PROBLEM SOLVING OF MACHINE OPERATORS WITHIN THE CONTEXT OF EVERYDAY WORK: LEARNING THROUGH RELATIONSHIP AND COMMUNITY

Julie Lynn Brockman

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Informal learning constitutes the bulk of learning that takes place within the workplace and occurs most often when an individual's job scope expands. Organizations are increasingly expecting their frontline employees to solve operational problems, creating a "new" space for learning to occur. Problem solving, by virtue of its action orientation, provides the opportunity for creating experiences that lead to informal learning. However, problem solving represents one of the most neglected areas of research in the workplace, particularly within the context of manufacturing. Further, the literature has failed to capture, from the standpoint of the workers themselves, the intersection between the gaining popularity of knowledge management and the increased expectation for frontline employees to solve operational problems on their own.

The purpose of this qualitative study was to explore the informal learning associated with the problem solving process of machine operators within the context of their everyday work. Hence, the research question: What is the nature of the informal learning associated with the problem solving process of machine operators within the context of their everyday work? Using the critical incident technique, twenty machine operators from three manufacturing organizations were interviewed individually, with eight of the twenty participating in a follow-up focus group session.

The findings show that first, learning is perceived by machine operators to be intimately bound up with problem solving. Second, the problem solving process is triggered by an incident which leaves them frustrated, confused and uncomfortable. The process of regaining equilibrium or certainty is inherently social in nature and is guided by personal strategies to achieve balance. Third, problem solving and learning are part of an ongoing process of becoming a machine operator, with three definable phases. Fourth, the consequences of the learning process results in several kinds of knowledge. The main conclusion of this study was that nature of informal learning of machine operators is shaped by the dialogic relationship between the worker, the task and the machine, within a broader community of practice.

This study has enhanced the understanding of the informal learning associated with the problem solving process of machine operators within the context of their everyday work. This enhancement of understanding has implications for both theory and practice. The implications for theory center upon the integration of cognition and social theories of learning, while the implications for practice range from how work is
structured to the use of authentic problems in higher education. Recommendations for further research touch upon both methodology and theory.

THE EFFECTS OF TUITION DISCOUNTING AT PRIVATE, BACCALAUREATE-LEVEL INSTITUTIONS OF HIGHER EDUCATION

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When colleges and universities use their own financial resources to award grants and scholarships to students it is referred to as tuition discounting. This practice allows institutions to charge lower than "sticker price" tuition rates to selected students. The concept of tuition discounting is not new; for years, institutions have offered discounted tuition rates to students in order to reward merit, to assist financially needy students, and to expand diversity. In recent years, however, a fourth reason for tuition discounting has emerged at some institutions. For these institutions, the main purpose of tuition discounting is to fill otherwise empty seats in classrooms and to enroll enough students to remain fiscally solvent.

The primary purpose of this study of private, baccalaureate level institutions of higher education was to explore the pattern of tuition discounting between 1990 and 2000, to analyze variations in tuition discounting by institutional type, and to determine the relationship between tuition discounting and institutional financial health. The findings of this study indicate that tuition discounting is on the rise for this sector of higher education. Between 1990 and 2000, tuition discounting rates rose by approximately 7 percentage points. Second, tuition discounting does vary based on institutional demographics such as religious affiliation, size, endowment, and expenditures. Finally, tuition discounting does appear to have an impact on the financial health of institutions—it appears that tuition discounting is generally negatively related to institutional financial health.

THEY CAME BEFORE US: A STORY OF WOMEN AT MICHIGAN STATE UNIVERSITY 1870-1895

Christy A. Weber

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There are those that stand at the forefront of any movement who intentionally or unintentionally lead the way for others and this is evident in the changing patterns of American education. Prior to the late 18th century, education beyond rudimentary levels provided in the home, was exclusively for men in early colonial colleges. The pattern of education changed slowly as women began attending female seminaries in the 18th century. From this time through the 19th century, men and women contributed to this changing pattern by sharing perspectives both affirming and discounting female
education through various modes such as books, articles, public speaking and personal correspondence. Some institutional trustee boards and state boards of education wrestled with and began to change admissions policies opening the doors of private and state colleges to women. In addition, parents began allowing their daughters to enroll in all-women or co-educational institutions. The history of state colleges and universities records their beginnings as other institutions of higher education before them. Initially their doors were open exclusively to men with access for women later in their histories. This was the case in the histories of land-grant institutions such as Michigan State University (1855).

