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# Engaging Community Service Students through Digital Portfolios

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## Abstract

Community engagement courses are becoming common in the discipline of information systems. In this paper the author analyzes the benefits and the challenges of an e-Portfolio in a course engaging students with a community of individuals with developmental and intellectual disabilities. The case study in the paper finds generally higher engagement of students from the community projects of the course if an e-Portfolio is designed flexibly for the students. The findings further indicate generally higher impact of the service and systems on the individuals with disabilities and also on the students. This paper can be beneficial to instructors considering e-Portfolio as a method for improving the impact of service involving systems.

**Keywords:** community engagement, digital portfolio, e-Portfolio, information systems curriculum, service-learning

## 1. BACKGROUND OF PAPER

Community engagement or service-learning is defined as an "... approach in learning ... that integrates community service with academic [courses] to enrich learning [and] teach civic responsibility ..., engag[ing] students in addressing unmet issues or needs in a community ..."(Pritchard & Whitehead, 2004). Critical to service-learning are mutuality (Rhoads, 1997) and reciprocity (Kendall, 1990), as community and students benefit from the courses as equivalent learners. The design of the learning is in a project or service for the community that enhances the experiences of students in issues of the community and in lessons of civic responsibility (Lawler & Li, 2005). The experiences frequently recorded in reflections on the service are important in the learning of students. This learning may be augmented by educational technology (Everett, 2010).

Digital portfolio or e-Portfolio is defined as a "digitized collection of artifacts [of] accomplishments, demonstrations [blogs and journals, multimedia, presentations, podcasts and project samples] and resources that record reflections [from courses]" (Lorenzo & Ittelson, 2005 para. 1) of students. e-Portfolio is a complement to learning management systems as the Blackboard Learning system in community-encouraging reflections of students. e-Portfolio is an easy facility for net generation students familiar with recording reflections on Facebook and YouTube social software systems They may mash up multiple (Clark, 2009). media in recording reflections on e-Portfolio. Features of e-Portfolio in enabling self-publishing reflections of students enrich if not innovate learning and teaching (Clark, 2009). Pedagogy is further focused on the students as they formulate knowledge in a social manner through e-Portfolio (Heafner & Friedman, 2008). ePortfolio fosters improved meta-cognitive skills (Clark, 2009). Finally, e-Portfolio is a full-fledged Web 2.0 platform (O'Reilly, 2005) on which reflections are shared with instructors and other students.

The benefits of an e-Portfolio, and of educational platforms of technology (Hyman, 2012), are evident in the literature (McGee & Diaz, 2007). The platform is furnished to help instructors and net generation students. It is in 50% of higher education institutions in the United States (Green, 2008). Though e-Portfolio can benefit community engagement or service-learning challenges of courses, expected hiaher engagement of students on projects of the courses and higher impact of the services on the community organizations and students are not evident in the literature. The customization of an e-Portfolio by instructors (Purcell & Perritt, 2008) is important in enabling the benefits to instructors, organizations and students. The effective impact of an e-Portfolio and other platforms of systems (Hartman, Dziuban, & Brophy-Ellison, 2007) and of generic technology, is a central issue in 21<sup>st</sup> century learning (Bolick, Berson, Coutts, & Heinecke, 2003) and is analyzed in this case study.

## 2. INTRODUCTION TO CASE STUDY

- Course: Community Empowerment through Information Systems and Technologies
- Project: Personal-Centered Planning with Individuals with Developmental and Intellectual Disabilities through Presentation Technology

Platform: e-Portfolio System

The author analyzes the benefits and the challenges of an e-Portfolio in a Community Empowerment through Information Systems and Technologies course, in which he is the instructor, at the Seidenberg School of Computer Science and Information Systems at Pace University.

The course concentrates on empowering individuals with developmental and intellectual disabilities (i.e. autism, cerebral palsy, down syndrome, motor-neuron and tourett syndrome) at AHRC New York City, a community organization partner of the school, by engaging students of the university in formulating personcentered plans (Mount & Zwernik, 1988) enabled by presentation technology, the course project. The goals are engaging the students in helping the individuals with disabilities to be presentable in society through technology tools and in having the students reflect on the partnered relationships through the service by posting their reflections on an e-Portfolio system. The outcome of the course is essentially in the impact of increased civic responsibility learned through partnership if not problem-solution (Fenwick, 2001) with a neglected population of society - an outcome of service more meaningful than solutions of technology (Pernu, 2011). This course fulfills an area of knowledge (AOK) in civic responsibility in society of the core curriculum of the university and is required of all students, including non-systems students.

