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Building Professionally-Based Communities of Learning among Faculty, Students, and Practioners

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ABSTRACT: Residential and non-residential "communities of learning" have been used within institutions of higher education as formal methods to enhance interactions among individuals that ultimately helps learning. Typically, these communities have included student-to-student and faculty-to-student interactions within residential living areas, teams in a core of courses, or teams of students within a course. If students are to develop into leaders within their respective disciplines an additional component that should be integrated into communities of learning is practioners. The objectives of our paper are to describe: 1) communities of learning and why they should be established for all students to enhance learning, 2) how to integrate a community of learning into its respective community of practice, 3) models of communities of learning and their characteristics, and 4) what roles natural resource practitioners, faculty, and students can play in developing and maintaining non-residential communities of learning to meet academic and professional objectives. Ultimately, the integration of faculty, students, and practioners for developing and maintaining learning communities will help create an educational culture that produces life-long learners and leaders in natural resources management.

INTRODUCTION-WHAT ARE COMMUNITIES OF LEARNING?

How students learn best and evolve into effective professionals have been questions that have always interested educators. However, what has been demonstrated by others is that when students are actively engaged with constructing knowledge, either independently or in groups, learning improves (e.g., Johnson et al. 1991). Because many natural resource management issues are often addressed with a team approach we advocate using communities of learning in higher education to help students develop into effective

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natural resource professionals. The objectives of our paper are to describe: 1) communities of learning and why they should be established for all students to enhance learning, 2) how to integrate a community of learning into its respective community of practice, 3) models of communities of learning and their characteristics, and 4) what roles natural resource practitioners, faculty, and students can play in developing and maintaining non-residential communities of learning to meet academic and professional objectives.

Communities of learning have been described as consisting of groups of students who work with faculty in a specified set of courses to meet specific learning objectives and experiences (e.g., L.C. Koch, Assoc. Vice Provost, University of Minnesota, personal communication, NC Teaching Workshop 2003). In essence, the community of learning concept is based on individuals participating in cooperative learning. Many communities of learning can be described as a residential model in which incoming groups of freshman are housed together and take a common group of classes. In this environment, there are facilitated opportunities for increased student-to-student and student-to-faculty interactions, increased cooperation and collaboration, meeting desired learning outcomes, and professional development.

The concept of a community of learning, however, can be expanded beyond what undergraduates in a residential model experience so that all undergraduate and graduate students can have the same learning opportunities. This expanded model, or more general approach of a community of learning, can be described by what Wenger et al. (2002) calls "communities of practice". A community of practice is "a group of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting…" (Wenger et al. 2002:4). In essence, a community of practice may describe participants in a club, professional society or students in a specific major—not necessarily just students in a residential community of learning. In this environment, individuals have the opportunity to experience that learning a "practice" (e.g., becoming a wildlife biologist) will involve becoming a member of a "community of practice". As individuals become members of a community they will have opportunities to understand the work, talk, ethics, and standards of a specific "practice".

WHY USE COMMUNITIES OF LEARNING?

Faculty Perspectives:

Clinchy (1990:123) argues that a student's search for knowledge is perhaps best attained through ongoing conversations "in which each person serves as a midwife to each other person's thoughts, and each builds on the other's ideas". In essence, this ongoing conversation about a common interest becomes a community of learning as individuals learn from one another and reflect upon their own ideas. However, if learning is to occur within a community of learners someone must be directing the conversations. Based on results publicized in Seven Principles of Good Practice in Undergraduate Education

(Chickering and Gamson 1987), students who frequently interact with their faculty members during college tend to be more satisfied with their educational experience and tend to drop out less. These findings may point to the fact that those students who are involved with others (e.g., faculty or practioners directing professional discussions) in learning environments may show more professional growth and development than those not engaged in communities of learning. For example, Bair and Haworth (1999; cited in Council of Graduate Schools 2004) documented that one attribute that was positively correlated to Ph.D. students completing degrees was the extent and quality of the student-advisor relationship. Given that Ph.D. completion rates range widely from 33.4% (Bowen and Rudenstine 1992) to 76% (Pion 2001 cited in Council of Graduate Schools 2004), being a member of a community of learning (i.e., including a good faculty mentor) may aid with enhancing retention and graduation rates.

Using various models of communities of learning to encourage cooperative interactions among students, faculty, and practioners will also be beneficial for preparing students to work in natural resources management teams as future professionals. Faculty should be encouraged to develop communities of learning that emulate the professional work atmosphere—this is how current and future problems will be addressed. When using communities of learning in this context it is important to convey to students that learning the issue is not as important as understanding the underlying concepts and process used to address the issue. Having communities of learning focus on the process of how to learn new information and solve problems will help them become life-long learners and tackle future issues.

