

Change Management in Dental Education: A Professional Learning Community

Anthony M. Palatta

Abstract: Professional learning communities (PLCs) are defined as “a group of people sharing and critically interrogating their practice in an ongoing, reflective, collaborative, inclusive, learning-oriented, growth-promoting way.” PLCs have been found to be an effective change management strategy in business and education when confronted by rapid change. The American Dental Education Association’s Commission on Change and Innovation in Dental Education new national program—ADEA CCI 2.0—includes the development of a PLC. By employing an “engage and learn” model PLC centered on continuous quality improvement and systems thinking, dental faculty can identify internal and external barriers to change that could lead to innovative solutions to complex issues. This article argues that a PLC is a viable change management strategy to counteract the effect of multiple external forces impacting dental education and thus to develop future-ready faculty.

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In the 1990s, the business management world was confronted with momentous challenges such as huge market shifts, disruption of traditional business models, new technologies, and unpredictable external and global forces.^{1,2} To deal with these challenges, the business community embraced the strategy of creating learning organizations. Learning organizations have proven to be effective in accelerating the pace of change and discovering innovative approaches to complex issues. In a learning organization, employees continually create, acquire, and transfer knowledge by utilizing continuous quality improvement and systems thinking—critical skills for sustainability in an environment of rapid and incessant change.

A learning organization strategy has also been used in the academic setting. During the 1980s, K-12 educators employed professional learning communities (PLCs) to counteract the impact of multiple external forces and to reveal barriers to change.³ PLCs consisting of faculty members have produced work that has resulted in increased faculty development and satisfaction, improved student learning outcomes, and sustainable models of innovation. As the business and K-12 communities did in the 1980s and 1990s, higher education is currently facing multiple challenges from a rapidly changing environment.⁴

Academic dentistry is no exception. Perhaps the time is right for the implementation of PLCs in academic dental institutions. A PLC provides faculty members—who are critically important to advancing all dental education programs—the opportunity to become effective change agents as they engage with change, hence priming the academic dental environment to become future-ready.

In June 2017, the American Dental Education Association’s Commission on Change and Innovation in Dental Education launched a new national program, ADEA CCI 2.0, which includes the development of a learning community.⁵ One of the goals of this program is to produce a community of learners who will act as change facilitators in dental education, initially at the predoctoral level. These ADEA CCI liaisons consist of small groups of faculty members identified by their deans. Liaisons at each of the 76 U.S. and Canadian dental schools engage with the ADEA CCI 2.0 program through white papers, webinars, and other resources focused on changes in five global domains: education, health care, technology, demographics, and the environment (political and climate). A series of worksheets and tools are then provided to encourage further, deeper engagement. This is known as the engage and learn model. The intent is for dental educators to share effective

practices and innovative ideas for the future, resulting in enhanced faculty development and satisfaction, improved student learning outcomes, and a more sustainable learning environment. Ultimately, these factors support the person-centered care approach, resulting in greater patient satisfaction and improved oral health.⁶

The aims of this article are twofold: to provide historical context explaining how PLCs have been an important organizational change strategy in business and education, and to illustrate how the PLC change management strategy can be useful in creating a culture of innovation in dental education. The article will highlight the benefits of PLCs in education, business, and health care; introduce the concepts of systems thinking via an engage and learn model; and, finally, make the case for the PLC strategy and the benefits it can bring to dental education during times of continuous and unpredictable change.

PLCs for Faculty and Student Learning

The concept of PLCs can be found in print as early as 1929, but the formal implementation of these communities did not become widely accepted until the early 1980s when K-12 education systems were investigating new strategies to improve student learning.⁷ Although no universal definition of a PLC exists, Stoll et al., in their extensive literature review, identify a PLC as “a group of people sharing and critically interrogating their practice in an ongoing, reflective, collaborative, inclusive, learning-oriented, growth-promoting way.”⁸ Little, one of the first investigators to study the concept of collective learning and learning on the job, found that many of the K-12 reforms implemented in the 1960s and 1970s to counteract multiple external forces (changing demographics, lack of institutional funding, and new technologies) were unsuccessful due to a lack of faculty development and support.³ Change came in the form of new top-down policies that were expected to be implemented by individual faculty members on their own time, in their own courses and classrooms. This disconnected approach failed to bring about the systemic changes the educational community sought: improved learning for all students.⁹ Little observed that the lack of attention to the organizational structure of the learning environment significantly undermined sustained change.³ Conversely, schools in which teachers were more “collegial” had higher

rates of student success and faculty satisfaction. Little defines actions of collegiality as “faculty engaged in reviewing lesson plans with each other, seeking peer critiques, persuading colleagues to try new approaches, and talking publicly about what they are learning or would like to learn.” All of these are actions characteristic of PLCs.

