

A Professor's Reflection on the Value of Student Reflections in a Service-Learning Research Project within a University Science Course

Amal Abu-Shakra

North Carolina Central University
Durham, North Carolina, USA

Abstract. A well-established university Biology course that addresses among its several cores the impact of indoor air pollution on human health, involved 29 undergraduate students in a dynamic service-learning research project. The students were prepared academically through intensive course lectures and in-class training then guided into the community to gauge its awareness of indoor air pollution. The students took with them into the community especially designed brochures that highlighted the health effects of eight major indoor air pollutants and questionnaires that community participants were asked to complete anonymously. In addition to teaching the course and training the students in service-learning practices, the professor's role included: (a) being available to respond to students' questions and concerns for the duration of the service-learning research activity; (b) directing data compilation, analysis, and storage; and (c) categorizing, assessing, and reflecting on the students' learning journeys, the last of which is of immediate relevance to this publication. The students submitted their reflections under the headings of lessons learned, challenges faced, and recommendations, as part of the course grade. These reflections indicated that the students acquired a new understanding of the community, their course material, and themselves. These reflections also effected the professor's reflection presented here. The professor reflected on the students' learning of the value of investing in three "O's" of good research practices: originality, objectivity, and openness; and on the students' earning of the rewards of three "A's" of meaningful service: altruism, awareness, and appreciation. For instance, the students' reflections, which were completed and submitted individually, provided open and honest commentary on the benefits or challenges of teamwork. Furthermore, they addressed the joy of discovering that what was accomplished within the service-learning project gave them an opportunity to help others in the community and learn about themselves.

Keywords: awareness; altruism; objectivity; community-university partnering

Introduction

It is helpful for academicians involved in service-learning in the sciences to keep in mind that university science education world-wide has meant and continues to mean primarily didactic courses and seminars, bench research and experimentation, and oral and/or written examinations and reports of scientific knowledge acquisition. Science education viewpoints, however, have been expanding gradually but steadily in the last few decades to embrace a certain synergism that may exist between the experimental sciences and their well-structured experiential exposure counterparts. There have been numerous observations by pedagogy experts worldwide that highlighted the value of experiential education, as shown in Kolb's cycle of experiential learning (Kolb, 1981), and that of academic service-learning (Howard, 1993; Furco, 1996). The latter has been successfully introduced into the curriculum as a whole (Bingle & Hatcher, 1996) or into specific disciplines, such as environmental studies (Ward, 1999), language (Richmond, 2003) or psychology (Harnish & Bridges, 2012).

Service-learning research

Service-learning has been increasingly flourishing in the United States at the university level as well as other educational levels as a result of the efforts of a federal program named Learn and Serve America. And, students involved in well-designed service-learning activities have been important players in beneficial partnerships between the university (courses or programs) and the community (CCPH, 2013). Several attempts to define or describe service-learning exist, but the most applicable to the present study was put forth by Furco (2002) as "service-learning seeks to engage individuals in activities that combine both community service and academic learning. Because service-learning programs are typically rooted in formal courses (core academic, elective, or vocational), the service activities are usually based on particular curricular concepts that are being taught." The community needs may be addressed fully or partially through the students' service output, and the service itself can afford the participating students several benefits in approaching their courses, academic journeys, and roles in society (Bingle & Hatcher, 1995; 1999).

Abu-Shakra & Nyein (1999; 2000) developed and incorporated an intricate service-learning model that involved biology and health education university courses, as well as high schools science classes. At the top of that model named the "Cascade Model" was the same course used in the current study, which has been offered by the author since 1994 as both a biology elective course offered mainly to junior/senior Biology majors to meet the environmental science/biodiversity requirement and as a required course to environmental science majors. It was linked to a health education course offered to freshmen/sophomore students to meet the university's general education curriculum requirement. Then both of these courses were linked to science classes at a neighboring high school. The students involved in the Cascade Model went through the "serving to learn" and "learning

to serve” training and experience (Furco, 1996), and reaped the academic and behavioral benefits.