The course comprised 95 students, 47 in fall semester 2011 and 48 in spring semester 2012, and an equivalent number of individuals with disabilities at AHRC New York City. The students aged 18-20 (66%), 21-22 (19%), 23-24 (12%) and 25+ (3%) and consisted of female (49%) and male (51%) students. The students consisted of a diversity of freshman (29%), sophomore (27%), junior (27%) and senior (17%) students, and 98% were not in computer science or information systems degree programs of the school but were experienced in social software technology as net generation students (Wilen-Daugenti, 2009), though 97% were not knowledgeable in the e-Portfolio system of the university. The students (81%) were generally not experienced with people with developmental and intellectual disabilities or other disabilities, and 74% were generally not exposed to neighborhood or school service. The impression of the instructor was that most of the students were not initially interested or motivated in service-learning, as they chose the core course of the curriculum because of convenience of load scheduling. The demographic distribution of the students is displayed in Table 1 of the Appendix.

The projects of the course consisted of each student deliberatively engaging her / his individual with developmental and intellectual disabilities at the facilities of AHRC New York City. The focus of the projects was the formulation of "brag nuggets" (Klaus, 2012), hopes and interests of the individuals, into person-centered plans (Holburn, Gordon, & Vietze, 2007) by the students. The personcentered plans were enabled by presentation as digital stories through special i-pad, i-phone, smart board, speech and tablet technology tools that helped the individuals to be presentable and productive in society. The individuals and the students were engaging in partnership on the plans and tools 3 hours 1 day each week for 14 semester weeks, with presentations of the projects to organizational personnel on the 14<sup>th</sup> week. Following each engagement at the end of the day, and at the ends of the mid-term and final semesters, the students were required to furnish blogs and journals to the instructor reflecting on the progress of the projects and related research stories (Brightman, 2008), reflections recorded in an e-Portfolio of the course.

The e-Portfolio of the course was customized as a full e-Portfolio (Villano, 2006) by the instructor and was initiated in the curriculum in partnership with the Center for Teaching, Learning and Technology (CTLT) of the university. The e-Portfolio was an exceptionally flexible MAHARA open source system. The e-Portfolio was infused with a regimen of sections for engagement of the students in the experience of the projects (Swan & Hicks, 2007) through Web 2.0 technology (Shelly & Frydenberg, 2011):

- My Biography: What I Am Bringing to AHRC New York City;
- My Facebook Home Page;
- My Biography in Graphic Representation;
- My Friends in the Course at Pace University;
- My Friends and Partner at AHRC New York City;
- My Personal Journey in Service (Blogs of Semester);
- My Project at AHRC New York City (Project Samples);
- My Mid-Term Reflection Journal on Disability Land Book and Project;
- My Final Reflection Journal on Impacts of Semester; and
- My Semester of Service at AHRC New York City.

To encourage engagement, information in the sections was permitted by the instructor and the students to be sharable with other students in the semesters. The e-Portfolio was a learning system joined to the Blackboard Learning system, and the Digital Commons: Community Action Forum in the Seidenberg School Library system, of the university. The design of the e-Portfolio of the course is displayed in Table 2, and the dimensions of the e-Portfolio as a

learning management system are displayed in Figure 1 of the Appendix.

In this study the author analyzes the customization of the e-Portfolio features in enabling or not enabling higher engagement of and higher impact on the students at the Seidenberg School, and in enabling or not enabling higher impact on the individuals with developmental and intellectual disabilities at AHRC New York City. Is the design of the e-Portfolio facilitating higher experience of and impact of the service on the students at the school? Is the design of the e-Portfolio facilitating higher impact of the service on the individuals with disabilities at the organization? Is the design of the e-Portfolio facilitating the dual goals of higher experience of the students and higher impact of the services at a higher learning level of civic responsibility? This study can attempt to answer these questions by analyzing the experiences from and the impacts of the projects in the course, as reflected upon by the students and the community organization staff. Few analyses (Bulger, Mayer, & Almeroth, 2006, Stoecker, 2005, & Strand, Marullo, Cutforth, Stoecker, & Donohue, 2003) evaluate the benefits of the impact of service-learning (Speck, 2001), and few evaluate the benefits and challenges of an e-Portfolio service-learning system, the focus of this study.

