Investigating personal and professional connections through the Technology Learning Community

LeQuetia Natasha Ancar

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Investigating personal and professional connections through the Technology Learning Community

by

LeQuetia Natasha Ancar

A thesis submitted to the graduate faculty
in partial fulfillment of the requirements for the degree of

MASTER OF SCIENCE

Major: Industrial Education and Technology (Training and Development)

Program of Study Committee:
Steven A. Freeman, Major Professor
Dennis W. Field
Lawrence J. Genalo

Iowa State University
Ames, Iowa
2004

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This is to certify that the master's thesis of

LeQuetia Natasha Ancar

has met the thesis requirements of Iowa State University

Signatures have been redacted for privacy
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Thank you from the bottom of my heart for everything that you have done to make, shape and mold me into the woman that I am. Without all of you, there would be no me. Much love, appreciation and admiration.
ABSTRACT

This qualitative study analyzed data from participant observations, in-depth interviews, artifacts and a focus group to determine how the Technology Learning Community (TLC) located in the Department of Industrial Education and Technology (IEdT) at Iowa State University had an impact on the educational experience of new and transfer students to the department. Based on an interpretivist perspective and grounded theory approach, two themes emerged from the data relative to the research question: the development of personal connections to the IEdT Department through planned collaborative learning activities among peer mentors and team members and the development of professional networks and relationships with IEdT faculty, staff and industry professionals through weekly seminars and team based activities.

Findings from the analysis of the study based on the first theme include the ability of the TLC to foster intellectual connections and interactions that enhance knowledge construction among student participants and collaborative learning team activities such as social outings, industrial field trips, and peer and industrial mentor meetings enhance student knowledge construction and transfer. Based on the second theme these findings include the creation of networks and relationships between TLC participants and TLC/IEdT faculty and staff which enable a sense of community and opportunities to learn from diverse perspectives, networks between TLC participants and TLC faculty, staff and industry professionals enable students to make classroom to work connections, expose students to potential employment environments and opportunities, humanizes the teacher to student relationship and enables reciprocal learning.
CHAPTER 1: INTRODUCTION

Knowledge itself is power, and the power comes through learning. For our students, the ‘good stuff’ is often in the major, subjects that traditionally await them in their later years of study. Our challenge is to design our general education curricula so that students have a **better foundation** on which to build higher-order thinking and learning. (Levine & Shapiro, 2000, p.13, italicized, underlined and bolded for emphasis)

Collaboration, academic and social support systems, and professional networks and relationships, all lead to an increased level of educational satisfaction and stronger foundation among students in institutions of higher learning. Where are these components found in the traditional realms of higher education? The answer is learning communities, a new paradigm that is testing and re-creating the historically individualistic, competitive and every man for himself mentality of many colleges and universities throughout the United States.

With an emphasis on collaboration and connectedness, learning communities are creating learning environments that value “the opportunity and responsibility to learn from and teach each other” (Angelo, 1997, p.3). This includes not only student to student, but student to faculty and faculty to faculty learning and teaching. A win-win situation for all involved, including the university or college as a whole, learning communities are expanding the boundaries of traditional undergraduate education.

Located at hundreds of universities and colleges across the country learning communities are enabling students to make connections to people, cultures and environments
that would otherwise be foreign to them. This sense of connection, belonging and being a part of the larger picture “enables students to develop a small supportive community of peers, that helps bond them to the broader social communities of the college while engaging them more fully in the academic life of the institution” (Tinto, Goodsell-Love & Russo, 1993, p.20). Thus, the implementation of learning communities allows students “to meet two needs, social and academic, without having to sacrifice one to address the other,” which enables students to have a more holistic and satisfactory educational experience by bridging this divide (p.20).

Rationale

The Technology Learning Community (TLC) is a rare type of learning community that is bridging the divide between the social and academic lives of undergraduate students in the Department of Industrial Education and Technology (IEdT) at Iowa State University. It is a non-collateral, nonresidential and non-course based program, with a weekly seminar component, that is having a positive impact on the educational experiences of its participants. The TLC is nurturing a learning environment in which students are able to work collaboratively, build and maintain a personal and professional network, and develop a professional knowledge base and skills. It is being used as the primary tool in acclimating students to the discipline and department through endless support and multiple layers of connections to peer mentors, faculty, staff, industry professionals, campus organizations, the university, and the surrounding community.

Creating a sense of connectedness helps to enable the academic success of students in higher education settings by incorporating all aspects of daily life in the learning process.
According to Tinto (1993), bridging the gap between a student’s social and academic environments enables students to discuss “class matters as well as other practical matters of attending college,” thus increasing their success and support systems within and beyond the classroom (p.18). Students are then able to apply their in-class experiences to their out of class experiences and vice-versa, magnifying their success.

The TLC is the vehicle through which students in the IEdT Department are able to make these initial connections between their social and academic experiences. Collaborative efforts between students, faculty and staff, professional and social support networks and an increased professional knowledge base and skill set enables TLC participants to thrive inside and outside the boundaries of the traditional classroom. This model has shown to be quite successful in its five years of existence, which is why it was chosen as the focus of this study in hopes of further spreading the word and laying the ground work for other non-traditional learning environments that wish to broaden the educational experience of their students.

Research Question

How does the Technology Learning Community (TLC) impact the educational experience of new and transfer students to the Department of Industrial Education and Technology (IEdT)?

Themes

1. The TLC enables the development of personal connections to the Industrial Education and Technology Department through planned collaborative learning activities among peer mentors and team members.
2. The TLC fosters the development of a professional network and relationships among students and IEdT faculty, staff and industry professionals through weekly seminars and team based activities.

Methodology

Participants

There have been over three hundred students and nearly forty peer mentors that have participated in the Technology Learning Community (TLC) since its birth in the fall semester of 1999. A subset of these students were utilized in this study, specifically student participants from the fall 2002, spring 2003, fall 2003 and spring 2004 semesters and peer mentors from spring 2003. This encompassed a total of 163 students over a two year academic period equivalent to four semesters and 7 peer mentors from one academic semester.

The student population was predominantly comprised of sophomores and juniors, average age of 20-21, who transferred from other departments within the Iowa State University community, mainly from the College of Engineering. Participants were generally Caucasian males, with 6% being female, who had a less than favorable educational experience, as depicted by their entering cumulative grade point averages which had a mean of approximately 2.60.

The peer mentor population was made up of upperclass students in the Department of Industrial Education and Technology (IEdT) who had successfully participated in the TLC and had shown substantial leadership and interpersonal skills. Each peer mentor had completed all of their 100 and 200 level ITEC courses as well as an industrial internship
experience. While since inception 21% of mentors have been female and approximately 16% have been minorities. All seven peer mentors during spring 2003 were male, with an average age between 22-24 and Caucasian. A demographic breakdown of the student population in the department as well as learning community participants during the terms specified above is depicted in Table 1.

<table>
<thead>
<tr>
<th>Table 1 IEdT Department Undergraduate Demographics Fall 2002-Spring 2004*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of students</td>
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<tr>
<td>Total number of students</td>
</tr>
<tr>
<td>Males</td>
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<tr>
<td>Females</td>
</tr>
<tr>
<td>Minorities</td>
</tr>
<tr>
<td>Total number of TLC students</td>
</tr>
<tr>
<td>Males</td>
</tr>
<tr>
<td>Females</td>
</tr>
<tr>
<td>Minorities</td>
</tr>
<tr>
<td>Total number of peer mentors</td>
</tr>
<tr>
<td>Male</td>
</tr>
<tr>
<td>Female</td>
</tr>
<tr>
<td>Minorities</td>
</tr>
</tbody>
</table>

*The values for total number of students do not include students with double majors. Data is taken from departmental 10-day lists and ITEC 110 class lists.

**Analysis**

For this study, analysis of the data was done using a qualitative methodology based on an interpretivist perspective and grounded theory approach. The ultimate goal was to interpret, understand and communicate the perceived reality of the Technology Learning Community participants through their perspectives and experiences. Thus, enabling the reader to see things through the TLC participants’ eyes and understand the world as they saw
it. According to Taylor and Bogdan (1998) “reality is what people perceive it to be” and in order to fully comprehend this reality, we must envision what they were experiencing (p.3).

The best method to do this was through qualitative research and analysis of participant observation, in-depth interviews, and artifacts. These multiple data collection techniques yielded descriptive data, from the TLC participants, relative to their ideas and opinions regarding their numerous experiences in their acclimation to the department and discipline of Industrial Technology. This data then yielded grounded theories, which are defined by Taylor and Bogan (1998) as “theories, concepts, hypothesis, and propositions (derived) directly from data rather than from a priori assumptions, other research, or existing theoretical frameworks” (p.137). These theories (referred to as themes in the previous section) were the primary focus of this study and were derived directly from the thoughts, feelings and perceptions of the participants. The theories were based on the TLC participants’ development of personal connections to the IEdT Department and their development of professional networks and relationships with IEdT faculty, staff and industry professionals.

Data Collection

Several data collection instruments were used in this study of the Technology Learning Community. To ensure a degree of believability and to give a voice to the TLC participants and credibility to the analysis data was triangulated from participant observations, in-depth interviews and artifacts. The tools used in the collection of this data were in the form of student weekly summaries, end of the semester evaluation forms, ISU
Undergraduate Education Surveys, interviews of a TLC participant and a peer mentor focus group. A copy of each of these tools can be found in the appendices.

The primary tool, an artifact similar to a journal entry, was the student weekly summaries which were electronically collected via email and graded by the instructor of the seminar component of the TLC (sample copy of summary template and data in Appendix A). They were then filed in an electronic database for qualitative data, called QSR N5 NUD*IST (Richards, 2000), which enabled the investigator to analyze the data based on the themes specified above. There were a total of 14 summaries per student per semester and they were worth a maximum of five points each. Students were not graded on quantity, but on quality and their ability to adequately express their reflective thinking. This data collection tool was used primarily to gather the students’ perceptions of their learning team and seminar activities. The main areas of inquiry were a summary of the previous seminar meeting, a summary of the learning team activities during the previous week, the effectiveness or usefulness of the seminar and learning activities, and any concerns or issues regarding classes, advising, environment, etc.

Another artifact, the end of the semester evaluation form, was administered by the peer mentors during one of the final learning team meetings (sample copy of form and data in Appendix B). This form was completed by each TLC participant and assessed by their assigned peer mentor on the basis of quality and completion. The primary purpose of this evaluation was to collect data based on each student’s overall satisfaction with their learning community experience. Some areas of inquiry were their description of their support system, the utilization of IEdT resources, personal development and their perception of the benefits of the learning team activities.
The last artifact used for this study was an added portion to the original ISU Undergraduate Education Survey (sample copy of survey and data in Appendix C). This tool was administered at the end of the semester by the seminar instructor. The original version of this tool was created and administered by the ISU Learning Community Organization and the added portion, consisting of 10 additional questions, was created by the Technology Learning Community staff. This survey was comprised of a total of 77 questions, 72 were measured on a Likert-like scale and five were short answer. Of the 77 questions, the final ten was the portion added by the TLC staff that was content specific to the Technology Learning Community. The remaining 67 questions gauged the participants' feelings and opinions on the learning community experience as a whole. This survey also assessed their perception of their personal knowledge and abilities, connections to other students and faculty, and the average time spent on a weekly basis engaging in various activities.

Another form of data collection was in-depth interviews of a TLC participant from the spring 2003 semester, which were transcribed and analyzed based on the research question (interview questions and transcript copy in Appendix D). The student chosen for the in-depth interviews was selected based on the researcher's predefined criteria of the attributes of an average Technology Learning Community participant: participated in the learning community during one of the semesters included in my selected data set, classified as at least a sophomore which was the average academic standing of TLC participants, transferred from a different department on campus, and actively participated in learning community activities by attending a minimum of thirteen out of fourteen seminar sessions and team meetings. The primary purpose of these interviews were to further corroborate the findings from the weekly summaries and the end of the semester evaluations, as well as build
a foundation for the two themes previously identified. This data provided further understanding of a student’s perceptions of the TLC and brought “life” to the other data collection techniques.

