Denise Jones

West Virginia University

Abstract

This article introduces an explanatory framework for utilizing technology within community based youth development programming. Adapted from sports mentorship and peer mentorship best practices, the ongoing Tech and True program challenges social media’s role in cyber bullying by fostering an online peer-mentorship program for Pittsburgh area youth. Building upon a previous project between West Virginia University and Youth Enrichment Services, Inc., Tech and True pairs 15 to 18-year-old mentors with 11 to 14-year-old mentees. Solely through Facebook, mentors guide mentees towards self-selected SMART goals for positive lifestyle change and mentors were assessed using the Mentoring Self –Efficacy Scale. Concluding a three-month pilot phase, a further article will present the Tech and True program protocol and preliminary baseline data.

Introduction

Mentoring is now a key feature of initial training in public and private professions, such as teaching, nursing, career guidance, and business, and extends beyond conventional adult-student relationships (Crisp & Cruz, 2009). These shifts challenge the former nature of mentorship and cultivate questions of what successful mentoring relationships resemble, who has the capacity to mentor, and through which mediums mentoring can operate. They also allude to the substantial variation in mentoring.

Peer-to-peer, or near-peer, mentoring is a new dimension of mentoring. This form of

mentorship expands established mentoring principles, employs peers to serve as mentors and

mentees, and supports and develops young adults through unique mediums (Jett, Anderson, &

Yourick, 2005). Bodies of literature explore this changing course of mentoring and illustrate

successful accounts of peer mentoring (Clutterbuck, 2001; Hamilton, 1993; Hay, 1995).

Tenenbaum, Jett, Anderson, and Yourick (2014) examine peer mentoring models and find

advantageous results for both peer mentors and peer mentees, specifically accentuating their

increased sense of intrinsic satisfaction, enhanced self-concept and self-efficacy, and confidence.

Other scholars further demonstrate the depths and results of such an intimate mentoring model

(Shrestha, May, & Edirisingha, 2009).

While peer-to-peer mentoring generally occurs face-to face, current peer mentoring models make use of the internet and digital media (e.g., text messaging, email, Facebook, Twitter, Skype, video sharing, etc.) to connect peers and to facilitate peer mentoring (Smailes & Gannon-Leary, 2011). Shifts in the ways we communicate have catalyzed the recent dynamics of peer mentoring. The internet serves as one mechanism that has reshaped communication and

cultivated the development of the virtual formats in which peer mentoring is now conducted

(Bargh & McKenna, 2004). Despite the rapid growth of digital media and the exploration of

technology and digital media use in peer relationships, few scholars have investigated its impact

on the quality of mentoring, mentor self-efficacy, or the mentoring process.

Previous research on peer mentoring has focused on a wide range of its dimensions; however, we contributed to this area of study by conducting a case study of West Virginia University undergraduate students’ use of Facebook to mentor Health Technology Science Academy (HSTA) students toward healthier lifestyles. Our study extends current empirical evidence by exploring peer mentoring through a social media lens to examine the potential benefits of using digital media as a supplement to face-to-face peer mentoring. This investigation continues to attenuate the research gap by examining the effectiveness and sustainability of using Facebook as a mechanism for peer mentorship. Implementing the lessons learned from the initial Facebook mentorship pilot, WVU and YES are initiating the Tech and True pilot program with middle and high school aged youth.

Research Focus

 As social and digital media become more widely recognized and used within a mentoring

context, it is essential to explore what contribution they make to peer mentoring. Therefore, as

previously noted, the focus of this work is peer mentoring through a social media lens. More

specifically, our study’s purpose is threefold: 1) to improve the effectiveness of online

mentoring to solidify best practices, 2) to explore changes within mentor and mentee self-efficacy and evaluate how it impacts their receptivity to mentorship, and 3) to provide evidence to alternative ways to mentor middle and high school students, particularly those from underserved areas who may have limited access to traditional mentoring. Our empirical analysis of self-efficacy data, focus groups results, and qualitative and anecdotal data will inform the effectiveness of quality near-peer online mentoring.

