

## AN ABSTRACT OF THE THESIS OF

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Abstract approved:

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The purpose of this study was to examine how faculty curriculum committees from different disciplines moved through a major curriculum change process from content-focused curriculum to outcomes-based curriculum. Data was gathered through direct observations, committee member interviews, a questionnaire, and the Gregorc Style Delineator from four curriculum committees representing different disciplines.

This qualitative study generated the following findings:

1. The stages of outcomes-based curriculum development can be predicted and are common across all disciplines. The five stages include Immersion, Creation, Negotiation, Revision, and Submission.
2. A knowledgeable outcomes-based curriculum facilitator can successfully immerse a committee in designing curriculum without first “training” them in outcomes-based theory.

3. On an outcomes-based curriculum planning committee, knowledge of member differences and similarities in thought process, academic preparation and workplace experience enhances the work.

4. Interest in interdisciplinary connection emerges naturally as a result of faculty dialogue about student learning outcomes.

5. Outcomes-based curriculum planning increases collaboration and reduces competition between programs and campuses in a multiple campus institution.

6. The dialogue inherent in outcomes-based curriculum planning renews faculty member's energy and commitment, as the dialogue builds relationships through shared ideas.

Recommendations from this study include:

1. Make curriculum committees aware of the common stages involved in the outcomes-based curriculum design work. Emphasize the continuous improvement nature of the process.

2. Rather than attempting to "train" faculty in outcome-based curriculum reconstruction methods, build institutional capacity by preparing faculty leaders who can function as curriculum development facilitators. Provide extensive preparation for faculty facilitators so that they can facilitate the work.

3. Make planning groups aware of member differences by using such tools as a questionnaire and Gregorc Style Delineator. Provide a structure for dialogue to occur within the committees on an ongoing basis.

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**Outcomes-Based Curriculum Reform in a Community College:  
A Discipline Based Inquiry**

**by**

**Rebecca A. Meier**

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Rebecca A. Meier, Author

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# **OUTCOMES-BASED CURRICULUM REFORM IN A COMMUNITY COLLEGE: A DISCIPLINE BASED INQUIRY**

## **CHAPTER 1**

### **INTRODUCTION**

One of the most debated national and international issues in the last twenty years has been the quality of education, kindergarten through college. With the publication of *A Nation at Risk* (1983) educational reform efforts were launched to respond to the profound changes occurring throughout our society as we moved toward the 21<sup>st</sup> Century.

For community colleges, educational reform efforts focus on a paradigm shift from providing instruction to producing learning (Barr, 1995). Community college students in the future will be expected to successfully demonstrate what they can do with the knowledge and skills they acquire. This initiative is often referred to as outcomes-based instruction. Outcomes-based instruction is a curricular reform effort which involves viewing the end results, designing the course to produce these results, and then assessing according to the desired outcomes (Spady, 1988). This implies a major shift in thinking and planning for most community college faculty.

In a fundamental curriculum revision effort like outcomes-based instruction, the community college faces the challenge of retraining faculty in a new planning and teaching process. But there is increasing evidence that faculty from different

disciplines may move through the process of change in different ways. McDermott (1998) found that different community college departments implemented the strategic planning process in ways that are unique to their discipline. Is it possible that there are preferred patterns of planning for curricular change that can be distinguished by discipline? Is faculty from the computer information systems discipline inclined to approach planning and change processes differently when compared to sociology faculty or to automotive service technology faculty? If so, how can these differences be accommodated in faculty development and change efforts that are as fundamental and complex as the outcomes-based agenda? Do faculty implement new skills in the same way? Or is there a pattern that can be anticipated related to their subject matter expertise? Is there something we can learn about the optimum facilitation of a curriculum committee from observations? These questions focused my study of the workings of four curriculum committees in different subject matter areas at one community college.

## BACKGROUND

Most educational reformers believe that traditional content-driven curriculum development processes are too limiting for the rapidly changing environment of the 21<sup>st</sup> Century. College courses have traditionally been organized around the delivery of content by faculty with the students as a “passive recipient of instruction” (Di Vesta, 1987, p. 205). Students have traditionally been evaluated through examinations and term papers and held responsible for learning the

material presented by the faculty. Beginning in 1908, Carnegie units (Rudolph, 1977) were assigned to classes based on instruction time, which most often meant lecture.

Societal trends in the U.S. have always spawned educational change. At the beginning of this new century, the public is increasingly asking for learning accountability from all educational institutions. As public dollars for education become increasingly scarce and the skills required in the workforce increase, the public is asking for authentic evidence of student learning. Effective education is increasingly essential if the United States is to remain competitive in the world economy.

