BEST PRACTICES OF LEADERSHIP IN EDUCATIONAL TECHNOLOGY

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ABSTRACT

Leadership in Educational Technology is a relatively new field that is changing as fast as technology itself. Success for an educational leader includes maintaining a firm grasp of how to diagnose the needs of a district, a school, or a classroom while aligning policies, procedures, and protocols into a format that will empower the individual teacher efficacy and student learning outcomes. Being a leader in educational technology includes more than incorporating new technologies into the classroom. Leadership in educational technology requires an outlook that views technology not as a tool for every occasion, but as a tool that when used, will enhance the learning process. An approach of best practices is essential to maintain effectiveness as an educational leader, and yet there is very little research that includes a synthesis of the best practices or approaches that are certain to increase an educational leader's effectiveness. A best practices approach that relies on the use of constructivist teaching method, that strives for continuous improvement through the use of professional learning networks and communities, and that utilizes online professional development will produce the kind of effectiveness in teachers that is associated with positive student learning outcomes.

Keywords: Educational Leadership, Educational Technology, Constructivist Philosophy.

INTRODUCTION

The advent and proliferation of technology has fostered a drive in academia at all levels to incorporate technology into every aspect of the classroom. At the school level, teachers are encouraged to use technology such as SMART boards, electronic whiteboards, videos, laptops, Computers on Wheels, DVDs, the Internet, BYOD (Bring Your Own Device), education related social networking sites, blogs, and other related tools to enhance student learning outcomes. At the district level, those who are in authority provide Guidance, Coordination, and leadership for the approval of technology plans for schools within their districts in an effort to enhance learning opportunities and technological resources for their student populations. Leadership at all levels realize the potential technology for bringing the world into the classroom, yet it also understands that technology serves specific purposes and should not be forced upon every learning context.

Providing leadership in educational technology is more than counting the ratio of laptops to students within a school district, and it is more than attempting to differentiate lesson plans for different learning styles by using various technology tools. At its core, leadership in educational technology is about teachers, administrators, and technology leaders at all levels who embrace and realize the potential of educational technology to enhance student learning experiences at all the levels, regardless of whether the learning occurs in a traditional or in a distance learning classroom. Picciano (2011) indicates that successful leadership in technology requires planning at all levels in order to foster the kind of commitment, collaboration, and continuity which are necessary for long term successful technological implementation and growth. For a leader to be successful in technology, he/she must be aligned with specific current best practices associated with desirable outcomes. Educational technology leaders can align themselves with Constructivist Methodology and avail themselves in professional learning networks and in online professional development courses as part of best practices approach to improve teacher efficacy. Technology leaders will effectively enhance both teacher and student outcomes.

Constructivist Philosophy Bridges Theory and Practice in Leadership

In order to be an effective leader, the first best practice must involve application of the constructivist method of teaching. Constructivism facilitates some controversy from an epistemological standpoint as its underpinnings assert that knowledge cannot exist outside of experience, yet its proven record of achieving improved student learning is self-evident. From the explanation of constructivism, Doolittle and Camp (1999) posit that "learning should take place in authentic and real-world environments, learning should involve social negotiation and mediation, content and skills should be made relevant to the learner, content and skills should be understood within the framework of the learner's prior knowledge, students should be assessed formatively, and students should be encouraged to become self-regulated and self-aware In essence, the constructivist approach relies on a model where students gain and construct knowledge in the classroom by experiencing through learning first hand. The teacher guides the learning process, but students interact with the curriculum in a manner where learning experiences, problem-solving and reflection create the building blocks of the Enhanced Learning (Shinsky & Stevens, 2011). The constructivist method does not diminish the role of a teacher, but rather this role is modified, so that teachers through scaffolding techniques introduced by Vygotsky, are able to build knowledge as opposed to repeating or reproducing facts (Slavin, 2012). Application of the constructivist method is an approach that bridges the gap between theory and practice, and teachers who utilize this approach enable students to cross this divide into greater understanding of the world around them.

Technology leaders who use the constructivist method will enable the students to go beyond memorizing and reproducing theoretical models in the classroom. But rather, students become more adaptable to the needs of an ever increasing technical workforce that relies on employees who can self-regulate, socially interact, and remain adaptable. A technology leader must be recognized and capitalized on the most recent discoveries in learning theory that shows how students develop their skills what they need, to be adequately prepared for the highly technical and competitive workforce awaiting them after graduation. For the technology leader, using this approach to teaching provides firm footing from which to expect enhanced student outcomes. For instance, in the classroom, students can be presented with real world problems they can be related to and the learner is provided with informational resources, materials and media from which he/she can find solutions. According to Picciano (2011), "technology tools become integrated with and facilitate the problem solving activity" given the level and quality of web 2.0 tools now available in today's classroom, a technology leader has an abundance of tools from which to enable students to be engaged in knowledge construction. While the constructivist approach has increased for the typical student, according to Schweitzer and Stephenson (2008),constructivist methods "could also increase post secondary educational success and retention for disadvantaged groups".

