Achieving Curricular Coherence in Complex Higher Educational Systems: Considering the Human Element in Transformational Change

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Lack of clear, coherent pathways to transfer or to workforce goals is a common impediment to community college student success and completion. Maricopa County Community College District (MCCCD) set the ambitious goal of achieving curricular coherence across its 10 colleges, developing shared pathways that clearly delineate employment and/or transfer opportunities, assessable learning outcomes, course sequences that build toward mastery of those outcomes, and curricular and co-curricular milestones. MCCCD is a complex system with hundreds of degrees and certificates, numerous transfer partners, and a multitude of course options. Consequently, the implementation of clear, coherent, shared pathways constituted a dramatic transformation of policies, structures, processes, and culture. Implementation of a redesign of this magnitude can be difficult given that resistance to transformational change is common. Through an intentional and purposeful change process grounded in organizational and individual change theory, well over 900 faculty and staff from across MCCCD mobilized to engage in this ambitious redesign of their curriculum, developing clear, coherent, and shared pathways for over 240 disciplines within a period of 19 months. These results illustrate the importance of considering the human element in system-wide transformational change.

Lack of clear, coherent pathways to transfer or to workforce goals is a common impediment to community college student success and completion (Bailey, Jaggars, & Jenkins, 2015). There are multiple reasons for the lack of clear pathways. Public funding models focused on enrollment growth have encouraged a structure that maximizes choice and flexibility but leaves students to choose among a multitude of course and degree options. Multiple transfer partners operating in isolation add to the complexity of choices, often providing little guidance with respect to the optimal course sequence for learning. Although career and technical education programs generally have more well-defined pathways, not all of these programs clearly identify exit points into the workforce and re-entry points into higher education for further training. Finally, faculty are trained in graduate programs as content experts (Eddy, 2010), and thus many think more in terms of "my courses" and not "our programs"; they do not consistently reflect on how a given course contributes to the development of the knowledge and skills necessary to achieve learning within a program of study (Bailey et al., 2015). These causes of unclear pathways are often tightly woven into the structures, policies, and processes of institutions as well as the practices and mental models of faculty, staff, and administrators. Thus, achieving curricular coherence is more than just course sequencing. Curricular coherence is a transformational change requiring an intentional, purposeful process that fosters a transformation of culture (Armenakis, Harris, & Feild, 1999; Curry, 1991; Holt & Vardaman, 2013; Kezar, 2014; Prochaska & Velicer, 1997).

Within a system as complex as the Maricopa County Community College District (MCCCD), where disparate programs and duplication of degrees and certificates existed, the implementation of clear, coherent, shared pathways constituted a dramatic transformation of structures, policies, processes, and culture. Arguably, implementation of a redesign of this magnitude can be difficult given that resistance to transformational change is common (Kadlec & Rowlett, 2014; Kezar, 2014; Lane, 2007; Oreg, 2003). Successful, long-lasting adoption of a complex institutional change thus requires careful consideration of the human element (Armenakis & Harris, 2002; Holt & Vardaman, 2013; Kadlec & Rowlett, 2014; Kezar, 2014).

Research in organizational and individual behavior change (e.g., Armenakis et al., 1999; Curry, 1991; Holt & Vardaman, 2013; Kezar, 2014; Prochaska & Velicer, 1997) suggests that change is a process, not a singular ribbon-cutting event. As such, members of a given institution must prepare for transformational change and ideally become not only its supporters but also, ultimately, architects of the framework that sustains the change. More specifically, members must become aware and make sense of the need for change and the benefit of the change. They must also believe in their individual and collective capabilities to effect the change (Armenakis & Harris, 2002; Bernerth, 2004; Holt & Vardaman, 2013; Weiner, 2009).

In order to address the potential barrier that incoherent pathways presented for students, and the organizational and cultural change needed to accomplish curricular coherence in a system as complex as Maricopa, MCCCD faculty created a process to (a) develop clear, coherent curriculum pathways (i.e., "maps") designed to support students on their path to transfer or workforce end goals and (b) foster change in institutional culture through the application of organizational and individual change

theory. Through this intentional and purposeful change process, well over 900 faculty and staff from across this 10-college system engaged in an ambitious redesign of their curriculum, developing clear, coherent, and shared pathways for over 240 disciplines within a period of 19 months. These results illustrate the importance of considering the human element in system-wide transformational change.