## **3. FOCUS OF CASE STUDY**

This paper evaluates the benefits and challenges of the e-Portfolio in the Community Empowerment through Information Systems and Technologies course of the author. The author explores the features of the e-Portfolio in furnishing not furnishing increased or engagement of the students at the Seidenberg School and in furnishing or not furnishing increased impact on the individuals with disabilities at the community organization and on the students. The author highlights the importance of an e-Portfolio and social media (Wakefield, 2012) in the increased learning of net generation students in a new social setting (Moore, Fowler, & Watson, 2007). The importance of an e-Portfolio in the learning of students may not be clear to instructors in schools (Guidry & Lorenz, 2010). This paper can be beneficial to instructors considering initiating a social space system.

### 4. METHODOLOGY OF CASE STUDY

The methodology of this paper focused on the projects of the Community Empowerment through Information Systems and Technologies course in the fall 2011 and spring 2012 semesters at the Seidenberg School of Computer Science and Information Systems of Pace University. There were pre-course demographic 7-item (synopsized in Table 1) and project 27item questionnaires of each of the 95 students; 16 detailed blog and journal e-Portfolio postings of each of the students; 21 e-Portfolio postings of multimodal project samples and simulations of the technology tools of each of the students; 3 mid-term and final reflection e-Portfolio postings and other postings of each of the students (synopsized in Table 2); and postcourse semi-structured focus groups of a sample of 11 of the students and 9 of the community organization staff. This data was read by the author-instructor, as to the on-going experiences of and the impacts on the students and the staff already recorded on the e-Portfolio system, and was summarized by him at the end of each semester. This information furnished overall perceptions from the recordings of the 95 students and of the 9 staff on the project services that were consolidated and evaluated by the author. The investigation was performed by the author-instructor in the period of the semesters of September 2011 - May 2012 in methodology prescribed by Yin (2003). This phase of the investigation was a descriptive exploratory study.

## 5. CASE STUDY OF e-PORTFOLIO SYSTEM

The author analyzed the benefits and challenges of the e-Portfolio in the Community Empowerment through Information Systems and Technologies course at the Seidenberg School.

#### Benefits of e-Portfolio System

The e-Portfolio in the Community Empowerment through Information Systems and Technologies course allowed the benefit of creativity in content design. Each of the students customized the content of the e-Portfolio in a diversity of media, as multimedia on the community projects could be easily inserted on to the e-Portfolios (i.e. My Project at AHRC New York City: View My Project, View My Video and View My Technology Tools), in contrast to the relative cumbersomeness of the Blackboard Learning system. Though the instructor defined the feature hierarchy of the e-Portfolio, as displayed in Table 2, each of the students determined the look of the e-Portfolio sections. Most of the students (74/95 or 77% [found from the data]) enhanced the e-Portfolio in an expressive manner, as they posted much multimedia and reflected and reported projects of service (My Personal Journey in Service, My Mid-Term Reflection Journal on Project and My Final Reflection Journal on Impacts of Semester), though most of them (92/95 or 97%) had no experience with e-Portfolios. The flexibility of the system was a change of pace for the students that contributed in general to evident freedom and higher engagement of the students (87/95 or 91%), in the explored perceptions of the students.

e-Portfolio The allowed the benefit of considerable creativity in device display. Each of the students displayed feature images of the technology (i.e. i-pad, i-phone, smart board, speech tools and tablet tools) of the projects on which they partnered with the individuals with developmental and intellectual disabilities (i.e. View My Project, View My Video and View My Technology Tools). Each of the students and the staff explained how they helped the individuals with disabilities in learning the technology (i.e. My Personal Journey in Service). Most of the students (91/95 or 95%) and all of the staff (9/9 or 100%) explained how the mentoring of the individuals on the technology and the power of the tools had a generally high impact on the perceived pride of the individuals (i.e. My Final Reflection Journal on Impacts of Semester), though most of the students (77/95 or 81%) had no experience with individuals with disabilities. The functionality of the system in furnishing prominent reflection on project results of the tool and on the sociality of the individuals and the students contributed to generally higher engagement of the students (77/95 or 81%). higher impact on the individuals with disabilities (91/95 or 95%), and higher impact on the students (81/95 or 85%), in the perceptions of the students and the community organizational staff representing the individuals.