Student Perspectives:

Everyone surely can think of a time where he or she suddenly had a great idea or insight that lead to development of a problem's solution, research proposal, enrollment in a course, or some other important step in that person's professional life. That idea, insight, or vision likely occurred because of some external stimulus. That is, a conversation with someone, a poster on the wall, a television program, or an article. In other words, something in the environment sparked a thought of idea that helped define a direction in someone's professional journey. This exchange of knowledge or flow of ideas cannot take place in isolation and this professional development depends on interactions with others within a community of learning.

Communities of learning within universities must occur at 2 levels—the curricular level and the professional level. At the curricular level, students need guidance, direction, dialogue, and support from communities to help plan a course of study that will be effective in facilitating skill development and experiences that will prepare students for future careers in the natural resources profession. Communities of learning are critical for student development because frequently students are unsure about what they want to do professionally, whether or not to pursue an advanced degree, or what elective courses they should take to strengthen their knowledge in a specialty area.

MODELS OF COMMUNITIES OF LEARNING AND THEIR CHARACTERISTICS

Communities of learning can occur under two models: residential and nonresidential. Two examples of residential models are the James Madison College (http://www.jmc.msu.edu/) and Lyman Briggs School (http://www.msu.edu/unit/lbs/) at Michigan State University (MSU). In the James Madison College, 200 freshman interested in policy related topics may enter annually, reside in the same residence hall, and stay in the four-year program. The Lyman Briggs School resides in the College of Natural Science at MSU and is also a four year program. Approximately 500 freshman enter Lyman Briggs annually, however, the School only maintains 1000 students, hence there is usually substantial turnover after students have been in the School for two years. Most students leaving Lyman Briggs seek majors in science-oriented departments. A limitation to the residential model of learning communities is that they are restricted to a relatively small number of individuals—what about other students who are not in residential programs but could benefit from the types of interactions and learning processes that occur in these communities of learning?

We advocate that a non-residential community of learning model composed of a hierarchy of communities developed across curricula, courses, and in mentoring programs could serve as alternatives or complement residential programs. At each of the three levels, faculty must strive to maintain the desired characteristics associated with communities of learning: facilitate interactions, bonding, and support systems; maintain personal and professional respect; mentoring opportunities with trust and flexibility to facilitate individual goals.

To meet the desired characteristics of learning communities within curricula a common set of courses (i.e., >2) must be connected with common themes (e.g., ecosystem management, quantification). Requiring students to take a sequential set of courses will promote a community and enable students to gradually build their level of expertise. At MSU, all fisheries and wildlife majors are required to take eight fisheries and wildlife courses. As Winterstein et al. (2001) describe, the sequence in which students should take these courses is designed to build their quantitative problem-solving skills. In essence, the courses include 3 nonexclusive groups, each with different educational goals (i.e., introduction to problem solving, tools for problem solving, and applications). Typically, students move through these courses in a cohort and are required to interact on various problem solving activities and assignments. Winterstein et al. (2001) discussed that the Department of Fisheries and Wildlife at MSU has not fully implemented the practice of having undergraduate students use a case study (e.g., bovine tuberculosis in free-ranging cevids) throughout core curriculum. Doing such, however, would facilitate cohorts of students addressing increasingly complex information, encourage them to learn more about an issue outside of classes, and seek information from practioners as they advance through their college career.

Experiential learning is another essential component of curricula that can be used within communities of learning to facilitate cooperative interactions among students, faculty, and practioners beyond the boundaries of classrooms. Giving students the option of meeting an "experiential learning requirement" by completing a field-based techniques course, study abroad program, or a professional academic internship could enable them to address real-life research or management issues in the field by interacting with faculty and practioners.

When developing curricula that will facilitate interactions among members of learning communities it is essential that they contain the educational foundation for a specific discipline. This foundation will help community members maintain an identity while simultaneously giving them the background to meet professional goals. For example, students desiring to be wildlife biologists may take courses in botany, chemistry, zoology, forestry, soil science, quantitative sciences, and natural resource policy and planning. Ryan and Campa (2000), however, mentioned that such a core will not be sufficient for preparing future natural resource professionals. Future professionals will need additional skills in oral and written communications, critical thinking, and problem solving. These three additional elements can easily be added into a curriculum using communities of learning and appropriate pedagogy to promote learner-centered, cooperative learning.

Formation of communities of learning must start in the classroom because the classroom is where students usually are first exposed to principles behind their chosen profession and are first introduced to individuals who will help them succeed in the profession. Educators can facilitate the desired characteristics of communities of learning within courses by using learner-centered pedagogy. To apply such approaches, however, will require faculty to engage students—and not rely on passive lectures. Courses that begin the semester with activities that allow students to network with other classmates and identify individuals with specific interests promotes connectivity and interactions with every participant in the class. For example, a 15-minute activity where each student has to meet individuals that identify with one of the statements from a list, such as find someone who has lived in California, or someone who has studied abroad.