The Magnitude of the Change Within MCCCD

Leading successful organizational change requires an understanding of the context of the change, including the culture and core values of those involved (Armenakis et al., 1999; Kezar, 2014; Kezar & Eckel, 2002; Kezar & Lester, 2011; Packard, 2013). Thus, early curriculum coherence work at MCCCD centered around conducting a deep dive into the institution's current structures, policies, processes, culture, and core values.

The Context for Change

MCCCD, located in metropolitan Phoenix, Arizona, is one of the largest community college systems in the country, serving over 200,000 students annually. The MCCCD system is comprised of 10 individually accredited colleges that share curriculum and support structures but diverge in operations based on their specific student populations. MCCCD has over 1,400 fulltime faculty, a single chancellor, a provost who serves as the Chief Academic Officer (CAO), and 10 presidents overseeing each of the 10 colleges.

Like their peer institutions nationally, the MCCCD colleges are currently structured by what is referred to in the literature as a "cafeteria" self-service model (Bailey et al., 2015). Driven by a public funding model that focuses on enrollment growth, the cafeteria model is designed to expand access, thus maximizing student choice and flexibility. However, students are left to choose among a multitude of course and degree options often with little guidance, resulting in educational plans that are inefficient and lack coherence and clarity. The consequences of the cafeteria approach include longer time to completion, low persistence and completion rates, and increased costs to students (Bailey et al., 2015). For example, for the 2018-2019 academic year, the average 3-year and 4-year graduation rates across all 10 MCCCD colleges were only 18.4% and 24.1%, respectively. Fall-to-fall retention rates were only 60.6% (National Center for Education Statistics, n.d.). Within a system the size of MCCCD, the stakes that the student outcomes data represent are high given the large number of students.

MCCCD manages and coordinates curriculum for nearly 9,000 courses and hundreds of degree and certificate offerings. This curriculum includes transfer articulations with state partners who continue to operate as disparate institutions rather than as a system with uniform, clear, coherent pathways for students. Each discipline within MCCCD is represented by what are referred to as *instructional councils* (58 councils in total). These councils—composed of one faculty representative from each of the 10 MCCCD colleges—coordinate the origination, development, and revision of the MCCCD's curriculum for each of their respective disciplines.

Despite a centralized approach to managing curriculum across a 10-college system, extensive duplication of degrees, certificates, and courses still occured. Given that each of the 10 colleges is separately accredited, the decision to offer and administer a specific degree or certificate is made at the college level. Thus, a particular degree or certificate may be unique to a particular college or shared among multiple colleges. In a system as interconnected as MCCCD, where students often take courses at multiple colleges, the result was curricular incoherence from the student perspective. For example, two MCCCD colleges may have offered degrees that prepared students for the same career but differed in curriculum. As a result, students who began at one Maricopa college were at risk of losing credits, and therefore time and money, if they moved to another Maricopa college.

Culture and Core Values

Community college faculty tend to value student-centered practices given the nature of their work and their institution's commitment to teaching (Budge, 2017; Burton, 2007; Kozeracki, 2002; Levin, 2008). Faculty often desire to influence and support students through their teaching and beyond their required course load, without institutional pressure (Levin, 2008, 2013). The culture of Maricopa faculty mirrors these findings. Despite this commitment to student success, much like their colleagues from peer institutions across the nation, most MCCCD faculty are not professionally trained in program-level curriculum development and assessment (Campbell, 2009; Eddy, 2010). Faculty work mainly focuses on revising course curricula. Much of this attention to course curriculum can also be attributed to hiring practices that place greater emphasis on content expertise than on programmatic curriculum development, revision, and assessment (Campbell, 2009; Weimer, 2006). Although Maricopa's culture of commitment to student success supports student-focused transformational change, the current model for faculty preparation is at odds with the development of coherent curriculum at a district level.

In short, the context for transformation of MCCCD is a large, complex system with employees who—despite a commitment to teaching, learning, and student

success—may not have the professional training and expertise in curriculum development and design at the multi-college level that transformation of curriculum requires. In order to implement the transformational change needed in MCCCD, an intentional approach to the change process was critical.