The e-Portfolio contributed to disciplined engagement of the students not easily enabled in discussion board flows on the Blackboard Learning system. Following each engagement at the facilities of the AHRC New York City organization, each of the students explained personal progress or non-progress of the projects in formulated sections (i.e. My Personal Journey on Service: Blogs). They explored the relationships and the service in mid-semester (i.e. My Mid-Term Reflection Journal on Project) and final semester (i.e. My Final Reflection Journal on Impacts of Semester). From initial uncertainty in the plan for service to certainty in the meaning of service, most of them (66/95 or 69%) evolved in improved perception skills of the service, though most of them (70/95 or 74%) had no experience with service or volunteering. The perceptions formed а perspective of a progressive service trail. The functionality of the system facilitated generally higher experience of the students (72/95 or 75%), as they reflected ritualistically on progression in civic responsibility and service.

e-Portfolio in The the course enabled engagement of initial laggard students (23), defined as those who delayed interactions with the individuals or delayed postings on the projects due to a lack of proper self-motivation. The in-depth display of projects and tools (i.e. My Project at AHRC New York City) and the recording of reflections (i.e. My Personal Journey on Service) of interested students motivated most (18/23 or 78%) of the non-interested students to be engaged more seriously in reflecting on service (i.e. My Biography: What I Am Bringing to AHRC New York City, My Friends in the Course at Pace University and My Friends and Partner at AHRC New York City). Inasmuch as the e-Portfolios were privy and public to all of the service-learning students, most (21/23 or 91%) of the non-interested students were motivated to be professional in service showcasing (i.e. My Semester of Service at AHRC New York City). The inclusion of the noninterested students enabled further involvement of a mass of service-learning students (33/95 or 34%) in initiating a Disability Pride Day proposal The openness of the eat the university. Portfolio as a social space system facilitated generally higher experience of more students in service (67/95 or 70%), in the perceptions of the students.

e-Portfolio Finally, the facilitated the engagement of interested students in new programs of service. The instructor found frequent recording of other neighborhood service of students (i.e. My Other Service During or Since Semester - What I Have Been Doing in Service). These students (15/95 or 15%) joined the instructor in extra-curricular initiatives of mentoring programs of high school students and other teenagers with developmental and intellectual disabilities at the AHRC New York City Middle / High School. They recorded the services and the reflections on the services on the system, as the system may be updated by them throughout their university years, unlike the Blackboard Learning system. The perpetuity of e-Portfolio is furnishing a foundation for higher involvement of more students in service.

## Challenges of e-Portfolio System

The e-Portfolio is a challenge for an instructor. The instructor has to define the feature hierarchy of the e-Portfolio in the context of a social space system, as displayed in Table 2, in addition to defining a normal syllabus. The instructor may also have to enable a link to the Blackboard Learning system and the Digital Commons Library system, as displayed in Figure 1, inasmuch as the systems may not be linked as one seamless system. The Center for Teaching, Learning and Technology may be helpful to instructors in learning the functionality of an e-Portfolio system and the nuances of social space systems and in managing the e-Portfolio MAHARA technology. Inevitably instructors in e-Portfolio need to be the initiators of the e-Portfolio.

The e-Portfolio, as founded on MAHARA open source technology, is a challenge for an instructor. Though open source technology is a benefit for design flexibility ideal for instructors and for formatting ideal for students, the feature hierarchy of instructors may not be enabled as a fixed guideline for students like in the Students mav Blackboard Learning system. format and furnish information in diverse locations on the e-Portfolio system. To not dampen the enthusiasm of students, instructors may have to be flexible in formatting hierarchal quidelines in non-hierarchal settings. The instructor in e-Portfolio needs be to knowledgeable of the protocol of social space systems.

The exploratory findings of enabling generally higher engagement of students and higher impact on students from service are benefits but may be a challenge of the course. Higher number of female students (49%) that may be considered more acclimated to caring may favor higher perceptions of service without e-Portfolio impact. Higher numbers of liberal arts and sciences (39%), education (4%) and health professions (1%) students (44%) that may be more acclimated to service may even favor higher perceptions of service without the e-Portfolio impact. Most of the students joining the initiatives of the instructor in the ad hoc mentoring programs at the AHRC New York City community organization are female liberal arts and sciences students. The instructor in the Seidenberg School needs to pursue further empirical findings isolating favoritism likelihood, so that the benefits from the e-Portfolio system may be clearer for future instructors.

The e-Portfolio is a challenge for an instructor in projects of service. Projects engaging individuals with developmental and intellectual disabilities and other disabilities have to conform to non-disclosure regulations in the semesters of service. Students may not furnish the identity of partners on to the e-Portfolio. They may not insert videos on to the e-Portfolio nor on to private systems (e.g. YouTube) in order to upload the videos on to the e-Portfolio system. The instructor in e-Portfolio needs to recognize regulations on service, review the regulation requirements with the students, and review the postings for violations.