More recently, Abu-Shakra (2012) and Abu-Shakra & Saliim (2012) showed that when the service-learning activity focused on the impact of environmental pollutants on human health succeeds in gauging community awareness, it can contribute to bridging the so-called town-gown divide observed between universities and community members in many urban settings (CCPH, 2013). The students learned and gauged the community’s awareness of the harmful effects of lead on children’s health (Abu-Shakra & Salim, 2012) in a study that showed that the level of education among the community participants played a significant role in their awareness level regardless of their age difference. In contrast, when students learned and gauged the community’s awareness of Legionnaires’ disease (Abu-Shakra, 2012) it was evident that awareness was more influenced by the age of the participants than their education level. Those, who were at 40 or older were more familiar with the disease than those between 18 and 39 years of age.

In the two aforementioned 2012 studies by the author, students learned to reflect and were engaged in in-class reflection sessions guided by the professor. In order to best understand and apply service-learning, students and faculty alike need reflection. Starting with Dewey’s (1933) historic definition of reflective thought and arriving now at the current approach in which learning to reflect has become a requirement in teacher education and science education research, reflection has become also an academic tool to enhance and assess student learning as well as the professor’s role as the trusted guide-on-the-side in this learning process (Silcox, 1993; Daudelin, 1996; Hatcher & Bringle, 1997; Ward, 1999; Rowley & Munday, 2014). In introducing reflection and its merits to a class involved in a service-learning activity the professor invites all the players, who are the students, the professor, and any undergraduate or graduate teaching assistant, to work hard at linking who they are to what they do and expanding what they learn to encompass what they wish to become as a result of the service-learning activity. Therefore, reflecting on service is indeed an opportunity to promote personal growth and civic responsibility (Altman, 1996; Astin et al., 2000)

The rationale of the study

Since the students in the present study were to start their service-learning activity after they have had learned well the impact of eight major indoor air pollutants on human health, and since (a) they have become keenly aware from the coursework that the economically-disadvantaged urban communities may be at more risk than the rest of the population from indoor air pollution and (b) the service to the community may put them in a position to make a difference in not only gauging community awareness but also enhancing it, preliminary in-class reflection sessions were conducted. The level of enthusiasm for the project and written reflection as a mode of reporting were such that the strategy reported in the methodology section of this manuscript was designed and carried out. The strategy was inspired by the

excellent work of Bleicher & Correia (2011), who provided a clear and practical mode of written reflection, as well as its impact through the use of the “small moments” writing strategy to help undergraduates reflect on their service-learning experiences.

Methodology

The topics, tools, and student preparation

The students learned about 8 major indoor air pollutants. Three of the pollutants studied were of major national health importance and prominence, which were: lead, environmental tobacco smoke, and pesticides. The Legionella bacteria-induced Legionnaires disease and radon gas were the two more novel and less well-known aspects of indoor air pollution. The last three were smoke from fireplaces, household mold, and the fumes from chemicals used indoors, such as cleaning liquids.

The brochures were designed to provide knowledge on all of the 8 major indoor pollutants supported by web-links to reliable government agency websites. The questionnaires were 10-question each that gauged the community awareness of perceived risk from each of the 8 pollutants as minimal, low, medium, high, or very high. The questionnaires also included the two non-intrusive optional questions on the age range and educational level of the participants as was provided in the Abu-Shakra (2012) and Abu-Shakra & Saliim (2012) studies. The brochures and questionnaires were not prepared by the students, but were shared with them for critiquing and invited comments to make sure there was complete student buy-in on the content of these tools.

In addition to acquiring the needed information and scientific background from the textbook, handouts, reliable and official websites, the students’ preparation for the service-learning activity included engaging in active learning class discussions; in-class assignments; in-class reflection training; thorough review of the brochures; filling one questionnaire each, as they would subsequently request from the community participants they approach; and finally in-class training skits, using the verbal scripts provided to practice approaching community participants.