Change is a Process, Not an Event

According to organizational theorists (e.g., Armenakis & Harris, 2002; Armenakis, Harris, & Mossholder, 1993; Curry, 1991; Kezar, 2014), there are three major stages in the process of organizational change: (1) mobilization, whereby organizational members prepare for and embrace the planned change; (2) implementation, whereby change is implemented but at risk of being rejected; and (3) institutionalization, whereby the change becomes integrated into the fabric of the institution and thus becomes the norm (Armenakis & Harris, 2002; Curry, 1991). Though the names of the phases may vary in the literature, the conceptualization is the same. Moreover, the phases of change are not discrete but occur along a continuum (Curry, 1991; Kezar, 2014). The three stages consider the "powerful human dimension that can make or break reform" (Kadlec & Rowlett, 2014, p. 87). MCCCD considered and planned for all three stages of organizational change in the development of clear, coherent, and shared pathways, with emphasis on the human dimensions of the change process.

The Mobilization Phase

All three stages of the change process require change agents who can come from any level of the hierarchical structure. Kezar (2014) suggested such individuals are particularly critical at the mobilization stage, when the focus is creating momentum for change and expanding agency. More specifically, these change agents increase awareness of the need for and benefit of the change and foster self- and collective efficacy for that change. Change agents communicate and discuss the need for and benefit of transforming from a current state to a more desired state as well as the appropriateness of the planned change (Armenakis & Harris, 2002; Kezar, 2014).

Change agents exhibit a set of specific characteristics conducive to building momentum, including self-efficacy, collective efficacy, empathy, openness to learning, an ability to listen, and being able to respond to and be influenced by others (Bandura, 2001; Lunenburg, 2010; Senge, 1990). Self-efficacy is particularly important. Unless change agents and members of an organization believe in their own capabilities to perform the tasks necessary for successful change, and that they can overcome obstacles to effect

that change, they are not likely to put forth effort, persist through challenges, demonstrate resilience in the face of diversity, nor realize transformational goals (Ajzen, 1991; Bandura, 1977, 1982, 2000, 2001; Weiner, 2009). According to Bandura (2000, 2001), efficacy beliefs are the foundation of human agency. He describes four core features of human change agents: a commitment to future change, the ability to see alternatives to the current state, the skills to implement and support change actions, and the habit of mind to reflect on the appropriateness of one's thoughts and actions (Bandura, 2000, 2001).

Building collective agency among change agents. The efforts within MCCCD began with a small group of faculty change agents who embodied many of the characteristics described previously. These change agents started out in isolation with limited and local consequences; the change agents worked at different colleges with initial efforts focused at the individual college level. Such isolated work to effect change, while beneficial to those colleges, did not realize the powerful change that collective efforts could provide for MCCCD and its students. Given the magnitude of the change, a coalition of change agents was necessary (Kezar, 2014; Kotter, 1995). It is important to note, however, that simply gathering change agents together to work collectively is not in and of itself sufficient for success. Bandura (2000) argued that it is not uncommon for a group of talented individuals to perform poorly collectively because the members of the group do not work well together and lack perceived collective efficacy, an important factor in collective agency. Bandura (2000) asserted,

> People's shared beliefs in their collective power to produce desired results are a key ingredient of collective agency. A group's attainments are the product not only of shared knowledge and skills of its different members, but also of the interactive, coordinative, and synergistic dynamics of their transactions. (p. 75-76)

Like self-efficacy, perceived collective efficacy fosters shared commitment to goals and resilience in the face of adversity (Bandura, 2000; Weiner, 2009).

Given the magnitude of the transformational change in MCCCD needed to achieve curricular coherence and its dependence on collective action, collective agency was paramount. The newly allied faculty change agents within Maricopa successfully established collective efficacy and consequently collective agency by dedicating an entire summer to defining common goals and a shared vision. They accomplished this work through collaborative inquiry: reading relevant literature; examining MCCCD structure, policies, processes, performance, culture, and core values; and engaging in deep discussions of the

literature within this context. This process—collaborative inquiry and visioning—was highly successful and became the foundation for establishing collective agency throughout MCCCD. Practitioners intending to implement transformational change would be wise to apply the principles found in the literature to identify change agents and provide the time and space for the development of collective agency.

