Leveraging 21st Century Learning & Technology to Create Caring Diverse Classroom Cultures

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Introduction

Administrators and teachers in many states have worked to integrate 21st Century Learning Outcomes and Local Control and Accountability Plans (LCAP) into daily teaching and learning. These initiatives are designed to improve the quality of education that students receive. Technology is a necessary vehicle for delivering these initiatives. Technology provides innovative and alternative avenues for all students to demonstrate increased achievement and engagement. According to Gonzales and Belleau (2017),

> The ubiquitous nature of technology can enhance and deepen self-expression, global accessibility, personal and professional productivity, and the search for information. (p. 24)

21st Century Learning

In 2013, California joined other states in adopting the Partnership for 21st Century Skills Framework. These essential 21st century learning skills are identified as: Learning and Innovation skills including collaboration, communication, critical thinking, and creativity; Life and Career skills; and Information, Media, and Technological skills (California Department of Education, 2016).

State Superintendent of Public Instruction Tom Torlakson (2013) stated that "California is part of a growing national move-

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ment to teach students the critical thinking and problem-solving skills they need for college and careers" (para. 1). These skills are thought to assist in making students competitive in the diverse global market.

According to Plough (2017) it is a matter of *social justice* for educators to incorporate technology in the curriculum and prepare students to compete for career opportunities grounded in technology. Science, technology, engineering, and mathematics (STEM) jobs are becoming more popular. Indeed, it has been anticipated that the number of STEM-related jobs will increase to over nine million between 2012-2022 (Vilorio, 2014, p.3). Educators are charged with preparing students to meet these unknown, fast-paced, evolving market-place requirements.

One way California school districts are demonstrating commitment toward expanded technological efforts is through adoption of the #GoOpen State initiative. As part of the United States Department of Education's Technology Plan, states may opt into a program designed to openly share educational resources (Gonzales & Belleau, 2017). The U.S. Department of Education (2015) noted, "The 2016 plan outlines a vision of equity, active use, and collaborative leadership to make everywhere, all-the-time learning possible" (USDE, 2017, para 2). With these initiatives in place, California, like other states, is set to embark on a pursuit of an equitable technologically savvy road to knowledge.

Local Control and Accountability Plans

Recent legislation such as the Every Student Succeeds Act required schools to include at least one non-academic performance indicator, such as school climate (Cranston, 2017), within their Local Control and Accountability Plan. Schools and districts need to identify school climate goals as well as plans for obtaining these goals. The California Department of Education noted,

> All local educational agencies (LEAs) are required to prepare a LCAP, which describes how they intend to meet annual goals for all pupils, with specific activities to address state and local priorities identified pursuant to EC Section 52060(d). (LCAP section, para. 1)

California school administrators have also adopted former President Obama's ConnectEd Initiative to assist in implementing and identifying these LCAP goals:

> The initiative is now focusing on the use of technology in everyday practices, starting with best practices on how districts address and design policies around biases and prejudices. (Gonzales & Belleau, 2017, p. 24)

LCAP and the ConnectEd initiative have aligned well to support and guide technology use in the classroom.

Sources of Classroom Diversity

The United States offers a diverse landscape of students. The sources of diversity include: social, physical, and emotional development; gender, language, cultural, religious, and ethnic identity; socioeconomic status; and sexual orientation, to name a few. Burden and Byrd (2010) suggest that most classrooms in the United States are diverse learning environments. According to Cox

(2008), classroom diversity is the result of students of varying ability and experiential levels learning together. Diversity has become an organic reality in U.S. classrooms.

Classrooms across the United States are potentially more diverse than anywhere else in the world due to the high number of immigrants. According to Portnoy, Berry, and Riggs (2012), America received more than a million legal immigrants annually. Perhaps the diversity within and across America's classrooms is most prevalent in California's schools. During the 2014-2015 school year, 22.4% of California's students were identified as English language learners (NCES, 2017).

California is also believed to have the highest percentage of students living in poverty. According to the public Policy Institute of California (2017), 21.2% of California's children lived in poverty in 2015. An additional source of diversity within California classrooms is the inclusion of students receiving special education services. During the 2014-2015 school year, approximately 13% or 6.6 million public school students were identified as special education students (NCES, 2017). All of these factors make diversity the tapestry of most classrooms in California.

Given these unique circumstances, there is not a one size fits all approach to addressing the needs of diverse learners. Educators are compelled to assess each individual learner and understand the strengths and weaknesses of that learner. "Excellent teachers have always been students of their students, understanding that they cannot teach well unless they know their students" (Dack & Tomlinson, 2015, p.14). As a best practice, educators are obligated to embrace classroom diversity while simultaneously creating caring classroom cultures.

Diverse classrooms create advantages for learners, including offering multiple perspectives on issues. In classrooms where diversity is plentiful students are more engaged and their learning experiences are richer and more meaningful (Drew, 2015). Diverse classrooms offer opportunities for promoting empathy and encouraging acceptance of diversity (Jasmi et al., 2017). Technology in and of itself invites diversity within educational institutions.

Technology has the potential to profoundly impact American public education. According to Surry and Baker (2015), technology is a "defining feature of humanity" (p. 13). Students and technology can not be separated. Students in America, also referred to as digital natives, have come to expect technology to be a part of their everyday world and learning experiences (Prenskey, 2013).

Positive School Cultures

It is no surprise that the more engaged students are, the better the learning environment. Teachers who create caring classroom cultures improve the overall educational experiences of learners. When students are immersed in positive classroom environments they make better decisions, are more motivated to learn, and are more empathetic citizens (Ellerbrock et al., 2015; Jones, Bailey, Brion-Meisels, & Partee, 2016). "Through establishing caring relationships with students, teachers cultivate classroom communities that propagate care and promote academic success" (Ellerbrock et al., 2015, p. 48).

