interdependent organization design, where students are running a business or providing a service, the management roles fall into functional groups; each functional group has specific responsibilities and must work with the whole organization to produce the product or service.

The leadered group and externally focused CAO designs rely on the lecture format for teaching course concepts (e.g. Cohen, 1976; Clare, 1976; Miller, 1991; Lawrence, 1992) while emphasizing the management role for students in small teams or functional groups. Students take in the material from the educator and are able to then apply that knowledge in their teamwork or external project. Although this is the norm in CAO designs, the opportunity to engage students more deeply in their learning role is often overlooked. Putzel (1992) assigns each team the managerial responsibility of teaching the material, and specifies that they must utilize an experiential format; they cannot lecture. This creates a management role for students by tasking them with peer teaching. It also has the potential to increase student engagement in the course. Although students are not initially as adept at teaching content as educators, this unleashes student creativity and motivation, and by mid-semester students can lead impressive learning activities.

There are many ways to ensure that the management roles in CAO are taken seriously and that students gain the most benefit possible from these roles. Finan (1992) uses a matching process to create pairs of fourth-year and first-year students where the former act as managers. These pairs collaborate to learn assigned content and also contribute as part of other teams (e.g., briefings, business presentations, providing feedback). Josefowitz (1978) addresses the reticence undergraduates have to lead one another in groups while also emphasizing the important learning that can happen through the selection of people for management roles. She notes that assigned group leaders often abdicate their leadership in favor of being liked and supporting social conventions. She develops a modified form of what she calls "assessment centers"; managers are elected and subsequently build their own teams from class members through an interactive interview and hiring process. Josefowitz finds that students are more engaged and take their roles more seriously with this methodology.

Regardless of the content focus, business students require the skills to work with and through people. As discussed above, Andre (2011) rotates student leadership so that each student has the opportunity to lead as well as to receive feedback. The result is that more students get "the opportunity to lead, responsibility to lead well, accountability for leadership effectiveness and feedback on leadership technique" (p. 601). Goltz (1992), similarly to Andre, implements a rotating management scheme in her course and finds that, although it does disrupt group functioning to some extent, the benefit of students experiencing various leadership styles throughout the semester outweighs the inconvenience.

There are different ways to implement management roles in teams and across the whole organization, as well as specific tactics to organize and emphasize the management role. One important discovery from the literature is that most CAOs do not fully leverage peer teaching for management purposes. Putzel's (1992) example of making students responsible for teaching content in an experiential manner enhances both the student's management role and the depth of content learning. Bright et al. (2016) research the impact of students creating and presenting course content on their learning outcomes, and conclude that creating content positively affects student content knowledge and engagement.

Element #4: Delegate Power and Responsibility

Another point of discussion throughout the CAO literature is the shift in the role of educator from teacher to manager. Traditionally, the educator orchestrates the classroom activities. In contrast, CAO puts students in charge of much of the learning process by taking a more student-centered approach (Conklin, 2013; Bright and Turesky, 2010). The first three design principles illustrate specific ways in which the power dynamic shifts. In design principle one, leverage interdependence, power is shifted to the students through role descriptions that include many of the responsibilities that are usually held by the educator. Power is also shifted away from the educator through the second design principle, utilizing peer-to-peer feedback: the responsibility of assessment is shifted, at least in part, from the educator to the students. Giving students management roles, design principle three, redirects the power dynamics by assigning students managerial and decision-making responsibilities. Every element of the CAO design shifts normal classroom power dynamics between educators and students.

One way to describe this shift in power is empowerment: a motivational process involving the sharing of power with subordinates through a leader's actions and/or organizational structures (Conger and Kanungo, 1988). Empowerment results in a greater ability to work autonomously (Amundsen and Martinsen, 2014), enhanced engagement with and meaning of work (Spreitzer, 1995), and increased self-efficacy (Thomas and Velthouse, 1990). Empowerment is widely adopted in organizations (Lee and Edmondson, 2017; van Baarle et al., 2019), which supports the authenticity of designing classroom experiences that enable students to practice being empowered agents.

This shift in power in CAO is an effective force for learning, and it can also be an uncomfortable experience for all involved. While students are less adept at performing their assigned roles than educators, the process of learning that happens while attempting to fulfill their role is effective. However, students are uncomfortable as they are asked to take on responsibilities that stretch them and that make them feel incompetent. Similarly, for the educator, becoming a manager and coach to students can be both destabilizing and create a sense of vulnerability. Instead of a clear and organized class session, the educator needs to be prepared to encounter multiple unknown situations and use coaching and management tactics to leverage and transform the experience into meaningful learning. Mezoff et al. (1979) lauded CAO as one of his most significant

learning experiences personally and professionally, while at the same time expressing his hesitation to move away from being the content expert because of his fear that the students would see the course as "soft" and not take it seriously. Acknowledging the fear and anxiety that can be aroused, Conklin (2013, p. 254) asks:

> how might we muster the courage to stand close to the edge, an edge where even we may tremble at the prospect of not knowing what will be learned or how a class session or term will turn out? Giving over the control and unleashing the potential of the unknown may likely be met with similar levels of courage in our students.

However, the literature reveals that many CAOs still rely on the educators giving lectures, missing the opportunity to further empower students by having them present content. The important discovery that students creating content significantly increases their content knowledge (Bright et al., 2016) alerts us to the fact that this is an area of missed opportunity that future designs can leverage for increased student engagement and deeper learning.

