

USING LEARNING COMMUNITIES AS A RECRUITMENT STRATEGY FOR AN UNDERGRADUATE GEOGRAPHY PROGRAM

Wendy Miller¹, Ibipo Johnston-Anumonwo*¹, and Kathleen Lawrence²

¹Geography Department

²Communication Studies Department

SUNY Cortland

Cortland, NY 13045

ABSTRACT: *The TechFirst Learning Community met the twin goals of broadening students' exposure to geographic knowledge and increasing the number of undergraduate geography majors. The authors focus on a case study of how collaborative teaching and integrated content of courses in human geography, global environmental issues, computer mapping, basic computer applications, communication dynamics, and academic writing, as well as student-faculty involvement in unique extra-curricular activities, enabled a successful pedagogical experience for a liberal arts Learning Community. Data on enrollment trends are presented to show the progress made in recruiting GIS and geography majors over a ten-year period. In light of the paucity of academic literature of scholarship about learning communities in geography, this article represents a significant addition to the geographic education literature.*

Keywords: *undergraduate geography, Learning Community, communication, pedagogy, recruitment*

INTRODUCTION

In this article we draw on our experiences as teaching faculty in a Learning Community to discuss key factors that led to the successful implementation of the TechFirst Learning Community (TFLC) and some challenges that were overcome. Framing the account from conceptualization to success, we present a progress report of a program conceived and envisioned as a means to introduce college-level geography to first year students who had not yet declared a major (pre-majors). First year students refer to the traditional college freshmen entering college for the first time. This cohort does not include transfers students who have had more than one semester at the undergraduate level. A key purpose of the article is to highlight how conscious use of active learning pedagogic practices across the courses in the Learning Community correlate with dimensions proposed in the literature for effective geography teaching in higher education. Enrollment trends are presented to show the progress made in recruiting GIS and geography majors over a ten-year period (1999-2009). Our review of the evidence in the literature verifies that the common tenets in the success of the Learning Community for the geography department are those fundamental to "teaching for better learning" as reported by Moore and Gilmartin (2010). These tenets include enhancing the first year experience for college students, fostering deeper student engagement in integrated introductory geography and non-geography courses, incorporating technology and face-to-face interactions, and promoting active learning in a supportive and collaborative teaching milieu.

THE VISION TO MATCH DEPARTMENT AND COLLEGE GOALS

The analysis is situated at the State University of New York College at Cortland (SUNY Cortland), a state-assisted, moderate-sized institution with approximately 6,300 undergraduate students (and 1,000 graduate students) that provides programs leading to the award of degrees in arts and sciences, professional studies, and education. The geography department is housed in the School of Arts and Sciences. Students enrolled in the geography department may choose a program leading to the award of a Bachelor of Arts degree in geography, or a Bachelor of Science degree for a GIS major (geographic information systems). The pre-21st century milieu (i.e., late 1990s) was such that the geography department was poised to capitalize on its effective teaching legacy and robust computer technology outlay for confronting the challenge of recruiting majors by using the Learning Community approach. There were far more students in the School of Professional Studies than in the School of Arts and Sciences in the mid to late 1990s. Simultaneously, the geography department, a small (five full time faculty) department had declining numbers of majors.

In 1996, SUNY Cortland's Faculty Senate endorsed a statement that students at the point of graduation should possess the skills necessary to gather relevant information, evaluate it critically, and communicate it

effectively to an audience in written and oral forms. The faculty members who created the TFLC used this all-college student learning goal as the platform upon which to launch SUNY Cortland's first Learning Community. One of the main aims of the Learning Community was to use technology to entice students and to offer a non-threatening glimpse into geography as an academic discipline. This was a prime opportunity to match the department goal of recruiting geography majors with the college goal of increasing retention rates at a time when improved retention was a priority for the college (particularly in the school of Arts and Sciences). Developers of the TFLC saw themselves acting as change agents and conceived the Learning Community as a pilot program. Our pre-major (first year) Learning Community with a strong technological component emerged from this realization that both college needs and department fit could be satisfied with a collaborative learning model.