Building readiness within the organization. With a deeper understanding of MCCCD's context, culture, and core values as well as a shared vision, the faculty change agents developed a change message and communication strategy to build readiness for change. It was critical to craft a change message that established a sense of urgency for change, communicated the vision for the desired state, clarified how the organization's current state differed from the desired state, and confirmed the appropriateness of the planned change (Armenakis & Harris, 2002; Kotter, 1995). In MCCCD's change message, a sense of urgency for the change was communicated by examining the current state of MCCCD with respect to current performance indicators, including but not limited to student completion rates, time to completion, credit accumulation, and student course taking behavior within the district. These MCCCD student success indicators were contrasted with promising data from colleges nationally who had success in implementing the vision for the desired state (i.e., clear, coherent pathways to student end goals). The change message also highlighted some of the existing institutional structures, processes, policies, and practices that supported current key performance indicators, such as (a) siloed structures within and across colleges and the practices and policies that held them firmly in place, (b) disparate degrees and certificates to students' end goals across colleges, (c) numerous course options, and (d) the absence of clearly defined pathways for transfer students, to name a few. Finally, the change message emphasized the alignment between MCCCD culture and core values with the planned transformational change, particularly the commitment to student success, highlighting the appropriateness of the change.

Communication of the change message should not be viewed as one-directional, however, but should be viewed as an opportunity for dialogue about the appropriateness of the planned change. As noted, effective change agents exhibit an openness to learning, an ability to listen, and the ability to respond to and be influenced by others. More specifically, effective change agents take the time to reflect on what they are hearing from organizational members and revisit the appropriateness of the change based on those responses. Such opportunities for dialogue and connection also help to establish trust. According to Webb (2018), community colleges that actively cultivate trusting relationships through "proactive, honest, and transparent

communication" (p. 204) have a stronger foundation on which to foster readiness for change. The faculty change agents within Maricopa developed a comprehensive communication plan that moved beyond traditional one-way communication mechanisms (e.g., e-mail, intranet posting, project websites) and provided the time and space to allow for robust discussions and integration of feedback. These communication opportunities included

- panel discussions at college forums;
- collaborative inquiry sessions with faculty and staff across the district;
- visits with leadership councils, college departments, and divisions; and
- one-on-one meetings with faculty.

Expanding the coalition of supporters. With a strong change message and a diverse communication strategy in place that considered the importance of robust discussions and integration of feedback, the MCCCD faculty change agents set out to expand the coalition of individuals who embraced the need for and benefit of curricular coherence. The faculty change agents recruited staff, administrators, and other faculty from across the district, and the efforts of the larger coalition included rallying others to support the efforts of implementing curricular coherence across the complex MCCCD system within a span of two years.

Although each of these organizational members represented a variety of positions in the traditional organizational hierarchical structure, they took on various roles in the transformational change process. Some became members of the core team, engaging with the various instructional and leadership councils and groups across the district and presenting at college forums. Others became extensions of this core team, engaging with faculty and staff at their respective colleges. The focus of these efforts was to continue to increase the awareness of the need and benefit of the change, gather feedback from organizational members, integrate that feedback into the change process, and ultimately secure a commitment on the part of faculty and staff to develop clear, coherent, and shared pathways toward student end goals. These shared pathways (i.e., "maps") were intended to (a) clearly identify employment and/or transfer opportunities; (b) state learning outcomes in assessable terms; (c) provide course sequences that build knowledge, skills, and habits of mind across the curriculum to ensure mastery of the learning outcomes; and (d) identify curricular and co-curricular milestones.

The Implementation Phase: Transforming Culture

Implementation of the pathway maps required a transformation of culture. This transformational change required moving MCCCD organizational members from