Objectivism has long competed with constructivism, but objectivism relies more on the Teacher Centered Model, where knowledge lies outside of an individual and must be given to him/her (Carson, 2005). Because constructivist methodology heightens students' motivation in the learning process and encourages the individual to discover knowledge for themselves. Applying constructivist methodology is an important starting place for any educational technology leader interested in applying best practices approach.

Leveraging Leadership Through Professional Learning Networks

Another essential tool for an educational leader is to have involvement in professional learning networks or communities. A professional learning network provides the technology leader resources from which to grow professionally through maintaining access to other people, materials, and web based tools. At its core, a professional learning network is an assortment of resources that one can draw from to access school leaders, colleagues, various field related specialists, or simply for when one is in need of new ideas, news, and various approaches and techniques for improving oneself in his/her profession (Bauer, 2010). As

a leader in technology, having access to just in time information on a global level about best practices, avoiding pitfalls, and about topics of overall interest provides the leader with distinct advantages over those who are not part of such networks. Moreover, often those who are leaders in technology feel a sense of professional isolation, and professional learning networks serve to replace isolationism with a real sense of being a part and being plugged in to a larger community of like-minded professionals. Riveros, Newton & Burgess (2012) posit that "the underlying assumption in professional learning communities is peer collaboration which has the potential of transforming teaching practices in ways that will bring about higher rates of student achievement". When educational technology leaders construct their own professional learning networks, or join a professional learning community, the result is access-to-access which are solution sharing, acquisition of lesson plans from expert teachers, resources such as software and websites, applicable educational news links, and professional development opportunities from content area specialist" (Professional Learning Networks - 21things4teachers," n.d.)

Technologies that an educational technology leader can avail themselves to when creating a professional learning network are numerous. One of the most popular web 2.0 tools which promote collaboration for technology leaders is Twitter. Twitter provides real time access for educators to thousands of like-minded individuals and experts who desire to grow personally and professionally. Facilitating access to collaborating and communicating, Twitter provides weekly chats, venues for exchanging ideas, research opportunities, conferences through tweeting, and the ability to find mentors willing to assist a technology educator in their professional growth.

Blogs are also an important tool for professional learning networks. Short of weblog, any educator can set up a blog or can access other's blogs for the purpose of relaying reflections, information, or perceptions on various education related topics (Bauer, 2010). Blogs consist mostly of text but also have videos, graphics, and presentations embedded in them and provide an excellent platform for encouraging discussion, presenting the results of online research, and fostering collaboration in group blogs. Setting up an RSS feed to any number of prominent educational technology blogs will provide just in time access for professional development facilitating professional growth that was not possible before.

Wiki is another primary method for promoting involvement in a professional learning community. The term wiki originates from a Hawaiian word that means "fast" or "quick" (Bauer, 2010). Wiki provides tremendous format for collaboration as individuals contribute to the whole, and provide each other with an abundance of information virtually. So, for example, if a technology director of a newly formed colleges distance learning program wanted to locate information on the best methods for starting up a program with regard to the planning and implementation issues, he/she can access a wiki related to the aforementioned information. Moreover, when they had successfully completed the implementation of their distance learning program, they could return to the wiki and add their best practices approach in order to further enhance the learning experience to the future technology educators.

Google Plus is a newer tool available for developing a professional learning network, and this social network allows educators to form circles of their groups which they want to follow. These circles can be differentiated by grade levels and content specific areas. Leaders can also use circles to work on collaborative projects using Google Plus in a way that is far more achievable than using traditional social networking sites. Professional learning networks or communities provide opportunities for educators to join with others, to contribute to others, and to benefit from others in a collaborative spirit whose underpinnings are defined by the idea that is more accomplished when working together than working alone. Developing a professional learning network or becoming a part of professional learning community must be the priority of any educational technology leaders' list of best practices