Program Context

This study originated with the experiences of near-peer mentors participating in The Mentoring the Next Generation Program, a program designed to engage professional students from the Schools of Pharmacy, Medicine, Dentistry, Nutrition, and Sports Science in mentoring rural West Virginia High School HSTA students toward healthier life styles. Although this online Facebook mentoring project was conceptualized by Dr. Ann Chester in West Virginia

University’s Health Sciences, its implementation reflects a partnership between the Health

Sciences & Technology Academy (HSTA), the Robert C. Byrd Health Sciences Center, and the

College of Physical Activity and Sport Sciences and took place over a one year period. Remnants

of Dr. Ann Chester’s framework, amalgamated with Jones’ Peer Mentoring model, were

replicated and utilized to implement a similar pilot initiative among college-aged students and near-peer high school students. Participant outcomes from the Next Generation Program yielded recommendations for more effective services and stronger participant buy-in. The Tech and True program model will implement these alternative protocols, including face-to-face mentor and mentee interaction, greater support from staff with mitigating communication complications, and highlighting more clearly the expected gains and skillsets participants should aim towards.

Peer Mentoring Model

The concept of social media mentoring is ineffective without an evidence-based platform

to launch. Originally, coaching was perceived to be the platform to launch the social media

mentoring. However, this model did not fit because coaching is more of a transactional

phenomenon. For near-peer and peer mentoring to work, a transformational construct must be

developed such as mentoring that builds around relationships, empowerment, and at times, even

exchanges. Jones, the progenitor of Project YES, designed a mentoring model that has evolved

from earlier research by Berlin and Sum (1988). In 1992, 1993, 1995, and 1996 research

manuscripts were published in peer adjudicated journals that tested the efficacy of YES’s Peer

Mentor Model, which includes academic and personal development components directed toward

troubled youth with teenagers being hired and trained as peer mentors.

In 1993, Project YES was expanded to a year-round program named Youth Enrichment Services Inc., a non-profit 501 (c)3 organization serving youth in Public Housing, who reside in the City of Pittsburgh with grants from the Federal Healthy Start Program and the Federal Housing Authority. Specific programs included after school academic enrichment programs, summer time learning programs and peer to peer mentor programs. Jones, Lerner, and Johnson (1996) conducted a research study of constructed data collected from surveys and interviews with youth participants. Data analysis revealed that there were significant differences in the variables “locus of control.” This was the watershed moment in the evolution of YES as a valid intervention. This study suggested that there was a perceived connection between students’ attitude regarding Self – Esteem and Locus of Control and that these concepts impact the mentoring dynamics. Data on the impact of mentoring, especially teen peer mentoring has created a paradigm shift.

Programs working to change teen behavior are providing programming to help them gain a new perspective on their sense of self-worth and to learn of personal opportunities for career success. Teens have been found to benefit from this as well as the traditional approaches through academic and career enhancement. This peer mentor model guides the torch of the HSTA mentor-based program that is crafted, modified, and structured to be successfully implemented in the discipline of health practitioner, patient relationships, and building a grassroots effort to motivate high school HSTA students to strive to be self-empowered and self-directed to build their own healthy lifestyle goals, over the span of one year. For the Tech and True initiative, the peer mentor model additionally empowers mentors and mentees with the tools and resources to speak up and speak out against cyber bullying.

Mentoring Medium: Facebook

Facebook is the platform on which the near-peer mentoring occurred. Facebook, instead

of other social media outlets, was utilized because it is the most conducive for fostering affinity

spaces, where people acquire social and communicative skills, and at the same time become

engaged in the participatory culture of Web 2.0 (Ivala & Gachago, 2012). In these spaces, youth

engage in informal learning and in creative expressive forms of behavior. Facebook has also

been used for formal learning with an academic focus in the form of open or private groups

(Minocha, 2009). Additionally, Facebook has the capability and capacity to send materials and to

engage in informal or formal discussions. HSTA’s online mentoring program employed these

unique functions and learning opportunities. Adaptively, the Tech and True program employs Facebook based mentorship with an objective to prioritize positive interaction and refrain from negative and predatory social media behavior.