To succeed in using CAO the educator needs to be a good manager, not just a good lecturer, which involves developing a completely different set of skills from those typically practiced by an educator (Leigh and Spindler, 2004). Cohen (1976) notes that "teachers have been hard-pressed to match leadership style to student needs to the classroom situation and to the concepts being taught" (p. 9). Rather than adopting one leadership style, CAO educators need to regularly flex their leadership style, sometimes enacting leadership that comes less naturally. Bright et al. (2012) elaborate on this idea by viewing CAO as an emerging system in which educators "facilitate and shape a class as a complex, adaptive, and living system" (p. 159). The role of both facilitator and manager in CAO is less about being in charge and more about supporting students as they make decisions and learn to become active agents in the organization (Leigh and Spindler, 2004; Leigh and Spindler, 2005; Bright and Turesky, 2010). As a facilitator of an emerging system, the educator needs to adjust the method of facilitating student activities in each phase as the organization matures and changes (Weil, 1988; Bright et al., 2012). Bright et al. (2012) discuss each stage of an emerging CAO and the particular facilitation that the educators need to enact at each stage (early, middle, and late) as the organization matures. It is evident

that to teach CAO the educator needs to be prepared to be uncomfortable at times, and needs to be ready for personal and professional growth.

Element #5: Balance Structure and Ambiguity to Support Learning

The success of a CAO depends on finding the right balance between providing sufficient structure for the students while also incorporating enough ambiguity. Why ambiguity? Ambiguity creates situations in which students must become active agents – problem solving, making decisions, and influencing one another. Too much structure and the students are merely playing out a scripted game according to the educator's rules, resulting in a predictable but likely boring experience and surface learning. Too little structure and students become overwhelmed and learning becomes difficult.

In the CAO classroom, structures help students enact their roles, but are not intended to resolve all tensions. Bright et al. (2012) refer to the metaphor of a CAO classroom as a garden and the educator as the gardener:

> For instance, with some crops (e.g., peas or grapes), the gardener installs a trellis that shapes but does not determine the pattern of growth. On one trellis leaves form unique patterns each year. Similarly, the educator can set formal conditions for learning: the arrangement of the physical space, the enactment of class routines, and opportunities for student initiative. Students enact a classroom reality in response to these conditions. The educator provides a framework but cannot force students to learn. An initial class template becomes the trellis upon which learning grows (pp. 159–160).

Every CAO develops in unique ways even if you use the same structures. This is because students are empowered to make decisions and enact their roles and responsibilities as they see fit. The many decisions made by each student and each team throughout the semester produce a completely unique organization. This aspect of CAO makes it enjoyable for the students as well as for the educators; the emergent quality of the organization can be exhilarating and fascinating. There is a constant unfolding, a newness each time a class emerges into their own organization. In this way, the management abilities of educator and students alike are tested constantly as new and unique challenges unfold.

It is equally important to incorporate a certain amount of ambiguity into the CAO design. Ambiguity creates the need for students to make decisions and to take on an empowered role of shaping the organization.

CAO practitioners testify to the presence of ambiguity, the benefits of learning to work through ambiguous situations, and the tension that is created by ambiguity for both students and educators (Cohen, 1976; Bradford and Cohen, 1981; Balke, 1981; Sleeth and Brown, 1984; Lawrence, 1992; Meyer and Gent, 1998; Leigh, 2003; Lynn, 2010; Bright et al., 2012; Conklin, 2013). Emergent systems that make room for individual actors to shape organizational reality have a certain amount of ambiguity (Bright et al., 2012). Although educationally valuable, when faced with ambiguity students often become uncomfortable (e.g. Mezoff et al., 1979; Bright et al., 2012) and may push for more structure and less ambiguity. This tension tends to be strongest in the first weeks of a CAO and, if addressed properly by the educator, will most often transition into an enjoyable experience. The topic of ambiguity will be addressed in more detail in Chapters 3 and 4.

CONCLUSION

The CAO methodology emerged at a time when behavioral science was becoming increasingly relevant to management education. The four seminal articles from this time demonstrate the influence of the teaching philosophy of educational constructivism. The CAO method assumes that learning is an active process where students leverage their own experience and construct knowledge rather than receiving it passively from an outside source. Many CAO designs leverage specific constructivist practices, including authentic learning, flipping the classroom, and learning by teaching. CAO creates authentic organizations for student learning; it places the responsibility to learn theory on the student in order to use class time for learning in this authentic organizational context; it encourages students to learn through both peer teaching and peer assessment. The result is deeper learning and an emphasis on skill development.

The original CAO designs set the stage for important distinctions within the literature: interdependent organization versus leadered group designs; externally versus internally focused designs. The diversity of designs found in the literature makes simple categories difficult to identify. The literature review offered here discusses the CAO designs in broad strokes, illuminating similarities and differences: students designing elements of the course; applying the CAO methodology to different content areas; splitting the class in half; and developmental elements of CAO designs. The granular view of each CAO design reveals interesting complexities in each design. Although this chapter has documented the

published CAO designs, there are likely many other versions of CAO that have not been published, and there is a need for continued evolution of CAOs for various course topics and purposes. However, CAO offers a significant change to how we view learning and teaching, and offers a dynamic, effective way to bring true organizational learning into the classroom.

Building on the foundation of this chapter, the aim of the next chapter is to provide educators an understanding of the key elements they should consider when adopting CAO.