This research presentation highlights the early years of women’s enrollment at Michigan State University from 1870-1895. These “first” women lived in relationship to families and people in their community, college, state and country; these relationships influenced their decisions to attend college in a time when most women did not. While these women passed away years ago, patterns from their lives remained found in documentation at Michigan State University Archives and the Michigan State University Museum.

TECHNOLOGY AND THE LEARNING COLLEGE: COMMUNITY COLLEGE STUDENT VOICES

Arend Andrew Vander Pols

Committee Chair: John M. Dirkx

American community colleges have invested heavily in technology for learning with the hope that such an investment will advance the transformation of the community college into the democratic ideal of “The Learning College”, a vision that many community college proponents advocate. The community college as learning college focuses all its processes and energies on the learning of all of its members—both students and staff. Proponents of technology for the learning college assert that technology enhances learning by increasing access, collaboration, equality, and customization for all community college constituents. Others advise caution in the wholesale adoption of the infusion of technology in the educational environment, warning that the introduction of technology can sometimes have unforeseen and unwanted consequences.

This study focused on the perceptions of seven students about their experiences participating in computer-assisted academic literacy classes at a community college located in the metropolitan area of a large city during the Fall of 2002. Student interviews, student background surveys, researcher field notes and class and institutional documents were analyzed for common themes using qualitative methods. The study found that the student perspectives revealed that technology infusion did promote the principles of the learning college and helped to contribute to the creation of a more democratic, learner-centered, collaborative educational environment. Students valued the inclusion of technology into their environment and saw technological literacy as essential to their academic success and their full participation in American society as a whole.
However, while technology was indeed instrumental in the shaping of the learner-centered environment, it was primarily the "high humanity" involvement of the instructor, school staff, and classmates and the ways they used the technology that guided the formation of a learning-centered environment. The student perspectives also revealed some unwanted and unexpected consequences of technology infusion into their educational environment that worked against the realization of the principles of the learning college and the creation of a learner-centered learning community.

LEADERSHIP DEVELOPMENT AS A TRANSFORMATIONAL PROCESS

Denise Ann Bannan

Committee Chair: Steve Kaagan

Throughout the past two decades, many organizations have offered their employees the opportunity to participate in a variety of leadership development programs. These programs have attempted to develop and transform employees to be able to deal with the constant change within their work environment, align employee thinking with the mission of the organization, and motivate individual and team performance to reach the goals of the company. Yet little is known about the impact of these leadership development programs, as they relate to the fostering of transformative learning among participants. This study examined what participants reported about their individualized learning experiences before, during and after attending a nine-month leadership development program that may have changed their perspective on leadership roles within their organization, their understanding of effective leadership practices, their process of critical self-reflection, and individual behavioral changes they might choose to modify in their working environment.

Participants in the leadership development-training program who held positions in the fields of retail, commercial, industrial, education, healthcare, and small business owners were chosen as the subjects of this study. Since the participants in this program had diverse backgrounds in their leadership and educational experiences, it was possible to study the interpretation of their roles, challenges, and perceptions to offer a valuable perspective on how a leader's knowledge and learning are obtained and possibly transformed into new ways of learning and making meaning of new experiences. Thus, the possibility of transforming individuals to lead in different ways and form diverse working relationships with their colleagues existed because of their ability to reflect on their leadership approaches through the lens of their new learning.