Invigorated by the new platform "Learning to Make a Difference" as described in the 2001 Arts and Sciences action paper (SUNY Cortland, 2001), colleagues in and outside the Geography Department prepared a brief outline to use as part of a statement to the College urging initiation of the Learning Community. Shortly thereafter, the idea of Learning Communities became one of the basic ingredients of SUNY Cortland's first year offerings for pre-major students. In the early 2000s, pre-majors comprised up to one third of the first year students and Learning Communities provided an excellent opportunity for them to feel like they had a place at the college and to assist them in identifying a major. The college's publication "Learning Communities for Pre-Majors" mirror the contemporary prevalence across U.S. universities of programs that are designed for the successful transition of first semester - first year students (variously known as Living Learning Communities, First Year Seminars, or First Year Programs (Hanson and Heller, 2009; Jedele, 2010)). Aside from a few exceptions (e.g., Wright, 1995 and Sommers, 1997), the academic literature of scholarship about learning communities in geography is scant, thus this article adds to the geographic education literature about learning communities in the discipline.

THE LEARNING COMMUNITY CURRICULUM

The strategy for achieving the ideal of learning with intention relied heavily on using courses required by all students for graduation. The specific curriculum has changed slightly since the TFLC's inception in 1999, but the overall structure remains the same. In addition to a required one-credit first-year course, TechFirst students enroll in five courses (3-credits each) for a total of 16 credit hours during their first semester. Signifying the centrality of geography and technology, two of the courses are geography courses and the third is a technology course that is often a prerequisite for additional courses in a variety of majors. The fourth course is the required academic writing course and the fifth course is usually a non-geography elective. The goal is for the students to all enroll in at least four of the above courses, maintaining a cohort for their first semester.

Two geography courses (currently Human Geography & Global Development and Will the World Provide: A Research Experience for Students) expose students to the human and environmental interactions characteristic of fundamental geography. Although taught as separate courses, this program design is similar to the approach reported by Read (2010) for teaching Introductory GIS, at Syracuse University. These specific and elective courses in the TFLC contain segments promoting basic communication learning outcomes requiring critique of oral presentations, writing essays, reflective journal entries with regular instructor feedback, small-group work, undergraduate research and some outdoor experience, culminating in a final oral presentation with a required technology component (see also Wright, 1995; Scheyvens et al., 2008).

While the courses also fulfill the SUNY Cortland's liberal arts requirement, a pivotal foothold of the formation of the TechFirst Learning Community was reliance on courses within the college General Education Program (GE/GenEd). The General Education program provides students with an intellectual and cultural basis for their development as informed individuals. All students must complete the General Education Program requirements by taking one course in each of the 13 designated skills-and-knowledge base categories. TechFirst students fulfill requirements for two GE categories (1) "Contrasting Cultures" (courses designed to explore the distinctive features of non-Western cultures) and (2) "Science, Technology, Values and Society" (courses designed for students to reflect critically on problems that involve ethical or values-based judgments of technical information and/or issues at the interface of science and society). The bundle of courses in the TFLC was designed to provide a curriculum at the beginning of their college years that fills a niche and thus attracts students. The curriculum enhancements designed to make the TFLC a positive experience for students include the participating faculty, unique pedagogical approaches, a focus on technology, and an off-campus activity.

Faculty

The faculty is comprised of a mix of both senior and junior members. Some have earned distinction for their practice of innovative techniques and interactive pedagogy. The team consists of national and institutional award recipients in student advisement, teaching, scholarship and creative activities. These faculty members have contributed to professional development scholarship and enhanced their teaching through participation in national Learning Community conferences, the early careers in geography summer institute, AP Human Geography professional development forums, and the Pacific Crest Process Education Teaching Institute. Members of the team also regularly participate in book chats on exemplary teaching and the scholarship of teaching for cultivating deep learning (for example, hooks, 1994; Bain, 2004). Estaville et al. (2006) emphasized that a key to recruiting geography majors is teaching excellence.