The instructor is challenged by increased management of an e-Portfolio. Inasmuch as blogging and journaling are diverse and frequent, and may be fragmented or floundering for resolution on an e-Portfolio social space, instructors have to ensure that they are responding sooner to students and to tensions than on non-social space systems, such as the Blackboard Learning system. They have to ensure that more motivated in service students are often sharing practices of service with less students motivated in service through presentation of professional e-Portfolios. They have to review the e-Portfolios of students through rubrics that measure the servicelearning of the students, which may be more qualitative than quantitative in measurement. Lastly, in attempting to ease the burden of follow-up on the projects, the instructor in e-Portfolio in service-learning needs to be a mentor not a sage to the students as she and the students interact in social space systems.

#### Summary of e-Portfolio System

The exploratory findings from the case study in the denote the benefits of the e- Portfolio on engagement in learning civic responsibility. The design of the e-Portfolio encouraged a generally higher level of service (Weigel, 2002), as the students reflected on the service in the social space of the system. Literature (Dietering, 2005) highlights the importance of the social space of systems. The importance of the impact of the resultant service on the individuals with developmental and intellectual disabilities at the community organization is indicated in the study. The findings are further indicating the challenges of the e-Portfolio and the furnishing of help by a center for teaching, learning and technology of a university. The exploratory study highlights lastly the potential of a social space system on which students felt proud to be stakeholders (Wortham, 2012).

## 6. IMPLICATIONS OF CASE STUDY

The criticality of a center for teaching, learning and technology in e-Portfolio leadership is an implication of the study. The Center for Teaching, Learning and Technology (CTLT) at Pace University enabled the instructor in the initiation of the e-Portfolio in the fall 2011 and spring 2012 semesters. Literature (Xuesong, Olfman, & Ractham, 2007) indicates the importance of a centralized organization for teaching, learning and technology in furnishing learning platform systems. The case study indicated the potential of integrating the Blackboard Learning and Digital Commons Library systems at the university. The future of e-Portfolio systems is dependent on centers for technology, learning and technology attuned to innovation in learning technology.

The creative design of an e-Portfolio in enabling generally higher engagement of net generation students is another implication of the study. The course customization of the e-Portfolio enabled generally higher engagement of project service of the students. The customization enabled the instructor in the initiation of servicelearning on a social space system enjoyed by the students. Flexibility and freedom of instructors are important in the initiation of such systems. The future of e-Portfolio systems is dependent on instructors attuned to social space themes.

The effort in formulation of an e-Portfolio service-learning program by an instructor is an implication of the study. The emotional investment in a service-learning program is indicated in the literature (Langseth, 2000), but further instructor investment in an e-Portfolio service-learning program is indicated in the study. The instructor involvement in the methodology of a social space system, leading to its quality and usefulness and to subsequent instructor satisfaction (Najmul Islam, 2012), is indicated in this study. The instructor sensitivity to the protocol of such systems is also indicated in this study. The impact of this sensitivity is evident in the generally higher engagement and generally higher impact of service of the net generation students.

The expressiveness of the net generation students to digital e-Portfolios is a further implication of this study. The display of project samples of the service and the systems was enabled by the fluid functionality of multimodal presentation. Literature (Clark, 2009) indicates the importance of the medium in the reactions of students. Literature (Pemu, 2011) indicates the learning potential when students respond to the results of the service and the system tools that impact others. The impact of the e-Portfolio setting is in the potential of proactive students advocating for social justice (Marullo, 1999).

The final implication of this study is in the perpetuity of the e-Portfolio system. The pride of the students in the results of service was evident in the polished professionalism of the ewhich the highest Portfolios, of in professionalism (10/95 or 10%) was shared in the Digital Commons Library system of the university. The e-Portfolios may be maintained by the students, as the Center for Teaching, Learning and Technology stores the portfolios on the mechanism of an open source system for them. The students may post progress on other services as they pursue studies at the university. The impact of the system is in a student success story.

# 7. LIMITATIONS OF PAPER AND OPPORTUNITIES IN RESEARCH

The paper is not a confirmatory but an exploratory study of the benefits and the challenges of an e-Portfolio in one course at a non-profit organization. The findings of a case study with a frequently small sample may not be generalized without caution (Guthrie & 2003). However, Navarrete, the paper illuminates e-Portfolio practices that may benefit instructors in service-learning interested in a new social space system. Such practices may be customized further by instructors in servicelearning. The author expects a larger sample of students in the fall 2012 semester, from which he will interpret anew the practices at the Seidenberg School, in order to publish an empirical study in 2013.