The Course and key players

The course in which the service-learning activity was conducted (a) addresses the plethora of possible effects of pollution on human health; (b) is designed to assess the impact on communities of air and water pollution, as well as hazardous waste, major industrial accidents, and occupational exposure; (c) exposes students to environmental health research and has been responsive to emerging health concerns and findings in the last 20 year; and (d) introduces students to the importance of raising community awareness on matters that affect community health, and respecting local, regional, national, and global efforts to improve human life.

The professor, who was also the principal investigator in this study, was supported by a senior-level undergraduate student, who participated in his capacity as an undergraduate investigator conducting an introduction to research course. Both investigators received CITI (Collaborative Institutional Training Initiative) training, a requirement to receive the university's Institutional Review Board (IRB) approval to conduct this type of research. Also, according to the IRB guidelines each student signed an informed consent form to participate in this study. All aspects of the research were explained fully to all students, including the two students per team formation followed to administer the questionnaires in the community.

The community partners' participation was through the anonymous completion of the questionnaire. The students were responsible to safeguard the questionnaires allocated to them from the moment they received them (stamped and numbered by the professor, and signed by the student) until they submitted them to the professor (after they were completed anonymously by the community participants).

The reflection strategy

To reflect on their service-learning experience the students were asked to provide written mini-reflections, which could be both logistical and questionnaire content-related, as well as the more detailed reflections on lessons learned, challenges faced and recommendations. The detailed reflections were inspired by the "small moments" strategy of Bleicher & Correia (2011), and became the foundation of this manuscript.

The reflections submitted to the professor were reviewed and assessed both qualitatively and semi-quantitatively as indicators of (a) the level of student involvement in the service-learning process, (b) the responsiveness of the student to the demands of teamwork dynamics, and (c) the impact the service-learning experience had on the students in terms of their relationship with the course as a whole and their civic responsibility.

During the review and evaluation of the students' lessons learned, challenges faced, and recommendations moments, the professor looked first for the documentation of learning through service. The students, who were instructed on the critical importance of learning and implementing good research practices throughout their service learning project, were encouraged to reflect with openness and without fear of losing any grades if their conclusions and reflections were critical of the research experience. Scientific-level objectivity was sought for in every approach adopted in this project to emphasize the fundamental importance of randomness and non-bias in conducting research. Finally, even when students were encouraged to work in teams, their reflections were submitted and evaluated individually. Their reflections were to underscore their individuality and originality of approach, thought, and expression. Secondly, the professor looked for documentation of the students earning the reward of altruism through their meaningful service.

Students could be quite eloquent when stating that they found their calling in life; making a difference in the life of their community. Students' reflections could invariably touch on an enhanced appreciation of their course; as it could dramatically become much more important than its 4 credit hours. Finally, students could witness their sense of civic responsibility intertwined with their enhanced awareness of community needs. In serving to alleviate the needs of the community the students could also be serving themselves, their families, their city, and their country.

Results and Discussion

As stated above, the results of the service-learning activity on which the present manuscript on the professor's reflection on the value of student reflections was anchored were the detailed reflections that followed the "small moments" strategy. There were 29 moments submitted for *each* of the following: (a) lessons learned, (b) challenges faced, and (c) recommendations. These reflections became a permanent record that both the students and professor could re-visit for further reflection.

Lessons learned moments (LLM)

From among the 29 LLM, the four examples presented in Table 1 were selected. The text in the moments was not edited except to correct a simple typographical error.

The Professor's reflection on LLM

Collectively the four LLM encompassed the importance of originality, objectivity, and openness in correctly addressing a research question; as well as altruism, awareness and appreciation leading to personal growth and enhanced civic responsibility. The student in LLM#1 provided extreme openness, awareness, and honesty in addressing personal growth through enhanced acquisition of knowledge as well as delivery of that knowledge. That was indeed the purest learning-to-serve and serving-to-learn (Furco, 1996) moment.