The Northwest Association of Schools and Colleges, the accreditation body for colleges and universities in this region, states that colleges need to “approach the disciplines by concentrating on outcomes” (Commission of Colleges, 1996, p.36). The Commission further “urges the necessity of a continuing process of academic planning, the carrying out of those plans, the assessment of the outcomes, and the influencing of the planning process by the assessment activities” (Commission of Colleges, 1996, p. 36). The Commission indicates that college accreditation should be based on the implementation of outcomes and assessment to evaluate student learning and increase accountability.

To address the issues of increased learning and accountability, the focus of curriculum reform efforts are being redirected from a content focus to a learning focus (Boggs, 1995). This is a shift not only for the students but also for the faculty

who are involved in redesigning curriculum. Under the learning focus, learning outcomes are identified for courses and programs. The change to “what students can do” when they complete a course or program involves a new curriculum design process. Faculty must envision end results before designing the course and assessment strategies.

Faculty members must be trained in a curriculum design process much different from the one they have previously practiced. The new curriculum reform process requires rethinking learning theory, planning processes, and techniques applied to assessment. Cross (1991) found that teaching goals for college faculty have been heavily associated with academic disciplines. Is it possible that faculty from different disciplines will respond to curriculum reform processes in ways unique to their discipline? Could answers to this question inform us about how to best work with faculty to implement these newly mandated practices?

## STATEMENT OF THE PROBLEM

The purpose of this study was to examine how faculty curriculum committees from different disciplines move through a major curriculum change process from content-focused curriculum to outcomes-focused curriculum. Whether there are any planning patterns unique to specific disciplines, is of particular interest in this study.

There are four questions that guided the study:

1. What are the common process patterns that emerge in the work of curriculum committees when the process is driven by learning outcomes rather than the structure of the discipline?
2. Are these process patterns unique to a discipline?
3. Are individual thought patterns and styles evident in the planning process?
4. What implications do the findings have for committee facilitation and the training of curriculum development facilitators?

### IMPORTANCE OF THE STUDY

In the review of related literature, few studies were found which attempted to distinguish planning processes by faculty in different disciplines. This study is designed to broadly explore the curriculum planning process with attention to discipline variables. Findings could result in better understanding of how to work most effectively with faculty to effect a major shift in how courses and programs are designed and assessed.

This study is important in that it raises a question that has not previously been raised and might have implications for faculty development, committee facilitation and curriculum committee process patterns. At the least, it provides a base for further study.



## LIMITATIONS

This study focused on curriculum committees in one community college with results specific to that institution and the individuals who participated. As the study concentrated on four different curriculum areas – automotive service technology, health education, sociology, and computer information systems- findings may not apply to other areas. Comparing or contrasting findings to other situations may not be appropriate. Data was gathered through observations, interviews, questionnaires and the Gregorc Style Delineator.

## DEFINITION OF TERMS

**Constructivism** - “the process by which we construct knowledge from our experiences, mental structures and beliefs that are used to interpret objects and events” (Jonassen, 1990, p.29)  
 “a philosophy and methodology for teaching and learning that highlights the student construction of knowledge on a path to learner autonomy.”  
 (Erickson, 1995, p.195)

**Content framework** – “consists largely of topics to be covered, readings on the topics, term papers on the topics and objective test regarding the topics.”  
 (Stiehl, 2000, p. 4)

**Curriculum** – “ the composite array of learning experiences provided by an institution or department or to a fixed course of study (program) leading to a certificate or degree” (Dressel, 1982, p. 401)

**Curriculum reform** – transforming the curriculum so that outcomes drive the efforts of the entire system.

**Change** – “the processes of applying a new idea to create a new process or product” (Toombs & Tierney, 1991, p.71)

**Discipline**– “a field of study, a mode of inquiry, an organized body of

knowledge, an interrelated set of interested and value commitments, or a set of objects or phenomena that humans have tried to explain” (Dressel & Marcus, 1982, p. 85).

“a planned sequence of courses or other educational experiences that a group of students is advised or required to pursue” (Stark, 1997, p. 105).

**Discipline-based inquiry** – studying different academic disciplines involved in curriculum planning

**Design down** – A process of beginning with an intended outcome, then determining appropriate assessment tasks, and identifying the content that must be learned in order to demonstrate the outcome (Spady, 1988).

**Faculty development** – “activities which improve teaching, i.e. faculty scholarship personal development, curriculum development, and institutional development” (Brawer, 1990, p.52).

**Institutional adopted framework** – A curriculum planning format adopted by a community college with the expectation that all disciplines will use it in designing curriculum.

**Mind Styles** – Theoretical constructs that “relate to systems of thought and the driving forces of the mind” (Gregorc, 1984, p.53).