HSTA Pilot Procedures

Mentors were assigned multiple mentees based on age association, academic and

personal interests, and, in some cases, gender, creating small mentor-mentee group families.

Once these relationships were formed, mentors began interacting online with their respective

mentees. Mentors were given a weekly schedule of Facebook interaction to follow and were

required to use the SOLE resource site to inform and to guide their weekly mentoring practices.

The SOLE resource site synthesized all the resources for mentors to use, such as the American

Heart Associations’ My Life Simple 7, Health at Every Size, as well as the CDC Lifestyle

program, throughout the program and was a space for mentors to post problems, comments, or

concerns about their mentoring groups.

Mentors checked the SOLE site for training information, weekly student message content, and guidelines about constructing a motivational message to disseminate to their entire mentee group weekly. They also communicated weekly with individual high school mentees about topics that were unique to each mentees’ personal SMART goals. Mentors monitored individual student progress and provided motivational comments based on each mentee’s goals and progress.

Additionally, they provided personal feedback for every mentee post and answered mentee posted questions. Statistics were kept on the amount of student involvement as well as on the amount of mentor involvement by research assistants. Mentors were tasked with ensuring high school students kept up a certain percentage of participation in the group and with employing techniques to reach nonresponsive students. Facebook was the only medium through which both mentors and mentees interacted. Research assistants monitored mentors’ work and severed as a point of contact for challenges in mentor-mentee relationships. In addition, faculty members from CPASS and the Health Sciences Center supported mentors with additional trainings once a month.

Pilot Measures

We employed a mixed-method approach and used quantitative and qualitative data.

Specifically, we used mentor self-efficacy results, focus group response data, and mentor

anecdotal data for this study. The mentor self-efficacy survey was developed based on previous

literature and contained 20 questions, with statements that required students to select one of the

following responses: strongly agree, agree, disagree, or strongly disagree. Students completed

this survey as a pre- and post-test. Besides the mentor’s id number, no identifying information

was gathered during the survey administration. The second survey was designed to gather free responses from mentors. The questions included, “What do you think about mentoring younger students,” “Do you think you will be an effective mentor why or why not,” and “ On a scale of 1-10, What do you think is the most important role in being a mentor?” These questions were developed by the principal investigator of the project and disseminated during mentor training.

Preliminary Focus Group Results

Mentor focus group responses were reviewed and used to identify common themes

among mentor participants. Results from the focus group reflection questions suggest that

mentors had a solid understanding of mentoring, they felt comfortable mentoring, and that they

understood key characteristics that make an effective mentor. Mentors developed four consistent

characteristics of quality mentorship. These qualities include: 1) establishing relationships, 2)

building trust, 3) cultural sensitivity, and 4) confidentiality.

Mid-Point Survey Results

Mentors’ mid-point survey results were generally positive and are explored below (see

Appendix for complete survey results). Overwhelmingly, mentors embodied a positive

perception of their mentoring impact, as over 75% of mentors viewed their work as valuable and

difference-making. Along similar lines, 62% of the mentors committed at or beyond the

program requirements and engaged their HTSA Facebook groups more than 1-2 times per week.

Mentors viewed their HTSA program participation as a learning opportunity, as over 59% noted that the program has helped them learn new things about working with high school students and has challenged them to engage in endeavors they would not have traditionally done. Furthermore, mentors expressed optimism as over 70% anticipated continuing to work with their Facebook groups through daily and weekly posts with hopes to seek improvement in their mentor-mentee relationships or to build stronger relationships with their mentees. Overall, 85% of the mentors felt they were a part of a supportive group of peer mentors who shared similar mentoring goals and who were difference making.

Final Self-Efficacy Survey

Mentors self-efficacy ranged from 2.8 to 4. The average mentor self-efficacy score for the final administration of the self-efficacy survey is 3.39. Interestingly, some students who scored high on the pre-test scored lower on the post-test survey, while some students scored low on the pre-test, but scored higher on the post-test survey. Overall, there were several noticeable declines in students’ self-efficacy scores.