In the LLM#2 it was evident that student learning and keen perception were associated with one of the tools used in the study, which was the informative brochure. The tool was evaluated objectively by the student as useful for in-class learning by the students and community-wide learning by the interviewees. The last sentence had special resonance. The student appreciated the fact that when it is said that more needed to be done in addressing community needs, perhaps it is not that there have been too few service-learning projects, but there may not have been enough done as best as can be.

Awareness, appreciation, and altruism occupied center stage in LLM#3. The student was succinct in infusing the moment with an excellent angle on awareness of the historical town-gown divide. The divide is there but it can be narrowed through well planned and executed university efforts. The enhanced altruistic

sense and appreciation were evident in the witty and satirical comparison provided. The student painted an amazing caricature with words of the “affluence vs. scarcity” dichotomy by stating that they (the students) may complain of being “inundated” with the same knowledge that the surrounding community craves and needs. Realizing that they had been given an abundance of knowledge continuously in their “ivory tower”, the students were ready to make every effort to provide the same to those lacking that knowledge.

Table 1. Four examples of student reflections that addressed the lessons learned aspect of the service-learning research project

<u>Selection from the students’ lessons learned moment reflections</u>	
Moments type & number	
LLM #1	“I have learned a lot about indoor and outdoor pollution. I can proudly educate people about pollution and how it can affect people’s life. I did not know about legionnaire’s disease and radon until I took this class. This survey has given me a better understanding about indoor air pollution. I was surprised at myself because I was able to explain to people what indoor air pollution is about and how to take precaution.”
LLM #2	“For this project our brochure used modern day language that was easy to read and understand even if you were not university educated. We also took the time as a class to learn what we were explaining to others before we asked them questions. If we treat every community outreach effort as we did this one, we will receive positive results.”
LLM #3	“I learned that having the university connect with community and the community connect with the university is beneficial. I never thought about how important it is to educate the community, as the community houses many people that are uneducated. I think being part of a university, we sometimes forget that not everyone has access to all the educational material that we are inundated with on a daily basis.”
LLM #4	“I did most of the talking while my partner conducted the distribution of the survey; she’s more reserved than I am so we were able to work efficiently. Although going in a group of two is effective, I would have preferred at least more people in the group specifically between four to five members.”

Teamwork dynamics was addressed in LLM #4. The scenarios encountered while learning and serving as a team can be numerous, but this student’s perception was that the job went well because the more extroverted student did the talking, while the more reserved student did the survey! The professor’s take on this reflection evolved after reading this moment over and over again while observing the two students in class. These two students were not perceived as per LLM#4 in the regular classroom setting, even during the practice skits. The self-professed

© 2014 The author and IJLTER.ORG. All rights reserved.

extroverted student's preference for larger teams evoked a look into the matter. With the professor's experience as a foundation, it would be appropriate to state that while the student's statement deserved a nod for originality, the team-of-two formation should persist because it is less chaotic and minimally intimidating to community participants. On the other hand, the professor was keenly aware that there was always a possibility that some of the surveys may have been administered by one member of the team in the absence of the other. The teams were advised against that approach, but whether the admission of solo community visits was made or not, there were indeed scenarios in which one student would have been effective in administering his or her allocated questionnaires alone. The most likely venues would have been one's church, family reunion, or workplace, among others.

Challenges faced moments (CFM)

Table 2 includes the four selected CFM from among the 29 moments submitted by the students. The text in the moments was not edited except to correct a simple typographical error.

The Professor's reflection on CFM

In addressing their challenges the students demonstrated enhanced personal growth and openness, as well as critical thinking and problem solving skills, be they logistical or science-related. The challenge identified by most students and for various reasons was time. They had concerns regarding the time it took them to administer their allocated questionnaires, the time it took to coordinate a community visit with their team members, and as per CFM#1 the time that the community participants required to complete their questionnaire.

