

Innovative Use of Technology Media to Establish a Common Research Agenda in Educational Leadership

Michael Schwanenberger, Daniel Eadens, Kimberly K. Hewitt, Rosemary Papa, Carol Mullen, Scarlet L.

Chopin, and Brad Bizzell, Member, IEEE

Abstract—This study utilized innovative technologies to establish a common research agenda among senior and junior professors. The focus is the use of innovative technology-infused methodology by (1) individual blogging about leadership at mid-century to six prompts, (2) collaborative analysis of the six blog prompts and other comments posted at the NCEA Talking Points Blog, and (3) utilizing other media to encourage the research habits of these junior professors and advance the study of educational leadership.

Index Terms —Innovative technologies, Mentoring, Educational Leadership

I. INTRODUCTION

Seven professors—five junior faculty, guided by senior faculty—reflected on what schools and universities might look like mid-century 2050 based from English, Papa, Mullen, &

Manuscript received November 28, 2012

Michael Schwanenberger, EdD is with Northern Arizona University, Flagstaff, Arizona 86001 USA. 520-879-7937 (Michael.schwanenberger@nau.edu).

Daniel Eadens EdD is an Assistant Professor, Department of Educational Leadership and School Counseling, University of Southern Mississippi, Hattiesburg, Mississippi 39406 USA. 601-266-4586 (Daniel.eadens@usm.edu).

Kimberly Kappler Hewitt, PhD is an Assistant Professor, Department of Educational Leadership and Cultural Foundations, University of North Carolina at Greensboro, Greensboro, North Carolina 27412 USA (kkhewitt@uncg.edu).

Rosemary Papa, EdD is the Del and Jewell Lewis Endowed Chair Learning Centered Leadership, Professor, Department of Educational Leadership, Northern Arizona University, Flagstaff, Arizona 86001 USA. 928-523-8741 (rosemary.papa@nau.edu).

Carol A. Mullen, PhD is a Professor and Chair, Department of Educational Leadership & Cultural Foundations, The University of North Carolina at Greensboro, Greensboro, NC 27402-6170 (336) 334-3490/9865; Fax: 336-334-4737 (camullen@uncg.edu)

Scarlet L. Chopin, EdD is a Research Analyst, Department of Defense Schools, Adjunct Faculty, Department of Educational Leadership, Northern Arizona University, Flagstaff, Arizona 86001 USA. 928-523-3202 (scarlet.chopin@nau.edu).

Brad E. Bizzell, PhD is an Assistant Professor and Program Area Coordinator, Educational Leadership, School of Teacher Education and Leadership, College of Education and Human Development, Radford University, Radford, Virginia 24142 USA. 540-831-5140 (bbizzell@RADFORD.EDU)

Creighton's 2012 book, *Educational Leadership at 2050: Conjectures, Challenges and Promises*. Six prompts from this book were utilized during a six week blogging period beginning in November of 2011.

The junior faculty located across the United States (Arizona, Mississippi, North Carolina, Kentucky, and Virginia) share in common their transition from school leadership roles to professors in higher education. This research offers a reflective spin-off of another group's conceptual platform that envisioned the future of the educational leadership field, backed by data-based trends (i.e., English, Papa, Mullen, & Creighton, 2012).

II. CONCEPTUAL UNDERGIRDING

Encouragement for researching trends in education and, by way of extension, the future of schools and universities is supported by Hackmann and McCarthy's (2011) groundbreaking empirical study of educational leadership programs and faculty members' concerns. Their conclusions can be interpreted as a call for professors to take back the education profession, which is being increasingly overtaken by such external entities as alternative licensing providers, and to assume a new, dynamic role of leadership.

It is our attempt to think reflexively and theoretically, with multiple perspectives grounded in scholar-practitioners' understandings, about the future as a subject of inquiry. Our position is that schooling midcentury is not only a legitimate but also a substantive topic. We stretch to reach outward to the professional world of schools and universities. This attention on the practical ironically helps us better imagine midcentury leadership and envision possibilities for education in the future.