**Outcomes** – “Broad statements of what you want students to know and be able to do as a result of teaching/learning” (Erickson, 1995, p. 196).

**Outcome-based curriculum** - Curriculum design based on what the student can achieve (outcomes) and assessing the results.

**Paradigm** – “a loose collection of logically related assumptions, concepts, or propositions that orient thinking” (Bogdan & Biklen, 1998 p. 22).

**Process patterns** – the collective way individuals approach and learn new and complex material (Gregorc, 1985b).

**Rubric** – “A multilevel set of criteria to show/measure development in assessing work or performance toward an instructional outcome” (Erickson, 1995, p.196).

**System** - “A system is a set of elements that function as a whole to achieve a common purpose” (Katz and Kahn, 1966, p.38).

Style Delineator Test – “Measures perceptual qualities of concreteness and abstractness and the ordering qualities of sequentialness and randomness in compounded forms” (Gregorc, 1985b, p. 156).

Thought Process – “The methods or process of conceptualizing, analyzing, and reasoning” (Donald, 1992, p. 413).

## SUMMARY

According to the Wingspread Group (1993) report, there is a mismatch between what American society needs in higher education and the quality of undergraduate education, with too much emphasis on the needs of the institutions and too little focus on the needs of students. This has resulted in massive curriculum reform efforts at the beginning of the 21<sup>st</sup> century. The pressures are causing a paradigm shift for faculty in the way courses are organized, taught, and assessed. This study investigates how faculty curriculum committees from distinct disciplines move through a major curriculum change process.

## **CHAPTER 2**

### **REVIEW OF LITERATURE**

In reviewing literature on change in education, several themes emerge. The variety of research on the different topics indicates that increasing effectiveness in education is a difficult and complex issue. As a researcher, I am particularly interested in community colleges and curriculum committees, where faculty members are the agents of systemic change. This review of literature provides a summary of what is known to support and explain occurrences in the area of curriculum planning, faculty development, outcomes-based reform, discipline characteristics, and faculty thought processes in community colleges.

### **HISTORY OF COLLEGE CURRICULUM**

Program planning and curriculum development is a complicated process that has evolved over time. The issues that complicate curriculum and instructional development are influenced by the development of higher education in America. Early American colleges were modeled after English colleges and offered a classical curriculum that included Latin, Greek, Hebrew and religion as a way of preparing for the ministry. With pressures from the secular community, the curriculum slowly shifted away from a religious emphasis. The catalyst for change in the 1870's was low enrollment, caused by the lack of relevancy between higher education and society. According to Rudolph (1977) there was "pressure and

money to educate men in tools that would make them rich” (p. 101) and colleges did not prepare people for the needs of society. The addition of land grant colleges challenged the existing colleges, because they were preparing people for needs of the society. As the expectations of society changed, the colleges responded by admitting women and initiating courses that woman valued. With these changes, the struggle between the humanities and vocational courses was entrenched. Over time, the elective curriculum was adopted, the comprehensive university was created, and the research university emerged (Rudolph, 1977).

Curriculum emerges from complex interactions among many factors, including faculty influences, academic traditions, social needs, political pressures, and business requirements. Disciplines, with corresponding curriculum, develop as information is accumulated and organized. Over time, content and methods of coverage gain importance. Faculties determine the learning experiences and address problems of specific disciplinary areas through delivery methods and instructor preferences (Dressel, 1982).

Disciplinary departments “bring together persons with similar training and similar values; departments develop traditions of theory and practice which become effective means of quality control” (Halleburton, 1977, p.48). The structure of a disciplinary department reduces flexibility, and, as a result, integration between disciplines becomes challenging.

## COLLEGE CURRICULUM REFORM

### **Open and Closed Systems**

The accepted purpose of instruction at the beginning of this new century is not to transfer knowledge but to “create environments and experiences that bring students to discover and construct knowledge for themselves, and to make students members of communities of learners that make discoveries and solve problems” (Barr, 1995, p. 15). Significant effort in recent years has been exerted to restructure curriculum as a method to address problems of inadequately prepared students for society.

More often than not schools and colleges have been seen as closed systems with well-defined physical, legal, and economic boundaries. As such they experienced no need to respond quickly to the environment (Katz, and Kahn, 1966). Complaints about education have included lack of student preparation, a piecemeal approach to education, and failure to integrate subject matter areas (Betts, 1992). Today’s community college must compete with companies and corporations providing on-site training, courses provided by distance delivery from outside sources, supplementary educational providers that produce excellent results, and temporary employment services which offer training programs (Alfred, 1997). Employers demand speed from a community college to develop new classes, provide new ideas, and prepare students for skilled work. Operating a school or college as though it were a closed system fails to produce the results required by the society to solve complex interdependent problems.