Figure 1
Major Steps of the MCCCD Pathway Mapping Process
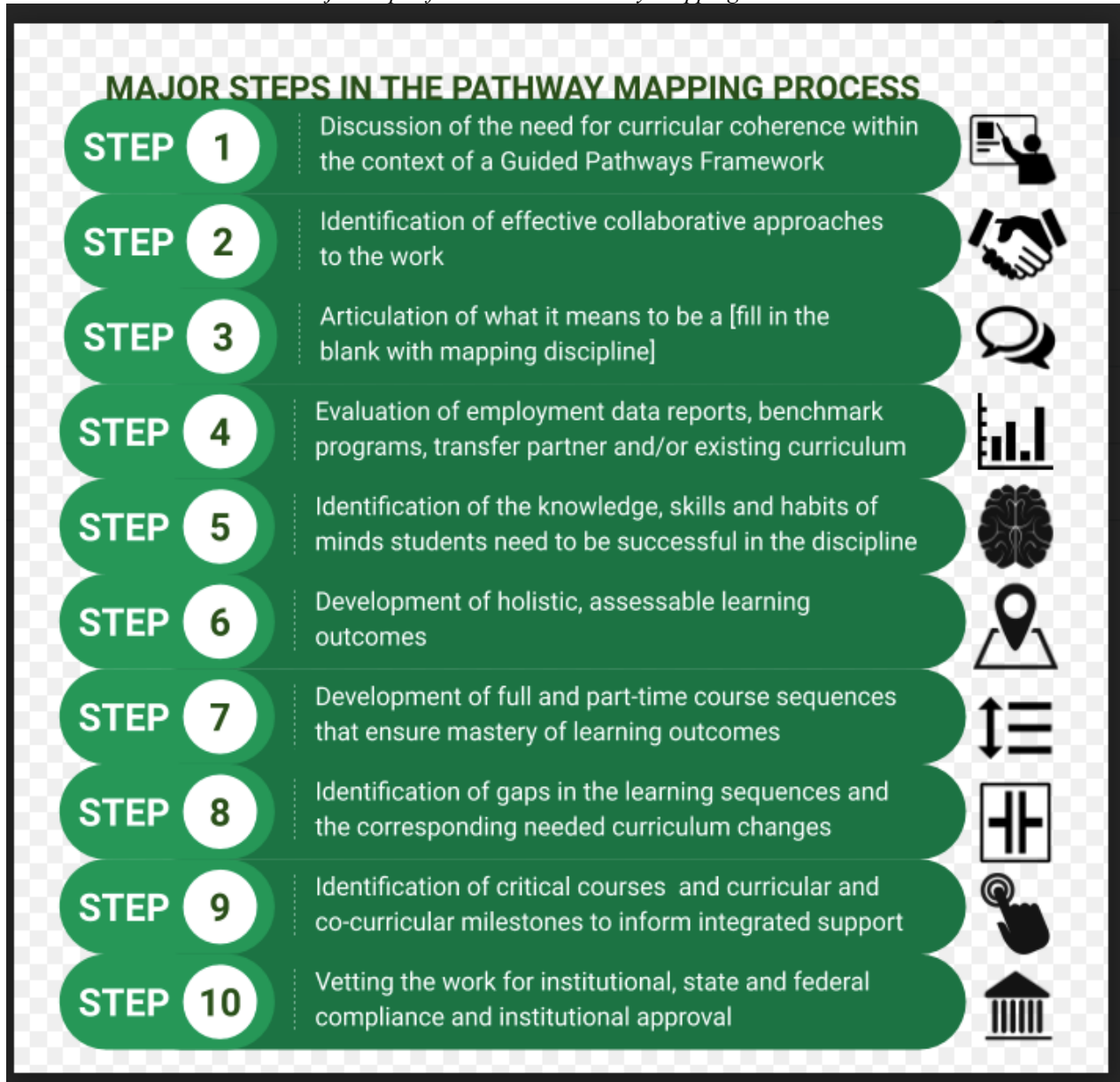
a mental model of thinking individually and discreetly (i.e., in terms of "my course") to thinking collectively and holistically (i.e., in terms of "our program").

Built off the early isolated work of one of the MCCCD colleges (Mesa Community College), the curriculum mapping process (see Figure 1) supported the critical transformation of culture. The work of developing these pathway maps was carried out by cross-functional teams and facilitated by trained coaches, with the design grounded in organizational and individual change theory. More specifically, the structure of the process considered the importance of building trust, providing time and space for deep sense-making, viewing resistance through an asset lens, and fostering self- and collective efficacy (Armenakis et al., 1999; Bandura, 2001; Kezar, 2014; Kezar & Eckel, 2002; Kezar & Lester, 2011; Vakola, 2013; Webb, 2018; Weiner, 2009).

Building trust through a cross-college, cross-functional team approach. Cross-college, cross-functional mapping team members included (a) discipline faculty; (b) an academic advisor; (c) a curriculum specialist; (d) faculty members from

English, math, reading, communication, counseling, library, and ESL; (e) a curriculum mapping coach; and (f) a financial aid expert, when needed. The role of the mapping coach was particularly significant, as the coach served as a concierge for the curriculum development process, providing support to the team in the form of data and resource gathering, record keeping, and most importantly, facilitation of challenging conversations and shared vision. To ensure coaches were effective in their roles, faculty change agents provided curriculum mapping coaches with training in the following areas as needed: backward curriculum design, strategies to scaffold the learning required for curriculum development, methods to facilitate shared vision and collaboration, and the elements of the larger guided pathways framework. This training was followed by an apprenticeship with a more experienced coach. Additionally, coaches were provided with the tools needed to support implementation of the change, including instructional videos, lesson plans, communication templates, visual aids, employment data, transfer agreements, pre-populated forms, and check sheets to name a few.