Promoting student engagement, interactions, and cooperation seen in communities of learning can also be accomplished using problem-based learning (e.g., Ryan and Campa 2000, Ryan and Campa In Press). With problem-based learning, students may be encouraged to cooperate to address a real-life natural resource management problem (e.g., conducting a habitat analysis and management plan for biological diversity). In essence, a cooperative learning group becomes a community of learning. However, before they can determine how to address the problem they first must determine what new information needs to be learned. The process of determining what they need to know may require students to contact natural resource practioners and observe how practioners also struggle with the same process.

Giving cooperative student groups the opportunity to demonstrate how they addressed a problem is valuable learning experience. In essence, educators are giving them the opportunity to "learn to be" an actual natural resource practioner instead of having them "learn about" being a practioner (Bruner 1996). As educators, this is an important distinction as you decide what pedagogy to use to teach material and to communicate to students (Brown and Duguid 2002). Simply having students "learn about" (i.e., knowing about) being a natural resource practioner may only require them to accumulate facts and information and could be conveyed to them using passive lectures. "Learning to be" (i.e., knowing how) a natural resource management practioner, however, is more problematic for students and will require educators to use more sophisticated pedagogy (e.g., role playing, team-problem solving), however, the payoffs are great (Brown and Duguid 2002, Bruner 1996). Requiring student cooperative groups to address real-life problems in a problem-based learning context will promote interactions, involvement, and retention of information (Ryan and Campa 2000).

Effective mentoring programs can also be used to facilitate the desired faculty-to-students, practioners-to-students, and faculty-to-students-to-practioners interactions within communities of learning. The Council of Graduate School (2004) reported that student outcomes are influenced by financial resources, research experience, department environment, curriculum as well as mentoring. For example, Lovitts (2001) reported that graduate students who completed their degrees perceived that their advisors were more interested than those who did not complete degrees. Also, Preston (2003; cited in Council of Graduate Schools 2004) reported that 60% of the women graduate students who thought of themselves as "unmentored" completed their degrees in contrast to 100% of the women who thought they were mentored completed their degrees.

Having effective mentors (i.e., both faculty and practioners) is a critical element in non-residential communities of learning. Mentors can help guide learning of course material, facilitate professional development by helping students network, and help students understand the insider knowledge associated with a specific profession. Mentoring relationships, however, are not easily developed and will require trust from mentors and proteges as well as encouragement, support, and rewards from administrators for those who participate.

ROLES OF FACULTY, PRACTIONERS, STUDENTS IN DEVELOPING AND MAINTAINING COMMUNITIES OF LEARNING

Students feel that communities of learning should consist of members with 3 essential roles. First, peers are the foundation of communities of learning. Wenger et al. (2002) noted that effective communities provide an atmosphere of openness where members can informally explore ideas, insights, and experiences. This informal interaction, however, is critical for professional development. For example, students understand pressures, challenges, and opportunities that each other are facing because they are experiencing things together. They can work together, complain about things together, celebrate accomplishments together, discuss likes and dislikes about particular classes, make

mistakes and learn from them together. This part of the community is safe because they do not have to worry about their "image" or making a "bad impression" on any of the peer-members because everyone is at the same level; student peers are not the ones offering jobs or hiring graduate students.

Second, for students, the role of faculty in communities of learning is to initiate the flow of knowledge, be mentors and role models, and guide students toward finding pathways that will lead to fulfillment of their goals and aspirations. Although initiating the flow of knowledge can and should occur within the classroom, mentoring may be extended outside the classroom where the unique needs of each student can be identified and met. Office hours, one-on-one meetings, extracurricular activities through clubs, or informal chats on the way to class or when passing in the hallway are all good ways to maintain communities of learning.

Practioners also play a key role for students within communities of learning. Students need to interact with practioners to establish contacts, understand agency operations, keep updated on current issues and experience different viewpoints on natural resource-related issues. Practioners should also be encouraged to act as mentors and provide experience and direction for students.

CONCLUSIONS

Establishing communities of learning can be challenging, but the importance of them to strengthening university programs and enhancing student experiences is immeasurable. Students who get the most out of college, who grow the most academically, and who are happiest, have college experiences that include activities with faculty members or with several other students (Sharik and Wellman 2001). Similarly, faculty need interactions with students to receive feedback on course effectiveness and to know and understand student needs and goals in order to be good mentors and role models.

Students need to know that they are important as individuals and each has something unique to offer to a profession. Their difficulty, however, lies in discovering where their potentials lie and what factors motivate them to reach their fullest potential. Practioners and faculty are important in this process to provide additional opportunities to students for developing their skills and training to be leaders within a profession. The saying that the key to getting a job is "not what you know but who you know" has some truth. We think that residential and non-residential communities of learning (i.e., composed of students, faculty, practioners) help broaden "who you know" and provide the foundation for developing interpersonal skills, new insights and perspective, potential job opportunities, and direction for further exploration and professional development with professions.

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