

Developing Literacy Leaders: The Role of Technology in Teaching and Learning

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Through a case study (n = 3) of students obtaining a graduate degree in literacy, This paper will focus on the metamorphosis teacher leaders — teacher leaders using technology for self-professional development as well as leading professional development, and for the improvement of teaching and learning, specifically in the area of literacy.

ABSTRACT

Teacher leaders have typically been an integral part of the daily life of P – 12 schools. They generally self-identify by becoming the key persons or experts in a school for a specific curricular area. The commitment to life-long learning lays the foundation for teacher leaders to emerge. In today's world technology has become the gateway for learning. Teacher leaders must use a variety of emerging technologies to learn new skills and continually expand their knowledge to enhance their craft. In turn, teacher leaders must be able to use technology to lead diverse groups of teachers, and to show other teachers how to effectively incorporate technology into their teaching while guiding diverse communities of students down the path of life-long learning. As evidenced by this case study research, the cycle of learning and teaching has an immediate impact on our communities and society at large through the P - 12 students who are our leaders of tomorrow.

Keywords: Teacher Leaders, Technology, Literacy Leaders

WHAT IS A TEACHER LEADER?

Teacher leaders have been prevalent in schools for many years. The concept of teacher leadership is not new, but as the roles and responsibilities continually mature as part of school reform, the implementation and impact of teacher leaders must continually be examined. The leadership characteristics generally emerge as teacher leaders are called on to serve outside, and in addition to, their role as classroom teachers, leading in various capacities at the school level. It is the definition of teacher leadership in *Teaching 2030* (Berry, Barnett, Betlach, C'de Baca, Highley, Holland, Kamm, Moore, Rigsbee, Sacks, Vickery, Vilson, & Wasserman, 2011) that forms the premise of this chapter. In this book, a teacher leader as a *Teacherpreneur* is defined by Ariek Sacks, as:

a teacher leader of the future that has proven accomplishment and deep knowledge of how to teach, a clear understanding of what strategies must be in play to make schools highly successful, and the skills and commitment to spread their expertise to others — all while keeping one foot firmly in the classroom (p. 136).

In the recent past, the infrastructure has often times been put in place to support teacher leaders as they work alongside their colleagues, with the ultimate focus of improving student achievement. Teacher leaders embrace

the challenge of school improvement as they are given the opportunities to participate with their colleagues by facilitating the process of inquiry, dialogue, and reflection in order to meet the challenge.

Roles and Responsibilities

The roles of teacher leaders have ranged from those that are recognized positions with formal titles, such as *instructional coach, grade level chairperson or committee chair*, to less formal roles such as being looked to as the instructional expert in a content area. Often, a member of the school administrative team will recognize the leadership potential of a teacher, and work to foster those skills through committee assignments and professional development opportunities. In more recent years, teacher leader programs have been designed and developed at the university level as a career path for teachers, expanding opportunities for teachers beyond staying in the classroom or being removed from classroom teaching. Regardless of the path, teacher leaders contribute to the success of a school, from academics to morale, and are central to the daily functions.

When considering the varied roles of teacher leaders, they are generally examined in the context of making a difference with an innovative idea, forward thinking that moves into action, or reawakening colleagues through a common goal. They must embrace the challenge of leading teachers, who are often largely unlike their students in terms of race and socio-economic backgrounds, to provide equal educational opportunities and honor the diverse cultures and contexts inherent in schools today (Pugalee, Frykholm, & Shaka, 2001). These efforts include teacher leaders providing:

- both the knowledge and material *resources* to their colleagues, and a willingness to model the application of these resources;
- innovative *instructional strategies* they implement and model;
- knowledge of the *curriculum*, the ability to lead curriculum teams, and the ability to examine and write curriculum;
- *support* to classroom teachers, being a right hand to the daily teaching and learning activities that occurs within a classroom;
- opportunities for their colleagues to engage in *professional development*, whereby the focus is creating a classroom and school environment that learning is central, and even craved;
- *mentoring* to both new educators and those with experience who operates in wisdom, where guidance is not about the

right answer but about the quest for knowledge and learning;

- *school leadership*, respected for their knowledge and abilities as a teacher, known for their willingness to go the extra mile for the school as a whole as well as their students, and involved in the decision-making processes at the school;
- *data coaching*, examining the data of a given content, grade level, classroom, and/or individual student and can provide guidance on areas of strength, needed focus, and instructional strategies;
- *a catalyst for change*, exhibiting leadership qualities that promote and implement educational change when it is necessary, while never losing focus of the realities of the classroom;
- *a commitment to life-long learning*, knowing that there is so much to learn and impossible to “arrive” in knowing all there is to know, even in area of specializations
- *creating partnerships* outside of the school, with the business and community, focusing on the improvement of the local educational system thereby improving the quality of life in the community (Harrison & Killion, 2007; & Haury, 2001).