The cross-functional mapping approach provided the opportunity to build trust, which is a key component of facilitating change. An environment of trust contributes to positive attitudes toward a planned change and a greater willingness to participate in the change process (Holt & Vardaman, 2013; Kezar, 2014; Oreg, Vakola, & Armenakis, 2011; Vakola, 2013; Webb, 2018). The cross-functional teams of the mapping process in MCCCD brought departments and divisions together, and in some cases, the MCCCD colleges together with industry partners and/or transfer partners, moving organizational members out of their silos and along the trust continuum from contractual trust (i.e., "I work alongside you"), to relational trust (i.e., "I work with you") to organic trust (i.e., "I trust you with my work"; Bailey et al., 2015, p. 146).

Bringing together individuals from across the institution is necessary but not sufficient for building trust, even with a trained mapping coach. Activities aimed at building community and shared vision are critical to moving members along the trust continuum. Thus, these activities were integrated throughout the MCCCD curriculum mapping process. One example of such an activity included a discussion of what it meant to be someone who was working in the discipline (e.g., What does it mean to be a sociologist or welder?). In order for a given team to optimize their time together and benefit most from the cross-functional team approach, participants were asked early in this process to consider what knowledge, skills, and habits of mind students need to be successful in a given career. It was critical during this discussion that all members of the mapping team contributed and that their participation

was valued. English faculty, for example, did not serve on the team simply to check for grammatical errors in the learning outcomes developed. English faculty helped to clarify the knowledge, skills, and habits of mind sociologists use to be successful in their work. They also discussed how they could support students' mastery of that knowledge and those abilities. Those participants outside of the discipline thus offered a valuable perspective that provided for rich discussion and the development of a holistic learning experience for students. The shared vision developed in the form of student learning outcomes strengthened the trust and sense of community as members started to see they share common goals with their colleagues.

Sense-making through a backward design approach to curriculum mapping. Backward curriculum design, an approach grounded in best practices (Stiehl & Lewchuk, 2012; Wiggins & McTighe, 2005), served as a lever to support the change in MCCCD culture. Curriculum mapping teams carefully reviewed employment and transfer information, including employment and job posting data from sources such as the Bureau of Labor Statistics, O*NET, and Gray's Associates, industry standards, information from national organizations, benchmark programs, existing program competencies, learning outcomes of other programs at MCCCD and/or other institutions, and transfer requirements in the form of 4-year academic plans and articulation agreements. From this work, they developed holistic, assessable learning outcomes. Mapping participants then took the following steps to complete the curriculum maps: (1) carefully sequenced learning across the courses in a program to ensure mastery of outcomes; (2) addressed any identified gaps in learning through course recommendations and/or curriculum revisions; (3) confirmed fulfillment of articulation, industry, and graduation requirements; (4) verified institutional, state, and federal compliance; and (5) shared curriculum work with colleagues and integrated feedback.

The backward design approach provides deep sense-making about the need for and benefit of the change. This deep sense-making is particularly important for those organizational members still contemplating and/or preparing for the change (Kezar, 2014; Prochaska & Velicer, 1997). Eckel and Kezar (2003) emphasized the importance of providing opportunities for people to "collectively think differently" (p. 40) about current institutional structures, processes, practices, policies, and identities. Sense-making involves discourse and conversation and is based on collective action. It is this sense-making that readies those participants still in the contemplation and/or preparation stage of change (Eckel & Kezar, 2003; Prochaska & Velicer, 1997).

The benefits of building trust and providing time and space for deep sense making are evident in the actions of Maricopa faculty following engagement in the mapping process. For example, Administration of Justice Studies faculty relinquished long held views regarding the curriculum design of their eight disparate pathways, adopting a new vision in the form of a shared pathway. Automotive faculty completely redesigned their long-standing, duplicative curriculum to develop new, shared courses and integrate what was traditionally viewed as liberal education or "soft skills" into a series of stackable credentials. Psychology and Dance faculty worked with their respective counterparts at one of MCCCDs largest transfer partners, clarifying the path, streamlining choices, and ensuring junior standing upon transfer. The cross-functional, cross-college, backward-design approach to curriculum mapping provided the opportunity for MCCCD faculty and staff to think differently about their program, forge shared vision and goals, and implement change.