One of the final forms of data collection was a focus group of peer mentors from the spring 2003 semester, which was conducted by Lisa Thrane of the ISU Research Institute for Studies in Education (RISE) (interview questions and transcript copy in Appendix E). The utilization of an outside source for the data collection from this focus group created an atmosphere that enabled the participants to openly and honestly express their opinions and concerns. For this focus group, a set of nine questions were used to gather information relative to the peer mentors’ perceptions of their roles and the roles of the student participants in the Technology Learning Community. Areas of interest were important aspects of the learning community, mentoring activities, course objectives, lessons learned as peer mentors and suggestions for improvement.

Gathering data from this source of individuals was critical because the peer mentors are a major component of the Technology Learning Community. They help build a large portion of the foundation that the participants use to expand their professional, personal and social support systems. Through the coordination of collaborative learning activities with industrial mentors, social outings and weekly meetings, peer mentors are able to foster a learning environment in which support systems can be established and nurtured.

Lastly, participant observation was the final technique of data collection utilized in the analysis and discussion of the research question. As a former undergraduate peer mentor and graduate assistant coordinator and seminar instructor, the researcher used personal experiences to further corroborate the findings from the other data sources. This enabled a
deeper understanding and interpretation of the findings as well as provided a more focused lens in which to view the components of the Technology Learning Community. This “personal analysis” was the thread that bound all of the other data sources together.

**Thesis Format**

The compilation of data from this qualitative study yielded a large amount of information and insight into the thoughts, feelings and perceptions of TLC participants. In order to adequately represent a sample of this data, the researcher chose to create a thesis based on the journal article format. This format encompasses chapters based on a literature review, two journal articles for publication submission, a conclusion and recommendations for future research.

The following section, chapter two, is a literature review that explores the foundation and implications of the learning community concept, as well as the birth and growth of learning communities on the campus of Iowa State University. Also, the researcher discusses the structure and purpose for the development of the Technology Learning Community, the focus of this study.

Chapter three is a journal article that will be submitted based on the first theme derived from the data: the development of personal connections to the Industrial Technology Department through planned collaborative learning activities among peer mentors and team members. This article takes a close look at in-depth interviews of a learning community participant as well as responses to a summative evaluation tool (previously referred to as an artifact), the End of Semester Evaluation Form. The format of this article is based on the publication submission requirements for the referred journal entitled *About Campus*. This
journal is published by the American College Personnel Association and focuses on the issues, policies and practices that have an impact on the educational experiences of college students. Heavily geared towards college and university students, faculty and staff this journal strives to inform and inspire a vast audience to be proactive in creating effective learning environments and good practices in higher education.

Chapter four is a journal article that will be submitted based on the second theme derived in this study: the development of a professional network and relationships with IEdT faculty, staff and industry professionals through weekly seminars and team based activities. This article takes a detailed look at a formative evaluation tool (an artifact), the student weekly summary, with some reference to other collections of data such as the ISU Undergraduate Education Survey and the results from a peer mentor focus group. The format of this article is based on the publication submission requirements for a referred journal published by the Association of American Colleges and Universities, Liberal Education. Geared towards college and university educators, the purpose of this journal is to promote liberal learning and education, which is defined by Webster's Revised Unabridged Dictionary (1998), as an “education that enlarges and disciplines the mind and makes it master of its own powers, irrespective of the particular business or profession one may follow”. Exposing learners to various perspectives, environments, and experiences that enable them to be active in formulating their own opinions and knowledge contributes to this perspective on learning and education, which is at the heart of the learning community initiative.

The final section, chapter five, is a conclusion of the findings of the study and recommendations for future research in the area of learning communities and the Technology
Learning Community. The researcher revisits the two themes introduced throughout the paper: the development of personal connections to the Industrial Technology Department and the development of professional networks and relationships with IEdT faculty, staff and industry professionals through weekly seminars and collaborative team-based learning activities.
CHAPTER 2: LITERATURE REVIEW

Definition of Learning Communities

Learning communities are a relatively old learning and teaching phenomena that is “experiencing a renaissance” and is making its way to colleges and universities across the country (Shapiro & Levine, 1999, p. 2). Philosophically based on the works of John Dewey, Jean Piaget and L.S. Vygotsky's ideas of experimental learning and student-centered instruction and David and Roger Johnson’s theories on cooperative-collaborative learning, learning communities have become buzzwords with great historical underpinnings (Smith, 1991).

According to Barbara Leigh Smith (2001), Co-Director of the National Learning Communities Project, there are “four or five hundred colleges and universities (that) now offer them, and the number continues to increase” (p.1). The steady growth of the implementation of learning communities by institutions of higher education can be attributed to the shift in focus from teaching centered to learning centered environments (Angelo, 1997). With this focus on learning, colleges and universities are seeking to increase student retention and their overall satisfaction with their educational experience (Lenning & Ebbers, 1999).

One avenue for increasing retention and satisfaction is through the creation of a community of learners, the foundation of the learning community concept. A community in which individuals are able to communicate openly, build relationships that go beyond the surface, share values and goals, and work collaboratively (Lenning & Ebbers, 1999). Creating this sense of community can be paramount to the academic and social success of students new to higher education. The ability to connect to peers, faculty and staff make the
process of adapting to a new environment with multiple cultures and expectations easier. According to Shapiro and Levine (1999), this sense of community can be used to “build a sense of group identity, cohesiveness, and uniqueness; to encourage continuity and the integration of diverse curricular and co-curricular experiences; and to counteract the isolation that many students feel” (p.3).

The formal definition of a learning community varies from institution to institution and publication to publication. A common, yet general definition of learning communities according to Cross (1998) is “groups of people engaged in intellectual interaction for the purpose of learning” (p.4). This learning takes place in collaborative learning environments which enhance both the academic and social experiences of its students. No two students or learning environments are identical therefore no two learning communities should be carbon copies of each other. They may share many commonalities, but the design of a learning community should be based on the needs of the students for which it is intended to serve. Some commonalities they may share are the incorporation and value of diversity, a shared culture, internal communication, promotion of caring, trust and teamwork, and links to the outside world (Lenning & Ebbers, 1999).

With these commonalities in mind, the ultimate goal and foundation of any learning community according to Tinto (1993), “should lend support to some of the basic tenets of collaborative learning,” which are the development of a social and academic support system (p.20). Learning communities should also enable students to “bridge the academic-social divide,” participate in “setting(s) where sources of learning come from a variety of perspectives,” and “connect their personal experiences to class content” (Tinto, 1993, p. 20)
Learning communities are "most effective when the basic structure and characteristics of a particular model are adapted to the organization and to the student and faculty culture of a campus" (Shapiro & Levine, 1999, p. 16). Therefore, it is rare to find a successful learning community that meets all of the characteristics of one specific model. Instead, different aspects of each model are intertwined and adjusted to create the best learning community for a specific environment. According to Freeman, Field and Dyrenfurth (2001) these learning communities are based on bits and pieces of four basic models presented in the chart below:

Table 2: Types of Learning Communities*

<table>
<thead>
<tr>
<th>Type of Learning Community</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collateral Course-Based</td>
<td>• Students are placed in a cohort group and take at least two classes together</td>
</tr>
<tr>
<td></td>
<td>• Can last one or more semesters</td>
</tr>
<tr>
<td></td>
<td>• Classes can be traditionally taught or team taught across disciplines</td>
</tr>
<tr>
<td>Residential</td>
<td>• Students are placed in groups that live together in a dorm</td>
</tr>
<tr>
<td></td>
<td>• Students may or may not take common classes</td>
</tr>
<tr>
<td></td>
<td>• Used to integrate living and academic environments</td>
</tr>
<tr>
<td>Freshman Interest Group</td>
<td>• Students are classified as freshman</td>
</tr>
<tr>
<td></td>
<td>• Students have a similar subject interest</td>
</tr>
<tr>
<td></td>
<td>• Students are grouped and take classes based on this interest</td>
</tr>
<tr>
<td>Student Type</td>
<td>• Designed for special sub-populations such as honor students, disabled students</td>
</tr>
<tr>
<td></td>
<td>• Students may or may not share common course or living arrangements</td>
</tr>
</tbody>
</table>

* Freeman, Field and Dyrenfurth (2001)
History of Learning Communities

The learning community concept was first introduced in the 1920's by Alexander Meiklejohn at the University of Wisconsin, as the Meiklejohn Experimental College (Smith, 2001). Heavily based on the philosophies of John Dewey, the primary purpose of this endeavor was to establish and nurture a higher education community that connected the living and learning environments of students. According to Shapiro and Levine (1999), Dewey had strong beliefs that formal educational environments and their supporting structures should foster learning with integrated social experiences that are student-centered with pronounced relationships between students and their instructors. These educational environments should apply cooperative and collaborative approaches that emphasize learning, a commitment to learning by doing and view learning as a lifelong process.

Unable to persuade the University of Wisconsin’s administration to abandon their traditional teaching philosophies and adopt this new concept of teaching and learning, proponents of the learning community concept abandoned this innovative idea. Learning communities resurfaced many years later, in the 1960s, at a residential college at the University of Michigan, the University of Nebraska, and Western Washington University, in an attempt to make the growing size of universities more manageable and promote a sense of community (Smith, 2001). Three of the most successful and popular attempts at implementing the concept of creating a community of learners came in the mid-sixties at Evergreen State College, the University of California at Santa Cruz and the State University of New York at Stony Brook (Shapiro & Levine, 1999). A strong commitment to student learning and teaching through the application of the learning community concept has enabled these schools to continue to succeed. According to Newsweek (2003), two of these
institutions, Evergreen State College and the University of California at Santa Cruz, are ranked highly among their counterparts with enrollment around 4,000 and 11,000, respectively. Thus demonstrating the fact that learning communities can and do exist, as well as thrive, at institutions of varying sizes and abilities.

As the concept of learning communities spread across campuses throughout the United States, administrators at Iowa State University (ISU) did not entertain the notion until the mid-1990s. According to Huba, Ellertson, Cook and Epperson (2003), the university community underwent a shift in pedagogy from emphasizing improved teaching to enhancing the learning experience of its students. This is the same shift in pedagogy that many other universities had and were taking (Angelo, 1997). Through faculty development initiatives such as the Center for Teaching Excellence and Project LEA/RN (Learning Enhancement Action/Resource Network), the development of student outcomes assessment, a new promotion and tenure policy that emphasized the scholarship of teaching and learning, and a new five-year (2000-2005) strategic plan, learning communities were born at Iowa State University.

The catalyst of the learning community initiative at ISU was a visit by Vincent Tinto in the fall of 1994, sponsored by a graduate program in the Higher Education Department. Tinto presented the concept of learning communities to faculty and staff which sparked an interest in improving student learning, retention and overall satisfaction with higher education (Lenning & Ebbers, 1999). Four years later the Learning Communities Work Group (LCWG) was formed. This cross disciplinary team was created in 1998 by the Office of the Provost in an effort to fulfill these interests and make ISU a “genuine, collaborative, learning community that is student-centered” (Learning Communities Work Group, 1998,
The learning community initiative at ISU was fueled by three informal learning community programs located in the sciences, which later served as the foundation for the advancement of learning communities on a campus of over 25,000 students: Biology Education Success Teams (BEST), Women in Science and Engineering (WISE), and Honors (ISU Office of the Registrar, 2004).

Comprised of members from both academic and student affairs at ISU, the Learning Communities Work Group represented each undergraduate college. Through funding from the Provost office, this cross disciplinary team’s goals were to research and evaluate successful learning communities at other institutions, coordinate and deliver learning community workshops, provide funding for assessment, writing across curriculums, and publications, and make recommendations for expanding the concept of learning communities at ISU (Learning Communities Work Group, 1998).

In order to successfully implement the learning community initiative at ISU the LCWG took a close look at ISU’s strategic plan for 1995-2000 to establish and align with the overarching goals of the university, which served as the foundation for the vision and objectives of learning communities across campus (Learning Communities Work Group, 1998). This vision was “for Iowa State University to become a community of diverse, focused and integrated learning communities that encourage collaboration to enhance student learning and development” (Learning Communities Work Group, 1998, p.4). From this vision spawned objectives, desired outcomes, common characteristics and recommendations for proposed learning communities.

Extensive support from the administration and academic programs and the initiative of the Department of Residence enabled the creation of the first formal residential learning
community on ISU’s campus (Huba et al., 2003). This trend setting project was established as a joint endeavor between the Department of Residence and the biology and business programs (Burright, 2002). According to Brumm and Mickelson (2002), learning communities were created by ISU faculty “to increase student retention and improve first-year students’ academic performance by responding to their social and academic needs” (p.2).