We are purposefully initiating scholarship that is informative about the strong possibilities that may emerge for school leaders and preparation programs. It is our hope that this work will benefit the educational leadership field, school communities, and society. We present the substance of generative ideas that scholar-practitioners, working in university-based educational leadership programs, expressed about the future of education and schools. Building on perspectives from *Educational Leadership at 2050* (English, Papa, Mullen, & Creighton, 2012), and described herein, we are in effect continuing this conversation by bringing into play the worldviews of emergent leaders, today's junior faculty.

Working backward from the future to the present, echoing the temporal stance taken in the English et al. (2012) text, we are not situating our respondents or ourselves as clairvoyants. Our respondents are scholar-practitioners whose demographics are similar to our five coauthors—all are junior faculty who have had careers as school or district leaders and teachers and are currently working in land grant university-based educational leadership programs in Arizona, Kentucky, Mississippi, North Carolina, and Virginia in the United States of America.

We are not presuming to predict the future or pretend that the world can be known, measured, or predicted with precision; nor do we believe that reality is simply the sum of the languages and discourses we use to communicate (Rigg & Trehan, 2012; Trehan & Pedler, 2011), including those languages and discourses we are producing in this work. We believe that possibilities about the future can, and should, be openly imagined, constructed, and explicitly described, as well as left dangling as unknowns for readers to consider and debate. Considering the future is a meaningful endeavor—this inquiry “is directly linked to the need for understanding and communicating how to better prepare educational leaders” in the effort “to identify agreed-upon educational practices that advance student learning” (English et al., 2012, pp. vi, viii). Other reasons include anticipating external and internal forces that influence educational leadership and leadership preparation, in addition to deepening commitments and possibilities for the future grounded in the theories, principles, and practices of social justice for equitable schooling and an educated citizenry. Many scholar-practitioners may find that they automatically treat the challenges and problems of education and society more broadly as rational, deliberative discourse.

For this exploratory study, we asked what schools and universities might look like midcentury. We situate our writing in the data-based analysis of the English et al. (2012) theoretical treatise that brings to the fore futurity, with regard to education, leadership, and schools by constructing understandings based on worldwide patterns. For example, the global political economy makes education in the U.S. a player in world economy and internationalizes our influence. Yet escalating socioeconomic travails for the nation’s economy translate into devastating poverty for school communities already in poverty. Our strategy for communicating with a broader constituency of educational leaders involved reaching out via the Internet to learn what people might express in writing about education and schools several decades from now.

A current trend in education research is technology, specifically the development and delivery of educational leadership curriculum through online instruction and, by way of extension, research. While the utilization of technology is espoused as a strong value across higher education public institutions, the resources provided for fostering 21st-century learning and the professional development of faculty are insufficient. We see exciting innovations described in the literature along these lines, but also undeniable plights. Future

directions that have social justice implications include directing the capacity of innovative technologies for personal and professional development, for enabling access to students at different levels, and for creating competent and accessible systems that foster development and communication worldwide (e.g., King & Griggs, 2006; Tareilo & Bizzell, 2012).

III. METHODOLOGY

It is the various use of technology that is the focus of this paper and its effect on content of 2050 leadership. The senior faculty created a mentoring opportunity for this group to respond, interact, and interface via six overarching prompts as guides to their writing through a blog forum.

- What trends and forces currently impacting preparation and practice will be strongly influential by 2050?
- What warning signs do we need to heed in the educational leadership field?
- Who are mid-century leaders?
- What sociopolitical conditions will mid-century leaders face?
- What technology zeitgeist will prevail mid-century?
- What are the implications of any such changes for educational leadership preparation, democratic schooling, and the ethic of public service?

The two senior faculty designed a study using innovative technology to encourage the development of a research agenda among these disparate new professors. Junior faculty were asked to individually respond to the prompts.

To begin the project, the junior faculty were instructed to 1) use the writing prompts to produce a blog reaction; 2) send the blog reaction to the lead author for input; 3) upload the blog reaction to the NCPEA talking points website; 4) send the final uploaded Word version of the blog reaction to the lead authors and all co-authors; and 5) read and document reactions to the English et al (2012) text using the online collaborative review tool, Crocodoc (www.crocodoc.com). Crocodoc is a website that allows users to collaboratively review, mark up, and comment on documents and is designed to be a way for multiple people to respond to a text in real time. All of the junior faculty NCPEA blog uploads were shared, read and re-read by each member. The junior faculty discussed their reactions to the English et al text, the NCPEA blog uploads, and the research project.