In examining the contrast in behavior and pace of community participants in completing the questionnaires, the student in CFM#1 made the interesting statement that the location in which the survey was conducted had an impact on its quality. Such a conclusion by an undergraduate student could have a potentially positive impact on many aspects of the student's academic and life journeys. The underlying question of why and when people can be in too much hurry to focus on what can be good for them was an extremely important question. Weren't the students themselves sometimes behaving in a similar fashion when they left studying for an exam to the last minute and then rushed through the questions and scored lower than they wished for (similar to the rushing community participants in the store)? Weren't the more serious students calmer and less stressed before a deadline on an assignment (similar to people in a serene mood, such as those in a house of worship)? The challenge faced presented an opportunity for awareness and insight, and therefore a new understanding.

In CFM#2 the student made the self-assessment that overcoming overall shyness was the challenge that needed to be acknowledged and confronted otherwise that part of the project could fail. Problem solving skills were needed, and there

emerged the historically proven remedy of “practice makes perfect”. In addition, the student displayed insight in starting within the safe haven of being with people one felt comfortable with. Again, there was an observable improvement in this student’s approach to the project and the course as a whole.

Table 2. Four examples of student reflections that addressed the challenges faced aspect of the service-learning research project

Moments type & number	<u>Selection from the students’ challenges faced moment reflections</u>
CFM #1	“I think the biggest challenge was time. Most people seemed to be so worried about how long it took rather than actually completing the survey. I believe the location made a big difference in the quality of the surveys. For instance, when I went to church the members took their time and asked me a lot of questions. When I went to the store people didn't ask any questions and just skimmed through the questions.”
CFM #2	“I had to overcome was my overall shyness. I have a big problem talking with strangers, this led to me to not getting my speaking points across; thus killing the conversation. In order to overcome this challenge I practiced my speech around people I felt comfortable with. The more I practiced, the better I felt about giving my speaking points.”
CFM #3	“Conducting some of the surveys was challenging because some of the participants did not understand that they were supposed to rate how much of a health risk each indoor air pollutant was in general. Some participants thought the survey was asking how much indoor air pollution was around them on a daily basis.”
CFM #4	There were times when people asked a significant amount of questions about a particular air pollutant but were not willing to take a brochure that could provide what they were looking for. That could be quite frustrating but after a while you must learn that patience is key, not everyone knows what you know or is taught what you are taught.

The challenge identified in CFM#3 was among my favorites on which to reflect. It was selected because the student would not acknowledge whether the participants received the clear information provided in the verbal script and the questionnaire itself. Community participants represented a random sample of the population with varied levels of education and life experience. It may have been possible that one participant found the questions straight forward, whereas another got confused. In fact, the student’s dilemma that was presented here as a challenge, was addressed in class as an integral part of the data analysis portion of the project. The reasons behind administering hundreds or thousands of questionnaires include

the major statistical requirement of having a large sample (high n values) to ensure against human errors and outliers derailing the findings.

It would not be surprising that CFM#4 would put a knowing smile on the face of any reader, who has been a teacher at any academic level. The student was extremely clear on the frustration resulting from community participants asking for information that was readily available in the brochure. That student eventually realized that patience was key in handling the situation. The implied solution to this challenge was that the student went ahead and relayed the information present in brochure, i.e. obliged the community participants by explaining what they did not choose to read for themselves. Again, weren't there similarities here between the community participants' requests and those of some students during class? They would rather have the professor state information to them again and again rather than search for it themselves in readily available textbooks or handouts. The student in CFM#4 faced the challenge by finding and deploying a strength rarely deployed among the young; patience! This challenge resulted in personal growth and strong sense of responsibility and appreciation.

Recommendation moments (RM)

There were excellent RM provided by the 29 students, and the four presented in Table 3 encompassed a wide variety of options that could be implemented to enhance future service-learning projects in this course and beyond. The text in the moments was not edited except to correct a simple typographical error.

The Professor's reflection on RM

The four selected recommendations span curricular modifications, long-term university-community coordination, an information technology angle, and structured on-campus activities. Interestingly, the latter two points link well with Silcox's eleven forms of reflection (Silcox, 1993).