## 8. CONCLUSION OF PAPER

The paper highlights the benefits of an e-Portfolio in higher engagement of learning and in higher impact of service in the period of the study. The design of the e-Portfolio in the study encouraged a higher level of service of the students and a higher level of impact on both the individuals with developmental and intellectual disabilities and on the students. The paper highlighted the expanded expressiveness of the net generation students to e-Portfolios as an important implication of the study. However, the paper indicated flexibility in the functionality of an e-Portfolio as important in the interactions of net generation students on projects of service involving systems. Moreover, the paper indicated the effort and the emotional investment of the instructor as especially important in the formulation of an e-Portfolio service-learning program. The potential of an e-Portfolio in increased learning of students was further noted in the study. This paper may be beneficial to instructors initiating an e-Portfolio system as a method for integrating a social space system into their service-learning teaching. Research of social space systems will be further pursued in 2013.

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#### 9. REFERENCES

- Bolick, C., Berson, M., Coutts, C., & Heinecke, W. (2003). Technology applications in social studies teacher education: A survey of social studies methods faculty. Contemporary Issues in Technology and Teacher Education, 3(3), 300-309.
- Brightman, A. (2008). DisabilityLand. SelectBooks, Inc., New York, New York.
- Bulger, M., Mayer, R.E., & Almeroth, K.C. (2006). Engaged by design: Using simulations to promote active learning. Proceedings of the World Conference on Educational Multimedia, Hypermedia and Telecommunications, Chesapeake, Virginia.

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- Clark, J.E. (2009). E-portfolios at 2.0: Surveying the field. Association of American Colleges and Universities Peer Review, 11(1), 1,4.
- Dietering, A.M. (2005). Learner-centered learning and blogging. Edutech, February.
- Everett, D.R. (2010). Service-learning in distance education: E-mentoring project connect. Proceedings of the Information Systems Educators Conference (ISECON), Nashville, Tennessee, 27(1329), 2.
- Fenwick, T. (2001). Experiential Learning: A Theoretical Critique for Five Perspectives. Eric Clearinghouse on Adult, Career, and Vocational Education, Ohio State University, Columbus, Ohio.
- Green, K. (2008). Campus computing 2008: The 19th national survey of computing and information technology in american higher education. Campus Computing Project.
- Guidry, K., & Lorenz, A. (2010). A comparison of student and faculty academic technology use across disciplines. Educause Quarterly, 33(3), March.
- Guthrie, R., & Navarrete, C. (2003). Servicelearning impact on information systems (is) students in a web development course. Proceedings of the Information Systems Educators Conference (ISECON), San Diego, California, November, 2(8).
- Hartman, J.L., Dziuban, C., & Brophy-Ellison, J. (2007). Faculty 2.0. Educause Review, 42(5), 62-76.
- Heafner, T., & Friedman, A. (2008). Wikis and constructivism in secondary social studies: Fostering a deeper understanding. Computers in the Schools, 25(3,4), 288-302.
- Holburn, S., Gordon, A., & Vietze, P.M. (2007).
   Person-Centered Planning Made Easy: The Picture Method. Paul H. Brookes Publishing Company, Baltimore, Maryland.
- Hyman, P. (2012). Stanford schooling Gratis!: Stanford University's experiment with online classes could help transform computer science students. Communications of the ACM, 55(3), 22.

- Kendall, J. (1990). Combining Service and Learning: A Resource Book for Community and Public Service. National Society for Internships and Experiential Education, Raleigh, North Carolina, 22.
- Klaus, P. (2012). A chance to see disabilities as assets. The New York Times, Jobs, February 5.
- Langseth, M. (2000). Maximizing impact, minimizing harm: Why service-learning must more fully integrate multicultural education. In C. O'Grady (Ed.), Integrating Service-Learning and Multicultural Education in Colleges and Universities. Mahwah, New Jersey: Lawrence Erlbaum Associates, 250.
- Lawler, J., & Li, Z. (2005). Student engagement in a flexible model of service learning in information systems curricula. Journal of Informatics Education Research, 7(2), 53-90.
- Lorenzo, G., & Ittelson, J. (2005). An overview of e-portfolios, in Oblinger, D. (ed.) Educause Learning Initiative, July. Boulder, Colorado.
- Marullo, S. (1999). Sociology's essential role: Promoting critical analysis in servicelearning. In J. Ostrow, G. Hesser, & S. Enos (Eds.), Cultivating the Sociological Imagination: Concepts and Models for Service-Learning in Sociology, Washington, D.C.: American Association of Higher Education.
- McGee, P., & Diaz, V. (2007). Wikis and podcasts and blogs! Oh, my! What is a faculty member to do? Educause Review, 42(5), 28-40.
- Moore, A.H., Fowler, S.B., & Watson, C.E. (2007). Active learning and technology: Designing change for faculty, students, and institutions. Educause Review, 42(5), 42-61.
- Mount, B., & Zwernik, K. (1988). It Is Never Too Early, It Is Never Too Late: A Booklet about Personal Futures Planning. Governor's Council on Developmental Disabilities, Minnesota.
- Najmul Islam, A.K.M. (2012). The determinants of the post-adoption satisfaction of

Information Systems Education Journal (ISEDJ) ISSN: 1545-679X

educators with an e-learning system. Journal of Information Systems Education, 22(4), 319-331.