To that end, the goal of this study had two main purposes: (1) to examine the transformation of individuals' meaning perspectives regarding leadership; and (2) to analyze the extent to which the participants attributed their change in perspective to participation in the leadership program.
LEADERSHIP DEVELOPMENT PRACTICES IN THE COMMUNITY COLLEGE: A CASE STUDY

Evan L. Montague

Committee Chair: Marilyn J. Amey

Community colleges are facing a series of critical leadership issues with many current and potential leaders fast approaching retirement (McClenney, 2001). How do community colleges develop leadership to meet the challenges ahead? This study focuses on leadership development and succession planning in a single community college setting as it relates to the following questions:

1. What processes and practices are used to develop future leaders?
2. What are the tensions between the needs of the individual and the needs of the organization?
3. What are the challenges of succession planning?

Examination of these questions helps establish what administrative activities impact leadership development and succession planning. The participant insights illustrate the need and interest in leadership development planning and practices. The study also explores how the needs of the larger organization connect or conflict with those of the individual and reviews the level of formality associated with various approaches. The research findings mirror many core leadership development and succession literature themes. Although the participants struggle with the issues presented in this study, they are able to detail actions with they hope will develop individuals as leaders and contribute to the long-term strength of the organization.

DEVELOPMENTAL OUTCOMES OF SERVICE-LEARNING PEDAGOGIES

Josh P. Armstrong

Committee Chair: Marilyn J. Amey

This study explored the psychosocial development outcomes of service-learning from three distinct models: ongoing continuous service throughout a semester in co-curricular service-learning; one time, intensive week-long spring break service-learning trips; and ongoing service through a semester of academically-based service-learning. A control group of students who had no involvement in service-learning was used for comparative purposes. The Student Developmental Task and Lifestyle Assessment (SDTLA; Winston, Miller, & Cooper, 1999b) was administered to college students involved in each of the three types of service-learning and the control group to examine the Developing Autonomy Task and the Developing Mature Interpersonal Relationships Task, as well as the various subtasks that provide specific components of the larger developmental tasks. This instrument was administered as a pretest at the beginning of
the academic semester, and then again at the end of the academic semester as a posttest to determine the developmental differences.

The findings indicated that there were significant developmental differences among the three service-learning pedagogies. In particular, the results suggested that, based on the SDTLA Developmental Tasks, the Spring Break Service-Learning pedagogy had statistically significant psychosocial development gains. In addition, on the SDTLA Developmental Subtasks, participants involved in the Co-curricular Service-Learning pedagogy showed the greatest gains in psychosocial development. The Academically-based Service-Learning pedagogy had no statistically significant psychosocial development gains. Implications for service-learning practitioners include further understanding of the developmental outcomes of these service-learning types.

THE IMPACT OF SKILLS STANDARDS ON THE COMMUNITY COLLEGE MANUFACTURING CURRICULUM

Thomas Paul Boersma

Committee Chair: James Fairweather

This is a study of the manufacturing curriculum in Michigan community colleges. During the last ten years we have seen the development of national skill standards intended to influence how students are prepared for skilled trades and manufacturing technician positions. Also during this same time period the manufacturing industry has been battered by another extreme business cycle that threatens the existence of some manufacturing sectors. Because the community colleges have become the primary training and education resource for the manufacturing industry, much interest is placed on the ability of the community colleges to sharpen their focus on meeting the training and education requirements of the modern manufacturing company.

Although these skills standards are working their way into the community college curriculum, wholesale adoption of these standards is not occurring. To better understand the driving forces behind curriculum reform, this study investigates the current state of the manufacturing programs in Michigan community colleges and attempts to clarify the process of curriculum reform.

GROWING AN ATHLETIC PROGRAM WITHOUT STARVING ATHLETES: AN EXAMINATION OF EATING DISORDER POLICY FORMATION IN INTERCOLLEGIATE ATHLETICS

Anne Marie Monroe

Committee Chair: James Fairweather

The purpose of this investigation is to examine the policy decision-making process in intercollegiate athletics. This study will identify the policies and practices of
athletic departments at NCAA Division I institutions; compare the policies and practices across the institutions; and examine the roles of institutional administrators and students in decision-making processes regarding policies related to disordered eating within the student athlete population. This investigation examines Division I institutions that offer both women’s gymnastics and men’s wrestling, sports that have been identified as having a greater at-risk athletic population. The 31 Division I institutions that met these criteria were selected to participate in the preliminary questionnaire administration of this investigation, which assessed the state of policy and practice at each institution.