The student who made RM#1 was an extremely hardworking second-degree seeking student, who had acquired experience in service-learning during the first bachelor's degree. It was quite fulfilling for the professor to observe the effort this student invested in this service-learning project. The effort served as a preface for the recommendation that was submitted. According to Harnish & Bridges (2012) service-learning provides an opportunity for students to engage in the course, which leads to internalization and integration of the course material, which eventually lead to motivation to learn. In the case of RM#1, the aforementioned sequence can continue on to reach a step at which the student becomes confident enough to aspire for and propose a class experience that can enhance the learning experience of future students. The service-learning component that has been offered in the present Biology course has made it a popular and influential course. It may take a good amount of effort and time to establish a new course dedicated to

expanding the service-learning activity further, and making it the whole course. But, now there is an intelligent and detailed recommendation that can be explored. And, the most significant aspect of this recommendation is that it was put forth by a student.

Table 3. Four examples of student reflections that addressed recommendations that may enhance service-learning research projects

Moments type & number	<u>Selection from the students' recommendation moment reflections</u>
RM #1	"I honestly think this project has the potential to become a class in itself. I could see this as a class that meets once a week to do survey, talk about reflections and challenges and have presenters come in and talk about research that is going on in the field."
RM #2	"I think that assigning students to go to various community locations would foster ties with the community. For example, students could be assigned to go to local churches, libraries, parks, etc. so we can better get to know the needs of the local community."
RM #3	"I think that a good way to do it is to create a website online with the same questions and instead of passing out questionnaires we can just pass out cards with the address on them and email other people as well. If we used this method the data that we could get from the questionnaires would be drastically increased."
RM #4	"I believe that we could take one day out of the month to have a setup on campus somewhere and have people come to us, who are interested in the survey or who are interested in learning about indoor pollution."

The RM#2 called for organizing more intricate and possibly long-term university-community coordination of community venues for this service-learning project. In proposing to assign students to specific community venues, the student in RM#2 was obviously foreseeing a simpler logistical road map for conducting the administration of the surveys. However, the organized road map, despite its advantages, could also breed resentment if perceived as controlling the creative student-originated plans to find the best venues to approach the community participants. However, the last sentence in the moment was indeed brilliant and indicative of keen interest in the welfare of the community.

Information technology has changed lives immeasurably, and none more than those of the young students. In RM#3, the student proposed creating a website with the same questions as those in the questionnaire in order to bypass their administration in person. The advantage perceived by the student was a drastic increase in completed questionnaires. The submission of such a recommendation was expected and timely indeed because there is no escape nowadays from the

information technology-induced impersonalizing of most aspects of life. Stating that this recommendation would not work well in the service-learning project presented here would be the easy answer for various reasons, namely: diminishing the desired direct contact with the community, thus diluting the serve-to-learn and learn-to-serve experience; requiring significant IRB application revisions; and most importantly, the risk of excluding the majority of the economically- and/or educationally-disadvantaged members of the community from participating. Despite these reservations, RM#3 deserved to be selected for future exploration in some form.

Encouraging the community participants to come to the university to participate in a structured on-campus activity (RM#4) is doable. In future class discussions that will precede the upcoming service-learning project in Spring 2015 the recommendation of a structured on-campus activity will be explored with the class. Preliminary reflection on this topic will be invited as was done previously and resulted in adopting the "small moments" strategy. Silcox (1993) reported on pre-reflection as the eleventh in the eleven forms of reflection.

Conclusion

The professor's reflection on the value of the student's reflections in this service-learning project can be best concluded by stating that in this project the rigor of scientific research applied fully. Having the word "service" before the word "learning" in the term, did not dilute the cognitive learning experience, but rather grounded it well in application. Also, having the word "learning" after the word "service" in the term, did not restrict the service experience, but rather enriched it with scholarship.

