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“Coming together is a beginning. Keeping together is progress. Working together is success.” - Henry Ford

Abstract

If we expect students to function effectively on teams and to have a respect for diversity and a knowledge of contemporary professional, societal and global issues (TAC of ABET Program Outcomes criteria 2 e and 2 j), how and where do we demonstrate those outcomes within our professional activities as role models? This paper will reflect on how faculty and librarians fostered a successful cross-disciplinary relationship and worked as an effective team built on diverse personal strengths. The authors examine their journey to nurture an information fluent learning environment which they viewed as one of critical 21st century teaching and learning issues, and share their lessons learned that are applicable to their team skill teaching practices.

Introduction

Some of Technology Accreditation Commission of the Accreditation Board for Engineering and Technology (TAC of ABET) Criterion 2 Program outcomes, such as (a) a mastery of the knowledge, (b) an ability to apply current knowledge and adapt to emerging applications of mathematics, sciences, engineering and technology (c) an ability to communicate effectively, are relatively easier to address, document, and assess than other outcomes, such as (e) an ability to function effectively on teams, (h) a recognition of the need for, and an ability to engage in lifelong learning, and (j) a respect for diversity and a knowledge of contemporary professional, societal and global issues.

This paper will reflect on how faculty and librarians fostered a successful cross-disciplinary relationship and built an effective team. How did we foster the connectedness as a group? How did our diverse personalities impact the relationship? How did we create a win-win relationship based on personal strengths? How did we benefit from social capital? How did we build co-mentorship? How did we practice being a community of learners? How did we employ a servant leadership model? The authors share their retrospective analysis and lessons learned, in hopes of overcoming challenges in educating 21st century learners, and strengthening cross-disciplinary learning environments.

Collaboration: What did we do as a team?

In the rapidly changing 21st century educational environment, faculty and librarian’s successful collaboration and communication can create a core community of learners. The concept of collegiality is discussed as one of most challenging and meaningful components of a successful collaboration between faculty and librarians. Association of College and Research Libraries (ACRL) information literacy web site presents many resources and ideas including various
collaboration examples.\textsuperscript{4} ACRL points out carefully defined roles, comprehensive planning and shared leadership as requirement of successful collaboration.

A faculty/librarian relationship at a regional university was formed among the library director, technical service librarian, chemistry professor and English professor. Two faculty members who attended the American Association Higher Education (AAHE) conference in 2001 started sharing what they learned from the conference with two librarians. This collaboration has produced fruitful outcomes in campus wide information literacy instruction and collaborator’s professional development. The collaborators’ regular meetings to discuss, evaluate, and reflect the information literacy themed projects have produced campus-wide information literacy perception assessment, inter-institutional grant activities to promote information literacy across the curriculum and seamless integration of information literacy instruction into the course via course assignments. For example, the project process and progress of University General Education general chemistry course information literacy assignment for engineering technology students have been shared in various professional communities.\textsuperscript{5,6,7} In this paper, the authors examine their journey to create the successful relationship.

Reflection I: How did we function as an effective team?

How did we foster the connectedness as a group? We recognized our common goals (e.g. information literacy, student centered learning) and respected each other’s point of view. We benefited from our diverse academic and cultural backgrounds, disciplines, ages and career stages. We capitalized on each member’s diverse personality traits, benefited from social capital, focused on our strengths, co-mentored, built a community of learners and utilized the servant leadership model.

Reflection II: How did we respect and utilize diversity within us?

How did our diverse personalities impact the relationship? The Dominance, Influence, Conscientiousness, Steadiness (DISC) personality profile model developed by William Moulton Marston has been utilized by organizations to improve personal/professional relationships.\textsuperscript{8,9,10} Fortunately, each member of our group exemplified one of the four DISC behaviors and our group capitalized on the personality strengths of each individual. The library director with strong dominance profile kept us focused and moving to get results. An English professor with influence behavior verbalized ideas and encouraged a friendly environment such as social events. A chemistry professor with conscientiousness traits engineered systematic/specific details and supported ideas with obtaining data. A technical services librarian with steadiness characteristics offered personal assurance of follow-up support with technology expertise and defined roles/procedures in the overall plan. We shared our weaknesses without embarrassment and understood each other’s limitations. With the rapport built on openness, we listened, respected each other’s needs, were willing to take the risks, and focused on each member’s strengths. Our keys to solve any conflicts included looking ways to contribute personal strength, embracing the strengths of the other members and expressing gratitude for strength contribution. We created a win-win relationship built on personal strengths.
How did we benefit from social capital? Why was social capital so important ingredient to our group? "Social capital consists of the stock of active connections among people: the trust, mutual understanding, and shared values and behaviors that bind the members of human networks and communities and make cooperative action possible." Every successful group or organization usually has a high degree of social capital. Social capital connects people. Its major indicators are high levels of trust, robust personal networks and vibrant communities, shared understandings and a sense of equitable participation in process of accomplishing the goals. Looking back at our group dynamics, we realize now our interactive group had a large amount of social capital. Social capital was important to our group because it gave us space and time to connect, allowed us to build trust and offered opportunities for active participation not just presence. Our social capital increased as we did more and more projects together.