Katz and Kahn (1966) defines a system as “a set of elements that function as a whole to achieve a common purpose” (p.38). Social systems, such as schools, are surrounded by permeable boundaries and exchange energy with other organizations, people, and the environment. This suggests an open systems approach as a solution for educational organizations.

An open system is characterized by unique elements and relationships (Betts, 1992). Katz and Kahn (1966) described an open system as a system where energy is transformed, exchanged, and expended; a product is produced into the environment and is a source of energy. Differentiation exists and tends towards specialization. As a system becomes more complex, the number of relationships increases exponentially. According to Betts (1992), “the energy required to maintain the relationships increases at an even faster rate” (p.40). Katz and Kahn (1966) suggest that without some type of corrective device, the system would consume too much energy. The device is a feedback loop or mechanism that maintains a balance among the parts of the system.

Senge (1990) suggests that systems thinking provides language for describing and understanding the forces in interrelationships that shape the behavior of systems. Ackoff (1981) purports that the functioning of the system depends on how the parts interact. Educational problems are a system of interconnected, interdependent, and interacting problems. As such, problems cannot be solved piece by piece. The parts lie in relationship to the whole (Banathy, 1991; Jenlink, 1995).

"Systems thinking in education often requires coordinated change in the entire educational system and should focus simultaneously on the core areas of the educational system: organization, curriculum, instruction, assessment, and professional development" (Jasparre, 1998). O'Day (1993) identified three major characteristics of systemic change within educational institutions: curriculum design, coherent structure, and the school governance system. Curriculum design establishes what students should know and be able to do. A coherent structure is one designed to teach the content to all the students. And, the school governance system is restructured to respond quickly to the needs of the society. Viewing educational systems as open, responsive, and flexible shifts the emphasis from instruction to learning.

Systemic thinking challenges the community college to response to rapid change. Senge (1990) suggests that such an organization exists

where people continually expand their capacity to create the results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning how to learn together. (p. 2)

Systemic thinking provides the community college with flexibility, as systems are fluid and dynamic, and provides a method of creating an ambidextrous organization (Alfred, 1997).

Stiehl (2000) has created a schematic to illustrate the systemic relationship between the components acting on the learner and the environment which influence curriculum planning today. (Figure 2.1) Some of the influences are exerted by the immediate or near environment, such as the age and the needs of the student, or the



previous experiences that the learner brings to class. For example, in an evening class, the students arrive directly from work and apply the class material within the next week.

Projecting what a student will do with the material in the future or far environment is more challenging. “We must think of the long-term impact on how students will live their lives in the workplace, the community, the family and the world” (Stiehl, 2000, p. 40).