Inherent in many of these roles are the teacher leaders who have evolved in the recent past in the area of technology. It is the teachers who have committed themselves to keeping abreast of the latest technological innovations, committed to acquiring the knowledge and utilizing emerging technologies on a daily basis, that use technology as a primary tool in teaching and learning, and thereby in their role as a teacher leader. These teachers become better than proficient with implementing the technology with their own students in their own classrooms. For teacher leaders, *E-learning* is implemented seamlessly, and enhances learning opportunities for students and themselves. These leaders are then quickly looked to as a source of help by their colleagues, for guidance and mentoring on the pedagogy of technology implementation. As teachers and students experience success through implementation, the teacher leader finds herself inadvertently leading learning communities to sustain and improve the success.

It is clear that in every school, the roles of teacher leaders are varied and are identified with different labels, but all should ultimately contribute to the success of the school (Harrison & Killion, 2007). These roles are often overlapping, building on the strengths of each teacher as an individual. Teacher leaders develop as a commitment to the profession is revealed, teachers believe they can impact the diverse learning community in their class and school, and teachers demonstrate the capacity to develop leadership qualities (Ross & Gray, 2006). Ultimately, teacher leaders directly impact the culture of the school, work to improve student learning, and has an impact on the practice of their colleagues. Teacher leaders should provide a positive impact on the school and community where they lead.

Teachers Leading Teachers

Whether informal or formal, teachers can contribute to the success of their school in a variety of ways. As previously noted, the roles teacher leaders can encompass are varied, and include, for example, sharing professional resources with colleagues, serving as an instructional specialist by sharing teaching strategies, working as a curriculum specialist to develop standards, facilitating professional learning, mentoring new teachers, taking part in a school committee, and being a catalyst for change (Harrison & Killion 2007). Critical to the latest paradigm of the role of the teacher leader is that the teacher leader remains an active participant in the classroom, while recognizing that the role has a place and value (Berry et al., 2011). Within this role the teacherpreneur emerges. The teacher is strategically tied to the classroom and students, while also continuing to enhance the knowledge of teaching, perfect the craft of teaching, understand the making of a successful school, and committed to working with colleagues for the betterment of the profession. The teacherpreneur recognizes excellence among teaching and works to improve school wide instructional strategies, principals of classroom management, and assessment applied to diverse settings. In this context, the teacher leader can help teachers realize more than the power of their instruction, but also the structure of the classroom social interactions in light of their perceptions of their students and themselves. Teacherpreneur is a hybrid role, a role that builds on credibility that comes from teaching, while also investing in the betterment of the larger school community.

In elementary, middle, and high schools, teachers generally value the contributions, talents, and efforts of their peers in the work place as they share the common goal of positively impacting the achievement of their students. It is this core belief of most educators that empowers teachers to become teacher leaders. Teacher leaders help to create and expand a school’s context for sustained professional learning, and model the processes for adult learning as they consistently focus on ensuring their students are provided the maximum learning opportunities. The challenge of building and sustaining the culture of a school is focused on the ideals of teacher leaders and provides the structure to support teachers leading other teachers. In order to lead effectively, teacher leaders must value the contributions of each colleague, and be able to relate to the teachers they lead while building a collaborative environment.

Conversely, teacher leaders must be respected by their peers and administrators as valued members of the school community. Teacher leaders must fundamentally embody the philosophical belief system generally held by the school faculty. Inquiry based, student engagement in meaningful context is practiced by the teacher leader. It is this earned value that empowers teacher leaders to influence others. The strength of teacher leaders is their willingness to learn from their own teaching, collaborate with their colleagues, and share their knowledge and expertise with the idea of improving the learning community and the collective responsibility of school improvement (Riel & Becker, 2008).