They exceeded that goal and all expectations of succeeding in the implementation of this type of enhanced learning and teaching program. This can be seen through the establishment and growth in the number of ISU learning communities and participants and the national recognition of the program; being ranked among the top five in the country in 2002 (US News and World Report, 2002). From 1998 to 2003, there was nearly a 100% increase in the number of learning communities and student participants. The university went from 23 learning communities in 1998 to 47 in 2003, with participation being 1114 and 2275, respectively (Huba et al., 2003). This profound growth in learning communities over the past five years demonstrates Iowa State University’s commitment to enhancing student learning, retention and overall educational satisfaction, which is in line with the shifting pedagogy of the university.

The Technology Learning Community

Addressing student satisfaction with higher education through academic and social needs was at the heart of the development of the Technology Learning Community (TLC), which was in line with the overarching goals of Iowa State University’s 1995-2000 strategic plan and the vision and objectives established by the Learning Communities Work Group.
Located in the Department of Industrial Education and Technology (IEdT), this learning community was created in the fall semester of 1999 and does not fit the mold of any of the "traditional" models: Collateral Course-Based, Residential, Freshman Interest Group or Student Type. In order to meet the needs of the department's non-traditional population of students, which tend to be older students who have transferred in with few general education course requirements left unmet, previous work experience and an established network of friends, three professors within the IEdT department developed a "nonresidential, non-collateral non-course based technology learning community model" (Freeman, Field & Dyrenfurth, 2001, p.3).

The primary purpose of this learning community is to assist with transitioning into the department and supply a network for new and transfer students. This is done by clustering students into teams of five to eight and assigning a peer mentor (an upperclass student within the department) and an industrial mentor (a practicing industrial technologist from the surrounding community that works in manufacturing or safety) to each team. Students are required to attend and contribute to a weekly seminar with the other learning community participants, attend weekly meetings with their peer mentor and participate in at least one social outing, industrial fieldtrip, professional society meeting, and industrial mentor meeting. These learning teams last for the duration of one academic semester and require a minimum time commitment of two hours a week from the student mentees.

One hour of the two-hour commitment is spent attending the weekly seminar component of the learning community that focuses on the development of professional and career building knowledge and skills. This is accomplished through presentations and activities hosted by various university and community experts on resume writing, portfolio
building, visual and oral communication, industry expectations, teams and teamwork, academic success and self assessment.

The second hour is spent in a weekly meeting facilitated by a peer mentor. At this time mentees are given the opportunity to engage in activities with their learning team members that will further enhance their knowledge base and academic, professional and social support systems. Participants engage in discussions that are focused on seminar topics, real world issues, and departmental coursework as well as activities that foster interpersonal communication and active learning. During this weekly team meeting, participants also engage in conversations and workshop activities with an industrial mentor to strengthen their oral and written professional communication skills. They are given the opportunity to create, edit and revise a resume and portfolio as well as develop interviewing skills to prepare them for industry’s expectations.
CHAPTER 3. STUDENTS MAKE PERSONAL CONNECTIONS THROUGH LEARNING COMMUNITY EXPERIENCES

A paper to be submitted to About Campus

LeQuetia Ancar

Introduction

In higher education what does it mean to learn? When, where and how do we learn? Is learning an individual process or a collaborative effort? Twenty years ago, this would have been an environment in which students were “vessels waiting to be filled,” the presentation format would have been direct instruction and there would have been very little teamwork and interaction between student and teacher. Today, in the twenty first century, a shift in philosophies has been taking place and this is not the case. Learning is no longer a solo, individualistic process, at least not good learning. According to Arthur Chickering and Zelda Gamson in an article in the AAHE Bulletin, “(learning) is collaborative and social, not competitive and isolated” (p.4). With perspectives based highly in constructivism, Chickering and Gamson believe that student learning is magnified when they are actively engaged in the learning process and they are able to “talk about what they are learning, write about it, relate it to past experiences (and) apply it to their daily lives. They must make what they learn part of themselves” (p.5). No better way to foster this type of collaborative learning environment than in learning communities, a trend that is spreading rapidly on college and university campuses across the United States.

With an emphasis on cooperation and connectedness, Thomas Angelo in an article in the American Association for Higher Education Bulletin, states that learning communities are
creating learning environments that value "the opportunity and responsibility to learn from and teach each other" (p.3). This includes not only student to student, but student to faculty and faculty to faculty learning and teaching. A win-win situation for all involved, learning communities are expanding the boundaries of traditional undergraduate education.

The Technology Learning Community (TLC) in the Department of Industrial Education and Technology (IEdT) at Iowa State University is an example of a program that is successfully expanding and redefining these boundaries. Students entering the IEdT Department are often unaware of the career and educational opportunities the discipline can offer. With the majority of the student population in IEdT being transfer students from other departments, there is a need to expose them to learning opportunities that will enhance their understanding of and interaction with industrial technology. These students need access to resources that will increase their knowledge base and support system, which will ensure their success as students and professionals.

The Technology Learning Community has become a successful tool in this acclimation process by coordinating seminars on professional development topics, weekly meetings with peer mentors and industry professionals, and industrial field trips. Becoming acclimated to a new environment comes with it new people, places and ideas. To further ease this transition the TLC promotes and fosters connections between IEdT students, faculty, staff and industry professionals, one of the primary objectives of the TLC. Through collaborative learning opportunities created by the learning community coordinator and peer mentors, students who participate in the Technology Learning Community are able to develop this sense of connection as they strive to develop a personal definition of industrial technology and develop knowledge and skills that will aid them in their career development.
They are also able to establish professional, personal and social support groups, identify career opportunities, perform self evaluations and develop employment seeking tools such as a professional resume and portfolio. Each of these aspects contributes to the enhancement of the educational experiences of TLC participants by extending learning opportunities beyond the walls and perspectives of the traditional classroom. According to Vincent Tinto, Anne Goodsell-Love and Pat Russo in an early 1990’s article in *Liberal Education*, “students are strongly influenced when they participate in a setting where sources of learning come from a variety of perspectives beyond that offered by one faculty member” (p.20). In essence, a setting or environment in which students are able to take varying perspectives, analyze them and formulate their own views and opinions based on multiple sources of information.

Learning communities are the wave of the future because they are “a powerful means of serving an increasingly diverse student population” and providing a pool of multiple perspectives, according to Barbara Leigh Smith in an article in *Liberal Education* (p.5). This diversity is evident in the student population of the Industrial Technology Department. These are students with diverse social and academic backgrounds ranging from first year freshman to senior classification, transferring from other departments and varying educational levels. They often possess prior work experience and have an established network of friends and acquaintances outside of academics. Therefore, the ultimate goal of the Technology Learning Community is to create an environment within the IEdT Department that establishes personal connections and fosters the growth of relationships among this diverse mixture of non-traditional students. Providing opportunities to build these ties eases the transition into the department and discipline of industrial technology,
while creating an enriched learning environment. This article will take a qualitative look at artifacts and in-depth interviews that support the notion of the creation of personal connections to the department and discipline that are creating a positive educational experience for new and transfer students.

**Literature Review**

Learning communities are a relatively new learning and teaching phenomena that is spreading across college campuses in the United States. According to Barbara Leigh Smith (Co-Director of the National Learning Communities Project) in an *Association of American Colleges and Universities* publication, there are “four or five hundred colleges and universities (that) now offer them” (p.1). Established in the 1920s by Alexander Meiklejohn at the University of Wisconsin, as the Meiklejohn Experimental College and heavily based on the philosophies of John Dewey, the main focus of learning communities is to create collaborative learning environments to enhance the academic and social experiences of students new to higher education. Therefore, learning communities are loosely defined by Patricia Cross, in *About Campus*, as “groups of people engaged in intellectual interaction for the purpose of leaning” (p.4).

There are several types of learning communities, formulated to best meet the needs of the students. According to Drs. Steven Freeman, Dennis Field and Michael Dyrenfurth’s article in *The Journal of Technology Studies*, these learning communities are based on bits and pieces of four basic models. The first type of learning community is a collateral course-based learning community that places students in a cohort group which links two courses together that are either traditionally taught or team taught across disciplines and lasts at least
one semester. A second type of learning community is a residential learning community which places students together in permanent housing (generally a dorm floor) and may or may not place them in the same courses. A third type of learning community is a freshman interest group learning community which is solely for freshman students that are studying or have a similar subject area of interest and places these students in groups taking similar classes. A final type of learning community is a student type learning community that is designed for special populations of students such as honors program participants. Students in this type of learning community structure may or may not share permanent living arrangements.

The Technology Learning Community, created in the fall semester of 1999, does not fit the mold of any of these models. In order to meet the needs of the department's non-traditional population of students three professors within the IEdT Department developed a nonresidential, non-collateral and non-course based technology learning community model, as explained in The Journal of Technology Studies article by Drs. Steven Freeman, Dennis Field and Michael Dyrenfurth. Meeting the needs of the students based on their learning environment should be at the heart of any learning community initiative. No two learning environments are alike therefore no two learning communities should be carbon copies each other. Although they will share many commonalities according to Vincent Tinto in an AAHE Bulletin, there are three basic components: shared and connected learning, positive interdependence, and collaboration between students and faculty. Ultimately creating an open environment, with multiple perspectives from multiple resources in which there is shared knowledge.
The primary purpose of the Technology Learning Community is to assist with transitioning into the Industrial Technology Department and supply a support network for new and transfer students. This is done each semester by clustering students into teams of five to eight and assigning a peer mentor (an upperclassman student within the department) and an industrial mentor (a practicing industrial technologist from the surrounding community that works in manufacturing or safety) to each team. Students are required to attend and contribute to a weekly seminar with the other learning community participants, attend weekly meetings with their peer mentor and participate in at least one social outing, industrial fieldtrip and industrial mentor meeting. The learning community and seminar are components of a graded one-credit required course within the department entitled ITEC 110: Introduction to Industrial Technology.

Experiences within the IEdT Department’s learning community are intended to positively impact the educational experiences of each of its students by enabling them to establish personal and professional connections to the department and the discipline, thus easing the transition process and building their knowledge and skill base. According to Karen Kellogg in an ERIC Digest, learning communities enable students to “actively participate with faculty members and to encourage them to build a support network, form friendships and connect with their institution” (p.1).

Purpose of study

The Technology Learning Community has been an instrumental component in the educational experiences of nearly 400 students, over 350 mentees and nearly 40 peer mentors, since its creation five years ago. It has served as a vehicle through which students
are able to make connections between their academic and social lives via collaborative learning experiences among peers, faculty, staff and industry professionals. This connection is critical to the success of students and "can produce significant gains in student involvement, learning, satisfaction, social connectedness, persistence, and retention," according to Thomas Angelo in an article in the *AAHE Bulletin* (p.4).

This sense of collaboration and connectedness are the foundation and basic tenants of the learning community concept and the TLC. The success of this rare type of learning community and its alignment with the objectives of the learning community initiative on the campus of Iowa State University made it an exemplary model for evaluation. This is why it was chosen as the focus of this study in hopes of further spreading the word and laying the ground work for other non-traditional learning environments that wish to broaden the educational experience of their students. The proceeding section will discuss the type of data analysis that was used for this study and the rationale behind it.

**Analysis**

As a former TLC participant (peer mentor Fall semester of 1999), a learning community graduate research assistant, TLC graduate coordinator, and seminar instructor I have strong ties to the Technology Learning Community and the learning community initiative at Iowa State University. Therefore, my perspective on learning communities in regards to their importance, functions and purpose was at the root of my interpretation and the lenses through which I saw my research.

For this study, I chose to analyze the data using a qualitative methodology based on an interpretivist perspective and grounded theory approach. The ultimate goal was to
interpret, understand and communicate the perceived reality of the Technology Learning Community participants through their perspectives and experiences. Thus, enabling the reader to see things through the TLC participants’ eyes and understand the world as they saw it. According to a textbook on qualitative research by Steven Taylor and Robert Bogdan “reality is what people perceive it to be” and in order to fully comprehend this reality, we must envision what they are experiencing (p.3).