Next, junior faculty were asked to code their content. They agreed to use the Charmaz (2005) grounded theory approach and a template for coding the blog data was shared. The template was arranged into two columns, similar to the examples provided by Charmaz (2005). The template was organized by prompt: All seven responses to Prompt 1 appeared; then a new page started with all seven responses to Prompt 2; etc. Respondents' names were removed and identified instead as Respondent 101, 102, and so forth. This was repeated for all of the NCPEA blog prompts.

Finally, based on their dialogue around the aforementioned guiding questions, junior faculty determined that brief biographical sketches narrating each co-author’s

personal history and views were necessary for identifying their individual underlying assumptions for bias.

IV. DATA COLLECTION

The mentors provided the English et al. (2012) text and the NCPEA midcentury blog prompts to facilitate the collection of data and the following products served as data sources: Co-authors' responses to English et al. (2012) via Wimba and Crocodoc, NCPEA blog posts, co-authors' responses to the blog responses, biographical sketches of each junior faculty co-author, and the grounded theory discussions about the analysis of the data served as an additional data piece. Regarding the co-author's blog responses, the list of topics or themes that emerged was created individually by each junior researcher and comparisons were made within and between levels of data and across researchers' individual coding. Following individual coding, live on-line E-Day sessions were conducted among the junior researchers to triangulate the data and to ensure saturation of the topics, themes, and categories revealed in the data (Creswell, 2003). Saturation is reached when additional data or "additional analysis no longer contributes to anything new about a concept" (Schwandt, 2001, p. 111).

The junior faculty worked together electronically during E-day sessions to construct the next steps in the research process using the online collaborative conferencing tool entitled Wimba. Wimba, similar to Elluminate, is a web conferencing program tool in the form of a platform by which virtual schools and businesses are enabled to hold classes and meetings. These E-Day sessions were intended to be exclusively for the junior faculty to use as vehicles to brainstorm, collaborate, comment, dialogue, and debate in a relaxing format, free from the purview of the mentor authors whose senior faculty status might have been intimidating and/or stifling.

E-Day was coined out of the co-author's idea to envision the future, use expanding valences of ideas from authors eventually down to high school students, and utilizing Elluminate as the communication vehicle. Junior faculty team members decided the recorded/archived E-Day sessions were a rich data source to be transcribed and shared with the lead mentor researchers.

Much of the project involving junior faculty was shaped by the collaboration occurring during the E-Day sessions. E-Day Session 1 was devoted to introductions to each other and to the research project as conceived by the lead authors as well as to a thorough discussion of the co-authors' reactions to the English et al. (2012) text. During E-Day Session 2, reactions to the text were discussed further, and the group determined that a Grounded Theory approach was most appropriate for the next steps in the project focused on data analysis. The co-authors agreed to individually code the NCPEA blog data following the Grounded Theory methods advocated by Charmaz (2005). Further data analysis occurred during E-Day Session 3, and the group identified consensus coding categories and assigned writing duties.

During E-Day Session 4, co-authors planned revisions for their individual pieces and mapped out a plan to create one draft document for the lead mentor authors. During the final

session, E-Day 5, the lead mentor authors joined the junior faculty co-authors to discuss the final product. All the E-Day Sessions' data were collected, archived, and transcribed.

V. FRAMES OF MIDCENTURY LEADERSHIP ISSUES

The scholars identified six frames for thinking about midcentury leadership: (1) sociopolitical-economic nexus with education (subthemes: equity and democratic principles and sustainability); (2) technology nexus with education; (3) 21st-century skills nexus with education (subtheme: innovation); (4) accountability nexus with education; (5) globalization nexus with education (subthemes: partnership and collaboration); and (6) change nexus with education. While the themes overlapped, the nexus of sociopolitical-economic issues, technology, and leadership preparation dominated the blog responses

A. Sociopolitical-Economic Nexus With Education

The sociopolitical-economic nexus with education was the most salient issue suggested in the blog posts. Myriad political, economic, and social issues that directly and indirectly affect PK-12 and higher education were raised. External political forces have a palpable impact on PK-12 schooling and higher education. The bloggers believed that leaders must not only recognize this fact but also be concerned by it. The first decade of the new millennium has been marked by "sweeping changes" in education as a function of federal legislation, particularly the No Child Left Behind (PL107-110, 2001) act and the Race to the Top act (HR6244, 2010). One blogger lamented:

The great divide currently existing in the U.S. political system [yearning for a] more moderate climate that would allow educational leaders to engage with the community and school boards around legitimate educational issues rather than ideology and dogma.