Technology in Teacher Leadership

The role of technology in teacher leadership is not insignificant. In the span of 50 years, we have gone from typing, calculators, and shorthand, to word processing, spreadsheets, and databases, to twenty-first century digital graphics, animation, web publishing, and video-audio editing. In this short amount of time, technology has truly changed our world. And these rapid changes form the basis of the demanded skills in the workforce. It is imperative that students graduate from high school with the ability to: work with others; identify, organize, plan, and allocate resources; work with a variety of technologies; understand complex interrelationships; and acquire and evaluate information. Admittedly, students are growing up in a world of technology and are very technologically savvy. However, students must be taught how to use technology as a learning tool, as a gateway to knowledge and the application of that knowledge. That process likely begins with a teacher leader promoting the use of technology in the creation of a learning community that transcends the walls of a classroom, crosses the physical boundaries present in a school, and broadens the perspectives of technology for both teachers and students (Teacher Leadership Exploratory Consortium, 2010).

Based on this foundation, teacher leaders must ask themselves if they are aware of the potential of technology in education, if they themselves integrate technology effectively, if they model the use of technology to improve teaching and learning. It is the pedagogy of technology in the classrooms, rather than the technology in and of itself, that has the power to make a difference in the academic achievement of students. Research supports that teacher leaders are aware of the power of technology in schools. In fact, a study reported by Riel and Becker (2008) revealed that:

- teacher leaders use emerging technology more than other classroom teachers;
- are much more likely to have incorporated a variety of computer applications into their daily instructional practices; and,
- are competent technology users themselves.

They use computers more with their students; more for professional activities such as lesson planning, posting student work to the web, and communicating with parents; and identified themselves as exemplary computer users significantly more than teachers not classified as teacher leaders.

The notions of technological implementation lead to that fact that being informed consumers of e-learning products and services as well as co-constructors of these tools are simply a necessity. As previously stated, P – 12 students are growing up in a technology-rich world. It is that world that is associated with global flows of information, connecting networks of people, products and ideas across what was once geographic boundaries. Therefore, teacher leaders must be willing to engage the minds of learners in ways beyond traditional textbooks. When teacher leaders use technology successfully in their own classrooms with the students they teach, they gain the credibility from their colleagues and lead by example. Teacher leaders constantly search for ways to make technology beneficial for their

teaching and the students' learning (Riel & Becker, 2008). The nature of technology speaks to teacher leaders being life long learners. As technology changes so quickly, early adopters, in fact, all adopters, must stay abreast of current trends in order to keep up!

Technology is, in fact, about teaching and learning. As noted early in the chapter, teacher leaders use technology for their own professional development. Teacher leaders use this notion to help colleagues see the value in using technology first for their personal professional development. As teachers see that professional development is a process, not a one-time event, they realize the accessibility and ease of using technology to learn that can take place on a daily basis at any given moment. Once teachers embrace technology for learning themselves, they are generally open to learning to use technology as a tool for the teaching and learning for their students. For example, using interactive white boards, document cameras, smart phones, and computers with internet access can all be instructional tools used in classrooms with all age students, regardless of specific content area.

Teacher leaders must be prepared to embed effective use of technology with their students, and they must also work closely with their colleagues as they develop school wide, cohesive use of technology. Many teachers realize the promise of technology and the potential impact on student learning, but most are overwhelmed with the task of keeping current and learning how to effectively use technology in their daily instruction. They know they must change the way they teach simply to meet the learning styles of a diverse group of students, become less teacher directed to acting as a facilitator as students are engaged in constructing their own knowledge. As teacher leaders model various technology uses for teaching and learning, and as teachers embrace the use of technology, the ultimate benefit is seen in the students they teach. They guide their colleagues in implementing technology in their teaching, and helping students navigate technological tools to connect resources and promote collaborative learning (Teacher Leader Consortium, 2010). Technology speaks all languages, considers various learning styles, and promotes academic achievement in diverse learning environments. Technology in schools is for the development of literacy skills required to successfully participate in the global economy and society of today; and to improve the traditional academic achievement of all students, including those who experience a disproportionate underachievement (Cummins, Brown, & Sayers, 2007).

Technology in schools helps to narrow the gap of the *digital divide* in relation to poverty and minority students. However, the educational potential of technology is directly connected to the pedagogy of its implementation rather than the technology itself. Using computers as a tool for skill and drill, test preparation type activities does not enhance students' critical thinking and problem solving skills. It is using technology in schools for collaborative, critical inquiry in meaningful contexts that make a long-term difference in the academic success of all students. In this realm the teacher leader helps colleagues actualize the power of technology, in all schools, including those serving low-income and minority students. The teacher leader must

lead with a mantra of excellence and equity, and in an effort to develop school-wide communities of inquiry as they use technology and other tools to maintain the status of highly engaged learners. A teacher leader responds to a diverse learning community by identifying the technologies that are most salient for a group of teachers and students at a given period of time, and promotes collaborative and differentiated learning opportunities for all stakeholders. If implemented properly, technology truly can be a great equalizer in helping to provide a quality education for all students.