Results of the questionnaire were sorted, placing institutions into one of three categories: unrealized policy, partially realized policy, and realized policy. Upon evaluation and categorization, three institutions were selected for case studies of the decision-making process involved in either creation or non-creation of policy to better understand the complexity involved with decision making to actualize policy aimed at disordered eating among student athletes. In general, the concept of complex organizational decision-making processes embedded in culture and values was confirmed. Four broad themes emerged from the qualitative data across all institutions: 1) Policy decisions are reactive; 2) Eating disorders are a female medical issue; 3) Loyalty to the athletics family is important; 4) A champion with expertise is needed. Implications and future directions for institutional, NCAA, and national public policy and research are discussed.

An Evaluation of the Effectiveness of State Non-Needs Merit-Based Scholarship Programs

Patricia Lynn Farrell

Committee Chair: James Fairweather

Higher education has become the threshold for access to good jobs for individuals and in turn is the future of a strong state economy (ACSFA, 2001; Carnevale & Fry, 2001). To balance the interests of society and higher education, states have been exploring ways to provide access, keep their brightest students in state for college, and encourage and reward students who work hard academically (Heller, 2002; Linn, 1998; Longanecker, 2002; Parsons, 1997). One mechanism to achieve these goals is merit-based scholarship programs. Since the 1990’s, twelve states have created non-needs merit-based scholarship programs. Little research has been conducted to determine one way or the other that the programs meet the needs of their states as laid out by the state laws for the programs (Heller, 1997). Despite the lack of data, the allure of merit scholarships is growing in the twenty-first century amongst legislators and the general public in many states (Krueger, 2001).

The purpose of this study was to determine the effectiveness of the 12 state non-needs merit-based scholarship programs based on the following program goals: a) rewarding students for their academic achievements, b) encouraging students to attend higher education, and c) encouraging students to attend college in state. Data analyses
include descriptive statistics, t-tests, analysis of variance, and cross section regression. The data analyzed included state and federal data, specifically demographic information on high school graduates, merit-scholarship recipients, school districts, and first-time freshmen. My goal was to obtain and provide data that would aid policy makers and researchers in understanding the possible impact the programs have in each of the 12 states.

The findings illustrate that the non-needs merit-based scholarship programs are having minimal impact on high school achievement, college participation, college choice, and keeping students in state for college. Other key findings were that the financial amount of the scholarship affects whether or not students stay in state for college, and receiving the scholarship influences where students enroll in college. Where students are from within the state and their ethnicity also affects whether or not they receive the scholarship.

The programs are still young and with the changing tide in state budgets, student demographics, high school accountability, and financial aid programs, in-depth evaluations on the effectiveness and impact of the programs needs to occur. This study has laid the foundation for future studies on each state’s program. It will be interesting to see whether or not the allure of the non-needs merit-based scholarship programs continue and how they will evolve during the early part of the twenty-first century.

LEARNING TO THINK LIKE A NURSE: PERCEPTIONS OF NEW NURSE GRADUATES

Sharon Etheridge

Committee Chair: John M. Dirks

In current health care settings, nurses are expected to make clinical judgments for the welfare of the patients. One aim of nursing education is to help students learn to be beginning practitioners, which includes making clinical judgments that ensure patient safety. Clinical judgments often determine how quickly a life threatening complication is detected, how soon people leave the hospital, or learn to take care of themselves. However, current research shows that students do not perform well at the task of making clinical judgments. This occurs despite the fact that students have graduated from accredited schools of nursing and have passed the NCLEX (state board test) exam.

This descriptive qualitative study examined the perceptions of nursing graduates about learning to make clinical judgments. Over a period of nine months, and on three different occasions, BSN graduates were interviewed to determine their perceptions of learning to ‘think like a nurse’.

The themes found in the interviews with both the new graduates and the preceptors were similar. Self–authorship was the over arcing theme and is composed of confidence, responsibility, relationship to ‘the other’, thinking critically about work, and
experiences. In addition, the learning strategies the new graduates perceived were and were not helpful are identified. In addition, the new graduates had difficulty identifying priority problems and interventions in a case study.