The best method to interpret, understand and depict the reality of others was through qualitative research and analysis of participant observations, in-depth interviews, and artifacts. These multiple data collection techniques yielded descriptive data, from the TLC participants, relative to their ideas and opinions regarding their numerous experiences in their acclimation to the department and discipline of industrial technology. This data yielded grounded theories, which are defined by Steven Taylor and Robert Bogan, as “theories, concepts, hypothesis, and propositions (derived) directly from data rather than from a priori assumptions, other research, or existing theoretical frameworks” (p.137). These theories (referred to as themes previously) were the primary focus of this study and were derived directly from the thoughts, feelings and perceptions of the participants.

Through interviews with a former Technology Learning Community participant, whom I shall refer to as Ronald, and artifacts from nearly 170 other TLC participants, I set out to gain further insight and understanding of the perspective of a student in regards to their experiences with this learning community. The purpose of my inquiry was to determine how the Technology Learning Community impacted the educational experiences of new and transfer students to the IEdT Department and discipline.
The interviews and hundreds of pieces of artifacts yielded two primary themes, one of which I will discuss in further detail later as the focus of this article, that enhanced Ronald’s and other learning community participants’ educational experiences. These themes were corroborated with data (artifacts) collected in the form of semester evaluations from four semesters (fall 2002-spring 2004) of the learning community’s existence: development of personal connections to the Industrial Technology Department through planned cooperative learning activities among peer mentors and team members, and the development of a professional network and relationships with IEdT faculty, staff and industry professionals through seminar and team based activities. In the proceeding sections the first theme will be discussed as it relates to the experiences of Ronald and other participants and the general concept of learning communities. Next, a demographic picture of the sample of learning community participants picked for this study will be provided, as well as an introduction to the Ronald I came to know through our interviews.

Participants

There have been over three hundred students and nearly forty peer mentors that have participated in the Technology Learning Community since its birth in the fall semester of 1999. For this study, I analyzed data based on a subset of this population, student participants from the fall 2002, spring 2003, fall 2003 and spring 2004 semesters. This encompassed a total of 163 students over a two-year academic period equivalent to four semesters.

The student population was predominantly comprised of sophomores and juniors, average age of 20-21, who transferred from other departments within the Iowa State
University community, mainly the College of Engineering. Participants were generally Caucasian males, with 6% being female, who had a less than favorable higher education experience prior to their enrollment in the Industrial Technology Department and participation in the Technology Learning Community.

Ronald, the student interviewed for this study, represented the average participant in the learning community. Now a graduate of Iowa State, he is a small town boy with a lot of life experience ranging from touring Australia to working for the Walt Disney World College Program. As a high school graduate of a class of approximately 90 students, he began his college career in Iowa State University’s College of Engineering with an initial interest in Mechanical Engineering. This is where he quickly realized that Engineering was not the type of career he wanted to pursue, as depicted in his statement about his first year after high school graduation:

So, I did one semester as a Mechanical Engineering student. But I didn’t like my schedule so I kinda changed it. So I wound up taking soc (sociology), developmental psych, uhh, jazz band, oratorical choir and scuba diving. That was my first semester at Iowa State. Second semester I worked for Disney. I did the Walt Disney World College Program. I was a lifeguard for them for the semester. (Interview Notes, June, 2003)

The following semester Ronald returned to school at Des Moines Area Community College (DMACC) where he later completed his Associate of Arts degree and re-enrolled at Iowa State in the Department of Industrial Education and Technology, where he seemed to find his niche as a non-traditional transfer student. He described this department as allowing him to “...do cool stuff...” from a hands on approach to teaching and learning that utilizes higher
level thinking skills. In my opinion, Ronald appeared to have made a very informed decision that many other students have made in their transformation from Engineering to Industrial Technology, including myself. As a student who also began her college career in Engineering, I too was not happy with their style of teaching and learning. There was too much emphasis on theory and not enough on application, which is the foundation of the Industrial Technology Department.

Overall, my impressions of Ronald are that of a very practical and active individual both academically and socially. He describes himself as being "idealistic" and "prone to independent thought," which is evident in the non-traditional paths that he has chosen thus far. He was also very friendly and candid in his responses to all of my inquiries, thus enabling me to gain a vivid picture of his experiences and relate to him on multiple levels. I was able to understand his perspective from that of a student, TLC staff member and former learning community participant. Now that I have introduced you to the heart of my research, I will go on to discuss the process that I used for my data collection and analysis.

**Methodology**

For this study I chose the best research method suited for the purpose and topic, which were in-depth interviews, artifact analysis and participant observation to assist me in "understanding informants' perspectives on their lives, experiences, or situations as expressed in their own words," as explained by Steven Taylor and Robert Bogdan (p. 88). For the in-depth interviews I chose a student that met my predefined criteria based on the attributes of the average Technology Learning Community participant: participated in the
learning community during one of the semesters included in my selected data set, classified as at least a sophomore which was the average academic standing of TLC participants, transferred from a different department on campus, and actively participated in learning community activities by attending a minimum of thirteen out of fourteen seminar sessions and team meetings.

In my opinion, Ronald best fit these criteria and was most accessible. I set up several meeting times and interviews with Ronald over a three-week period. The average meeting lasted between 45-50 minutes and was comprised of a core set of open-ended questions. Topics discussed during the interviews ranged from introductory getting-to-know you questions to Ronald's thoughts and feelings on various experiences in the learning community seminar and peer mentor led team activities. After the interviews were completed I transcribed and coded the tapes based on the research question, from which the primary themes emerged.

The artifacts used in this study were in the form of a summative evaluation tool called a semester evaluation. One hundred and sixty-three forms were completed and analyzed based on the research question: How does the Technology Learning Community impact the educational experience of new and transfer students? This evaluation was administered by the peer mentors during one of the final learning team meetings. The form was completed by each TLC participant, graded by their assigned peer mentor on the basis of quality and completion and submitted to the TLC coordinator and seminar instructor for analysis. The primary purpose of this tool was to collect data based on each student's overall satisfaction with his or her learning community experience. Some areas of inquiry were their
descriptions of their support system, the utilization of IEdT resources, personal development and their perception of the benefits of the learning team activities.

Findings

The first theme that was evident in my interviews and the compilation of end of semester evaluations was the development of personal connections to the Industrial Technology Department through planned collaborative learning activities among peer mentors and team members. This is evident in the following excerpt taken from my interview with Ronald (my responses are in italic):

So what about your interactions with your peer mentor? Did you guys get to do much of that?

Yeah. Besides the weekly meeting, we actually did a couple outings. I think, well we went on a field trip and then we went out to lunch, that was pretty cool. And then we went to the Ledges (a local park) and grilled out, after finals I think...after finals were over, it was during finals week...when we went to Ledges, that was great though.

So you can say that you made meaningful relationships with these people that you met in this department, that you worked with in your peer group, and in class?

Yeah.

You think you'll continue to...

I'll continue to know them. Definitely. uhh. I found out that one member of the group is also a scuba diver, who lives up in Wisconsin and I like to go
diving in Wisconsin every summer. So, I will probably call him when I get up there. Uhh, another member of the group is a mountain biker, which I also do.

We went on the, went on the Moab trip together.

The impression that I got from this passage is that Ronald really enjoyed and benefited from the planned activities. He uses phrases such as "pretty cool" and "great" to describe his interactions with his peer mentor and team members after doing various activities throughout the semester: a field trip to Goodrich Aerospace in Des Moines, lunch at Chilli's and a BBQ at the Ledges. Ronald also speaks of personal connections that he was able to make with several of his team members in relation to extra-curricular interests such as scuba diving and mountain biking.

This same type of enjoyment regarding learning team activities and personal connections to the IEdT Department and discipline was also evident in the end of semester evaluation responses sampled between the Fall 2002 to Spring 2004 semesters:

- The group meetings helped me to identify myself in this major. It also showed me that there were other students in the major who felt the same way about different materials (Spring 2004).

- I have really made strong bonds with some of the students and I know if I had problems with something, they would help. Also, being in the group I have learned more about the I Tec major and how I want to use my degree when I leave (Spring 2004).

- I have developed many connections this semester in the ITEC department that will help me become a better person and job applicant. Teachers and mentors
have given me a great support system, with their help I have been able to develop into a better student (Spring 2003).

- I enjoyed bowling and pizza night because I really got to know the people in our groups and department on a more personal level which is nice since I will be spending so much time with them (Spring 2003).

- They were fun and I got to know people in my group. I also learned what types of jobs are available to I Tec students (Spring 2004).

- The personal and social support in this major is very strong; everyone is willing to help and look out for each other (Fall 2002).

- It was good to get together and meet some of my other current and future classmates so that I can develop some sort of network of guys (and girls) I can study with. The best thing we did as a group was to go to the industrial field trip which was great to see what we might be doing in the future (Fall 2003).

Making these connections, in my opinion were extremely valuable for both Ronald and the other Technology Learning Community participants. They allowed participants the opportunity to make lasting relationships with people that they had more in common with than educational and career interests. In my interview with Ronald, he spoke of making these connections as making "it that much easier" (referring to college), enabling him to know people in the department in settings other than team meetings and one hour seminars.

Nurturing relationships with other students enabled learning community participants, and particularly Ronald, to build a connection to the IEdT Department based on a foundation made up of more than classes and passing in the hall. Each of them were able to put a name to a face that may appear in future classes or activities outside of the department and
university, which can be seen in Ronald’s statement about having a relationship with his team members and peer mentor, “…I can know them and hang out now” (Interview notes, June, 2003).

Ronald’s interactions with his team members and peer mentor went beyond social interests and personal connections. He was also able to bond with each of them on an intellectual basis, enabling him to better construct his own knowledge through collaborative learning. According to Patricia Cross’ 1998 article in About Campus, learning communities are based on the concept of collaborative learning, where knowledge is described as being socially constructed versus discovered. Thus, students learn from interactions with each other in which they are forced to “…negotiate their own understandings by actively working to understand others’ contributions and to fit them into what they already know…” (p. 9). This knowledge construction process was often utilized by Ronald and can be seen in his description of his weekly meetings with his peer mentor and team members:

So, were your interactions with your team members and peer mentor beneficial to you?

I think so. More than, I didn’t really study with any of them, I didn’t do homework, it was just kinda, they were my peers, they were people in the same classes, the same type of stuff that I was. So when all of these questions started coming into my head, unique things happening in class (laugh), 110, and uh hearing all these rumors that there wasn’t going to be anymore ITEC and stuff like that, it was just nice to talk it out with them and bounce ideas off of them. Talk about classes, we uhh, here is what you need to do to get
through that class, don’t take this one it’s worthless. It’s just good to be able to talk to people. (Interview notes, June, 2003)

This intellectual connection was corroborated with student responses on the end of semester evaluation forms. Students from numerous semesters described this meeting of the minds as a favorable experience and aid in their development:

- I had a chance to share and integrate my ideas with the ideas of other students. It was a good start to conforming with other people (Spring 2004).

- I have benefited from group activities this semester by not only meeting new people and gaining support from friends, but I have gotten lots of advice from my group mentor as well as my professional/industrial mentor. I learned several things about this career path and have received a lot of advice on how to succeed at my job (Fall 2003).

- Group activities played an important role in becoming comfortable with other students in the class. They were also nice, because after a long week it was nice to speak my mind to other people that could relate to the same situations that I was going through (Fall 2003).

- Learned to work in a team. Individual work is not as effective as a group. Met a lot of friends (Fall 2002).

- I have met a lot of students that have the same ideal and goals that they wish to achieve in college. I have gotten to know some of the faculty (Fall 2002).

In my opinion, it is evident that creating opportunities for social and academic interaction between students, through planned learning community activities is beneficial to
everyone involved. I can vividly recall when I was a peer mentor as an undergraduate, how enthusiastic all of my team members (including myself) were about coming to our meetings and having the opportunity to interact with other students. We would sit and talk about things happening inside and outside of the department, collaborate on homework assignments and projects, and talk about classes and instructors. Making connections through the learning community with other students, faculty and staff was instrumental in the acclimation of myself and other students to the discipline and department of Industrial Technology. These sentiments were reiterated by a Technology Learning Community participant from the Fall 2002 semester:

Classwork this semester has been very different to say the least from that of engineering. I have met so many and gotten to know on a personal level friends and my professors and my advisor. I no longer go home right after class like before, now I stay after and talk about classes with my professors and classmates.