Another felt that too much professional policy and practice is steeped in tradition and politics, not reflective decision making. While PK-12 education is the source of much of this concern, a foreboding sense is that federal and state regulations, along with pay for performance, are infiltrating higher education.

The corporate discourse of education—a prevailing force in contemporary America—was seen as misguided, threatening, self-serving, and bankrupt. One blogger declared that "the marketization of education" has posed three significant threats to schools in the first half of the 21st century: The decline and potential demise of public schooling; overly narrow and unresponsive accountability systems; and unethical and inappropriate uses of data. Another saw the government's education initiatives as a function of the "tremendous sociopolitical pressure" being exerted from the corporate sector.

The corporate takeover of education was viewed by the bloggers as a warning sign of what will happen if power blocs assume complete control. Typical concerns expressed were that:

With the sly guise of benefitting our students arise corporate education reformers with self-interest in hand, but the harvest doesn't benefit the students. They advocate

policies that aid big corporations with profits from public education while diverting attention from antipoverty economics and breaking teacher unions that prevent their agenda. There is an increasing influence and prominence of multinational corporations, and the power and influence [is being] exercised by corporations and lobbyists, especially from the financial sector, over government.

While there was recognition of “education’s direct link to the economy,” resistance is called for to the counterproductive “trend demanding a business model responsive to market forces” in leadership preparation programs, as well as to provide “programming convenient to the consumer whether or not there is evidence of effectiveness.” Market-driven, corporate pressures force many leaders to “market themselves and their schools” without concern for relevance or need. More neutrally, this “marketing” was seen as a type of advocacy for education leaders. Threats to public education are disconcerting. One blogger indicted corporate reformers for attacking public education to promote their own agenda: “Under the guise of a national education crisis, the legitimacy and utility of public schooling will continue to be challenged, and public schooling itself will be threatened.” Another decried the “public relations assault on public education”. Attempts to destroy teachers’ unions and cut budgets also endanger public education, let alone its sustainability.

These trends require that education leaders, en masse, “articulate to the public the value and critical role of public education in maintaining democratic ideals.” Leaders must be more politically active and articulate advocates of public education. Gone are the days when leaders’ concerns lay entirely within their campus. Instead, the leadership role will continue to seep into more sociopolitical responsibilities, expanding their scope beyond the school building. With greater force, “leaders must be actively engaged, expert participants in national policy debates” and stand up for what they believe is just.

Midcentury educators must influence the federal, state, and local policies they believe will shape their contexts, the bloggers asserted. The requirement that future leaders be politically active and knowledgeable about the political arena has importance for leadership preparation. Faculty must make steps toward cultivating—in our students and ourselves—an intentional activist orientation.

B. Technology Nexus With Education

Not surprisingly, all bloggers identified technology as a clear source of change in leadership by midcentury. However, they did not make explicit connections to the sociopolitical-economic domain, although all gave detailed responses to both prompts. Not unlike the education literature itself, it is as though education leaders may be struggling to make deep connections between sociocultural and technology issues. To provoke thought on this disconnect, we placed technology here, juxtaposed to the sociopolitical-economic theme. Some bloggers reflected on the relatively fast evolution of technology in their lifetimes, leading to the digitization of their work and environments. With progress toward the year 2050, technology will proliferate in unexpected forms as new markets and innovations spring up (Tareilo & Bizzell, 2012). The bloggers are witnessing online program delivery and

virtual learning as fast growing in education. By midcentury, these will have taken hold and be ubiquitous. As time goes by, students in our programs may be located in other parts of the nation or world; they will desire immediacy of contact and three-dimensional learning tools. They will be able to meet as if in the same room. Sophisticated translation technology will allow students to be taught in their native tongues and for Spanish to gain wide acceptance as a primary language in the U.S. Much more information will be accessible through electronic interfaces.