Succinctly put, PLCs focus on organizational learning as the key to systemic change that results in educational improvement and institutional sustainability. As stated by Dufour, “The powerful collaboration that characterizes professional learning communities is a systematic process in which teachers work together to analyze and improve their classroom practice. Teachers work in teams, engaging in an ongoing cycle of questions that promote deep team learning. This process, in turn, leads to higher levels of student achievement.”¹⁰ As Seashore et al. explained, “By using the term ‘professional learning community,’ we signify our interest not only in discrete acts of teacher sharing, but in the establishment of a school-wide culture that makes collaboration expected, inclusive, genuine, ongoing, and focused on critically examining practice to improve student outcomes.”¹¹

Transformational Aspect of PLCs

In addition to improved student learning outcomes and enhanced faculty development, PLCs have been found to be effective in enabling innovative thinking and risk-taking—two essential components for organizational transformation.^{12,13} Jacobs and Yendol-Hoppey argued that transformation occurs only when learners analyze their own personal assumptions and ways of thinking in the context of another learner’s frame of reference.¹⁴ Hence, transformative thinking and the emergence of new paradigms of thought do not occur in isolation but in discourse with others. As Jacobs and Yendol-Hoppey explained, “PLCs provide a context for members to make public, within their learning community, inchoate ideas, developing theories and anecdotal observations that, in dialogue with other faculty learners, can potentially move these inquiries to a deeper level. By gaining support and guidance from the PLC, inquiry can move from simply transformative learning to transformative action. PLCs that meet over time can become contexts that propel transformation forward beyond simply changing or

adapting a frame of reference, but changing how one acts on and acts within the world.”

Furthermore, the benefit to transformative learning is not solely to the faculty learner but also to the student. According to Cibulka and Nakayama, “Collaborative efforts encourage teachers to become active and conscientious learners, based on the belief that education must respond to and prepare students for a complex and rapidly evolving world.”¹⁵

Like the academic community, the business world has embraced the concept of using organizational learning to develop innovative thinking and bring about systemic change. Argyris and Schön, pioneer researchers on the topic of social behavior in organizations, discovered that innovative thinking is the result of reflection on past actions.¹⁶ They argued that people take action based on unconscious mental maps that direct their actions such as planning and implementation. When confronted with a dilemma, individuals have the opportunity to move into a learning mode. Learning can take place through two pathways: single-loop and double-loop learning. In single-loop learning, the individual searches for a fix to the problem, utilizing known elements and structures and leaving the predominant process in play unquestioned. In double-loop learning, the entire system, including the known elements and structures, is subject to critical inquiry (Figure 1).

According to Smith, “When the error detected and corrected permits the organization to carry on its present policies or achieve its present objectives, then that error-and-correction process is single-loop learning. Single-loop learning is like a thermostat that learns when it is too hot or too cold and turns the heat on or off. The thermostat can perform this task because it can receive information (the temperature of the room) and take corrective action. Double-loop learning occurs when an error is detected and corrected in ways that involve the modification of an organization’s underlying norms, policies, and objectives.”¹⁷

Peter Senge focused his work on transforming organizations into “learning organizations” to increase the capacity for double-loop learning. Senge argued that “double-loop learning (which occurs in PLCs) is necessary if practitioners and organizations are to make informed decisions in rapidly changing and often uncertain contexts.”¹⁸ Double-loop learning necessitates a shared vision, team learning, and systems thinking. Systems thinking involves understanding a system by sensing its large-scale patterns, enabling us to understand how the parts work together as a whole, whereas analytic thinking involves understanding a system by thinking about its parts, by taking things apart.¹⁹ Double-loop learning that incorporates a systems approach results in the