The results of the study will be helpful in identifying learning strategies to assist nursing students and new graduates to be successful in learning think like a nurse.

EXPERIENCES OF AMERICAN INDIAN STUDENTS: THE IMPACT OF THE MICHIGAN INDIAN LEADERSHIP PROGRAM

JoLee Webb Blackbear

Committee Chair: Mary Lee Davis

In the United States, thousands of early intervention programs are designed to prepare underrepresented students for college. American Indian students, however, rarely participate in them. Moreover, documentation on any of these existing programs regarding their effectiveness is scant (U.S. Department of Education, 2002). In uncertain budgetary times, these programs are vulnerable to programmatic cutbacks. Additionally, there is concern within the overall American Indian community that tribal cultures are being lost. Seemingly, many Native youth are being lured away from their traditional tribal ways and are succumbing to gangs, violence, drug and alcohol addiction, suicide, prison, and other social ills (Bad Wound, 2000). For many Native youth, the concept of going to college is nearly as unfathomable as completing high school. The national high school dropout rate for American Indian students is between 30% (Swisher & Hoisch, 1992) to 50% (Chavers, 2000).

There is a demand for highly trained Native leaders in all areas who are knowledgeable about their culture and secure in their identity; however, not enough Native leaders meet this criterion to fill the roles (Johnson, et al., 2003; DeGagné, 2002). Native people recognize that the education of Indigenous youth is one way to revitalize Indigenous communities. Indigenous communities are seeking ways to develop Native leaders grounded in their tribal cultures with an ability to lead an increasing diversifying American Indian community (Johnson, Benham, & VanAlstine, 2003; DeGagné, 2002). Consequently, they are seeking ways to bridge the learning experiences of living in Indian and non-Indian worlds.

The study had two primary purposes. The first purpose was to gain an understanding of an American Indian pre-college, cultural enrichment, summer youth program. Secondly, the study sought information that would lead to greater understanding of Native American students’ experiences while in higher education as well as what contributions pre-college, cultural and academic interventions factor into these experiences. Using a qualitative research design with various data collection methods, this study examined a pre-college program to determine its implications in the lives of Native people that participated in the program in their youth.
This inquiry examined the educational experience of Native American students and uncovered areas of academic motivation, career and college choice, barriers and contributors to success, and the navigation between cultural expectations and academic responsibilities. Until now, the effects of this cultural and academic program had not been documented; however, qualitative evidence demonstrated this program has supported and encouraged many Native American students in their pursuit of higher education. The American Indian Leadership Development Model as implemented by the program emerged from this study. This research validates the role that pre-college, cultural and academic enrichment programs can have in the lives of American Indian students.

A STUDY TO COMPARE CHICKERING AND REISSER’S (1993) VECTOR 6, DEVELOPING PURPOSE AND FRANKL’S (1959) PURPOSE IN LIFE

William Robert Molasso

Committee Chair: Marilyn J. Amey

Chickering (1969), an educational researcher in socio-developmental processes, created one of the first and most widely known and studied college student development theories. Chickering (1969) believed that the critical task for college students was the establishment of their identity, and proposed seven vectors of development through which students must progress. Chickering and Reisser (1993) later revised the seven vectors to take into account more recent research and a broader demographic base. Extensive research has been conducted on the seven vectors generally and on several individual vectors (Greeley & Tinsley, 1988; Itzkowitz & Petrie, 1986; Jordan-Cox, 1987; Polkosnik & Winston, 1989; Straub & Rodgers, 1986). Application of the vectors in student affairs practice is widespread. The area of Chickering and Reisser’s (1993) work that has received the least extensive exploration is Vector Six, Developing Purpose. The field of clinical psychology provides another approach to measuring purpose in life. Victor Frankl (1959, 1979, 1984, 1997) made a substantial contribution toward developing a theoretical foundation for the study of purpose in life, and has been considered the preeminent scholar on this subject in the field of psychology (Zika and Chamberlain, 1992). Frankl’s and Chickering and Reisser’s theoretical writing on developing purpose share a number of common viewpoints. However, no empirical research has been published that compares the instrument designed to assess Chickering and Reisser’s Vector Six, Developing Purpose, and Frankl’s purpose in life.