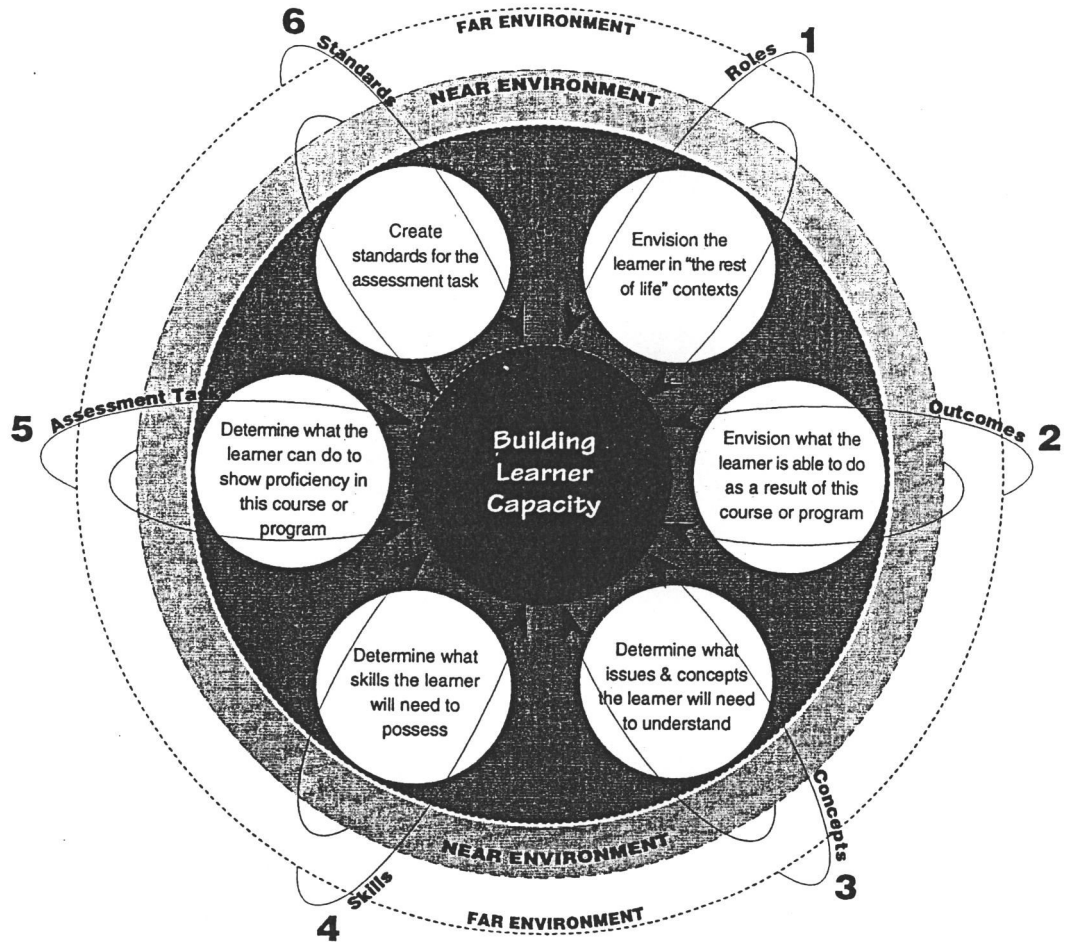


Figure 2.1 An Outcome-Based Curriculum Development Process. Source: Stiehl, 2000, p. 41

## **Outcomes**

An outcomes-based curriculum goes beyond the structure of the discipline and looks at expectations the rest of the world has for students. The change involves alterations in curriculum design to establish what students should be able to do when they leave the classroom (O'Day, 1993), (Spady, 1994). Stiehl (2000) proposed one should ask, "What do my students need to be able to DO 'out there' (ROL [Rest Of Life]) that we are responsible for 'in here (course/program/college)'" (p. 29)?

Erickson (1995) compares traditional content objectives with outcomes. She characterizes objectives as (1) "measurable and ... usually assessed through paper and pencil, multiple choice or short answer tests;" and (2) "... what you want students to know; the primary focus is on the mastery of content information" (p. 38). In contrast, according to Erickson (1995), outcomes are complex demonstrations of individual, and personal development that facilitate a high level transfer of learning. Erickson identified the following characteristics of outcomes:

- Outcomes are what you want students to be able to do and are applied across the critical content of what you want student to know.
- Outcomes are measured developmentally through performance assessments
- Outcomes focus on personal process abilities or competencies, such as the ability to think or communicate.
- Outcomes develop the skills for "lifelong learning."

- Outcomes rely more on individual measures of achievement than on standardized measures.
- Successful performance on outcomes is dependent on a context of developmentally appropriate content.
- State and district frameworks usually specify one or two broad content outcomes in addition to four or five process outcomes. (Erickson, 1995, p. 39)

Stiehl (2000) identifies conventions used in writing outcomes statements.

They should: begin with an action verb; use words the stakeholder might use; make a significant statement of performance intent; tell what the student will be able to do after the course; and be defined enough to drive the content. (p. 71). Caine and Caine (1994) believe that outcomes should be relatively open ended, have maximized personal meaning, and, emphasize intrinsic motivation and ownership.

Developing outcomes means we must “observe the content, collect information, and ask questions of students, employers, community leaders and others” (Stiehl, 2000, p. 28). Outcomes deemed essential by the business or industry that would employ college graduates creates the foundation for the program. Additional outcomes include those necessary to make valuable contributions to the community and the family. Then the entire curriculum is re-designed into a coherent program of course outcomes that contribute to the program outcomes. Content actually comes from analyzing the intended outcomes. Complex assessment tasks are developed to evaluate and consolidate the learning. Spady (1988) described this method as a “design down” process. Assessment tools are developed and used to determine whether the outcome has been met.

### **Authentic Assessment**

In a content-based curriculum, students are tested at the end of units or courses on knowledge accumulated. In outcomes-based curriculum, assessment tasks indicate whether students have developed the intended skills and stated understandings derived from analyzing the intended outcomes. This type of assessment, which focuses on real life applications, is called authentic assessment.

Wiggins (1991), an advocate of authentic assessment, identifies five characteristics of authentic assessment.

1. Requires student to be active performers with acquiring knowledge
2. Presents the student with the full array of tasks that mirror life, such as writing papers, debates or projects.
3. Addresses whether a student can create justifiable answers, performances or products
4. Achieves standards by using appropriate criteria for scoring varied products.
5. Involves tasks that help students rehearse for complex ambiguities of adult and professional life.