There are up to six faculty members involved in the Learning Community, with a minimum of three geographers, and usually one or two non-geographers. As a collegiate group, members espouse general principles of social justice and environmental consciousness and are passionate about their teaching subjects. The mix of faculty has meant an infusion of seasoned and novel approaches. The broad range of their teaching styles is depicted in prevailing active learning pedagogy precepts or practices like team teaching, integrated content, and common readings (see e.g., Wellens et al., 2006; Scheyvens et al., 2008).

Pedagogy

The primary ingredient that Learning Communities use to establish a positive learning environment is a feeling of trust. As students grow more comfortable with their professors through familiarity and proximity, they begin to feel they can trust the faculty and other Learning Community members. They are more open to learning because real and essential learning involves risk-taking. If you raise the level of trust (through communication, smaller groups, developmental advising, more frequent interaction, etc.) you minimize the feeling of risk. Also, working as a group or cohesive team has been proven to encourage more dedication, commitment and investment from individual members to the goals of the group.

In recognition of the fact that methods such as teaching in small groups improve teaching effectiveness, all courses in the Learning Community feature some form of group work or small group activity. One faculty member of the Learning Community taught courses about presentation skills using small group teaching. Fundamentals of Public Speaking, Interpersonal Communication, and Small Group Communication were offered as part of the Learning Community curriculum during the early years. It is worth emphasizing that by its very design and implementation, the pedagogy adopted by TechFirst teaching faculty parallel the best active learning practices documented for effective teaching (e.g., Bain, 2004). Across the Learning Community, a high degree of instructor and student participation prevails, with class sizes limited to 25 students. Other features are a broad-based curriculum, a clear structure of courses, consistency of course offerings, while ensuring a structure that allowed room for modifications (e.g., some of the variations over time were (1) fewer required classes thus allowing students to select their own electives, and (2) all first semester students versus a mix with some non-first year students).

Concurring with Scheyvens et al. (2008), we found that using active learning strategies in a Learning Community, we were successful in employing technology as a hook to engage first semester students who had no prior knowledge of geography with the result that students reported positive experiences and many of the pre-majors declared geography as a major. We hoped that students would transfer their competence and thus self-confidence in technology assignments to the overall learning process in the community and increase their feeling of engagement with other members in the cohort and trust in Learning Community faculty. We also operated in an institutional climate that supported nonconventional teaching methods because of the proven advantages for student college success and student retention.

Emphasis on Technology

Technology is an integral component of the TFLC. The SUNY Cortland geography department has a dedicated computer lab with 25 workstations available to students. This was a unique feature when the Learning Community was first established as a specialized workspace related to a specific department and a select major. Currently, as computer labs are being phased out in lieu of students using personal laptops, the Geography Department retains its own dedicated lab, partly due to the success of the TFLC program. Several of the courses in the TFLC meet consistently or occasionally in the lab. The technology course instructs students in the use of

Microsoft Office products, Geographic Information Systems (GIS) software, and the use of hand held Global Positioning System (GPS) units and its related software. With activities designed around GPS techniques, students as well as the faculty engage in hands-on-learning that take them outside of the lab and classroom. Learning to use GPS units is critical to the outdoor activity discussed in the next section.

The use and mastery of technology is not just an add-on to the courses in the TFLC, it is fully integrated into all of the courses. Many of the courses require the use of e-Learning and research performed using the library databases and the Internet. Interaction with the instructor via e-Learning complements class lectures with online student discussions, a practice that “increases the opportunities for student participation and enhances the participation of students who may feel more inhibited to engage in discussions in a traditional classroom setting” (Dengler, 2008). Final assignments in many of the courses may include a presentation using technology, a poster prepared using various software programs, creating a video, or an activity where the students showcase their ability to use technology.

Off-campus Activity

A unique aspect of the TFLC is at least one off-campus activity during the semester--often a weekend or overnight retreat to SUNY Cortland's Outdoor Education Campus in the Adirondack Mountains. The students and faculty stay in cabins, prepare meals, eat, and clean up in the dining hall, and participate in various outdoor activities such as hiking, canoeing, swimming, and ropes courses, as well as activities that relate specifically to the TFLC courses, such as a writing assignment and a GPS scavenger hunt. The GPS activity also acts as a bonding experience both for the students and for the students with their faculty. The students work in small groups with a faculty member, who is often unfamiliar with GPS, and the group is responsible for determining latitude and longitude coordinates from a digital map to get to where a (fictional) hiker is in need of rescue. The group then transfers the data into the GPS units and sets off in a wooded area to locate the hiker. The students must rotate the use of the GPS unit and also change who acts as leader of the group. The group that finds the hiker in the shortest amount of time wins a small prize.