As technology advances, the types of curriculum offered will be drastically changed, along with instructional strategies and modalities. Metaverses such as Second Life, software allowing users to create avatars and virtual objects and digitally interact within an online world, will become sophisticated. The bloggers argue that educators will develop ways “to incorporate the potential of the virtual dimension to provide currently unimaginable opportunities” for learning. Leadership preparation and professional development interventions will need to prepare faculties for high-quality adaptation in their teaching roles. A blogger shared:

“I predict that by 2050 successful educators will be highly skilled research-practitioners.” Our leadership preparation and practice must emphasize research-based, innovative, cost-effective educational approaches. Bloggers referenced the “many forces currently impacting preparation and practice” they think will be strongly influential by 2050. One drew attention to the “revolutionary effects of the information age as the most dramatic because they undergird most of these trends in education [predicting continuation of these effects as] a catalyst for change in policy and practice.” Blog examples include the green movement and evidence-based practice.

The bloggers and the coauthors all expressed concern that while education has been transformed in many ways since the first computer, much of the U.S. schooling system is stuck in the industrial era. Outdated practices cited include traditional lecture styles and top-down ways of leading. Perhaps consequently, “too much of the nation’s professional policy and practice is based on tradition or politics rather than reflective, data-based decision making.”

C. 21st-Century Skills Nexus With Education

Leaders must be futurists who try to discern what the future will bring and emphasize 21st-century learning. They will need to cultivate new thinking for students, be a role model for teachers and students, and use the expected knowledge and skills for thriving by “reflecting the changes in our world.” Leaders will perform across multiple platforms of leading, teaching, and modeling, as they will be “responsible for helping practicing teachers not only to learn these 21st-century competencies but also how to teach and model them.”

This is no small charge. It requires that leaders be “nimble problem solvers” and “strong communicators, consensus builders, and team builders.” As such, leadership preparation must be about—to further quote the bloggers—“modeling, embodying, and intentionally teaching 21st-century skills.”

1) Innovation.

Innovation values creativity, imagination, and entrepreneurship development in people and educational

institutions. The bloggers are invested in the notion that we must use innovative approaches to teach future and practicing leaders to be innovative in their PK–12 systems. “Innovation is inextricably linked to economic well-being and cost-effective educational approaches.” Additionally, leaders are “responsible for developing more entrepreneurs and future CEOs by teaching them to create and develop ideas.”

Thus, leaders have responsibility for the economic future of the U.S. and the development of business leaders. The potential tension between an anti-corporate sentiment in the blog responses, which prevailed, and a pro cultivation of business leaders’ argument within the education leadership arena, fleetingly mentioned, was not addressed.

Innovation is vital for keeping pace with and anticipating rapid change—it can be leveraged to help resolve persistent issues in education (e.g., tracking, dropout). The bloggers stated that alternative courses of action for how educators do schooling include upending “traditional track high school curricular programs”; providing flexible alternatives for students so they stay in school; offering “mini-sessions and hybrid courses” in PK–12 and higher education; and “shaping delivery techniques” as well as “preparation and practice.”

Indeed, the bloggers communicated optimism, hoping that positive changes will manifest in how people experience the schooling system and how systems will evolve, as in “we are likely to see more of these same kinds of changes in education structures and functions as well as other rapid avant-garde approaches to learning.” A strong caveat of the bloggers is that not all avant-garde approaches are good and that complications ensue from changing outdated schooling systems: “In the coming decades, we will continue to grapple with the promise and pitfalls of innovation in education systems, including issues of quality and equity, especially around so-called school choice, for-profit schools and universities, and online learning.”

The pathway of innovation will conjure up the very past we will be endeavoring to leave behind: “We will stumble and falter between playing fast and loose with students’ futures in the name of innovation and holding blindly to anachronistic institutions.”

Good judgment is needed for guiding innovation and avoiding misguided decisions or actions that can jeopardize student learning and perpetuate impoverished education systems. Additionally, issues of not only quality but also fairness factor into discernment about innovative change. When schools are prepared, they can flourish as idea generators, connectors, and resource attractors.

D. Accountability Nexus With Education

Blog commentaries ranged from bleak to optimistic:

Accountability systems that are too narrowly focused on reading and math standardized test results and penalties will plague and constrain schools, especially high-need schools. We will develop tests that offer more ‘stretch,’ that respond dynamically to student responses, and that more accurately and reliably identify student strengths and needs.