This type of assessment moves away from traditional paper and pencil tests, which depend on recall, to a more integrated process. As the brain learns by making connections, authentic assessments help to assimilate the different pieces of information presented in the classroom.

“... No part of a syllabus is a clearer blueprint of our mental framework for teaching and learning than the section on evaluation and assessment” (Stiehl, 2000,

p.16). The predetermined criteria for assessment are closely aligned with instruction (Stiggins, 1998). As such the evaluation and assessment portion of curriculum planning is vastly different in the content and learner outcomes-centered curriculum designs. In content-based curriculum, the instructor assesses the knowledge through quizzes and a final for a grade. In outcomes-based curriculum, assessment is conducted to increase learning and demonstrate evidence of intended

<b>Why, What, Who, How, When and Where?</b>	<b>Content Framework</b>	<b>Learning-Centered Outcomes Framework</b>
<b>Why</b> <ul style="list-style-type: none"> <li>Assess?</li> </ul>	To give a grade	Increase learning Demonstrate evidence of intended outcome
<b>What</b> <ul style="list-style-type: none"> <li>Is assessed?</li> <li>Is the standard?</li> </ul>	Knowledge 100% Top student	Complex work project Clearly identified qualitative criteria
<b>Who</b> <ul style="list-style-type: none"> <li>Assesses?</li> <li>Sets the standard?</li> <li>Knows what will be expected?</li> </ul>	The class (curve)  Instructor Test developers Instructor Test developers	Students, peers, instructors, stakeholders Students, peers, instructors, stakeholders Students, instructor, stakeholders
<b>How</b> <ul style="list-style-type: none"> <li>Is it assessed?</li> </ul>	Quiz Objective tests	e.g. exhibit presentation, portfolio
<b>When</b> <ul style="list-style-type: none"> <li>Is it assessed?</li> </ul>	Weekly Midterm Final	Priorly Continuously Summatively
<b>Where</b> <ul style="list-style-type: none"> <li>Is it assessed?</li> </ul>	Classroom seat	Where appropriate

Table 2.1 Comparing Learning Assessment Practices. Adapted from Stiehl, 2000, p.17

outcomes with complex work projects that can be exhibited or presented. In outcomes-based curriculum outcomes, students, peers as well as the instructor assess proficiency. Table 2.1 summarizes the differences between content and learning-centered outcomes framework.

In designing effective assessment tasks, Stiehl (2000) offers the following suggestions: plan one to four tasks per course; design tasks to assess the intended outcome; implement them in a class situation; incorporate mirror concept and skill development; create authentic, real-life tasks; make tasks challenging to students; and provide opportunity for some student control. Pattison (1999) offered similar suggestions, adding the need to pilot and revise the assessment task and tool.

Implementing authentic assessment in the classroom is challenging for the instructor. The process takes more time and effort by both the instructor and the student, as the instructor designs the assessment tool prior to assigning the task. Stiggins (1998) believes that students are becoming partners with the instructor in assessment by having access to the criteria at the beginning of the lesson. The role and tools are new to many as the assessment process takes on new meaning that focuses on real-life applications.

One tool that educators design as an assessment tool is the rubric or scoring guide. A rubric is defined by Erickson (1995) as “a multilevel set of criteria to show/measure development in assessing work or performance toward an instructional outcome” (p. 196). A rubric requires the educator to be much more precise about criteria for evaluating student work. A rubric, in chart form, specifies

the mandatory elements of the project; assigns rating and weighting of the elements, and explains expectations for the project. Typically, performance is rated using a numerical scale with assigned values. (Pattison, 1999), (Wiggins, 1991), (Stiehl, 2000).

In summary, authentic assessment is viewed as a method to improve student learning by asking instructors to design closely-linked assessment tools which clearly state student expectation; improve the quality of instructions through feedback; and emphasize higher level thinking and more complex learning applications.

## CURRICULUM RE-DESIGN: FROM TEACHING TO LEARNING

### **Learning Theory**

For many instructors, changing the way curriculum is developed requires changing beliefs about teaching and learning. "Faculty members have been trained by example that they are to provide instruction and to grade students" (Boggs, 1995, p. 27). But learning is now considered a much more complex process. With an outcomes-based perspective, the approach to curriculum planning integrates behaviorist and constructivist theory with cognitive theories.

Behaviorist theory promotes a student's observable performance by manipulating the environment. Three assumptions form the foundation for this theory. First, learning is observable by change in behavior. Second, the



environment affects learning and, as such, learning can be predicted and controlled. Thirdly, contiguity, the proximity of the learning event to the reinforcement, impacts learning. As the key elements are stimulus and response, the environment exerts a major influence.