Field work is essential to enhancing geographic knowledge and skills (Hope, 2009) and when combined with a collaborative activity, the students' experience is heightened. Although budget cuts threaten the overnight retreats, TechFirst faculty members have worked to retain an outdoor component experience for the students at least once during their involvement in the Learning Community. Students and faculty have gone to college-owned property that is closer to campus than the Adirondacks and have even gone to a faculty member's property to conduct the outdoor activity. Regardless of the location, careful consideration is given to the type of task and the context in which the outdoor activity is undertaken.

MEASURING THE SUCCESS OF THE PROGRAM

Success in learning, teaching and recruitment was significantly enhanced by the faculty and their pedagogical approaches, the focus on technology, and a unique off-campus activity. In addition, the use of existing department strengths resulted in multiple benefits and illuminated the strength and uniqueness of our program. The geography department accomplished its recruitment goal by helping the college increase retention. Benefits are summarized in Table 1 from the point of view of students, faculty, the department and college. For students, it became easier to meet General Education requirements, especially in categories that are harder to schedule (e.g., Science, Technology and Society category) and via follow-up second semester courses (e.g., Social Geography, which is a course that fulfills a subsequent college GE category on social transformation factors upon which prejudice and institutional discrimination may be based). Students gain significant transferable computer technology skills early in college. Another student benefit is individualized attention. A student commented “...the faculty was extremely helpful and interested in our progress.” Since at least four of the courses taken by students in the Learning Community are limited-enrollment classes, as Wright (1995) points out, these “act as antidotes to the large class typical of many first-year courses” and we found that the students were more engaged with other members in the cohort. The courses are highly interactive and encourage student participation. All of the TFLC courses try to instill a feeling of comfort and connection for the students so they will be willing to participate fully. This approach was successful for many students, one of whom commented “... there was a strong sense of a Learning Community”, indicating a sense of trust among student and faculty members of the Learning Community.

Table 1. Benefits of participation in the Learning Community

Students	Faculty
Smoother entry to college	Strengthen dynamics with a smaller cohort
Develop cohesive group identity	Develop connection to students
Meet graduation (GE) requirements	Students may continue in future classes
Easy access to second semester courses	Secure teaching development grants
Increase knowledge of geographic principles	Sharing of ideas
Enhance technology skills	Enhance technology skills
Opportunities for advisement/mentoring	Improve collegiality
Learn about academic and career possibilities	Practice professional mentoring
Opportunities to be a TA	Increase opportunity for interaction
Department	College
Recruitment of majors/minors	Retention of students
Increased enrollment in second semester courses	Expanded interest in related departments

Students benefit from focused academic advisement, career development mentoring, and exposure to more faculty research. A few students participate in the research activities of TFLC professors e.g., using GPS to analyze campus spatial patterns or GIS analysis to create a herpetology atlas. The faculty state that smaller class sizes allow them to get to know students on a more personal level and engage in more one-on-one interactions. Students will often try to take additional courses with professors whom they connect with, even when they have to postpone this for several semesters due to prerequisites or scheduling. Student enrollment increased in second semester geography courses especially because the department intentionally set aside seats for TFLC students or permitted department overrides for closed geography courses for these students.