Mentor Challenges

 Mentors commented on challenges they faced during their mentoring experience. A

primary challenge for mentors was their ability to motivate uninvolved mentees using social

media. Several mentors noted that their ability to lead was often complicated because, “some of

[their] mentees were not very responsive and lacked investment in their physical and mental

goals.” Mentors believed this could have been controlled by “provid[ing] mentors with the

opportunity to meet students prior to the beginning of the program” and by “preparing ways to

address some mentees’ lack of participation.” Despite these areas of growth and challenges, most

mentors felt successful and believed their mutual relationships were positive and fruitful.

These results highlight interesting points. One, students may have learned that mentoring

is much harder than they originally imagined and it is a much more difficult concept to master,

particularly online via social media. Secondly, mentors potentially found out what they did not

know and what they still must learn. This learning gap may have been reflected in their self

efficacy scales. Results also indicate that this study did not influence mentors in the same way,

meaning other factors may have played a role in the dissonance in mentors’ preliminary and

concluding self-efficacy scale scores. Lastly, the results suggest that researchers should

supplement mentors’ self-efficacy scales with additional measures to ensure score changes are

not due to inflation. Our study included other measures to determine mentor success (i.e. pre-

and post-test focus groups, selected interviews from mentors and surveys with targeted questions

open-ended with opportunities to share more about the experience).

When mentors were asked to discuss how the mentor success rate could have been improved, mentors noted that they would have liked to meet with their mentees before the online mentoring process began. This suggests that, although mentors reported enjoying the mentoring experience and found value in their contributions, they felt hampered by the lack of personal connection with their mentees. Several mentors stated that they struggled to initially connect with their mentees and to bring them into the mentoring process largely because of the communication gap and unresponsive students (due to a shift in group dynamics, co-ed groups, or mentees lacking confidence to post intimate results, etc.). Other studies affirm that mentoring online is effective and changes students’ behavior and attitudes, albeit with noted exceptions, and recognize the challenges in building relationships using online mediums.

More research should be done to address the structure of online mentoring to build strategies early on that can connect the mentor and the mentee—particularly in the case that mentees are from rural and economically disadvantaged neighborhoods where kids may be reluctant to move aggressively towards engagement within the program or may be unable to access traditional mentoring opportunities. Finally, because of the universality of the smartphone and the increase in access to social media outlets, consideration for internationalizing online mentoring should be strongly considered. The per-pupil cost could have significant economic return, from a cost benefit ratio, and potentially impact a larger number of kids.

Following initial screenings, students were counseled about their results and mentored towards creating specific, meaningful, action oriented, realistic, and timely (SMART) goals 21 during a session of the biomedical summer camp. Project goals were not selected from a predetermined list, but defined by students based on the training session. The teams and mentors, worked together towards the students’ goals through weekly postings and contact on private social media groups. The mentors posted a weekly message on some aspect of healthy lifestyles, and the students were encouraged and incentivized to participate. Students discussed goal progression as well as interacted with and supported fellow group members. Students were incentivized for their participation, receiving gift cards based on rates of postings ranging from potential earnings of $0 to $50 worth of incentives. Mentors were similarly incentivized. Students were able to continue using the social media site regardless of posting rate.

Pilot Discussion

Our research sought to explore the effectiveness of peer-mentoring using Facebook; we

did so by exploring mentor self-efficacy scores, focus group data, and anecdotal evidence. One

area of discussion starts with mentors’ preliminary and concluding self-efficacy scale scores.

College-aged mentors began the program with higher than average self-efficacy scores, limiting

opportunities for sizable growth throughout the program (i.e. ceiling effect). However, Karcher

et al. (2005) suggested that programs should focus efforts on increasing mentor self-efficacy.

Moreover, Parra et al. (2002) found that higher initial mentor self-efficacy was associated with

better mentor-mentee relationships, greater consistency of contact between mentees and mentors,

and increased ability in mentors to overcome obstacles in their relationships with mentees. Thus,

we provided mentor training and certification to facilitate high mentor self-efficacy at the outset.