Empowering Leaders Through Online Professional Development

Educational technology leaders often focus on providing online education for students, but growing best practice in

education entails providing online professional development for teachers. Part of the reason for online profession development stems from new technologies that are being developed at a much faster pace that can be incorporated into the curriculum and novice teachers often lack the knowledge to adequately teach using core technologies. Ostashewski, Moisey, & Reid (2011) report that "Teacher Professional Development (TPD) that focuses on the integration of new technologies into teaching practice is critically needed, and online teacher professional development has the potential of fulfilling these needs". Programs for providing professional development using online resources have exploded. Chitanana (2012) postulates that "online professional development opportunities have dramatically increased in number over the past few years as technology has advanced". Online professional development provides equivalent learning outcomes for the educator because the interactions provided in the online format are collaborative in nature, they provide realistic problems, they provide opportunities for problem solving using 'Vygotsky Scaffolding Techniques', and they provide opportunities for reflection associated with stronger learning outcomes. When online professional development is aligned with authentic and context based learning, the result benefits the educator and provides authentic learning. Professional development fostered in "talking head" environments accomplishes little, but in highly collaborative online professional development courses that are defined not by the tools that are available, but by the manner in which the tools are used provides the educator with a powerful resource from which to mature and grow professionally.

Current professional development practices provide teachers with training on SMART boards and other classroom related technologies, but this training often fails to provide technology teachers with a clear understanding on how technology can improve learning in the classroom. Chen (2011) points out that "online professional development offers vibrant and interactive communities for classroom teachers that are often unavailable in traditional professional development".

Online professional development offers many benefits for educational leaders. The online format fosters collaboration while maintaining the benefits of the asynchronous format, it leverages the benefits of networking, and it teaches teachers to use the tools that they will use in their own classrooms. Technology in classroom is considered as an essential part of the learning process and teaching teachers how to use technology is part of any serious professional development program. Online professional development provides learning environments that enhance self-evaluation, collaboration, and higher-order thinking. The costs associated with sending staff to off-site conferences and meetings in the light of budget restrictions often limits professional development opportunities. When educational leaders incorporate online professional development as a primary tool for teacher growth, the leader is providing his/her staff with value resources that will increase overall teacher efficacy.

Recommendations

While this study provides a pathway for technology leader to improve their efficacy in the classroom, further research must be conducted comparing how constructivist teaching approaches improve student learning within the traditional classroom versus in the online classroom. Understanding the differences in the learning environments may suggest the need for a multi-pronged approach to implementing constructivist teaching philosophy that avoids the temptation to use a one-size-fits-all approach. Similarly, questions must be answered that address whether preparing a technology leader to be effective in the classroom is commensurate with preparing a technology leader to be effective within the online learning community. When the aforementioned is known, a technology leader will be better equipped to modify their tooling and their teaching style in a manner proportionate to the needs of their students. While the digital learning environment supplements the capacity of a teacher, teachers tend to become facile with technology unless they are aligned with effective professional development. Further research must measure the effectiveness of training technology leaders using traditional professional

development techniques versus using proven techniques within the online context. Moreover, a technology leader does not have time to participate within every professional learning network. Therefore, establishing the tools provides the most significant resource for technology, teachers will enhance the leader's readiness to increase personal efficacy. Following the above recommendations will provide a greater framework for understanding whether the best practices introduced in this study will truly empower technology leaders to create positive student learning outcomes.

Conclusion

Leadership in educational technology is a dynamic, ever-changing field of education that is continuing to challenge administrators, superintendents, schools districts, and teachers as technologies change and as the rules for how to interact with technologies continue to evolve. Educational leaders are required to develop competencies in a wide range of areas dealing with educational planning, decision-making about which kinds of data to use, how to evaluate technology programs, and a myriad of other issues surrounding facilities, policies, and procedures.

Grappling with day to day issues for a leader in educational technology is no small task; therefore, it is incumbent upon the leader to avail himself/herself to the best tools, approaches, and practices that will promote the success of everyone in the team. At the core of all leadership endeavors must be the goal of improving student learning experiences and positively increasing student outcomes. The method of accomplishing improved student outcomes is a debate with a long history that delves into learning theory and branches into issues of motivation and teacher efficacy. As educational leaders strive to enhance student learning, the role of how educational leaders are preparing and equipping themselves and their staff to be more effective in the classroom comes to the fore. A best practices approach for educational technology leaders must include an analysis about how they are teaching as well as what they are teaching. The constructivist methodology is associated with improved learning outcomes, because it provides teachers with a proven

approach for helping the students to construct knowledge for themselves, which is built upon through the process of reflection. Adapting a constructivist approach improves teacher effectiveness which translates into improved student outcomes. Teacher efficacy is also enhanced when educational leaders avail themselves to professional learning networks or communities in order to grow their base of knowledge and to find just in time solutions to real world problems. Moreover, when utilizing online professional development tools, leaders are also embracing a best practices approach to professional improvement associated with essential gains in student learning. While best practices may be evolved based on the results of future research, alignment with constructivism, involvement in professional learning communities, and participation in online professional development will place any educational technology leader on the path to improving teacher efficacy and enhancing student learning outcomes.

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