Conclusions

Learning communities are one of the newest trends in higher education that is rooted in the 1920s. This relatively old pedagogy has educators re-evaluating the way knowledge is taught and learned. With a foundation in collaborative learning and the development of a social and academic support system, learning communities are striving to increase the positive experiences of students in institutions of higher education by bridging the gap between their personal and educational lives. According to Vincent Tinto, Anne Goodsell-Love and Pat Russo's 1993 article in *Liberal Education*, the implementation of learning
communities allows students “to meet two needs, social and academic, without having to sacrifice one to address the other,” which enables students to have a more holistic and satisfactory educational experience by bridging this divide (p.20).

The TLC, located in the IEdT Department, is one avenue being used by Iowa State University to support this shift in philosophies from an emphasis on improving teaching to enhancing the learning experience of students by closing this social-academic divide. Through the development of personal connections to the IEdT Department and the development of a professional network and relationships among students and IEdT faculty, staff and industry professionals through weekly seminars and team based activities the TLC is having a positive impact on the educational experiences of students in the IEdT Department. Ranked among the top five in the country in 2002, according to US News and World Report, Iowa State University’s learning communities are on their way to meeting and exceeding any expectations.

References


CHAPTER 4: PROFESSIONAL CONNECTIONS THROUGH THE TECHNOLOGY LEARNING COMMUNITY

A paper to be submitted to *Liberal Education*

LeQuetia Ancar

Introduction

Have you heard? The new buzzword is “learning communities”. A relatively old phenomenon that has resurfaced and is making educators at institutions of higher education stand up and take notice. According to Angelo (1997), learning communities are producing significant gains in student involvement, learning, satisfaction, social connectedness, persistence and retention. Thus creating a more holistic and favorable educational experience for participating students. Grounded in collaborative and cooperative learning theories, learning communities are creating environments in which student learning instead of faculty teaching is at the center of attention. No more are the days where effective learning is an individualistic, competitive and isolated process. The acquisition of knowledge has come to be considered a highly social process in which construction occurs interdependently between students and teachers (Cross, 1998).

This social construction of knowledge and skills is best supported in a learning community environment in which students are given the opportunity to engage in activities that encompass a diverse set of perspectives from multiple sources. Actively engaging students, faculty, staff, university officials, resources and community members, learning communities are bringing together sources of expertise in an effort to create a networked environment in which learning can be done collaboratively and cooperatively. According to Matthews, Smith, MacGregor and Gabelnick (1996), “learning communities juxtapose
diverse perspectives and diverse disciplines, often creating rich social, cultural, and
intellectual linkages” which ultimately have a positive and profound effect on the success of
students (p.6). As one scholar on the learning community concept phrased it, “the learning
community movement...it’s about connecting us” (Masterson, 1998, p.9).

The Technology Learning Community (TLC), located in the Department of Industrial
Education and Technology (IEdT) at Iowa State University is an example of a program that
is fostering this type of learning environment connection. Through weekly seminars and
team-based activities, the TLC is enabling student participants to actively construct their own
knowledge base through the development of professional networks and relationships with
IEdT faculty, staff, students and industry professionals. This article will venture into the
realms of the Technology Learning Community and how it has had a positive impact on the
educational experience of new and transfer students to the IEdT Department. It will take a
close look at this program through a qualitative study of artifacts from a subset of student
participants in the program from Fall 2002 through Spring 2004.

**History of learning communities**

The learning community concept was first introduced in the 1920s by Alexander
Meiklejohn at the University of Wisconsin, as the Meiklejohn Experimental College (Smith,
2001). Heavily based on the philosophies of John Dewey, the primary purpose of this
endeavor was to establish and nurture a higher education community that connected the
living and learning environments of students. According to Shapiro and Levine (1999),
Dewey had strong beliefs that formal educational environments and their supporting
structures should foster learning with integrated social experiences that are student-centered
with pronounced relationships between students and their instructors. These educational environments should apply cooperative and collaborative approaches that emphasize learning, a commitment to learning by doing and view learning as a lifelong process.

With little support in changing the university’s traditional teaching and learning philosophies, the learning community concept was abandoned at the University of Wisconsin. It later reappeared and was mainstreamed in the mid-sixties at Evergreen State College, the University of California at Santa Cruz and the State University of New York at Stony Brook (Shapiro & Levine, 1999). Here is where the learning community concept took on its true meaning and established a framework for other institutions of higher education to follow as many colleges and universities began to shift from teaching centered to learning centered environments.

Many types of learning communities surfaced in the subsequent years, with varying components, objectives and structures. Formulated to best meet the needs of the student in which it was intended to serve, learning communities began to take on many different appearances, although the foundational elements remained the same. According to Lenning and Ebbers (1999), all learning communities should include the following foundational elements: diversity, a shared culture, internal communication, caring, trust, teamwork, maintenance processes and governance structures that encourage participation and sharing of leadership tasks, personal and professional development, and links to the outside world.

With the foundational elements in place, the structural components of learning communities follow four basic models or bits and pieces of these models, according to Freeman, Field and Dyrenfurth (2001). These models are collateral course-based, residential, freshman interest group or student type. Choosing a particular model depends on the needs
and characteristics of the student participants as well as the department and university culture (Shapiro & Levine, 1999). The first type of learning community is a collateral course-based learning community that places students in a cohort group which links two courses together that are either traditionally taught or team taught across disciplines and lasts at least one semester. A second type of learning community is a residential learning community which places students together in permanent housing (generally a dorm floor) and may or may not place them in the same courses. A third type of learning community is a freshman interest group learning community which is solely for freshman students that are studying or have a similar subject area of interest and places these students in groups taking similar classes. A final type of learning community is a student type learning community that is designed for special populations of students such as honors program participants. Students in this type of learning community structure may or may not share permanent living arrangements (Freeman, Field & Dyrenfurth, 2001).

The Technology Learning Community does not fit the mold of any of the above mentioned learning community models, which is why three professors in the Industrial Education and Technology Department decided to create a non-residential, non-collateral, non-course based learning community model in the Fall semester of 1999. This program, along with several others on the Iowa State University campus demonstrated the new shift in pedagogy from teaching centered to learning centered approaches to higher education, and the increased emphasis on student satisfaction and a holistic educational experience (Huba, Ellertson, Cook & Epperson, 2003). Initiated in the mid-1990s, the learning community concept has grown substantially at Iowa State University. According to Huba et al. (2003), from 1998 to 2003, there was nearly a 100% increase in the number of learning communities
and student participants. The university went from 23 learning communities in 1998 to 47 in 2003, with participation being 1114 and 2275, respectively. This profound growth in learning communities over the past five years demonstrates Iowa State University's commitment to enhancing student learning, retention and overall educational satisfaction, which is in line with the shifting pedagogy of the university.

With the goals and objectives of the university-wide commitment to student learning and the learning community initiative in mind, an assessment of the IEdT Department’s student population was conducted. Drs. Steven Freeman, Dennis Field and Michael Dyrenfurth created a model that best met the needs of the non-traditional and diverse academic and social backgrounds of IEdT students. With varying levels of prior academic and social experiences, students new to the IEdT Department, who were predominantly transfers from other colleges on campus, needed a channel through which they could become acclimated to a new environment, people and culture.

In its sixth year of existence, The Technology Learning Community is providing this opportunity to make personal connections as well as develop and maintain professional networks and relationships with IEdT faculty, staff, industry professionals and students. TLC participants are required to attend and contribute to a weekly seminar with the other learning community participants, attend weekly meetings with their peer mentor and participate in at least one social outing, industrial fieldtrip, professional society meeting, and industrial mentor meeting. These learning teams last for the duration of one academic semester and require a minimum time commitment of two hours a week from the student mentees.
One hour of the two-hour commitment is spent attending the weekly seminar component of the learning community that focuses on the development of professional and career building knowledge and skills. This is accomplished through presentations and activities hosted by various university and community experts on resume writing, portfolio building, visual and oral communication, industry expectations, teams and teamwork, academic success and self assessment.

The second hour is spent in a weekly meeting facilitated by a peer mentor. At this time mentees are given the opportunity to engage in activities with their learning team members that further enhances their knowledge base and academic, professional and social support systems. Participants engage in discussions that are focused on seminar topics, real world issues, and departmental coursework as well as activities that foster interpersonal communication and active learning. During this weekly team meeting, participants also engage in conversations and workshop activities with an industrial mentor to strengthen their oral and written professional communication skills, as well as build their industrial technology knowledge base and skills.

**Purpose of study**

The ultimate purpose of this study was to determine how the Technology Learning Community initiative in the Department of Industrial Education and Technology at Iowa State University impacted the educational experience of new and transfer students based on their development of professional networks and relationships with IEdT faculty, staff and industry professionals through weekly seminars and team based activities. With a steady increase in the number of new students to the department who had no prior collegiate
experience with industrial technology, there was a need to expose them to the discipline and connect them to the department and its personnel. The only formal method being used to do this was the TLC. Being a rare type of learning community that does not fit the mold of any of the traditional models, the TLC is paving the way for other non-traditional higher education environments that wish to enhance the educational experience of its students.

Through a qualitative methodology, the purpose of this research was to depict the experiences, thoughts and feelings of TLC participants based on their perceptions and reality. According to Shapiro and Levine (1999), “qualitative data present a rich, descriptive picture of what students experience in learning communities and how they describe the impact of this participation” (p.177). A qualitative analysis of artifacts and a focus group yielded descriptive data, from the TLC participants, relative to their ideas and opinions regarding their numerous experiences in their acclimation to the department and discipline of industrial technology. This data then yielded grounded theories (also referred to as themes), which are defined by Taylor and Bogan (1998) as “theories, concepts, hypothesis, and propositions (derived) directly from data rather than from a priori assumptions, other research, or existing theoretical frameworks” (p.137).

Participants

There have been over three hundred students and nearly forty peer mentors that have participated in the Technology Learning Community (TLC) since its birth in the fall semester of 1999. A subset of these students were utilized in this study, specifically student participants from the fall 2002, spring 2003, fall 2003 and spring 2004 semesters and peer mentors from spring 2003. This encompassed a total of 163 students over a two-year
academic period equivalent to four semesters and 7 peer mentors from one academic semester.

The student population was predominantly comprised of sophomores and juniors, average age of 20-21, who transferred from other departments within the Iowa State University community, mainly the College of Engineering. Participants were generally Caucasian males, with 6% being female, who had a less than favorable educational experience outside of the IEdT Department.

The peer mentor population was made up of upperclassmen students in the IEdT Department who had successfully participated in the TLC and had shown substantial leadership and interpersonal skills. Each peer mentor had completed all of their 100 and 200 level ITEC courses as well as an industrial internship experience. Since its inception 21% of mentors have been female and approximately 16% have been minorities. However, all seven peer mentors during spring 2003 were male, with an average age between 22-24 and Caucasian.

Data Collection

Several data collection instruments were used in this study of the Technology Learning Community. To ensure a degree of believability and to give a voice to the TLC participants and credibility to the analysis data was triangulated from two types of artifacts and a group discussion. The tools used in the collection of this data were in the form of student weekly summaries, a portion of the ISU Undergraduate Education Survey, and a peer mentor focus group.

The primary tool, an artifact similar to a journal entry, was the student weekly summaries which were electronically collected via email and graded by the instructor of the
seminar component of the TLC. They were then filed in an electronic database for qualitative data, called QSR N5 NUD*IST (Richards, 2000), which enabled the researcher to analyze the data based on the theme derived from the research question: how does the Technology Learning Community impact the educational experience of new and transfer students to the Department of Industrial Education and Technology. One of the prominent themes that arose from this data was the development of professional networks and relationships with IEdT faculty, staff and industry professionals through weekly seminars and team based activities.

There were a total of 14 weekly summaries per student per semester and they were worth a maximum of five points each. Students were not graded on quantity, but on quality and their ability to adequately express their reflective thinking. This data collection tool was used primarily to gather the students' perceptions of their learning team and seminar activities. The main areas of inquiry were a summary of the previous seminar meeting, a summary of the learning team activities during the previous week, the effectiveness or usefulness of the seminar and learning activities, and any concerns or issues regarding classes, advising, environment, etc.