The experience of the TFLC is proof that a Learning Community *can* increase enrollment in a geography department. Despite the benefits for students in enrolling in TechFirst when the program first began, very few incoming students voluntarily signed up for the program (partly because many students and parents associated the label ‘Tech’ with high school technology classes i.e., shop or technical skills). Therefore, initial implementation of the Learning Community required active promotion by department members including attendance at first year student orientation, participation in parents’ panels, and attendance at the Fall opening convocation ceremony seeking an opportunity to meet students informally in advance of classes. A brochure designed by the geography department for promoting the TechFirst Learning Community was distributed during summer orientation for incoming students. Other concerted efforts for “selling the Learning Community” included crafting and distributing individualized welcome letters signed by the department chair to students who enrolled in the Learning Community, and collaborating with the Office of Advisement and Transition to serve as faculty advisors for pre majors during the summer registration period. Some of the initial lack of interest occurred because the college had not established a system for locating potential interested students, nor for advertising our new and unique offering, or for educating our summer advisors about the opportunity for incoming first-year students. However, once students were directly engaged in the Learning Community, interest in the major increased.

Figure 1 displays geography department enrollment data from 1992 to 2009. The number of students in the Geography Department went up from a low of four majors in 1998 to 36 majors in fall 2009. This growth in overall number of majors was propelled by the growth in the GIS major. The GIS major was approved in the year 2002 and after the inception of TechFirst, the GIS major also made significant strides. By 2009, a significant number of the 31 GIS majors started out as pre-majors in the TFLC. The addition of a GIS minor in 2010 has also attracted many TFLC students who have chosen majors outside of Geography. This experience at a four-year public college is similar to that of a private Ivy-League research college as reported by Wright (1995), when he stated that “at Dartmouth, First Year Seminars serve a special function as a first exposure to geography and as an important entry point into the Geography major”.

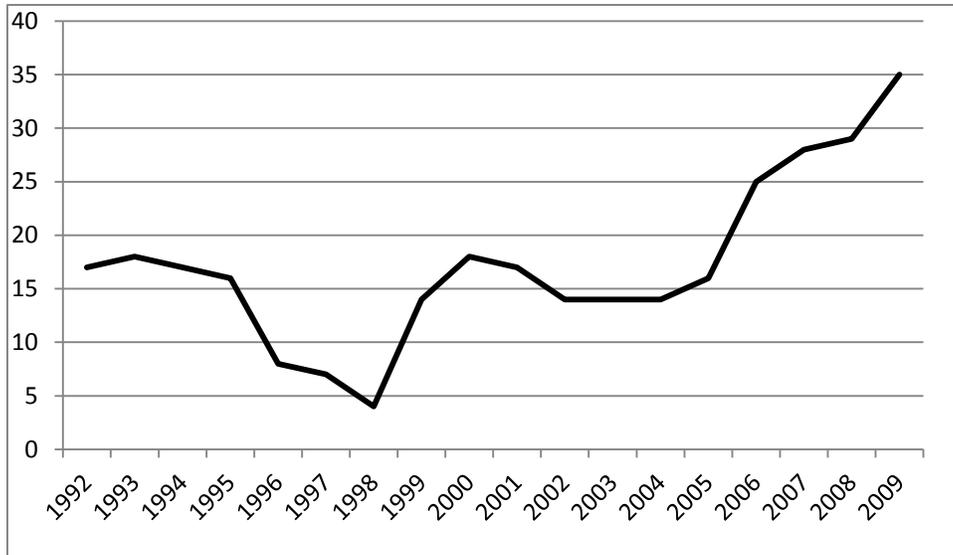


Figure 1. Number of Geography majors from 1992 to 2009; TFLC began in 1999.

Another indicator of success is seen in the employment record of past graduates. Many of the former students who responded to a department outreach questionnaire about careers have gained admission to geography graduate programs, and a few students have enrolled in Ph.D. programs. Most of the rest have secured positions in applied geography careers that place a strong emphasis on computer literacy and spatial analysis skills such as site assessment, marketing, and transportation or environmental impact analysis. Although our findings draw on smaller samples of respondents, this career profile of our geography graduates is similar to that reported by Ringer (2003) for an advanced degree-granting geography program--Hunter College. Success in student learning can be gleaned through course evaluations and supplementary department program review data. A confidential student opinion survey was administered in 2001 asking students to rank their responses to the learning outcomes expected from the five Learning Community courses on a Likert scale of one (low) to five (high). As Table 2 shows, the courses received rankings nearing and exceeding four. Thus at the student level, there is success. Analysis of comments from student course evaluations also shows that the Learning Community was effective in fostering student learning of computer skills. For example, a student stated, "... the technology skills I learned have greatly aided my second semester."