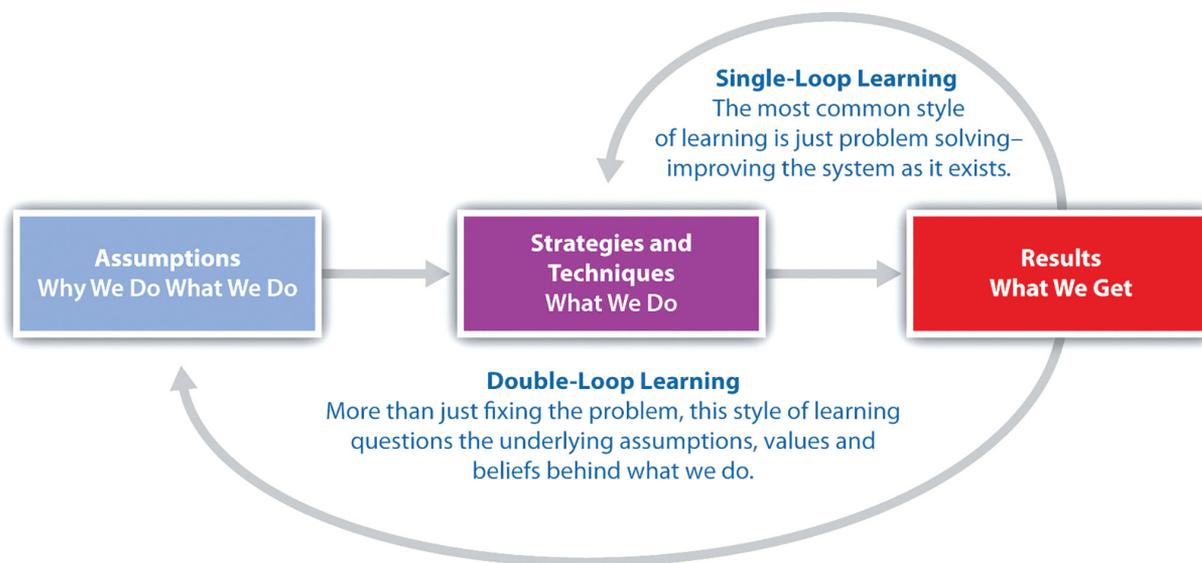


Figure 1. Single- and double-loop learning

Source: Double-loop learning. Reflection4Learning. At: sites.google.com/site/reflection4learning/double-loop-learning. Accessed 5 Apr. 2018. Reprinted under Creative Commons Attribution 3.0 License.

development of new mental models and alternative strategies, often through active reflection and group sharing, thus resulting in the actualization of true lifelong learning. The “iceberg model” is a common image used to illustrate the fundamental approach to questioning problems through systems thinking (Figure 2).

Engage and Learn Model for Change in PLCs

The concept of PLCs and learning organizations has been revived in recent years based on new research emerging from the body of change theory that supports such strategies as critical for sustained change. Worley and Mohrman write about the “old normal” versus the “new normal” regarding how organizations experience and respond to change.²⁰ In the old normal, organizations traditionally followed the “punctuated equilibrium” model of change theory. According to this theory, some form of crisis emerges that demands a rapid response from the organization to fix, contain, or adapt to the changes created by the problem at hand. The old normal focused on implementation of change and the activities of change

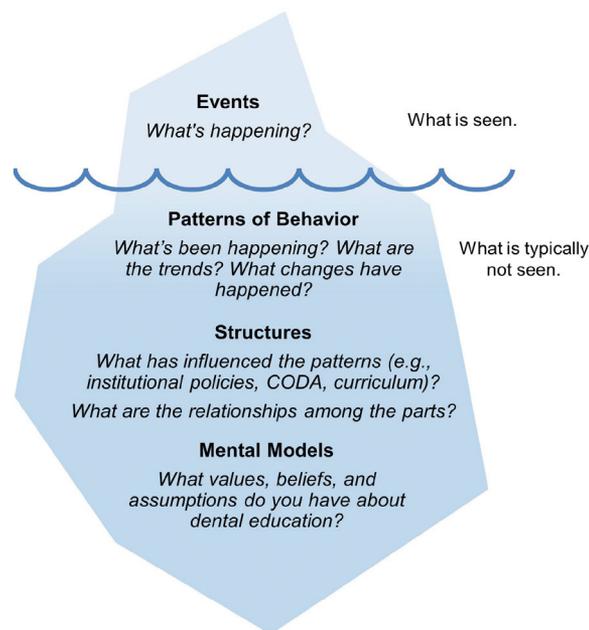


Figure 2. Iceberg model of systems thinking

Source: Adapted with permission from: Northwest Earth Institute. A systems thinking model: the iceberg. At: www.nwei.org/iceberg/. Accessed 10 Apr. 2018.

agents within the organization. This implementation strategy relied on incremental changes to the organizational environment such as “increased efficiency, reliability, predictability, and growth within an existing strategy and operating logic.” This strategy was operational, focused on the observations, findings, and beliefs of top leadership and aimed at maintaining the current system by managing the changes necessary at the time. When the crisis had been mitigated or averted via adaptation, the organization then would go through a long period of “staying the course” until a new crisis emerges.