CASE STUDY

For the last decade, literacy coaches have become prevalent in many elementary schools across the nation. They take on the role of a Teacher Leader as previously described, and are challenged to lead a group of teachers in developing and enhancing instructional strategies to teach reading. In the online Literacy Coaching course, not only are students engaged in an online learning experience themselves, they are challenged to use technology for professional development themselves, develop and implement literacy professional development opportunities with the teachers with whom they “coach”, and use technology in innovative ways as they work with their students.

Through an online literacy course, this case study examined the development of three female teacher leaders in elementary schools, based on the assumption that teacher leaders can be developed:

- What leadership characteristics must be present?
- In what ways emerging teacher leaders use technology for their own professional development?
- In what ways can emerging teacher leaders use technology to lead school-based professional development for their colleagues?
- In what ways can emerging teacher leaders use technology for professional development for their colleagues not in their own school?
- In what ways can emerging teacher leaders use technology for parents to facilitate leadership skills?
- How can emerging teacher leaders use technology with students to facilitate their leadership among colleagues?

Data

During the semester-long case study, the researcher used the online course to analyze the reflective journal of the participants ($n = 3$), dialogued with the participants through threaded discussions, and examined the instructional tools the participants developed and used for the professional development of colleagues, information provided parents, and the technological tools the teacher used for the literacy development of students. In addition, the researcher examined electronic evaluations provided by the colleagues with whom the emerging teacher leader worked to determine the success of the leadership development.

Results

Reflective Journal: The participants seemed very open and honest in the weekly journal entries. During the 15 weeks, the participants experienced both challenges and successes. Challenges included dealing with negative attitudes of colleagues working in the same school; the substantial time needed to develop quality electronic professional development tools for teachers, parents, and students; and general feelings of inadequacies to lead other teachers. One participant expressed a personal challenge that she often faced of becoming more assertive and confident in her knowledge, especially when working with her colleagues. The Successes experienced included accolades from colleagues; the satisfaction of creating high quality materials; colleagues implementation of professional development; increased student achievement that was linked to use of technology.

Threaded Discussions: The threaded discussions were used as a teaching tool throughout the fifteen weeks. As the participants would read about coaching, leadership characteristics, and literacy strategies, items would be discussed between the researcher and the participants. The participants expressed that the weekly threaded discussions, especially the video links and websites, were beneficial for their learning and the implementation of their learning as they were able to read about various strategies, watch them implemented electronically, and discuss them. They gained clarity, validation, and new ideas that helped develop both her ability to become a teacher leader, instructional coaching and with her knowledge of literacy instruction. According to self-report, a by-product of the coaching aspect was improved student achievement in their own classroom as in order to teach other teachers an instructional strategy, they first implemented the idea with her own students.

Instructional Tools for Professional

Development: The use of technology for instruction was exciting and challenging for the participants. Wikis were a primary tool used to display video links, article links, Smart Lessons, and Powerpoint presentations for colleagues to view. Though the participants expressed that the development of the professional development was very time consuming, the participating teachers reported the format of presenting the information very effective and efficient. The participants that could also met to discuss the topics to add the element of face-to-face interaction. The teachers provided feedback that they had already or intended to implement what they had learned in their classroom.

Parental Information: The participants used their teacher websites as a way to communicate more frequently with parents than they had previously. They posted weekly newsletters, announcements, suggested learning websites, generally made themselves available to their parents. As they did so, they found more of their parents contacting them via email and handwritten notes. Parent involvement increased for school-based activities, academics, and behavior issues. The participants expressed an interest in coaching other teachers in the development and use of a website to communicate with parents.

Student Development: The participants in this study felt as if their students benefited from their development as teacher leaders, specifically in literacy. Prior to working with other teachers, they were committed to being well-prepared by researching and implementing the techniques in their classrooms. The teachers used their Smart Boards and weblinks on a regular basis to see how their students responded to both the technology and the specific instructional components. The participants felt that their students benefited first and foremost from their development as teacher leaders.

Discussion

In examining the data, it is clear the first characteristic that must be present in order to develop teacher leaders is the desire to develop those leadership skills. In this case study, the participants elected to part of a Reading Specialist program, with the intent of becoming a literacy leader. Though there are many leadership qualities that must be developed, in the case of these participants, the it appeared possible to develop the traits necessary to lead teachers.