How did we become co-mentors? Among four mentor types (traditional mentor, step-ahead mentor, co-mentor, spouse mentor), our relationship was strengthened by the co-mentor aspect. Our academic experiences (2 to 34 years) and ranks (assistant to full professor) provided traditional mentor and step-ahead mentor. Traditional mentor is “similar to a wise and capable elder” and our library director served in that capacity. Step-ahead mentor is “analogous to a protective older sibling who smooths the path for the protégé.” Our group consisted of full-, associate-, and assistant professors, who represented hierarchical layers of academic careers, and were natural step-ahead mentors. However, being an all female group, in a male dominated engineering technology programs institution, encouraged us toward a co-mentor to each other “a friend with whom one shares mutual assistance.” Our group engaged in a series of interactions to discuss various aspects of teaching/scholarship/service and professional development in academe. We shared our individual and interdependent teaching goals/materials, observed each other’s classroom activities for peer review, inspired each other with scholarship and creative endeavors, and consulted each other for constructive critique during their major academe career advancements.

Reflection III: How did we revitalize our understanding of professional issues?

How did we build a community of learners? Our group shared knowledge, ideas, and practices involving common issues about teaching and student learning, specifically information literacy. “Learning happens fastest when the novice trusts the setting so much that they aren’t afraid to take risks, make mistakes or do something dumb.” Our group understood the unique roles of teacher and librarian in student learning and cultivated positive relationships, by sharing pedagogy, instructional resources and the assessment process related to information literacy instruction. For example, the technical writing professor kept us informed on the abilities of her students to do advanced searches. The chemistry professor refined context-sensitive information literacy materials/assessment tools using the group’s feedback. The total student experience was measured, critiqued from beginning to end by all of the group members. We also shared our personal and professional needs/challenges/goals in broad perspectives. We were inspired by each other’s practical humanities which include benevolence, inclusion and respect, and unknowingly followed the servant leadership model.

What is a servant leadership model? How did we employ the servant leadership model? Servant leadership begins with a need to serve, followed by a conscious choice that brings people
to aspire to lead. Servant leadership involves following components: listening, empathy, healing, persuasion, commitment to the growth of people, and/or building community. Servant leadership allows the opportunity for each individual to grow and provide for the highest priorities of the group. In our relationship, each of us was a servant to the other. Rather than merely dividing the work, we willingly offered individual expertise, skills, talents, and ‘can-do’ attitude to our alliance. Our team was often moved emotionally by members who practiced servant leadership. When we valued people, the project success followed.

Lessons learned:
- Focus on common goals.
- Remember that our colleagues help us accomplish our work.
- Encourage social capital such as trust, mutual understanding, shared values, and cooperative action.
- Value diversity and be inclusive.
- Understand different personality behaviors and capitalize on personality strengths.
- Create a mentoring environment that promotes mutual assistance.
- Foster a community of learners to inspire each other.
- Value people, hard work, humor, knowledge and service.

Reflection IV: What did our journey bring to Engineering Technology students?

Science literacy, information fluency and communication skills are critical foundations for engineering technology program students to become lifelong learners. The collaborators recognized each individual goal as chemistry teacher, English teacher and librarians but also importance of reaching their common goal: fostering students to be lifelong learners and effective team members. Our effort to integrate individual goal with common goal is presented using the assignment in University General Education chemistry course taken mostly engineering technology students to give some useful insight.

For a pre-lab assignment for “paper chromatography” inquiry lab, students are to search for information about how chromatography is used in their major fields. Students are to share their experience with librarian during required individual conference for feedback and guidance to complete the assignment. This assignment allows students to research a chemistry concept linked to their disciplines and to have opportunities to familiarize with the information repositories of their fields. The project and its merits were presented in details previously.\(^5\,6\,7\) Chemistry course student survey over a period (2004-2007) indicates that overall student perception of library instruction, computer literacy, critical thinking, communication, ethics, and lifelong learning as information literacy components has steadily increased. Students spend more time on the assignment, according to their self-statements, average from 2.9 hours in 2004 to 8.7 hours in 2006. More importantly, the instructor has observed a distinct improvement in the quality of cited references, as well as the quality of the search process and path. During summer 2007, this assignment expanded further as virtual team activities to build a team presentation as a team of four to five students from the chemistry and the upper division technical writing courses. This cross-curricular collaboration has amplified teaching effectiveness of each unit and strengthened the collegial communication to make the assignment a meaningful teaching/learning experience not only for themselves but also for students.
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