By contrast, the new normal in organizational life takes into consideration the exponential growth of data that has transformed our working and personal lives.²⁰ This expansion of data is expected to grow steadily over the coming decades as the world becomes ever more connected through an ever-increasing number of electronic devices. It is as if the world we live and work in each day no longer resembles the world only a few years earlier. To flourish or even survive in a world that is now commonly referred to as VUCA (volatile, uncertain, complex, and ambiguous), *how* we approach change must also change.²¹ Organizations must be prepared to address the continuous emergence of multiple new realities simultaneously and repeatedly—with a model of change embedded in the organizational culture. A concept originally derived from the military in response to the post-Cold War mentality, VUCA is designed to prepare and ready organizations for change by revealing the “creep” of change before significant problems emerge—in other words, to become “future-ready.”

One of the models of change recommended for organizations in a VUCA world is the “engage and learn” model, which is the mechanism of a PLC: through a process of group engagement, organizational players identify a change that needs to be addressed, utilizing resources such as organizational history, research studies, and educational documents.²¹ Based on their findings, the group designs an action to be taken. Through reflection, debate, and trial and error, learning occurs that can be supported and tailored to the situation. Outcomes assessment is employed to monitor the action until a new awareness of the issue erupts. Readers may recognize the similarities between this model and continuous quality improvement. The difference here is that this approach adopts a community perspective. The engage and learn model, which is predicated on double-loop learning and systems thinking, is the mechanism by which PLCs are operationalized.

PLCs in Health Professions Education

PLCs were pioneered by the K-12 education community, where they have been a mechanism for change since the 1980s.³ However, little research has been published on the use of PLCs in college and health professions education, specifically for faculty and focused on cultural or transformative change.

In one example, Walker et al. implemented a PLC consisting of 19 smaller “learning circles” in nursing education to create “safe spaces” for authentic critique of the clinic management and delivery system in an effort to shine light on clinic inefficiencies that normally would be noticed by a lone community member and not communally shared, hence undermining progress on improving clinic efficiency.²² The overall goal of their study was “to encourage nursing and student participants to actively deconstruct, confront, and challenge existing ways of thinking.” Also in nursing education, Theobald et al. implemented PLCs to counteract the lack of engagement they observed from students by essentially adopting a flipped classroom approach.²³ Johns Hopkins University School of Medicine utilized a PLC to improve the educational environment between students and faculty based on findings by Suchman et al. that showed the positive impact of the learning community on medical students’ professional identities.²⁴ Haidet and Stein argued that improving the relationships between faculty mentors and medical students via a PLC can support the development and sustainability of a humanistic education environment.²⁵ PLCs have also gained attention for use in virtual education environments.²⁶ These examples of employing a PLC as a change management strategy share the same objectives sought by the business and K-12 education communities: improved faculty development and support for innovative thinking.

Change Strategy in Dental Education

A renewed case for change in dental education was made in the 2017 article “Change Is Here: ADEA CCI 2.0—A Learning Community for the Advancement of Dental Education.”²⁵ This article focused on changes occurring in five domains having a global

impact on our society. Recently, 44 articles in Bailit and Formicola’s “Advancing Dental Education in the 21st Century” project addressed the current state of dental education as well as issues impacting the future of the profession.²⁷ These issues include faculty shortages, changing health care delivery models, curriculum gaps, emerging workforce models, sustainability of educational institution financing, rising student tuition and debt, and insufficient diversity in the profession.

Both of these projects have made the case for change in dental education and in the profession of dentistry. In addition, predoctoral dental programs have been impacted by mandatory policy changes such as the 2013 Commission on Dental Accreditation (CODA) accreditation standards, which challenge dental programs to change how curriculum is presented and taught (integrated), how students learn (critical thinking skills and lifelong learning), how students view their position in a health care team (interprofessional education), and how the learning environment itself needs to be supportive and inclusive (humanistic and diverse).²⁸ The American Dental Association (ADA), whose resources are typically directed toward the practicing dentist, has stepped into the education/practice nexus to study alternative models for determining graduate licensure and portability of licenses as a response to the changing practice environment for current dental, allied, and advanced education students, their future practitioner members.²⁹

Clearly, change is here, which means there are fundamental questions we must ask ourselves: What is it that we aim to change? What type of change do we seek? What approach to change management will be adopted?