Several theorists contributed to developing this theory. Edward L. Thorndike's (Merriam & Caffarella, 1991) major contribution to an understanding of learning was in demonstrating the connection between stimulus and response. His ideas, based on animal research, included some of the principles still associated with behaviorism. Learning is enhanced when responses lead to satisfying results. Additionally, learning results from repetition of meaningful connections, and learning is enhanced if the learner is ready. Another major contributor was B.F. Skinner and his development of operant conditioning, i.e. reinforce desired behavior and don't reinforce undesirable behavior. As such, behavior is learned and the environment can be designed to elicit the desired responses. Teaching basic information requires memorization of material including mathematical concepts, vocabulary, and any instruction that involves "producing observable and measurable outcomes in students" (Ertmer, 1993, p.53). The faculty member has the responsibility of making "knowledge meaningful and helping the learner organize and relate new information to existing knowledge in memory" (Ertmer, 1993, p.60). Faculty members are viewed as curriculum experts who deliver the information and ask for a response.

Cognitivists see learning as an engaging activity that involves complex mental process, such as problem solving, thinking, analyzing, developing concepts, and language to convey thoughts. Gestadt (Di Vesta, 1987) provided the foundation for this theory with his understanding of perception, insight in problem solving, and meaningful learning. Jean Piaget contributed the concept that for learning to take place there is interaction with the environment and exposure to various experiences. Asubel (Di Vesta, 1987) added the idea of schemata or a meaningful framework based on what the learner already knows. Using advanced organizers prepares the learner by referencing previous information, then setting the stage for the materials and methods, which follow the instruction. Although this model has merit, it does not allow for some of the recent developments in understanding learning.

“Constructivism is concerned with how we construct knowledge from our experiences, mental structures and beliefs that are used to interpret objects and events” (Jonassen, 1990, p.29). This theory equates learning with creating meaning from experience. The theoretical foundation is based on the theories of Piaget, Bruner, and Knowles. Piaget contributed the idea of focusing on the internal cognitive process; Bruner, on the importance of the context of the material; and Knowles, on the experiences that add rich sources to learning (Merriam & Caffarella, 1991). Constructivism shifts the focus from teaching to learning, as did behaviorism.

Constructivism de-emphasizes instruction but emphasizes learning and encourages students to struggle with a body of information or an idea until it makes

sense (Winn, 1991). The learner creates novel and unique understandings of the material based on prior knowledge. Instructional goals include reasoning, critical thinking, problem solving, mental flexibility, and reflection. To accomplish learning, the process needs to include knowledge, the context of the material and an activity. The learning is embedded in the context of the activity. This theory works well with complex concepts, integrating information from any sources such as modeling, coaching, collaboration and social negotiations. Constructivist theory credits human beings as life-long learners, not because they have to learn, but because they want to learn (Ertmer, 1993; Discoll, 1994; Winn, 1991).

Discussion continues as to the nature of constructivism. The role of the teacher radically shifts when the emphasis is placed on constructivism, as contrasted with behaviorism with the traditional classroom. Traditionally, learning was a linear accumulation of knowledge with a defined end point. The instructor was viewed as the expert who planned and controlled the delivery to transfer knowledge to the students. Assessment was predominately through tests for the purpose of assigning a grade that indicated learning. (Stiehl, 2000)

Under a constructivist theory, learning is considered a collaborative effort that develops problem-solving skills by actively involving the student. The teacher facilitates learning by setting goals, coaching, guiding, modeling and assisting. Curriculum development is viewed from a contextual focus, which is cooperative, collaborative, and interdisciplinary. Assessment practices are holistic, performance-based, demonstration of learning (Stiehl, 2000), (Costa, 1997).

Constructivist theory is further supported by recent brain research based on how students learn. Smilkstein (1998) found that students learn through activities and practice in environments that are compatible with their brain's natural learning process. In an article in *The Oregonian*, Arthur Fisher (2000) reported that individuals learn most effectively by constructing their own knowledge through interaction with objects and social exchange. To accomplish this agenda, many courses need to offer active student involvement with practice, long-term projects, and collaborative learning to prepare students for the demands of society.

### **Curriculum Planning**

The process of planning curriculum is complicated. Faculties apply “a range of abilities from many different dimensions to complete multi-dimensional work tasks” (Erickson, 1998, p. 113). The range of abilities includes gathering resources, selecting concepts and information to be presented, and then translating that to instructional activities. Unless faculties can make the connection between their teaching and what students already know, learning will not take place.