While a considerable percentage witnessed self-efficacy scale gains, several mentors

experienced decreases in their efficacy scores. We hypothesized that the mentors’ self-efficacy

would increase with mentors’ one year engagement with their mentees. Our hypothesis was not

supported as some mentors’ concluding self-efficacy scores lowered. Mentors’ preliminary

scores may have been a result of their need to make an initial positive impression or impact.

Scores potentially decreased because they were levelled to accuracy as the project progressed

and as mentors felt more honest about their self-efficacy. Similarly, mentors’ initial perception of

their ability to mentor and the realities they faced along the way may have been disconnected and

skewed, given the potential insight to why mentor self-efficacy scores decreased, on average.

Some mentors felt more confident, successful, and efficacious, which was reflected in their

initial scores, prior to the program’s start. Per Karcher et al. (2005), mentors who feel good about

their contribution through mentorship, may feel less competent with challenging mentees. This

may be reflected in our results. Once students’ experienced weeks of the program, their

perception of their abilities altered and ultimately changed the way they responded to questions

on their concluding efficacy scales.

These results highlight interesting points. One, students may have learned that mentoring

is much harder than they originally imagined and it is a much more difficult concept to master,

particularly online via social media. Secondly, mentors potentially found out what they did not

know and what they still must learn. This learning gap may have been reflected in their self

efficacy scales. Results also indicate that this study did not influence mentors in the same way,

meaning other factors may have played a role in the dissonance in mentors’ preliminary and

concluding self-efficacy scale scores. Lastly, the results suggest that researchers should

supplement mentors’ self-efficacy scales with additional measures to ensure score changes are

not due to inflation. Our study included other measures to determine mentor success (i.e. pre-

and post-test focus groups, selected interviews from mentors and surveys with targeted questions

open ended with opportunities to share more about the experience).

These assessments proved to be very valuable in understanding how the mentors felt

about their preparation, the online social media delivery of their services, and the outcomes they

reported to have experienced. The most enlightening part of this qualitative assessment was the

post focus group questions. When mentors were asked to discuss how the mentor success rate

could have been improved, mentors noted that they would have liked to meet with their mentees

before the online mentoring process began. This suggests that, although mentors reported

enjoying the mentoring experience and found value in their contributions, they felt hampered by

the lack of personal connection with their mentees. Several mentors stated that they struggled to

initially connect with their mentees and to bring them into the mentoring process largely because

of the communication gap and unresponsive students (due to a shift in group dynamics, co-ed

groups, or mentees lacking confidence to post intimate results, etc.). Other studies affirm that

mentoring online is effective and changes students’ behavior and attitudes, albeit with noted

exceptions, and recognize the challenges in building relationships using online mediums.

While online mentoring provides positive results for those who enjoy and engage in it, it

may not be suitable for everyone. Results from our study also suggest that Facebook may not be

the most functional platform for online mentoring. Mentors noted that Facebook is no longer the

premiere social media outlet for individuals under 30 as many now gravitate towards mediums

such as Twitter, Instagram, etc. Their commentary indicated that separate online platforms may

produce better results and engage students earlier. Although students expressed concerns

with the method by which the online mentoring occurred, online mentoring remains very

accommodating for most participants. In turn, the issue of face-to-face contact and the original

challenges from prompting may be addressed via Skype, Linc, Snapchat, or other forms of social

media that create a personal connection with the mentor and mentee at the start of the program.

The Tech and True Adaptation

 Heeding pilot participant feedback, YES has transformed its social media mentorship programming to inspire greater receptivity and active participation. Under the Tech and True program model, high school youth will mentor middle school youth, the logic being that the younger youth are the more easily they adapt to the purpose and process of mentorship. Paired mentors and mentees will meet before their mentorship participation begins. Curricula includes protocol on positive uses for social media, cyber bullying identification and remediation techniques, and on the broader agents of change discourse. Through structured cultural engagement and educational venues mentor and mentee pairs will continue to meet in person monthly. By maintaining a “real-life” familiarity with each other, it is expected that their social media interactions will be more wholesome and genuine. Additionally, both mentors and mentees will receive support resources illustrating how to more openly address their current programmatic impressions or concerns. Doing such generates a flexible mentorship structure capable of demonstrating the benefits and utility of open communication and personal decision making. Tech and True aims to explore the potential for youth-led program development. YES believes the resulting entrepreneurial spirit and skillset will benefit youth in their future life transitions, be that the middle school to high school transition, the high school to college/employment transition, or the transition from being a resource dependent youth to a self-providing adult. Skill development is geared towards instilling life-long lessons so all YES youth are equipped to be sound decision makers and set and obtain far reaching goals.