A secondary tool used to corroborate the findings from the student weekly summaries was an added portion to the original ISU Undergraduate Education Survey. The original version of this tool was created and administered by the ISU Learning Community Organization and the added portion, consisting of 10 additional questions, was created by the Technology Learning Community staff. This survey was comprised of a total of 77 questions, 72 were measured on a Likert-like scale and five were short answer. Of the 77 questions, the final ten questions were added by the TLC staff and were content specific to
the Technology Learning Community. The remaining 67 questions gauged the participants’ feelings and opinions on the learning community experience as a whole. This survey also assessed their perception of their personal knowledge and abilities, connections to other students and faculty, and the average time spent on a weekly basis engaging in various activities.

Another secondary tool used in corroborating the findings from the student weekly summaries was a focus group of a sample of peer mentors from the spring 2003 semester. This focus group was conducted by Lisa Thrane of the ISU Research Institute for Studies in Education (RISE). The utilization of an outside source for the data collection from this focus group created an atmosphere that enabled the participants to openly and honestly express their opinions and concerns. For this focus group, a set of nine questions were used to gather information relative to the peer mentors’ perceptions of their roles and the roles of the student participants in the Technology Learning Community. Areas of interest were important aspects of the learning community, mentoring activities, course objectives, lessons learned as peer mentors and suggestions for improvement.

Findings

Fostering professional networks and relationships among Technology Learning Community participants and Industrial Technology faculty, staff and industry professionals was one of the primary themes that emerged from the analysis of data collected for this study. Through weekly seminars and learning team activities TLC participants were able to spend a minimum of two hours each week building and strengthening these networks. The importance of these networks and the success of the learning community in creating an
environment in which this activity was able to take place were demonstrated in the student responses to the added portion of the ISU Undergraduate Education Survey. Analyzed on a Likert-like scale, students were asked to rate their experience in the TLC with relation to making connections with faculty, other students, and industry professionals. On a scale of one to four (1=excellent, 2=good, 3=fair, 4=poor), between 80-90% of students from each of the semesters included in the study, rated their experience either excellent or good, while less than 10% rated it as poor, thus reiterating the importance of this learning community component.

The first type of network, formed between TLC participants and IEdT faculty, occurred both inside and outside the boundaries of the classroom. According to Chickering and Gamson (1987), “student-faculty contact in and out of class is the most important factor in student motivation and involvement” (p.4). Simply knowing that instructors are there to help on a social and academic level gives students a greater sense of belonging and connection. It breaks down the traditional barrier of authority between student and teacher that often restricts students’ academic development beyond the confines of the classroom. This connection also makes instructors more human-like and not all-knowing, powerful beings.

These opinions were reiterated in student weekly summaries following a faculty meet and greet session during the seminar component of the Technology Learning Community. IEdT faculty, representing each of the specialization areas in the department (safety and manufacturing), were invited to come and meet the TLC students and provide information about who they were and what they did.
• Last Tuesday’s class was very interesting and informational. I had no idea how useful the safety option was to the industry today and that there was a huge demand for it already. It was cool to hear from the electrical guy because I always thought electricity was a cool area of study and he made it seem even more interesting and something that would be of interest to me in the future. Without the speakers, I would have been lost in the I-Tec field, because I’m new and really still do not know what it all consists of, but because of the speakers I think it gave me a better feeling for where I’m at now in my college career. Basically it was a day to discover some other options and/or fields that are within the I-Tec field that we may not have known about unless they spoke with us.

• I really got a lot out of the presentations by the faculty. It let me know what I can expect from their classes and got me interested in their areas of research.

• I learned a lot about the different areas of Industrial Technology and what it can do for me. I also got to know a few of the faculty members from the department.

• I found that this last Tuesday’s class was extremely helpful in meeting professors that I may have.

In each of these responses TLC participants expressed their appreciation for the opportunity to meet future instructors in a setting other than the instructor’s classroom where there is a formal structure and relationship between teacher and student. Referring to the meeting as “cool”, “interesting” and “extremely helpful” displays the importance of making this connection in the eyes of the students. The second student’s comment in regards to receiving
information about the research area of a particular faculty member opened up the opportunity for a professional network based on this research topic.

Creating these types of networking opportunities in learning communities enables students to find a greater coherence in what they are studying and allows them to experience increased intellectual interaction with faculty members and other students (Smith, 1991). This can be seen in a comment from the first student, shown above, in which he states “I would have been lost in the I-Tec field” and his expressed sense of being better prepared for what may lie ahead and what he was all ready experiencing. The importance of faculty-student connections is reinforced by Cross (1998), “students who have frequent contact with faculty members in and out of class during their college years are more satisfied with their educational experiences, are less likely to drop out, and perceive themselves to have learned more than students who have less faculty contact” (p.7).

The second type of network was developed between the TLC participants and TLC/IEdT staff. This was evident in their interaction with their peer mentors as well as the departmental academic advisor. Peer mentors were a strong component of the Technology Learning Community initiative and were instrumental in providing a collaborative learning environment in which participants were able to make connections and build their professional networks, thus enhancing their knowledge base and skills. Peer mentors “help students make connections to the course material and familiarize them with the services of the university during their first term when they are most in need of a sense of community and connection” (Matthews, Smith, MacGregor & Gabelnick, 1996, p.6). This is displayed in the following statements taken from the peer mentor focus group in which peer mentors were asked why they felt building a sense of community was important and their role in making it a success.
- I think you want to make things as a community. You got to get people knowing each other and people knowing other people in this department. Not only the students, but the teachers as well. If you get them in here as a freshmen and knowing more people and their professors right away, they will have a lot better time here and will progress better.

- At college it is really easy to get singled out and be left in the dust by yourself not knowing many people, especially when you are a freshman in huge classes. Within the learning community, you learn who has what classes and you can meet others in those huge classes.

- The class gives you all the stuff you need to go on. You get your resume and portfolio and you work together on all that stuff. And I try to get everybody as peers to critique each other too. And then every semester I see something on someone’s resume that I want to put on mine, so I get something out of it too. I think the class is a good start that you carry through your whole college.

It is evident that fostering a sense of community that enables connections between TLC/IEdT staff was instrumental in enabling participants to form networks, which in turn enhanced their overall educational experience by creating opportunities to learn from diverse perspectives. According to Matthews, Smith, MacGragor and Gabelnick (1996), “rich, rigorous learning environments, active participation on the part of students and faculty members, and a sense of community make a positive and often profound difference in fostering student success” (p. 4).

The final type of network that was formed was between TLC participants and industry professionals. The industry professionals served as industrial mentors and were
members of the surrounding community, often Iowa State University and IEdT Department graduates, that were generally practicing industrial technologists with an emphasis in either occupational safety or manufacturing. In an average semester, they met with an assigned learning team headed by a peer mentor at least twice. During their encounters they would discuss professional development topics such as interviewing, resumes and portfolio development, and industry expectations as well as visit the industrial mentor’s employment facility.

This TLC component was a rare and unique attribute that was not being utilized by many learning communities throughout Iowa State University’s campus. This direct connection to the surrounding community enabled students to extend their knowledge beyond the confines of the traditional classroom and went a step further than bringing in speakers. It opened participants up to a much larger and more diverse pool of information from which to build their own framework and make the often unforeseen connection between the classroom and industry. The value of this connection and networking opportunity can be seen in responses taken from student weekly summaries in regards to TLC participants’ interactions with their industrial mentors.

- I got a chance to talk to someone who has been where I’m going and can give some good tips.
- They (industrial mentors) give real-life, experienced insight about what should be expected.
- I think the opportunity to be set up with somebody who is willing to help out is awesome.
- It’s good to interact with someone who has a job in the field you are studying.
• They (industrial mentors) guide us and give us advice.
• Actually seeing someone who has a job in the field I am going into really helps me get an idea of what I will be doing.

It is evidenced by the above statements that TLC participants really appreciated the opportunity to network with knowledgeable people outside of their traditional educational environment. It gave them the opportunity to make the classroom-work connection as well as exposed them to potential employment environments and opportunities. Industrial mentors validated many of the students’ goals of obtaining a degree and having a successful career in Industrial Technology.

Conclusion

The Technology Learning Community located in the Department of Industrial Education and Technology is an example of a program that fostered the development of professional networks among its participants and faculty, staff and industry professionals. The TLC enabled its students to actively construct and strengthen their own knowledge base from diverse perspectives within and outside of their traditional classroom learning environment. Through learning team activities and seminar sessions students were able to make the connection between their academic and professional life, which enhanced their educational experience.

Through a qualitative look at student perspectives, thoughts and feelings in regards to their learning community experience, this study produced substantial evidence supporting the importance of making connections to one’s environment and the ability of the Technology Learning Community to foster this connection. In conjunction with the data represented
above, there is more “good, solid correlational evidence that students who are involved with
the people and activities of learning communities are significantly more likely than their less
involved peers to show growth in intellectual interests and values, and apparently more likely
to get more our of their college education” (Cross, 1998, p.7).

Learning communities are becoming the wave of the future as institutions of higher
education are striving to make a pedagogical and philosophical transformation from teaching
centered to learning centered environments. With the findings from this study and those
from other learning community enthusiasts such as Vincent Tinto, Jodi Levine, Nancy
Shapiro, Barbara Leigh Smith, Oscar Lenning and Larry Ebbers other departments within
colleges and universities across the country can begin the much needed shift from an
individualistic and competitive learning environment to an interdependent and collaborative
learning environment, like the Department of Industrial Education and Technology did five
years ago.

References

Angelo, T.A. (1997). The Campus as learning community: seven promising shifts and


[Electronic Version]. *About Campus, 3*(3), 4-11.

Chickering, A.W. and Z.F. Gamson (1987). Seven principles for good practice in

Freeman, S., Field, D. & Dyrenfurth, M. (2001). Enriching the undergraduate


CHAPTER 5: CONCLUSIONS AND RECOMMENDATIONS

Limitations of Study

1. The ability of the researcher to be entirely objective when analyzing the data was limited due to her previous experience with the Technology Learning Community as a former peer mentor and research assistant and the current assistant coordinator and seminar instructor.

2. The adequate representation of the various amount and types of data analyzed for this study were limited by research methodology, time and space.

Conclusions

Based on the findings of this study, the following conclusions can be drawn:

- The Technology Learning Community (TLC) fostered the development of personal connections to the Industrial Education and Technology Department (IEdT) through planned collaborative learning activities among peer mentors and learning team members.

- The TLC fostered intellectual connections and interactions that enhanced knowledge construction among student participants.

- Collaborative learning team activities such as social outings, industrial field trips, and peer and industrial mentor meetings enhanced student knowledge construction and transfer.

- The Technology Learning Community enabled the development of professional networks and relationships among TLC students and IEdT faculty, staff and industry professionals through weekly seminars and team-based activities.
• 80-90% of TLC participants rated the ability of the TLC to foster connections between students, faculty and industry professionals as either excellent or good.

• Enabling the creation of networks and relationships between TLC participants and TLC/IEdT faculty and staff created a sense of community and opportunities to learn from diverse perspectives.

• Networks between TLC participants and industry professionals enabled students to make classroom to work connections and exposed students to potential employment environments and opportunities.

• Networks among TLC participants and TLC/IEdT faculty humanized the teacher to student relationship and enabled reciprocal learning between the teacher and the student.

Recommendations

The results of this study were only the tip of the iceberg in verifying the success and effectiveness of the Technology Learning Community in meeting the acclimation needs of students in the Department of Industrial Education and Technology through collaborative learning team activities. Fostering personal connections to the department and discipline and enabling the development of professional networks and relationships is only a small part of what the TLC is doing to enhance the educational experience of new and transfer students to Industrial Technology. A continued and more in-depth study into data yielded from all five years of the TLC’s existence, and not just a subset which this study focused on, could shed light on other benefits not only to the student, but the department and university as a whole.
Further study into the long term benefits of participation in a learning community environment could also yield beneficial data in support of the growing initiative of learning communities on campuses across the country. Through alumni, employer and community feedback, substantial insight can be made into the overall benefits of the Technology Learning Community with respect to other programs at Iowa State University and throughout other institutions.

**Final Thoughts**

Learning communities are one of the newest trends in higher education that is rooted in the 1920s. This relatively old pedagogy has educators re-evaluating the way knowledge is taught and learned. With a foundation in collaborative learning and the development of a social and academic support system, learning communities are striving to increase the positive experiences of students in institutions of higher education.