Table 2. Student responses to the achievement of learning outcomes for five TFLC courses (one is low, five is high)

Analyze information about global issues in Human Geography	4.38
Apply skills developed in Computer Applications to download data from the Internet	3.94
Construct databases and produce maps for presentations using skills learned in the Digital Toolbox (technology course)	4.47
Import graphic images into PowerPoint presentations for use in the Fundamentals of Public Speaking	4
Use language and composition skills honed in Academic Writing	3.75

Participation in the Learning Community accrues ancillary benefits. Because students' research projects in the TFLC courses require presentations--oral and/or posters, TechFirst students, sponsored by the Learning Community faculty, sometimes participate in poster sessions during the colleges' spring semester Scholars' Day. This event is designed to demonstrate, highlight and encourage scholarship among our college faculty, staff and

students. This activity provides opportunities for students to practice presentation skills, technological skills and build content knowledge, while building their resume and contributing to their professional experiences. Many of these research opportunities and interactions with TFLC faculty continue after the semester has concluded. One other (post-TechFirst) student benefit is the prospect open to a qualified past student to earn a stipend serving as a teaching assistant for future students in the first-year experience course—both a resume and financial enhancement opportunity. Some TFLC students have been able to enjoy merit-based first year scholarships established through gifts from a 1967 alumnus recognizing academic excellence and consistent positive contributions to the Learning Community experience. The college and department recognize Learning Community award recipients at an annual honors convocation ceremony in the spring semester. While they do not necessarily declare geography as their major, the fact that there are TechFirst scholarship beneficiaries has no doubt contributed to student retention in the college.

Finally, SUNY Cortland's retention rates (expressed as a percentage of the entering cohort) improved. This is reflected in a decrease of attrition rates, down to 5.4% as of fall 2009 compared to 10.7% in fall 1999 (SUNY Cortland 2010). A senior college administrator who previously directed the office of student advisement and transition stated in a spring 2009 interview, that "the college experienced a 10% increase in retention, partly attributed to learning communities" (Van Der Karr, personal communication, February 24, 2009). Published in the 2005/06 Annual Report of the School of Arts and Sciences the statement below about the expansion of learning communities is cited as evidence of success for the college:

"The array of Learning Communities offered for pre-majors is being expanded, from the original TechFirst! to the current set of programs. The School of Arts and Sciences is the home of most of these programs, our goal is to provide a Learning Community experience for every first-year Arts and Sciences and pre-major student" (Prus, 2006).

In sum, couched in a framework of benefits and challenges, clearly, there are many marks of success to report during the first ten years of the TechFirst Learning Community. However, success is neither inherent nor entrenched, and there are challenges we continue to confront in our implementation of the Learning Community, similar in scope to those mentioned by Scheyvens et al. (2008) when they urge geography educators to rise above the myths that preclude innovative active learning strategies. With current economic strains being felt at most state universities, funding may not be readily available to support Learning Communities in terms of advertising and promotion, off-campus activities, and dedicated faculty time. If the economic downtrend continues, SUNY Cortland, and many other public schools, may face challenges that could threaten the quality of the collaborative teaching, the fluidity of the program requirements and the learning opportunities afforded the Learning Community student.

DISCUSSION AND SYNTHESIS

The TechFirst Learning Community started out as a pilot in 1999, but ten years later, the lesson learned at SUNY Cortland is that it works. In showcasing the TFLC, we have also been able to demonstrate how various best practices in geography pedagogy are applicable to the success of students in general and a small geography program in particular. The success of TFLC confirms that one way to place geography in the curriculum is to start early (see Kaufhold, 2004). By exposing students to geography courses in their very first semester and using innovative learning activities and technology as a hook, the department was able to attract some undecided students who later became geography majors or minors.