The ADEA CCI 2.0 supports the notion that the system dynamics, the interconnectedness and belief systems that underlie dental education, need to be analyzed through a process of exploration, discovery, debate, and sheer will. We will have to question our long-held beliefs regarding the profession and consider questions like these: What role will our profession play in overall health and as a member of the health care team? How do we educate the next generation, and what should that education look like? What kinds of competence will the dental provider need in a VUCA world? And what research is necessary to support systems change? But before we can fully address these questions, a change management approach must be identified.

Systems Approach to Change Management

In 2005, the ADEA CCI supported change in dental curricula based on the realization that the profession would benefit from new research emerging from higher education—namely, competency-based assessment, critical thinking skills, and experiential learning. The changes championed by the ADEA CCI were derived from an analytical thinking approach. That was the right approach for the problem at hand at that time, and dental students and patients are reaping benefits as schools are now graduating critically thinking health care professionals.

However, today's impetus for change requires a more complex approach than analysis alone. Change will need to be implemented at the interrelated, interconnected systems level. For these reasons and based on the evidence presented in this article, a professional learning community is a viable strategy by which transformative, systems-based change can be attained. A PLC utilizing an “engage and learn” model appears to be well designed for this purpose.

PLC Benefits in Dental Education

The effectiveness of PLCs in improving faculty teaching, student learning, and innovative thinking is clear. Less obvious are the supplemental benefits that PLCs offer to academic dental leadership and educators, especially in meeting accreditation standards and providing effective faculty development.

Research studies have found that PLCs are effective faculty development tools that result in increased faculty efficacy and teaching effectiveness, as well as improved student learning outcomes.^{3,10} Faculty members who participate in PLCs are more likely to adopt new classroom behaviors and more likely to stay in the profession. Additionally, these faculty members report more satisfaction and higher morale, and schools with learning communities have seen lower rates of absenteeism. Finally, Little found that a PLC was a robust mechanism for improved faculty development since it is based on adult learning theory rather than “the outdated model of individual professional development in isolation.”³

These findings regarding the outcomes of a PLC can benefit dental leadership by fulfilling or reinforcing the following dental education accreditation standards: humanistic environment (Standard 1-3), critical thinking skills and problem-solving

(Standard 2-9), lifelong learning (Standard 2-10), collaboration with other health care professionals (Standard 2-19), providing an ongoing faculty development process Standard (3-2), and new research opportunities (Standard 6-3).²⁸ Consequently, because PLCs result in improved faculty satisfaction and commitment to their teaching program, PLCs can also help with faculty recruitment and retention. The more satisfied faculty members are with their role in the teaching institution, the more they feel connected to their program.¹⁰ This effect could increase faculty retention and may also be an effective tool to attract new graduates and practitioners to consider an academic career.

Finally, because the overall goal of a PLC is to improve learning outcomes and connectedness to the educational setting, a PLC can provide evidence of an academic dental institution's commitment to the broader learning goals of its university or health science center, hence strengthening ties between the dental program and its parent organization. In fact, since PLCs could be organized across the parent organization, an academic dental institution's PLC could accommodate the participation of other health professionals, thus supporting interprofessional education.

Conclusion

PLCs have been shown to be an effective strategy for faculty members to learn how to counteract the impact of multiple external forces directed towards their profession. By employing an engage and learn model centered on continuous quality improvement and systems thinking, faculty can identify internal and external barriers to change that can lead to innovative solutions to complex issues. PLCs have the additional benefit of enhancing the efficacy of faculty development, resulting in improved learning outcomes for students and ultimately improved oral health for the public.

The PLC is just one strategy the ADEA CCI 2.0 will use to bring forth the innovations needed for dental education to thrive in the 21st century. Members of the ADEA CCI 2.0 believe that our colleagues in dental education, clinical practice, research, health care, and health professions education are best at determining the changes necessary to optimally position dental education for the future. The engage and learn model provides faculty members with the best opportunity to contribute to the change process, while

transforming them to become future-ready leaders for the profession. A response to changes impacting our profession requires a systems approach—one that seizes the momentum of the winds of change while being guided by our highest aspirations and determined by our collective agency.

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Disclaimer

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