The Technology Learning Community, located in the Department of Industrial Education and Technology, is one avenue being used by Iowa State University to support this shift in philosophies from an emphasis on improving teaching to enhancing the learning experience of the students. Ranked among the top five in the country in 2002, according to US News and World Report (2002), Iowa State University's learning communities are on their way to meeting and exceeding expectations.

This study, which focused on one of the unique learning communities at ISU, provided a qualitative analysis of a program that has had a positive impact on the students and in turn the department, as well as the university. Based on an interpretivist perspective and grounded in theory, this research project yielded believable and credible findings based
on the analysis of data that supported two central themes relative to TLC participants’
development of personal connections and professional networks and relationships.
According to Tinto (1993), learning communities should enable students to “bridge the
academic-social divide”, participate in “setting(s) where sources of learning come from a
variety of perspectives”, and “connect their personal experiences to class content” (p. 20).

The Technology Learning Community is doing just that, not only for its participants
but also for Industrial Technology faculty, staff and industry professional. Through a weekly
seminar and collaborative learning team activities, the TLC is enabling students to build and
strengthen their knowledge base and skill set which will ultimately increase their success as
students and professionals. Learning communities are creating a more holistic and
satisfactory educational experience for students by providing them the opportunity to
“actively participate with faculty members and to encourage them to build a support network,
form friendships and connect with their institution” (p.1).
REFERENCES


transforming a grass-roots initiative into an institutionalized program: Evaluating and shaping learning communities at Iowa State University. In J. MacGregor (Ed.) Doing Learning Community Assessment: Stories from Five Campuses.


APPENDIX A: SUMMARY TEMPLATE AND SAMPLE DATA
SUMMARY TEMPLATE

Name (last, first)

Peer Mentor

Date (the Tuesday that the summary is due)

*Summary of previous class meeting:
  Use this section to briefly discuss the activities that took place during our meeting time on Tuesday. It should be approximately three to five sentences. Please do not send more than a paragraph and remember to start this section with an asterisk and the proper heading.

*Summary of peer mentor group activities during the previous week:
  Use this section to discuss all of the activities that took place during your team meeting as well as any outside activities related to the learning community: professional club meetings, team social event and team field trip. Please convey this information in three to five sentences and remember to use an asterisk at the beginning of the proper heading.

*Effectiveness or usefulness of the class meeting and activities:
  Use this section to discuss your feelings regarding the usefulness and effectiveness of the previous week's activities both in class and during team meetings. Once again, three to five sentences is sufficient and remember to use an asterisk and the proper heading. Please take this section seriously because your comments will be used to better the Learning Community.

*Any concerns or issues regarding classes, advising, environment, etc.:
  Use this section to voice ANY other concerns or issues that you may have. We will do our best to address these topics in a timely manner. Please use an asterisk and the proper heading at the beginning of this section. PLEASE SEND THIS EMAIL AS AN ATTACHED WORD FILE TO YOUR PEER MENTOR. Thank you and we look forward to hearing from you.

To receive the full 5 points for each summary, you must meet each of the following criteria:
1. Correct format
2. On time
3. Well explained responses (three-five sentences, more if need be but no less)
4. Each section completed
5. Few grammar and punctuation errors
SAMPLE DATA

QSR N5 Full version, revision 5.0.
Licensee: I EdT.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
+++ Text search for 'peer mentor'

+++ Searching document becker5...
*Summary of PEER MENTOR group activities during the previous week: 6
+++ 1 text unit out of 13, = 7.7%

+++ Searching document black5...
*Summary of PEER MENTOR group activities during the previous week: 6
During our last PEER MENTOR meeting we went over our resumes. We critiqued each others and made suggestions on how to make them better. This was very helpful; it gave me a better vision of how my resume should look.
+++ 2 text units out of 14, = 14%

+++ Searching document blum5...
*Summary of PEER MENTOR group activities during the previous week: 6
+++ 1 text unit out of 16, = 6.3%

+++ Searching document Campos-Anderson5...
*Summary of PEER MENTOR group activities during the previous week: 6
+++ 1 text unit out of 16, = 6.3%

+++ Searching document Chester5...
*Summary of PEER MENTOR group activities during the previous week: 6
+++ 1 text unit out of 16, = 6.3%

+++ Searching document Cook5...
*Summary of PEER MENTOR group activities during the previous week: 6
I found the class period to be rather useful. I found out some things about the clubs that were there and I am thinking of joining one of them. I didn’t really think that the PEER MENTOR group meeting was quite as useful as the class time.
+++ 2 text units out of 16, = 12%

+++ Searching document dye5...
*Summary of PEER MENTOR group activities during the previous week: 6
+++ 1 text unit out of 13, = 7.7%

+++ Searching document Freeman5...
*Summary of PEER MENTOR group activities during the previous week: 6
+++ 1 text unit out of 16, = 6.3%

+++ Searching document Gutierrez5...
*Summary of PEER MENTOR group activities during the previous week: 6
Our PEER MENTOR meeting was pretty effective this week, we signed up for ECMS on the college of engineering website. After registering we can now post our resumes and get involved with setting up interviews through it and what not. So that was good. We also talked about why we don’t have an industrial mentor, because he never called or emailed us back, GREAT! 7
+++ 2 text units out of 15, = 13%

+++ Searching document haaland5...
*Summary of PEER MENTOR group activities during the previous week: 6
Last week our PEER MENTOR group meeting went pretty well. We got stuff done and left early. We mostly talked about importance of attendance and showing up on time and the consequences that may occur if you don’t (its ok, I’m just joking.) 7
+++ 2 text units out of 14, = 14%

+++ Searching document heitz5...
*Summary of PEER MENTOR group activities during the previous week: 6
This week in peer mentoring group, we talked about clubs. We talked about NAIT and how much fun we could have in this group. Our PEER MENTOR also told us about many other groups we should really think about getting involved in. Group involvement looks good on a resume and shows that you can work as a team. 7
+++ 2 text units out of 11, = 18%

+++ Searching document House5...
*Summary of PEER MENTOR group activities during the previous week: 6
During the PEER MENTOR group meeting we talked about our future industrial mentor meeting. We also signed up for our accounts on ecs online. We discussed next week’s career expo. We also talked more about ourselves and got to know each other a little better. We also talked about our resumes, and how we should have someone look over them before we take them to the expo. 7
+++ 2 text units out of 16, = 12%

+++ Searching document Jacklin5...
*Summary of PEER MENTOR group activities during the previous week: 6
+++ Searching document jaspers5...
*Summary of PEER MENTOR group activities during the previous week: 6
+++ 1 text unit out of 15, = 6.7%

+++ Searching document lueders5...
*Summary of PEER MENTOR group activities during the previous week: 6
  Last week during our PEER MENTOR meeting we discussed a lot of ideas on
  what we could do for our other group activity. The meeting went really
  well and we got out early. 7
+++ 2 text units out of 14, = 14%

+++ Searching document medina5...
*Summary of PEER MENTOR group activities during the previous week: 6
+++ 1 text unit out of 16, = 6.3%

+++ Searching document morris5...
*Summary of PEER MENTOR group activities during the previous week: 6
+++ 1 text unit out of 11, = 9.1%

+++ Searching document mortensen5...
*Summary of PEER MENTOR group activities during the previous week: 6
+++ 1 text unit out of 12, = 8.3%

+++ Searching document Murch5...
*Summary of PEER MENTOR group activities during the previous week: 6
+++ 1 text unit out of 14, = 7.1%

+++ Searching document pesek5...
*Summary of PEER MENTOR group activities during the previous week: 6
+++ 1 text unit out of 15, = 6.7%

+++ Searching document pottebaum5...
*Summary of PEER MENTOR group activities during the previous week: 6
+++ 1 text unit out of 15, = 6.7%

+++ Searching document scottj5...
*Summary of PEER MENTOR group activities during the previous week: 6
+++ 1 text unit out of 13, = 7.7%

+++ Searching document westhoff5...
*Summary of PEER MENTOR group activities during the previous week: 6
+++ 1 text unit out of 12, = 8.3%
+++ Results of text search for 'peer mentor':
++ Total number of text units found = 30
++ Finds in 23 documents out of 23 online documents, = 100%.
++ The online documents with finds have a total of 327 text units,
so text units found in these documents = 9.2%.
++ The selected online documents have a total of 327 text units,
so text units found in these documents = 9.2%.
APPENDIX B: END OF SEMESTER EVALUATION FORM AND SAMPLE DATA
END OF THE SEMESTER EVALUATION

Student Evaluation Form

Student Name: __________________________
Peer Mentor Name: ______________________
Semester: ______________________________

Number of Group Meetings Attended: ___ of ___
Group Social Event Attended: __________________ Date: __________
Group Field Trip Attended: __________________ Date: __________
Industrial Mentor Meeting Attended: __________ Date: __________

Attitude during group meetings: __________________________

(10 points possible: ___/10)

Significant contributions to the group: __________________________

(10 points possible: ___/10)

Course Objectives
Give an example of how the student has met/not met each of the objectives of the course:

1. What is your personal definition of Industrial Technology? (5 points possible: ___/5)

2. Describe the professional, personal, and social support system that you have developed this semester. (5 points possible: ___/5)

3. How did you recognize and utilize the support of Industrial Tech faculty members, upperclassmen, and industrial mentors? (5 points possible: ___/5)
4. Identify three professional roles available to ITEC graduates. Please circle 3 of the following: (5 points possible: ____/5)

- Management
- Production Team Leader
- Quality Engineers
- Supply Management
- Production Engineers
- Manufacturing Engineers
- Safety Engineers

5. How has ITEC 110 aided in your development? (5 points possible: ____/5)

6. Have you completed a resume? yes/no

7. Have you developed a portfolio? yes/no

Give a brief summary of how you benefitted from the group activities throughout this semester. (5 points possible: ____/5)

Total Points Earned: ____/50

Peer Mentor Signature: ___________________________ Date: ________

Student Signature: ___________________________ Date: ________

TLC Coordinator Signature: ___________________________ Date: ________
SAMPLE DATA

Spring 2004

Q2. Describe the professional, personal, and social support system that you have developed this semester.

- I have made many few friends in my first semester of ITEC. Have also acquired an internship for this summer.
- I have developed diplomacy (don’t answer my phone anymore) and have learned how to resolve arguments and discussions when they arise.
- Pro-made a portfolio; personal-started using a planner; social-I met new people that I have class with.
- Professional support from our industrial mentor and the field trip has been very beneficial in letting me decide what direction I want to go. Personal and social support have come from peer mentor, group members, LeQuetia, and other ITEC students who are doing the same things as me.
- I found out that as a team, things can be done faster and better.
- I have learned to be punctual and reliable. The more contacts that I have made, the larger my social support system grows.
- Whenever I have a problem any class I can go to about anybody who is in my class since I know most the people in my major. I can go to Melody (academic advisor) or to the teacher. Finally I can talk to my professor about problems I’m having.
- I got to know more people in this department. Professionally and socially which will greatly help me in the future.
- For professional I have advisors and professors to got to. For personal and social I have friend and family.
- Pro-our industrial mentor; Personal-met many people in the department; Social-made friends with fellow ITEC students.
- I met with an industrial mentor toured her company and also got some feedback for my resume.
- Well, I have a professional life (student) and personal life. I try and use my social support system for both aspects of this.
- Professionally my work habits have improved dramatically. Personally I have given up not asking for help. My social support system has become more active by talking to people about different topics to stay in the know about items.
- Unlike other semesters I feel comfortable talking to my teachers about anything. Also I have made more friends in my classes which will help me if I need it.
- I have learned where to turn to when I need help and where to get support when needed.
- Made some new friends in classes and met many of the ITEC instructors.
- I have the opportunity to attend professional meetings and see what type of groups are offered to us. Steve was also a good source to ask questions that I had.
- I was able to meet and get to know people in industry and in classes that have helped me decide more of what I would like to do.
• I have gained the support of a lot of my peers and I have also learned a lot about ITEC and have made some good connections with people in higher positions.
• I know my group members and peer mentor. My industrial mentor also gave advise on my resume.
• I have met some students in the department and also a few people in the professional world that I can look to for advice.
• I don't really see that there was a support system, but help was always available when needed from either the learning community or advisor.
• The faculty seems to really be behind everything I do in terms of my career. Running a business and going to classes is time consuming, but I was able to get things done when needed, and many professors understood.
• Professional—I have learned about different types of settings to work in. Personal—I am much more happy doing stuff I enjoy. Social—Being such a small college it's easy to meet people and assist each other.
• Due to guest speakers in class I have a better understanding as to what is expected of me in the workforce. Since they had belonged to this program I feel that I have connections.
• Social/Personal-ITEC is small. I have learned to use other peers and teachers as learning tools to aid in my personal gain for knowledge. Professional- I have learned how to do many technical aspects of my profession.