Outlook

 Cycle one of Tech and True will conclude during Summer 2017. Anticipated outcomes include an increase in mentorship favorability, consistently improved self-efficacy scores, and locus of control stabilization. SMART goal completion will be assessed. The full program report will provide best-practices, cycle outcomes, and tips for maximum youth engagement.

Bibliography

Astin, A. W. 1996. “Involvement in Learning Revisited: Lessons We Have Learned.” Journal of College Student Development, 37(2): 123–134. Askew, K. (2006). The influence of mentor training and support on academic mentor self-efficacy and relationship quality: From the perspectives of adult volunteer mentors and middle school youth Masters of Arts, University of North Carolina at Chapel Hill.

Bandura, A. (1997). Self-efficacy: The exercise of control. New York, NY: W.H. Freeman. Bargh, J. A., & Mckenna, K. Y. (2004). The Internet and Social Life. Annual Review of Psychology Annu. Rev. Psychol., 55(1), 573-590. Retrieved February 14, 2016.

Bierema, L. L. & Merriam, S. B. (2002). E-mentoring: using computer mediated communication to enhance the mentoring process. Innovative Higher Education, 26(3), 211-227.

Briones, R., Janoske, M., & Paquette, M. (2013). New Media, new mentoring: An exploration of social media’s role in public relations mentorships. Prism 9(1): <http://www.prismjournal.org/homepage.html>

Clutterbuck, D. (1996) What do we still need to know about mentoring? Paper presented at Third European Mentoring Conference, London, 7–8 November 1996.

Clutterbuck, D. (2001). Everyone needs a mentor (2nd ed.). London: Chartered Institute of Personnel and Development.

Crisp, G., & Cruz, I. (2009). Mentoring college students: a critical review of the literature between 1990 and 2007. Research in Higher Education, 50(6), 525-545.

Distaso, M. W., Mccorkindale, T., & Wright, D. K. (2011). How public relations executives perceive and measure the impact of social media in their organizations. Public Relations Review, 37(3), 325-328. Retrieved February 14, 2016.

Ehrich, L. C., Hansford, B., Tennet, L. (2004). Formal mentoring programs in education and other professions: A review of the literature. Educational Administration Quarterly, 40(4), 518540.

Farrell, H., Pastore, C., Handa, N., Dearlove, J., & Spalding, E. (2004). Initiating the battlers. Paper presented at ISANA Conference 2004, December, in Melbourne, Australia.

Garringer, M. (2014). FORUM: Does mentoring work in rural areas? Retrieved February 15, 2016, from <http://chronicle.umbmentoring.org/forum-does-mentoring-work-in-rural-areas/>

Hamilton, R. (1993). Mentoring. The Industrial Society, London. Hay, J. (1995). Transforming mentoring: Creating development alliances for changing organizational culture. Maidenhead: McGraw-Hill.

Hensen, K. A. (2003). Impact of supplemental instruction: Results from a larger, public, Midwestern University. Journal of College Student Development, 44(2), 250-259.

History of Mentoring. (n.d.). Retrieved February 15, 2016, from http://igniteyouthmentoring.com/about/learn-more/history/

Ivala, E., & Gachago, D. (2012). Social Media for Enhancing Student Engagement: The use of Facebook and blogs at a University of Technology. South African Journal for Higher Education, 26(1), 152-167.

Jett, M., Anderson, M., & Yourick, D. (2005). Near peer mentoring: A step-wise means of engaging young students in science. Federation of American Societies for Experimental Biology Journal, 19, A1396-A1396.

Jones, D. F. (1995). Project Y.E.S., a break from tradition. Journal of Physical Education, Recreation and Dance, 24(2), 1-10.