This study of 354 college sophomores explored the relationship between Vector 6, Developing Purpose, as measured by the Student Developmental Task and Lifestyle Assessment—Purpose Form (SDTLA-PUR) (Winston, Miller, & Cooper, 1999) and Frankl’s purpose in life, as measured by the Purpose in Life Test (PIL) (Crumbaugh & Maholick, 1964). Pearson-product correlational procedures discovered a relatively weak relationship in how the two instruments measured purpose in life. Independent t tests determined that significant differences existed between study participants and national normative data for the two tests, with the study participants experiencing a lower sense of
purpose than expected. ANOVA procedures discovered that only gender had a statistically significant impact on PIL scores. Other demographic variables did not show to influence PIL and SDTLA-PUR scores. Finally, regression analysis identified a number of environmental factors that influence how a student experiences a sense of purpose, as measured by the PIL and the SDTLA-PUR.

TRANSITION TO COLLEGE AND IDENTITY CHANGE
RELATIONSHIPS AND ASSOCIATED EVENTS

John Eric Jobson

Committee Chair: Marilyn J. Amey

This dissertation utilized the Ego Identity Status model to examine the experience of eight female students in the first year of attending a Christian liberal arts college. The study utilized four data collection methods (Demographic Information Sheet, Revised Extended Objective Measure of Ego Identity Status, semi-structured interviews, and participant-generated illustrations) to explore changes in the participants' identities and identify key factors that students associated with identity change. Five of the eight participants experienced identity change. Institutional prominence of Christianity, academic performance shock, and re-negotiation of previous relationships/immersion in campus environment were key factors associated with identity change.

DOES WINNING ON THE COURT EQUAL LOSING IN THE CLASSROOM?
THE INFLUENCE OF TEAM CLIMATE ON THE ACADEMIC PERFORMANCE OF DIVISION I MEN'S BASKETBALL PLAYERS

Elizabeth R. Friedman

Committee Chair: James Fairweather

Division I men's basketball programs have the worst graduation rate of any sport sponsored by the NCAA but graduation rates tell only part of the story. Pre-college experiences alone do not account for the poor academic performance of men's basketball teams. Bronfenbrenner (1979) suggests that the interaction between a person and his environment accounts for different outcomes. Understanding the interaction between individual students, their teammates, and their coaches will help put into perspective the influence of team climate on the academic performance of men's basketball players. This study tested a model with academic performance as the key academic outcome. The model proposed that a number of factors influence academic performance including pre-college background, peer relationships, self-esteem, attitudes towards education, self-handicapping, athletic-academic commitment, and team climate. Team climate was assessed using a scale developed for this study and by reviewing responses to open-ended survey questions. Basketball players at nine schools participated in the survey portion of the study. Case studies were conducted at two additional schools to explore in more depth what it means to be a student and athlete at a high profile athletic institution.
Students portrayed themselves as having different attitudes and beliefs about academics from their teammates and coaches. They had relatively high levels of academic control and positive self-esteem, moderately high levels of ego-oriented goal orientation and positive attitudes towards education, and moderately low levels of self-deprecation. Using climate as a predictor and self-handicapping/athletic-academic commitment as the dependent variable in a regression model, climate was found to account for 43% of the variance in this scale. There was a strong inverse relationship between the scales which indicated that team climates that have a strong academic commitment had team members with lower levels of self-handicapping and lesser commitment to the athletic role. Using the four educational scale variables (positive self-esteem, positive attitudes about education, peer course related, and self-handicapping/athletic-academic commitment) and high school GPA as predictors and college GPA as the outcome, the regression accounted for roughly 30% of the variance in grade point average.

Although the sample size was too small to test whether climate directly predicted grade point average, the most significant finding of this study is that climate is a strong predictor of scores on the combined scale of self-handicapping and athletic-academic commitment. This combined scale was found to significantly predict grade point average indicating that climate indirectly predicts grade point average.