The participants used technology to learn content, explore website, and develop professional development materials. Though there was a learning curve, especially on for the participants to develop materials for their colleagues, the use of technology was integral in developing, implementing, and enhancing both their own learning and the learning of the teachers they coached. In addition, the use of technology with parents and students enhanced their own learning and benefited the stakeholders. Arguably, the use of technology enhances the abilities of teachers leaders in areas that otherwise may be impossible.

Though the participants had limited experiences to interact with teachers outside their own school other than with each other in terms of providing professional development, they did develop their websites to benefit educators, parents, and students across the nation.

CONCLUSION

It is the ever-evolving leadership roles for teachers that are making a moment-by-moment positive impact on student achievement, one teacher at a time, one student at a time. As the definition of leading teachers is ever expanding, with the focus on emphasizing the strengths of teachers, and utilizing these leadership qualities to mentor the next generation of teacher leaders, the cyclical process empowers the school culture to promote change. Issues of diversity must become more vital as our schools are now a reflection of the global society represented in today's communities. Teachers must lead the call of reaching all students, enhancing their learning experiences and preparing them for the twenty-first century, technologically centered, global world. Therefore, for teacher leaders to be successful, they must earn the respect and be supported by the building level administration as well as by their colleagues, be given time to collaborate with their peers, provided with the resources they need to meet the needs of their students and fellow teachers, and have the opportunity to engage in professional development. As this occurs, teacher leaders will continue to be viewed as the expert teachers in their schools, never

loosing focus of the students in they teach, yet ever broadening their impact in the school community.

Teacher leaders are not new to face of education, yet current attention to the notion of teacher leadership gives fresh ideas and new possibilities to the role. The continuous development of teacher leadership is central to the ongoing efforts of school reform. Though there are many facets to the role of a teacher leader, it is central that the teacher leader has a deep understanding of the evolution of the teaching and learning process, the ever-changing demographics of the community in which we live, and that they stay abreast of the ever emerging and changing technologies. From committee leadership and department heads, to mentoring, modeling best practices, and asking reflective questions, teachers lead with established credibility and are focused on the improvement of teaching and learning in the school.

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DfES Definition Subject leaders provide professional leadership and management for a subject to secure high quality teaching, effective use of resources and improved standard of learning and achievement for all pupils. Who are Subject Leaders? C27 Design opportunities for learners to develop their literacy, numeracy, ICT and thinking and learning skills appropriate within their phase and context. C28 Plan, set and assess homework, other out-of-class assignments and coursework for examinations, where appropriate, to sustain learners progress and to extend and consolidate their learning. When a teacher is reluctant to use technology in class, there are two reasons they may offer – “I don’t know much about technology,” and/or “My students are much better with tech than me so how could I teach them anything with it?” This is all a matter of perspective. The first response usually doesn’t hold up to scrutiny. In this case, the technology was a catalyst for a process of learning and engagement on all sides. Whatever happens in class, we will always remain the experts in the language. We can’t “learn” digital literacies in one workshop, nor can we improve them in one training day. We can only develop them through experimenting, reflecting, and collaborating with our colleagues and with our students. Technology also has the power to transform teaching by ushering in a new model of connected teaching. This model links teachers to their students and to professional content, resources, and systems to help them improve their own instruction and personalize learning. Online learning opportunities and the use of open educational resources and other technologies can increase educational productivity by accelerating the rate of learning; reducing costs associated with instructional materials or program delivery; and better utilizing teacher time. The links on this page are provided for users convey Literacy in Technologies. Literacy information and resources for Design and Digital Technologies teachers. Early childhood Literacy Teaching Toolkit explained. Practical advice about the learning and teaching of language and literacy skills from birth to five years. Videos. Primary component developed by Dr Carmel Sandiford “Language and Literacy Education, Melbourne Graduate School of Education, University of Melbourne, Linda Gawne “Language and Literacy Education, Melbourne Graduate School of Education, University of Melbourne with Dr Annemaree O’Brien “Language and Literacy Education, Melbourne Graduate School of Education, University of Melbourne. Technological literacy (previously called computer literacy) entails a deeper understanding of digital technology and comprises both user and technical computing skills. In the area of lifelong learning, however, the role of e-learning in providing access for a wide adult audience is unquestionable. 6. Digital Literacy in Education. 2. Learning and Teaching: Developing motivation, skills, and competences required for the successful implementation of the ICT strategy for the school. This indicator relates to teaching staff. 3. Productivity and Professional Practice: Quality of teaching aids and processes resulting from the realisation of the ICT strategy.