Jones, D. F., Lerner, & Johnson (1996). Locus of control differences among improvised participants of a six week summertime sports program. Abstracts of completed research. Research Quarterly for Exercise and Sport Supplement, 67(1), 1-5.

Karcher, M. J., Nakkula, M. J., & Harris, J. (2005). Developmental Mentoring Match Characteristics: Correspondence between Mentors’ and Mentees’ Assessments of Relationship Quality. The Journal of Primary Prevention J Primary Prevent, 26(2), 93-110. Retrieved February 14, 2016.

Kram, K. E. (1985). Mentoring at work: Developmental relationships in organizational life. Glenview, IL: Scott Foresman. Lee, L. M., & Bush, T. (2003). Student mentoring in higher education: Hong Kong Baptist University. Mentoring & Tutoring: Partnership in Learning, 11(3), 263-271. Retrieved February 14, 2016.

Minocha, S. (2009). A study of the effectiveness use of social software to support student learning and engagement. JISC. Available at: http://www. jisc.ac.uk/whatwedo/projects/socialsoftware08.aspx.

Minor, F. D. (2007). Building Effective Peer Mentor Programs. Learning Communities and Educational Reform. 1-13. <http://evergreen.edu/washingtoncenter/docs/monographs/lcsa/lcsa4building.pdf>

Muller, C. B. (2009). Understanding e-mentoring in organizations. Adult Learning, 20(1/2), 2530. Nesta (2009). A review of Mentoring Literature and Best Practices: Creative Business Mentor Pilot. https://www.nesta.org.uk/sites/default/files/cbmn\_a\_review\_of\_mentoring\_literature\_and\_b est\_practice.pdf Omatsu, G. (2011). The Power of Peer Mentoring. Peer Mentoring Resource Booklet. 1-49.

Parra, G. R., Dubois, D. L., Neville, H. A., Pugh-Lilly, A. O., & Povinelli, N. (2002). Mentoring relationships for youth: Investigation of a process-oriented model. Journal of Community Psychology J. Community Psychol., 30(4), 367-388. Retrieved February 14, 2016.

Schwartz, S. E., Rhodes, J. E., Liang, B., Sanchez, B., Spencer, R., Kremer, S., & Kanchewa, S. (2014). Mentoring in the digital age: Social Media use in adult-youth relationships. Children and Youth Services Review, 47, 205-213.

Shrestha, C. H., May, S., Edirisingha, P., Burke, L. & Linsey, T. (2009). From face-to-face- to ementoring: does the “e” add any value for mentors?, International Journal of Teaching and Learning in Higher Education, 20(2), 116-124.

 Single, P. B., & Muller, C. B. (2001). When email and mentoring unite: The implementation of a nation unite: The implementation of a nation-wide electronic mentoring program. In L. K Stromei (Ed.), Creating Mentoring and Coaching Programs: Twelve case studies from the real world of training (pp. 107-122). Alexandria, VA: American Society for Training and Development.

Single, P. B., & Single, R. (2005). E-mentoring for social equity: review of research to inform program development. Mentoring and Tutoring, 13(2), 301-320.

Smailes, J., & Gannon-Leary, P. (2011). Peer mentoring - is a virtual form of support a viable alternative? Research in Learning Technology, 19(2). Retrieved February 14, 2016.

Tenenbaum, L. S., Anderson, M. K., Jett, M., & Yourick, D. L. (2014). An Innovative Near-Peer Mentoring Model for Undergraduate and Secondary Students: STEM Focus. Innov High Educ Innovative Higher Education, 39(5), 375-385. Retrieved February 14, 2016.

Watson, J. (2000). Peer Assistance support scheme (PASS) for first year core subjects. Paper presented at the Fourth Pacific Rim—First Year in Higher Education Conference: Creating Futures for the New Millennium, July 5-7, in Queensland University of Technology, Brisbane, Australia.

Williams, S., Sunderman, J., & Kim, J. (2012). E-mentoring in an online course: benefits and challenges to e-mentors. International Journal of Evidence Based Coaching and Mentoring, 10(1), 109-123.