Moving forward, another urged attention to “the call to serve the whole child.” While most bloggers focused on high-stakes standardized testing in PK–12, a few referenced accountability in the university culture, concerned that

“accountability, oversight, and federal and state regulations, along with pay for performance, are coming to higher education.” Accountability was connected to equity and democratic principles, suggesting benefits for well-being from an education that fosters social justice in action. Bloggers envisioned that “we will reaffirm our commitment to a system of public schooling focused on excellence, equity, and caring. We will replace current accountability systems with more nuanced, responsive approaches.”

Data used for accountability purposes in these ways was viewed as potentially consistent with a social justice orientation, together with effective educational practices: “We will recognize both the promise and limitations of data and use them judiciously and ethically to inform practice.”

E. Globalization Nexus With Education

Globalization was understood as a major sociopolitical–economic trend affecting American education. Because American sociopolitical–economic issues have global repercussions, the bloggers pointed out such compatible values as the inclusion of non-U.S. citizens and cultures in equal opportunities in life. Bloggers gave weight to student achievement comparisons on an international scale. They also referenced countries that have high-quality education without high-stakes testing. One blogger described Finland’s educational system and how teachers are revered, making a contrast to the U.S. A positive prediction relative to international relations was that “our students will collaborate with one another across cultures in ways that nurture profound growth.” International collaborations between virtual strangers are becoming common, so this will likely be a new norm in institutions of higher education. One blogger saw the possibility of educational leadership faculty as internationally oriented researchers: “We will conduct empirical and theoretical research with people across the globe whom we have never ‘met’ in person.” Such global trends suggest that not just the university culture could get better. When leadership supports educationally centered globalization, schools benefit: “Educational systems around the globe have flourished directly due to education leaders responsibly encouraging facets of globalization with new ideas, connections, and resources.”

1) Partnership and collaboration.

Partnerships and collaboration are essential for producing a more global interface for schools that will attract multiple types of resource specialists for supporting the learning of all children. About whom midcentury leaders are, one blogger wrote, “They will be able to spot trends and build collaborative partnerships across communities and institutions.” They will be adept at partnering: “Schools will be centers for social services and social workers, medical professionals, and educators will collaboratively work to support family needs.” Regarding higher education, another blogger wrote of the need to “cultivate collaborations with communities, districts, and our colleagues [with a resulting] synergy from these connections [that] will help us to be responsive and help students learn to foster connections.”

F. Change Nexus With Education

As the U.S. moves toward 2050, leaders must change to remain viable: “Leaps in thinking are desperately needed to ensure that a sustainable and reliable education will be available that citizens may count on for their children and grandchildren’s quality of life.” The technological methods connected to social justice thinking used in the blog responses exemplify “how our professional practice has evolved dramatically and quickly, and how that practice will continue to change at a geometric pace. Educators are indeed expected to be adaptive and technologically savvy, computer literate, and highly skilled information users.” An all-consuming development in the 21st century is the “increasing influence and prominence of multinational corporations” and their capability for challenging the authority of nation-states. As the pace of change escalates, “Midcentury leaders will be those with skills that transcend rapid change.” The hope is that future leaders will perpetuate the change they want to see.

VI. CONCLUSIONS: TECHNOLOGY USE IN ESTABLISHING RESEARCH AGENDAS

The mentors provided the English et al (2012) text and the NCPEA midcentury blog prompts to facilitate data collection. The following products served as data sources: (a) the co-authors’ responses to the English et al. (2012) text (via Wimba and Crocodoc), (b) the NCPEA blog posts, (c) the co-authors’ responses to the NCPEA blog responses (via Wimba), (d) biographical sketches by each junior co-author, and (e) grounded theory discussions about the analysis of the data served as an additional data piece. The junior faculty utilized Crocodoc to collect each co-author’s reactions to the book. The junior faculty emailed all researchers their final uploaded blog reactions. Additionally, the junior faculty used Wimba to conduct their recorded live-online E-Day Sessions documenting their dialogue about the English et al. (2012) text and the NCPEA blog uploads. Finally, the recordings of the E-Day sessions were transcribed and shared with the lead researchers. The content themes that emerged, while not the focus of this paper, are the result of creatively utilizing technology to do research with junior faculty across the United States. This innovative process is one of the unique insights of the research.