Upon collective reflection, and guided by feedback from department self assessments and external peer reviews, we conclude that the grassroots nature by which faculty invest in collaborative, cross disciplinary teaching of common tasks, presented to students in intentionally small sized groups is beneficial. The many different points of contact with students means that it is more likely for students to feel a sense of commitment to their instructors, their cohort, and their experience in general. Overall, we surmise that the TFLC is successful in promoting methods whereby students can make an easier entry to college life. The same findings are reported in the literature about first year college students in general (Hanson and Heller, 2009; Jedele, 2010) and geography in particular (Wright, 1995). The scholarly evidence bears out the fact that our inclination in the TFLC of integrating best pedagogic practices in geography higher education contributed tremendously to the success of the Learning Community. In this article, using the college geography department as a case study we have identified factors that facilitated student and program success. Wright (1995) reported similar successful pedagogic outcomes for a first year seminar at Dartmouth College. Although we report from the context of a four year public state university, there is much basis to believe that these kinds of pedagogical experiences are applicable across a wide range of institutional settings. By

creating the TFLC, we were able to initiate an unmistakable department-college fit, improve learning experiences of both faculty and students, and increase recruitment to the Geography major.

REFERENCES

- Bain, K. 2004. *What the Best College Teachers Do*. Cambridge: Harvard University Press.
- Dengler, M. 2008. Classroom Active Learning Complemented by an Online Discussion Forum to Teach Sustainability. *Journal of Geography in Higher Education* 32: 481-494.
- Estaville, L. E., Brown, B. J. and Caldwell, S. 2006. Geography Undergraduate Program Essentials: Recruitment. *Journal of Geography* 105: 3-12.
- Hanson, D. M. and Heller, J. 2009. Learning Communities as a Strategy for Success. *International Journal of Process Education* 1: 19-24.
- hooks, b. 1994. *Teaching to Transgress: Education as the Practice of Freedom*. London: Routledge.
- Hope, M. 2009. The Importance of Direct Experience: A Philosophical Defence of Fieldwork in Human Geography. *Journal of Geography in Higher Education* 33:169-182.
- Jedele, R. E. 2010. A Faculty 'C' Change: Inspired by Learning Communities. *Thought and Action* 107-114.
- Kaufhold, T. M. 2004. Geography Education: Where is Geography's Location in Our Schools' Curriculum? *Middle States Geographer* 37: 90-99.
- Moore, N. and Gilmartin, M. 2010. Teaching for Better Learning: A Blended Learning Pilot Project with First-Year Geography Undergraduates. *Journal of Geography in Higher Education* 34: 327-344.
- Prus. M. 2006. *Annual Report for the School of Arts and Sciences*. SUNY Cortland.
- Read, J. 2010. Teaching Introductory Geographic Information Systems through Problem-based Learning and Public Scholarship. *Journal of Geography in Higher Education* 34: 379-399.
- Ringer, E. L. 2003. How Geography Graduates Report on Their Careers: Some Results from Hunter College. *Middle States Geographer* 36: 1-5.
- Scheyvens, R., Griffin, A.L., Jocoy, C. L., Liu, Y. and Bradford, M. 2008. Experimenting with Active Learning in Geography: Dispelling the Myths that Perpetuate Resistance. *Journal of Geography in Higher Education* 32: 51-69.
- Sommers, B. J. 1997. The Freshman Year Experience and Geography: Linking Student Retention and the Introductory Geography Curriculum. *Journal of Geography* 96: 243-249.
- SUNY Cortland. 2010. "College Catalog Appendix".
<http://catalog.cortland.edu/content.php?catoid=12&navoid=820#retention> (last accessed November 8, 2011)
- SUNY Cortland. 2001. "Learning to Make a Difference" New Directions for the SUNY Cortland School of Arts & Sciences. <http://www2.cortland.edu/schools/arts-and-sciences/documents/learning-to-make-a-difference.dot> (last accessed November 8, 2011)
- Wellens, J., Berardi, A., Chalkley, B., Chambers, B., Healey, R., Monk, J. and Vender, J. 2006. Teaching Geography for Social Transformation. *Journal of Geography in Higher Education* 30: 117-131.
- Wright, R. 1995. Small Classes and Research Experience for New Undergraduates: A First-Year Seminar Programme in a Geography Department. *Journal of Geography in Higher Education* 19:299-305.