References

- Abu-Shakra, A. (2012). Including a service learning educational research project in biology course -II: Assessing community awareness of Legionnaires' disease. *European Journal of Educational Research*, 1 (3), 271-282.
- Abu-Shakra, A. & Nyein, T.K. (1999). Forging effective service learning partnerships via the Cascade Model. In *When Community Enters the Equation* (pp. 61-70): Campus Compact Publications.
- Abu-Shakra, A. & Nyein, T.K. (2000). Expanding the reach of university courses in Biology and Health to provide meaningful service to affected communities: the success of service learning at North Carolina Central University. In Ostroff, J.H. & Brubaker, D. C. (Eds.), *Service Learning in Biology Monograph*, (pp. 75-81): American Association for Higher Education. Washington, D.C.
- Abu-Shakra, A. & Saliim, E. (2012). Including a service learning educational research project in a biology course -I: Assessing community awareness of childhood lead poisoning. *European Journal of Educational Research*, 1 (3), 241-253.
- Altman, I. (1996). Higher Education and Psychology in the Millennium. *American Psychologist*, 51, 371-398.

- Astin, A.W., Vogelgesang, L.J., Ikeda, E.K., & Yee, J.A (2000). How service-learning affects students. Higher Education Research Institute, UCLA.
- Bleicher R.E. & Correia, M.G. (2011). Using a "Small Moments" writing strategy to help undergraduate students reflect on their service-learning experiences. *Journal of Higher Education Outreach and Engagement*, 15 (4), 27-56.
- Bringle, R.G. & Hatcher, J.A. (1995). A service-learning curriculum for faculty. *The Michigan Journal of Community Service-Learning*, 2(1), 112-122.
- Bringle, R.G. & Hatcher, J.A. (1996). Implementing service learning in higher education. *Journal of Higher Education*, 67 (2), 221-239.
- Bringle, R.G. & Hatcher, J.A. (1999). Reflection in service-learning: making meaning of experience. *Educational Horizons-Campus Compact Publication* 77(4), 179-185.
- Community-Campus Partnerships for Health (CCPH; 2013). Principles of Good Community-Campus Partnerships.
- Daudelin, M.W. (1996). Learning from experience through reflection. *Organizational Dynamics*, 24(3), 36-48.
- Dewey, J. (1938). *Experience and Education: Touchstone*.
- Furco, A. (1996). Service-learning: A balanced approach to experiential education. In *Expanding Boundaries: Serving and Learning*, CNS (pp. 2-6). Washington DC.
- Furco, A. (2002) "Is Service-Learning Really Better than Community Service?" In Furco, A. & Billig, S.H. (Eds.), *Service-Learning: The Essence of the Pedagogy* (pp. 25): Information Age Publishing Inc.
- Harnish, R & Bridges, K.R. (2012). Promoting student engagement: Using community service-learning projects in undergraduate psychology, *PRISM: A Journal of Regional Engagement*, 1 (2), 82-92.
- Hatcher, J. A. & Bringle, R.G. (1997). Reflection: bridging the gap between service and learning, *College Teaching*, 45(4), 153-159.
- Howard, J. (1993). Community service learning in the curriculum. In Howard J. (Ed.), *Praxis I: A faculty casebook on community service learning* (pp. 3-12): OCSL Press.
- Kolb, D.A. (1981). Learning styles and disciplinary difference. In Chickering A.W. & Associates (Eds.), *The Modern American College: Responding to the New Realities of Diverse Students and a Changing Society* (pp. 232-255): Jossey-Bass.
- Richmond, K. (2003). Academic service learning in an English methods class: A practical approach. *Language of Arts Journal of Michigan*, 19(1) 8-12.
- Rowley, J. & Munday, J. (2014). A "sense of self" through reflective thinking in ePortfolios, *International Journal of Humanities, Social Sciences and Education*, 1(7), 78-85.
- Silcox, H.C. (1993). *How to guide reflection: adding cognitive learning to community service programs*: PA Brighton Press.
- Ward, H. (1999). Acting locally: concepts and models for service-learning in environmental studies (pp. 11-22): American Association for Higher Education (AAHE) Series on Service Learning in the Disciplines. Washington D.C.