In the end, using blogging as an innovative data source, Wimba for the social interaction of analyzing the data, and Crocodoc for collaborative writing, in an innovative method enabled researchers to develop Grounded Theory through the use of these various media. As we progress toward the year 2050, technology will continue to evolve and emerge to new heights as new markets and ways of thinking evolve. A primary purpose of this research was for senior faculty mentors to guide junior faculty in the development of collaborative research agendas. Through the use of various media technologies, this was accomplished.

REFERENCES

[1] Charmaz, K. (2005). Grounded theory in the 21st century: Applications for advancing social justice studies. In N. K. Denzin & Y. S. Lincoln (Eds.), *The Sage handbook of qualitative research*, 3rd Ed. (pp. 507-535). Thousand Oaks, CA: SAGE Publications.

- [2] Creswell, J. (2003). *Research design: Qualitative, quantitative, and mixed methods approaches*. New York, NY: Sage.
- [3] English, F. W., Papa, R., Mullen, C. A., & Creighton, T. (2012). *Educational leadership at 2050: Conjectures, challenges and promises*. Lanham, MD: Rowman & Littlefield Education.
- [4] Hackmann, D., & McCarthy, M. (2011). At a crossroads: The educational leadership professoriate in the 21st century. Charlotte, NC: Information Age Publishing. HR6244. (2010). *Race to the top act*. Retrieved from www.opencongress.org/bill/111-h6244/show
- [5] King, K. P., & Griggs, J. K. (2006). *Harnessing innovative technology in higher education: Access, equity, policy and instruction*. Madison, WI: Atwood.
- [6] PL107-110. (2001). *No Child Left Behind act*. Retrieved from www2.ed.gov/nclb/landing.jhtml
- [7] Rigg, C., & Trehan, K. (2012). Action learning. *Encyclopedia of the sciences of learning*. New York: Springer.
- [8] Schwandt, T. A. (2001). *Dictionary of qualitative inquiry*, 2nd Ed. Thousand Oaks, CA: Sage Publications.
- [9] Second Life. [Online Metaverse software]. San Francisco, CA: Linden Research. <http://secondlife.com>
- [10] Tareilo, J., & Bizzell, B. (Eds.). (2012). *NCPEA handbook of online instruction and programs in education leadership*. Rice University Connexions collections: NCPEA Press. Retrieved from <http://my.qoop.com>
- [11] Trehan, K., & Pedler, M. (2011). Action learning and its impact. *Action Learning: Research and Practice*, 8(3), 183–186.

First Author:

Michael Schwanenberger became a member of IEEE in 2012. Dr. Schwanenberger received his Educational Doctorate - educational administration, in 1991 from the University of Arizona, Tucson, Arizona, USA.

He currently serves as an Assistant Professor and Chair of the Educational Leadership at Northern Arizona University, Flagstaff Arizona, USA. He previously served as a K-12 Superintendent of Schools, Assistant Superintendent, Principal, Assistant Principal and Teacher. Recent publications include: Schwanenberger, M., Papa, R., Blair, K., Hunnicutt, K., Short, R., Multi-year Principal Contracts: Arizona’s Focus On Principal Qualification and Retention, *International Journal of Educational Leadership Preparation*, Volume 5, Number 4, (October-December, 2010), ISSN 2155-9635, Mullen, C., Papa, R., Schwanenberger, M., Kappler-Hewitt, K., Chopin, S., Eadens, D., Bizzell, B., *Imagining the Future: Possibilities for Future Leadership: Thoughts from an Academic Blogosphere Community*, Educational Leadership Review and DeVoss, J., Schwanenberger, M., Billings, I., Thompson, E., *Collaborative Leadership Development for School Counselors and Principals: School Counseling Research & Practice*, A Journal Of The Arizona School Counselors’ Association, Incorporated, Volume 2, 2010. His research interests are in the areas of faculty development, educational leadership and innovative practices in educational leadership preparation programs.

Dr. Schwanenberger is currently a member of the American Educational Research Association, American Association of Colleges of Teacher Education, National Council of Professors of Educational Administration, Phi Delta Kappa International and Arizona School Administrators