- O'Reilly, T. (2005). What is web 2.0?: Design patterns and business models for the next generation of software. O'Reilly Media, September 30.
- Pemu, C. (2011). Service-learning and social justice. National Youth Leadership Council (NYLC), December 12, 6.
- Pernu, C. (2011). Conducting meaningful service is key to service-learning benefits. National Youth Leadership Council (NYLC), 29(2), 1,4.
- Pritchard, F.F., & Whitehead, G.I. (2004). Serve and Learn: Implementing and Evaluating Service-Learning in Middle and High Schools. Lawrence Erlbaum Associates, Mahwah, New Jersey.
- Purcell, S., & Perritt, D. (2008). Understanding and promoting best practices in technology higher education implementation in classrooms. McFerrin In Κ. (Ed.), Proceedings of the Society for Information Teacher Technology and Education International Conference 2008, Chesapeake, Virginia, 2194-2197.
- Rhoads, R.A. (1997). Community Service and Higher Learning: Explorations of the Caring Self. State University of New York Press, Albany, New York, 150.
- Shelly, G.B., & Frydenberg, M. (2011). Web 2.0: Concepts and Applications. Course Technology, Boston, Massachusetts, 9.
- Speck, B.W. (2001). Why service learning? New Directions for Higher Education, 114, 3-13.
- Stoecker, K. (2005). Research Methods for Community Change, Sage Publications, Inc., Thousand Oaks, California.

- Strand, K., Marullo, S., Cutforth, N., Stoecker, R., & Donohue, P. (2003). Community-Based Research and Higher Education: Principles and Practices. Jossey-Bass, San Francisco, California, 1-15,81-85,123-135.
- Swan, K., & Hicks, D. (2007). Through the democratic lens: The role of purpose in leveraging technology to support historical thinking in the social studies classroom. The International Journal of Social Studies Education, 21(2), 142-168.
- Villano, M. (2006). Electronic student assessment: The power of the portfolio. Campus Technology, August 29.
- Wakefield, K. (2012). Should professors use facebook to communicate with students? Faculty Focus, February 27, 1-2.
- Weigel, V. (2002). From course management to curricular capabilities. Educause Review, January / February.
- Wilen-Daugenti, T. (2009). .edu: Technology and Learning Environments in Higher Education. Peter Lang Publishing, Inc., New York, New York, 3.
- Wortham, J. (2012). It is not about you, facebook. It is about us. The New York Times, Bright Ideas: Bits, February 11.
- Xuesong, S., Olfman, L., & Ractham, P. (2007). Designing e-portfolio 2.0: Integrating and coordinating web 2.0 services with eportfolio systems for enhancing users' learning. Journal of Information Systems Education, 18(2), 203-215.
- Yin, R.K. (2003). Applications of Case Study Research, Second Edition. Sage Publications, Inc., Thousand Oaks, California.

#### APPENDIX

	Fall Semester 2011	Spring Semester 2012	Total	
Demographics	Frequency	Frequency	Frequency	Percentage
Age				
18 - 20	34	29	63	66%
21 - 22	8	10	18	19%
23 - 24	4	7	11	12%
25+	1	2	3	3%
Gender				
Female	26	21	47	49%
Male	21	27	48	51%
Year				
Freshman	19	8	27	29%
Sophomore	11	15	26	27%
Junior	10	16	26	27%
Senior	7	9	16	17%
Degree				
Computer Science/Information Systems	0	2	2	2%
Non-Information Systems:				
Arts and Sciences	21	16	37	39%
Business	19	23	42	45%
Education	3	1	4	4%
Health Professions	1	0	1	1%
Not Decided	3	6	9	9%
Experience in e-Portfolio				
Yes	2	1	3	3%
No	45	47	92	97%
Experience with Individuals with Disabilities				
Yes	7	11	18	19%
No	40	37	77	81%
Experience with Service and Volunteering				
Yes	14	11	25	26%
No	33	37	70	74%
Total	47	48	95 Studer	its 100%

## **Table 1: Demographics of Community Engagement Students**

## Table 2: Design of e-Portfolio System in Community Engagement Course

#### "Name"

Please post your name.