An asset approach to resistance to change. Not all participants will easily move to shared vision and goals. There may be some resistance to change, and that resistance needs to be considered and addressed, not simply viewed as something to be overcome. Resistance can indicate a lack of readiness, but it can also be a productive force that encourages reflection on the appropriateness of the change. Moreover, viewing change as a one-way process fails to support co-creation of shared vision and goals (Armenakis et al., 1993; Kezar, 2014; Thomas, Sargent, & Hardy, 2011). MCCCD mapping coaches served as guides on the side and champions of the change, rather than hall monitors reactively monitoring signs of resistance. They viewed resistance to change as a commitment to current state, rooted in good intentions, and an opportunity to review the process and make necessary changes to move forward productively. Mapping participants confirmed this view of mapping coaches through their responses to a survey about the mapping experience: 98.5% of the participants who responded to the survey agreed or strongly agreed that "coaches built trust and rapport among the team members," 96% agreed or strongly agreed that "the coaches encouraged all team members to participate," and 94% agreed or strongly agreed that "the products of the mapping session reflect the shared vision of the team."

Building self- and collective efficacy. Merely establishing a cross-functional team and engaging that team in backward curriculum design does not ensure successful change implementation. Fostering team members' self- and collective efficacy through coaching is also critical in achieving transformational change (Malone, 2001). As noted, beliefs about efficacy affect the goals that people set and their dedication to achieving those goals, particularly in the face of

challenges or setbacks. Unless individuals believe they can achieve the goals set and overcome challenges through their work, they are not likely to persevere (Ajzen, 1991; Bandura, 2001). Because of the magnitude and complexity of the change being implemented within MCCCD, a team's beliefs in its collective abilities to effect change was equally important, as it was the team that required resilience in the face of adversity.

Like their national peers, many MCCCD faculty had limited training and professional experience with respect to developing curriculum at the programmatic and cross-college level. Thus, coaching techniques that fostered self- and collective efficacy were essential. MCCCD mapping coaches brought the necessary knowledge of curriculum processes, systems, and nomenclature to the table. Moreover, they were trained to become intimately familiar with a discipline's opportunities and challenges through careful review of data and information gathered (e.g., employment and job posting data, industry and national organization standards, benchmark programs, existing program competencies, learning outcomes of other programs, transfer requirements) and provide the tailored scaffolding necessary to improve self-efficacy and achieve the goal of creating clear, coherent, shared pathways.

As the self-efficacy of each individual group member improves, they serve as models for one another, thus having an impact on collective efficacy. Collective efficacy is affected by not only the sum of group members' individual beliefs about their own capabilities but also the perceptions regarding other members' abilities, especially when the success of the outcomes of an activity requires coordination and interdependence, such as mapping clear, coherent, shared pathways (Bandura, 2000; Budge, 2017; Holt & Vardaman, 2013; Weiner, 2009).

The power of principal support. While it is critical to identify and mobilize change agents, establish a coalition of support, and develop intentional structures and processes for implementation like the mapping process described, it is also essential that the change process have principal support—clear evidence of formal organization leadership commitment to supporting the change and providing resources for its successful implementation (Armenakis & Harris, 2002; Bernerth, 2004).

Change can be exhilarating, but for some employees it can also be threatening and stressful. Change disrupts predictability and consistency and thus leads to uncertainty. Employees will look to formal and informal leaders for cues about the support for the change and the appropriate way to act in the face of change (Armenakis & Harris, 2002; Bernerth, 2004). Formal leaders need to consistently communicate their support for change, making clear their belief that the proposed change is appropriate for addressing the gap or challenge identified. Bernerth (2004) argued that,

particularly in institutions where there have been failed efforts to change, it is imperative that employees see demonstrations of leadership's support for change so that they are willing to commit to and engage in the process. Direct and indirect communication (i.e., visible principal support) is necessary to "show employees that management believes in this change and knows how to get there. Collectively, these communication efforts will shift employee cognitions to an advantageous organizational readiness state" (Bernerth, 2004, p. 48).