Fall 2003

Q8. Give a brief summary of how you benefited from the group activities throughout this semester.
• It was good to get together and meet some of my other current and future classmates so that I can develop some sort of network of guys (and girls) I can study with. The best thing we did as a group was to go to the industrial field trip which was great to see what we might be doing in the future
• It was good to have groups because in the future a lot of projects etc. will be with teams. You need team skills in industry
• I made some good acquaintances. I have people in my group in classes I'm in so I can get help if needed. I experienced new things with my group such as a factory tour.
• By getting to know people within the class will benefit me in my classes to come in the future
• I met new people, found out some more about ITEC and other classes through group. Visited Goodrich (never been there). It was a good experience
• It's gotten me better acquainted with friends and has given me ideas of activities and clubs. I could attend and join. It has shown me real life work opportunities and possibilities to help me better understand the vast opportunities of ITEC
• It helped to develop group bonding and team working skills that will be vital in the business world
• The group activities helped me to develop friendships with people that I probably wouldn't have been friends with at the beginning. I didn't see the point for the
meetings but now I am glad we got a chance to meet, become friends and ask the peer mentor questions

- I was able to see a plant and how it works, then it was designed to meet other people from the department. By seeing new faces and talking with new people this helps me to talk about my concerns or better to look for help or help others. In other words every activity was designed for a purpose and I think I accomplished it
- I got to know some people and I also learned more about what to do and more about ITEC
- Learned how to write a resumes and build a portfolio
- Marcus was a big help and the plant tour was all right
- Group activities with Marcus were nice to get input from a true professional. Group meetings were nice to stay on task and get reminders for what needed to be done
- I was able to meet and get along with individuals studying in my field. I feel more comfortable now from meeting these people. My industrial mentor has showed me what to expect and how to handle what is to come. Also I got a few meals out of the deal
- I met new people and got to know them outside the classroom. I got two free meals. I have a better understanding of what I need to do to succeed in ITEC. We got to meet with our Industrial Mentor and go over our resumes with him
- I think that some of the experiences have really helped me gain knowledge that will help me be able to get through the Industrial Technology courses more effectively. I have also gained knowledge that will be helpful when looking for an internship. Some of the group activities have helped me to learn other peers in this area
- I liked going on the field trip. It helped me better understand the types of jobs a person can get with an ITEC degree. They were the types of jobs I can see myself doing in the future
- I got to know more people whom may be in the same classes as me in the future. I feel I know more what an employer would expect in an interview and on a resume. There has been a lot of useful advice about registration, midterms, and other requirements and regulations of college, some of which I may have never known or found out after it is too late to be useful
- Got to know people, toured Goodrich
- Group interaction and better involvement with others. Try to communicate to employees
- Got an awesome tour of Goodrich Turbine engineering. Made some friends, has some fun
- To get to know the group members better
APPENDIX C: ADDED PORTION OF ISU UNDERGRADUATE EDUCATION SURVEY AND SAMPLE DATA
ADDED PORTION OF ISU UNDERGRADUATE EDUCATION SURVEY

Item 1. Listed below are the names of the Technology Learning Community peer mentors. Please indicate the name of your peer mentor by filling in the appropriate circle.

1. Peer Mentor 1
2. Peer Mentor 2
3. Peer Mentor 3
4. Peer Mentor 4
5. Peer Mentor 5
6. Peer Mentor 6

Items 2-8. Listed below are a number of items related to your experience in the Technology Learning Community. Please rate these items using the scale below.

1=Excellent; 2=Good; 3=Fair; 4=Poor

2. Orientation to the Industrial Technology discipline and profession.
3. Connections with faculty, other students, and industry professionals.
4. The process of introducing the variety of professional roles available through an industrial technology degree.
5. The process of developing realistic self-assessments, career goals, and academic goals.
6. Support, encouragement, and assistance provided by peer mentor.
7. Time and attention provided by peer mentor.
8. Peer mentor's attitude and enthusiasm for the TLC.

Item 9. Based on your perceived value of the peer mentor group meetings, how often would you suggest peer mentor groups meet in the future?

1=Twice a week; 2=Once a week; 3=Every other week; 4=Once a month

Item 10. Would you recommend this department to others?

1=Yes; 2=No
SAMPLE DATA

I TEC 110 LEQUETIA EVAL2 SPRING 2004

Number of questions: 10  Number responding: N = 25

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*When the response VARIANCE is large, the MEAN is misleading.

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I TEC 110 LEQUETIA EVAL1 SPRING FALL 2003

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*When the response VARIANCE is large, the MEAN is misleading.
APPENDIX D: TLC PARTICIPANT INTERVIEW QUESTIONS AND SAMPLE DATA
INTERVIEW QUESTIONS

June 25, 2003

1. What is your educational background?
   a. High school
   b. Previous departments at ISU
   c. Other college

2. Why and when did you choose to come to the Industrial Technology Department?

3. What are your feelings about the department as a whole?

4. What are your feelings about your experiences with the learning community?
   a. peer mentor
   b. group activities
   c. weekly seminar
   d. industrial mentors

5. Did you make meaningful relationships?
   a. Peer mentor
   b. Faculty/Staff
   c. Industrial Mentor

6. What do you feel was the most beneficial aspect of the learning community?

7. What do you feel was the least beneficial aspect of the learning community?

8. What things about the learning community would you change?

9. Do you feel that we were successful in meeting the objectives of the learning community and ITEC 110:
   a. Develop a personal definition of Industrial Technology as a discipline.
   b. Develop a professional, personal, and social support group from their peer group.
   c. Recognize and utilize the support of Industrial Education and Technology faculty members and industrial mentors.
   d. Identify professional roles and career opportunities available to Industrial Technology graduates.
   e. Perform self-evaluation processes to aid in the development of personal and career goals.
   f. Complete a resume.
   g. Develop a portfolio of current experiences and performance examples.

10. If the learning community was optional would you still participate? Multiple semesters?
LA: So, why didn’t you go back to Engineering then? Were you...the first time just didn’t work out for you?

JN: After, the only Engineering class that I took was Engineering 101.

LA: okay.

JN: And that just kind of gave me an overview of what it meant to be an Engineer from Iowa State University and it wasn’t something I’m interested in.

LA: okay.

JN: I’m very good with hands on type things. Higher level thinking, just not the process, the way that they do it. I can’t handle it. It’s just not interesting.

LA: umm-hmm. It’s a lot of textbook and...
JN: Just here’s a bunch of theory and you’re never gonna do anything is basically what they were telling me. (laugh)

LA: (laugh)

JN: It’s too sessile, sedentary, I guess. It’s just I didn’t want to be that guy...fluorescent tan, you know...

LA: Sitting at the computer all day.

JN: Making computer jokes and yeah, I didn’t want to be that guy.

LA: Oh, okay.

JN: So (laugh) yeah so I continued to search and Industrial Technology, I kinda say some of that coming too. Mechanical or uhh manufacturing engineers and stuff like that. I haven’t ruled that possibility out, but not, not for the next couple years anyway. You can always come back to school.

LA: Yeah

JN: That’s kinda how I see it.

LA: You sure can. Well than what...well let me see. Then what are your feelings about the department?

JN: (smirk)
LA: Because I know they're mixed. So you came in the spring semester?

JN: Yup.

LA: okay.

JN: What are my feelings about the department…

LA: Your first semester.

JN: I think this department offers a very unique and very necessary education, kinda the parameters that we educate people in, they're good. They are needed in industry right now. I think that the university either doesn't realize that or doesn't want to realize it because they press theory, they press advancing really weird engineering concepts and we're saying here is the technology available now let's just make it the best we can and use it the best we can and that is a much better thing to educate people in, I think. Because there are plenty of Engineers right now and there's plenty of uneducated people to listen to somebody and that's kinda the medium in between there. That's what ITEC produces. So, I think that they should do whatever it takes to increase this program and get it more widely known. Get more funding for God sake. Get some instructors in here.

LA: Right.

JN: And, umm, yeah, definitely figure out what it is their doing and the safety careers, make that a serious thing. Make that huge, I mean both of them. The manufacturing and safety, I think they are great. It needs to be moved out of the College of Education, because that is just silly.

LA: (laugh) I think the whole concept behind it, umm, what I was told anyway is that the reason why we were here is because they certified teachers, in the beginning.

JN: When it began.

LA: So, that's why they are here.

JN: Yeah, its just kind of changed through the years and become something totally different.

LA: Right.
APPENDIX E: PEER MENTOR FOCUS GROUP QUESTIONS AND SAMPLE DATA
FOCUS GROUP QUESTIONS

1. What do you think is the single most important aspect of the learning community?

2. How would you structure the mentoring activities (i.e., size of groups, length & number of sessions, type of interaction) to provide a good foundation for students?

3. What methods have you put in practice to build a team environment?

4. On a scale of 1 to 10 (best), how would you rate your students in meeting the objectives of ITEC 110? (i.e., résumé, portfolio, professional & personal development)
   a. Why? What are their strengths/weaknesses?

5. Did you feel adequately prepared to be a mentor? (i.e., how do you prepare, attitudes/challenges overcome to be effective)?
   a. If not, what skills or information did you need in order to feel prepared?
   b. If you were, what were the elements of your background that provided a good foundation?

6. What constraints do you face (i.e., time, distance from industrial mentors)?

7. Considering everything we have talked about and your own experiences, what are the two most important lessons you’ve learned from being a peer mentor?

8. What suggestions do you have for improving the learning community as a whole? (i.e., roles, duties)

9. Is there anything else that we should have talked about that we haven’t addressed?
SAMPLE DATA

May 1, 2003

Moderator #1 = M1; Mentor #1 = S1; Mentor #2 = S2; Mentor #3 = S3; Mentor #4 = S4; Mentor #5 = S5; Mentor #6 = S6; Mentor #7 = S7.

M1: Thank you very much. What do you think is the single most important aspect of the learning community? Feel free to converse with one another. You don’t have to direct all of your responses back to me.

S6: I think you want to make things as a community. You got to get people knowing each other and people knowing other people in this department. Not only the students, but the teachers as well. If you get them in here as a freshmen and knowing more people and their professors right away, they will have a lot better time here and will progress better.

S7: We take a lot of the same classes together. And when we get them in the program early, it lets them find their niche with people who are moving along through the same classes together. This will help them out with their classes.

S3: The other night, we were all studying together and that really helps to make it easier when we all have this community.

S5: At college it is really easy to get singled out and be left in the dust by yourself not knowing many people, especially when you are a freshman in huge classes. Within the learning community, you learn who has what classes and you can meet others in those huge classes.

S1: We have a little bit of advantage over other learning communities that runs because we’re a smaller group and we don’t have freshmen. We have a bit of advantage of older students who come in. They have the same kinds of goals. They all want to be the same thing. They all know where they came from and where they want to go. So the learning community brings everyone together and gives everyone a chance to make a statement for themselves and do something rather than just sit back and be quiet.

M1: So what I hear you saying, is that building a community not only strengthens social relationships but also student achievement. Is there anything else you’d like to add to that?

S4: The class gives you all the stuff you need to go on. You get your resume and portfolio and you work together on all that stuff. And I try to get everybody as peers to critique each other too. And then every semester I see something on someone’s resume that I want to put on mine, so I get something out of it too. I think the class is a good start that you carry through your whole college.

S5: When I went through Engineering 101, which I think was the equivalent, that class was worthless I think. They just handed out paperwork, gave us quizzes. I think we went on one
fieldtrip. It was very impersonal and was more focused on what grade you got on your homework than telling you about what you’re going to be doing for the rest of your life and giving you a good feel for what you can expect from the next 4 years.

M1: So it gives people a good start for their career development, and then also it provides a good foundation.

S5: Yeah, excellent. I had to go through the class one time after being at the university for 2 years. I felt very comfortable in this department after that class. I think I met one or two people I met during that class that I still talk to and I could still pretty much all 50 of the others in that class. I liked that class.