#### My Biography: What I Am Bringing to AHRC New York City

In this section please post a highly informative half-page to full page Biography of yourself.

Please post information on any community service performed by you in high school, in the neighborhood, and / or in university.

If you have or have not performed any service, please provide information on what interests or skills you might provide to AHRC New York City.

Please post a color photograph of yourself.

#### My Facebook Home Page (Optional)

In this section please optionally post your Facebook home page.

#### My Biography in Graphic Representation (Optional)

In this section please optionally post your posted Biography in Wordle.

#### My Friends in the Course at Pace University

In this section please post a couple of color photographs of your colleague students in this course.

#### My Friends and Partner at AHRC New York City

In this section please post a few photographs of your partner at AHRC New York City with you, with colleague students and you in the course, and with you and a couple of the staff at AHRC New York City.

(You may photograph at locations of Pace and / or at locations in the neighborhood on tours.)

#### My Personal Journey in Service

In the sub-sections of this section, please post a detailed and informative half-page to full-page story of your class days with your partner at AHRC New York City, focusing on your impressions of your interactions with your partner, including any issues, and on your impressions on the progress of your project with your partner.

You may even post photographs of Pace and neighborhood tours.

Blog postings are due by the end of class day mid-night, otherwise you will be penalized in your Final Grades.

(I will be reading and responding to your blog postings by the next day of your postings in the "Feedback" section of your e-Portfolio system.)

Blog of 1/24/12 Blog of 1/31/12 Blog of 2/7/12 Blog of 2/14/12 Blog of 2/21/12 Blog of 2/28/12 Blog of 3/6/12 Blog of 3/20/12 Blog of 3/27/12 Blog of 4/3/12 Blog of 4/10/12 Blog of 4/17/12 Blog of 4/24/12 Blog of 5/1/12

#### My Project at AHRC New York City (Project Samples)

In this section please post presentation samples of your project, focusing on project specifics.

This section is essentially highlighting your project progress and your role with your partner.

You may be as creative and imaginative as you like in this section.

#### View My Project

In this sub-section please post the college bound and / or job bound person-centered plans of the project for your partner at AHRC New York City.

#### - View My Technology Tools (Optional)

In this sub-section please post color photographs of any special technology tools that you are employing with your partner at AHRC New York City, and please post references to the URLs of the technology vendors.

#### - View My Video

In this sub-section please post a 1 - 3 minute video of you and your partner or you and your partner with colleague students of Pace and / or with staff of AHRC New York City.

You might prepare the video through the Pace and neighborhood tours.

#### My Mid-Term Reflection Journal on [Book] DisabilityLand and Project

In this section please post a full 3 page Journal, reflecting on your personal progress with your partner at AHRC New York City, referencing [Book] DisabilityLand.

Journal should be an in-depth reflection, not a "blue sky" boilerplate stuffing!

#### My Final Reflection Journal on Impacts of Semester

In this section please post a full 2 page Journal, reflecting on what you learned in the semester.

Journal should be an in-depth reflection on your service to AHRC New York City, not a "blue sky" boilerplate stuffing in order to get what you might believe to be an A Final Grade!

#### My Semester of Service at AHRC New York City

#### - My Certificate of Recognition of Service

In this sub-section please post your Certificate of Recognition of Service that you will be receiving from AHRC New York City.

This will be a great document to have posted to your e-Portfolio system!

# - My Photograph of Me Receiving Certificate of Recognition from Director of AHRC New York City - Education Services (ES)

In this sub-section please post a color photograph of you receiving your Certificate from the Director.

#### My Other Service During or Since Semester - What I have Been Doing in Service (Optional)

In this section please optionally post any information, if not color photographs, of other service in the neighborhood or in the university that you are proud of.

You might update this section as you pursue your studies in the university.

#### **Rubrics Summary**

Final Grades in CIS 102W CRN 21354 are based on below:

- Completion of Full Presentation Project;
- Completion of 14 Blogs in Conformance with Above Guidelines;
- Completion of 14 Blogs in Conformance with Above Due Dues (Class Day Mid-Nights) [Lateness is Penalized at 5% per Blog Item Lateness on Final Grades];
- Completion of Mid-Term Reflection Journal (DisabilityLand);
- and
- Completion of Final Reflection Journal.

# Figure 1: Dimensions of e-Portfolio System as a Learning Management System in Community Engagement Course