Technology has been a bridge between engaged students and positive classroom environments. According to Wade, Rasmussen, and Fox-Turnbull (2013), a school's culture can be transformed using technology. Creating diverse caring classroom environments, for all students, using innovative technology, is the impetus of this article.

> Appropriate technology can be hugely helpful in providing students with tools to become productive learners and assist in creating a learning environment that permits active engagement in content that would not otherwise be readily available. (Wade et al., 2013, p. 164)

Best Practices for Integrating Technology to Create Positive Learning Environments

Obi, Obiaker, and Graves (2016) expressed the importance of using technology in education: "Schools today are faced with an urgent responsibility to transform curriculum and pedagogy to better prepare our children and youth for a competitive technological, diverse, innovative, and interdependent world" (p. 1). Technological advancements have provided educators with an abundance of resources for enlightening students.

> As teachers, technology encourages us to be more creative, more influential, and more mindful of the implicit and explicit impacts our words have on students, and to explore new ways to make our classrooms more diverse. (Drew, 2015, p. 931)

Technology has offered opportunities for students to connect globally allowing for increased understanding of other cultures as well as one's own culture. There is no longer an excuse for ignorance. Technology has encouraged learners to continue learning outside of brick and mortar institutions and beyond regular school hours. Students have become accustomed to having information at their fingertips and access to unlimited information continually.

Classrooms across America are filled with students who are eager to embrace technology to make learning more meaningful and engaging according to the digital world they live in (Gonzales & Belleau, 2017). Teachers have been given the gift of abundant knowledge in instructing and preparing students.

Student Centered Learning

In student-centered classrooms learners are at the center of instruction. The needs of the learner are at the heart of the teaching and learning process. Student centered learning can also be referred to as differentiated instruction. Differentiated instruction begins with effective teaching that recognizes, values, and fosters individuality. Knowing each student and how he or she can best learn is the foundation of differentiated instruction. According to Tomlinson (2008),

> Differentiated instruction is student-aware teaching. It is guided by the premise that schools should maximize student potential…. To grow as much as rapidly possible, students must not only learn essential content, but also increasingly take charge of their own lives as learners. (p. 26)

Differentiated learning places the student at the heart of the instruction.

This type of individualized instruction assumes that students are motivated to learn once their individual needs are met. Marzano, Waters, and McNulty (2005) supported this notion, recognizing that students become intrinsically motivated when they have freedom over learning; including selecting processes and products of learning. When students have autonomy over their own learning they perform better in school both academically and socially (Jones et al., 2016). According to Greene and Hannon (2007) students are more motivated and engaged when using technology to learn about relevant current events.

Technology Is Accessible

Technology has continued to become more accessible to both students and teachers. According to International Telecommunication Union (2011), it was reported that 79% of the population in developing nations had a mobile phone subscription (p. 2). This percentage acts as a reminder of the importance individuals, in developed

and developing nations, place on technology.

Technology is a vehicle for moving classrooms from teacher centered cultures to student centered cultures.

> The interaction of technology and purposeful use create that transformational environment where change can occur; successful technology use in the classroom invariably mandates a cultural transformation from traditional teacher-directed to innovative student-centered learning where students are engaged in learning through teamwork, critical thinking, and problem solving. (Wade et al. 2013, p. 164)

Consistent with this idea, Wade et al. (2013) acknowledged that due to ongoing technological advancements educators are inundated with endless content material as well as innovative platforms and are charged with appropriately integrating those materials, tools, and resources in educational environments.

High Expectations

Research has supported the need for positive classroom environments in fostering increased student learning outcomes (Wolk, 2003). According to Ellerbrock et al. (2015), maintaining high expectation for all learners is at the core of creating caring classroom environments. Wolk (2003) has reminded educators that effective classroom management practices and nurturing individual relationships are of utmost importance when establishing a community of successful learners. A positive classroom environment is the result of intentional teacher efforts designed to strengthen student relationships and promote a connected, meaningful inquiry-based curriculum (Wolk, 2003.)

Technology can be used to promote and reinforce high expectations in California's classrooms. Applications such as ClassDojo have become increasingly popular as classroom management tools. ClassDojo was initially created to support educators with classroom management practices (Chiarelli et al., 2015). Technology applications have increased communication between school and home environments, allowing for timely delivery of information.

Technology has become a valuable tool in classroom environments. "A flexible, collaborate environment with technology-rich curriculum and high expectations becomes a transformational force in education, in which students access information almost instantly from a variety of resources and individuals" (Wade et al. 2013, p. 165).

Teachers are no longer the sole provider of content or sage on the stage, but rather facilitators and guides. This approach to educating students aligns with the 21st Century Technology Skills mentioned earlier. Fullan understood this approach to education and supported the use of technology to radically drive the shift from teacher centered to student centered learning environments (2012).

It is expected that schools will prepare students with the skills and tools needed to be successful in a global economy. This can be accomplished when technology and diversity are "infused" in educational settings (Obi et al. 2016, p. 2). Obi et al. (2016) stated, "As an instructional tool, technology helps all students… to master basic and advanced skills required for the world of work" (p. 7). In this sense technology is a uniting factor among youth.

Conclusion

Richardson (2013) poignantly suggested, "Right now, the web requires us to reconsider the ecology of schools, not just the technologies we use in them" (p. 14). Technology has changed our world and the possibilities for our educational landscape. Technology has provided educators with innovative approaches toward educating students like never before.

Physical and mental boundaries, once associated with isolating students and teachers, are no longer excuses for failing to meet the needs of diverse learners. Technology, coupled with an intentional effort to meet the needs of all learners in a caring community environment, provides unharnessed possibilities for all students.

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