In the complex, multi-college system that is MCCCD, principal support needed to come from multiple levels. At the district level, the MCCCD Chancellor and executive team demonstrated support for achievement of curricular coherence within the larger guided pathways transformative change through (a) commitment to its importance in the design principles of the Transformation of MCCCD for the goal of student success, (b) presentations about the work to the MCCCD Governing Board, and (c) dedication of administrative leaders and resources to guided pathways project management. The presidents, vice presidents, and deans of the individual colleges supported the faculty change agents by furnishing dedicated resources for their professional development, arranging strategic meetings, and providing the time and space to engage in the work of building collective agency within the district.

Although commitment to principal support on the part of leaders in MCCCD was present, it was not pervasive at every level of the institution throughout the district and was transitory at times, with multiple changes in formal leadership. During the first two years of the transformational change, faculty change agents worked with five different principal sponsors due to executive restructuring, retirement, and job changes. With each transition of leadership, new structures, processes, practices, and communication strategies were put in place, and the need to make midstream changes had the potential to hinder progress. MCCCD faculty change agents adapted to these new approaches, consistently leveraging the existing principal support to continuously move the transformational efforts forward. In any institution, there are likely to be transitions in principal support and consequences to those transitions. Thus, the ability of human agents to adapt and persist towards their goals is critical to the success of change efforts.

Institutionalization: Achievement of Curricular Coherence

A planned change becomes institutionalized when it is legitimized within the structures of the organization (Curry, 1991; Kezar, 2014). In MCCCD, achievement of curricular coherence is realized when the Governing Board approves a pathway map. The map is then codified in the student information system, providing students the opportunity to design clear and coherent personalized pathways that help them achieve their academic goals and learn what they need to do in order to succeed in a given career or further education. To date, all 260 instructional programs that exist within MCCCD have completed the mapping process. The awards of all of these programs have been formally approved by the Governing Board and thus institutionalized.

To further support the institutionalization of curricular coherence, key stakeholders within MCCCD have worked together to identify and implement necessary changes in the student information and web systems to support the display and use of the pathway maps by students, support staff, and faculty. For example, these systems will now provide students with career opportunities, transfer options, and learning outcomes for the programs they pursue. They will also show students what they need to take and in what order to achieve mastery of the learning outcomes and meet specific transfer and/or industry requirements. Additionally, milestones and critical touch points have been built into these systems to help the Maricopa colleges celebrate and support students' progress toward their academic and career goals.

Finally, an even greater indication of MCCCD's commitment to the institutionalization of curricular coherence is its decision to redesign its curricular structures, policies, and processes. MCCCD recently commissioned a task force to carry out this exciting work in order to further establish the transformation of culture that paved the way for the development of clear, coherent, shared pathway maps.

Conclusion and Reflection

Over 900 faculty and staff from across the MCCCD system worked collectively to implement clear, coherent, and shared pathways to support student success. Their efforts illustrate the power of the human element in organizational change. The significant progress in creating these pathways within a system as complex as MCCCD, where the risk of failure may be high, illustrates the power of considering the human element in organizational change. As previously described, organizational change has been conceptualized as unfolding in three major stages: mobilization, implementation, and institutionalization. The success of the MCCCD transformational change suggests that organizations must plan for and consider the human dimension in each phase, taking into account the context, culture, and core values of the institution and alignment of these factors with the change. Additionally, time, resources, communication, scaffolding, and principal support are necessary for trust building, sense-making, and fostering of self- and

collective efficacy, which are critical factors in transformational change. Lastly, resistance is not simply something to be overcome. Resistance can indicate a lack of readiness for change, but it can also be a productive force that encourages reflection on and revision of that change. Change should be viewed as an opportunity for co-creation, not a one-way process.

There is more work to be done in MCCCD, which highlights a key aspect of the change process that needs to be acknowledged. Change begets change, which may be exhilarating but could also result in transformation fatigue, particularly among change agents. In MCCCD and all institutions of higher education, curriculum touches all aspects of an institution's operation. Thus, scope creep is inevitable, creating new challenges and opportunities, and highlighting needed changes in structures, processes, policies, and practices that often expand beyond the initial focus of the change efforts. These changes ultimately require additional time, resources and principal support for sense-making, trust building, and nurturing of collective and self-efficacy. In order to avoid burnout among change agents and minimize risk to the change process, making the time and space to expand and support the coalition of change agents as the transformation unfolds is critical to sustaining subsequent change efforts.

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