Shifting the emphasis to learning involves providing the learner with life-long learning skills of research, inquiry, analysis, and discovery. The educator shifts from the information provider to the coach, innovator, researcher, and collaborator with the learner as the learner creates meaning through the learning process (Costa, 1997). The subject matter is viewed as a vehicle for developing intellectual skills of learning, rather than being taught as an end in itself.

There are few studies that explore college curriculum development.

Anderson, Barrett, Powell, & Wieneke (1985) investigated how and what faculty members taught and found that faculties were primarily concerned with communications with students, course planning, and class processes. Stark, Lowther, Malcolm and others (1990) found faculties were strongly influenced by their discipline and background in course planning. Stark, Lowther, Bentley, Ryan and others (1997) found that “contextual filters,” such as student characteristics, college goal and resources, and modified faculty members’ course planning decisions. Stark, Lowther, Sharp and Arnold (1997) found leadership at a variety of levels to be important in curriculum planning.

A major shift in looking at the curriculum process is slowing entering the college scene. McMahon (1993) shared a seven-year step-by-step process that the Health Science Department at Towson State University undertook to overhaul the undergraduate curriculum. It dissolved ten required courses and reorganized the content to create a sequence of “skill progression, uniformity in skills teaching, and faculty workload” (p.14). The new sequence reflected a holistic approach to accomplishing the intended outcomes.

In changing the curriculum planning process, Stiehl (2000) found confusion on the part of faculty. Experienced faculty have difficulty moving from a content framework that often stresses knowledge acquired to a learner-centered outcomes-based framework that stresses what the students need to be able to do with what they have learned when they leave the classroom (Table 2.2).

Traditionally, curriculum design has largely consisted of determining what topics should be covered during the course. Sometimes the topics paralleled the assigned textbook or parts of two textbooks, with reading and instructor presentation encompassing the major method of information delivery. Term papers on specific topics contributed to the grade, and tests covered the assigned topics.

<b>Content Framework</b>	<b>Learner-Centered Outcomes Framework</b>
<ol style="list-style-type: none"> <li><b>1. Topics</b> What should be covered in the course?</li> <li><b>2. Textbooks</b> What textbook should be used?</li> <li><b>3. Tests</b> What should be included on the tests? How many tests should there be?</li> <li><b>4. Papers</b> What kinds of assignments should also be completed and contributed to the grade?</li> </ol>	<ol style="list-style-type: none"> <li><b>1. Outcome Statements</b> What do these students need to be able to DO in real-life situation(s) that we are responsible for in this course?</li> <li><b>2. Content</b> What concepts, themes or issues must they understand to do this?</li> <li><b>3. Content</b> What skills must they master to do this? (competencies)</li> <li><b>4. Projects</b> What can they do in this course to demonstrate a level of proficiency in the outcome(s)?</li> <li><b>5. Assessment Criteria</b> What are the qualitative criteria that will be applied to the demonstration?</li> </ol>

Table 2.2 Comparing the Curriculum Process. Source: Adapted from Stiehl, 2000

Moving to an outcomes-based curriculum design requires a more complex “toolbox” of teaching strategies. The strategies include new approaches, new teaching techniques, and new assessments that offer all students similar resources

for building their intellectual, emotional and artistic intelligences. Faculty development holds the key for building capacity to meet the challenge.

### **Faculty Development in Higher Education**

As higher education is changing, so is faculty development. K. Patricia Cross (1990) states, "teachers' actions, especially at the college level, are determined more by predilections, personalities, and perceptions of the teacher than by the needs of the students" (p. 5). Many faculty members have learned their current techniques through example of other professors and not in classes on teaching methods. As higher education moves towards an outcomes perspective, faculty are challenged to develop new skills.

Stiehl (2000) illustrated the increasing complex role of the faculty through Figure 2.2 on page 30. The traditional role has been to teach in a narrow specialty. An advanced degree in the discipline was sufficient preparation. As such, the instructor "knows all and shares it with the rest of us." By the early 1990's there was increased emphasis on faculty to "facilitate student learning." (Stiehl, 2000). The second part of the diagram illustrates that although the advanced degree is still important, it is not sufficient. Faculty members are expected to know how students learn and guide students in the learning process. The last portion of the diagram shows the increased complexity that encompasses more than just the textbook and classroom activities. The faculty member not only needs the advanced degree in a discipline, and skills in understanding how students learn, but must now look

beyond the classroom to the needs of businesses, industries, and the community.

With an outcome-based curriculum, “teaching is about making these connections; thinking and planning systemically - with accountability” (Stiehl, 2000, p. 20). As such, the needs of the community drive the outcomes for the courses that the faculty teaches, which is a radical departure for faculty who have been autonomous experts.



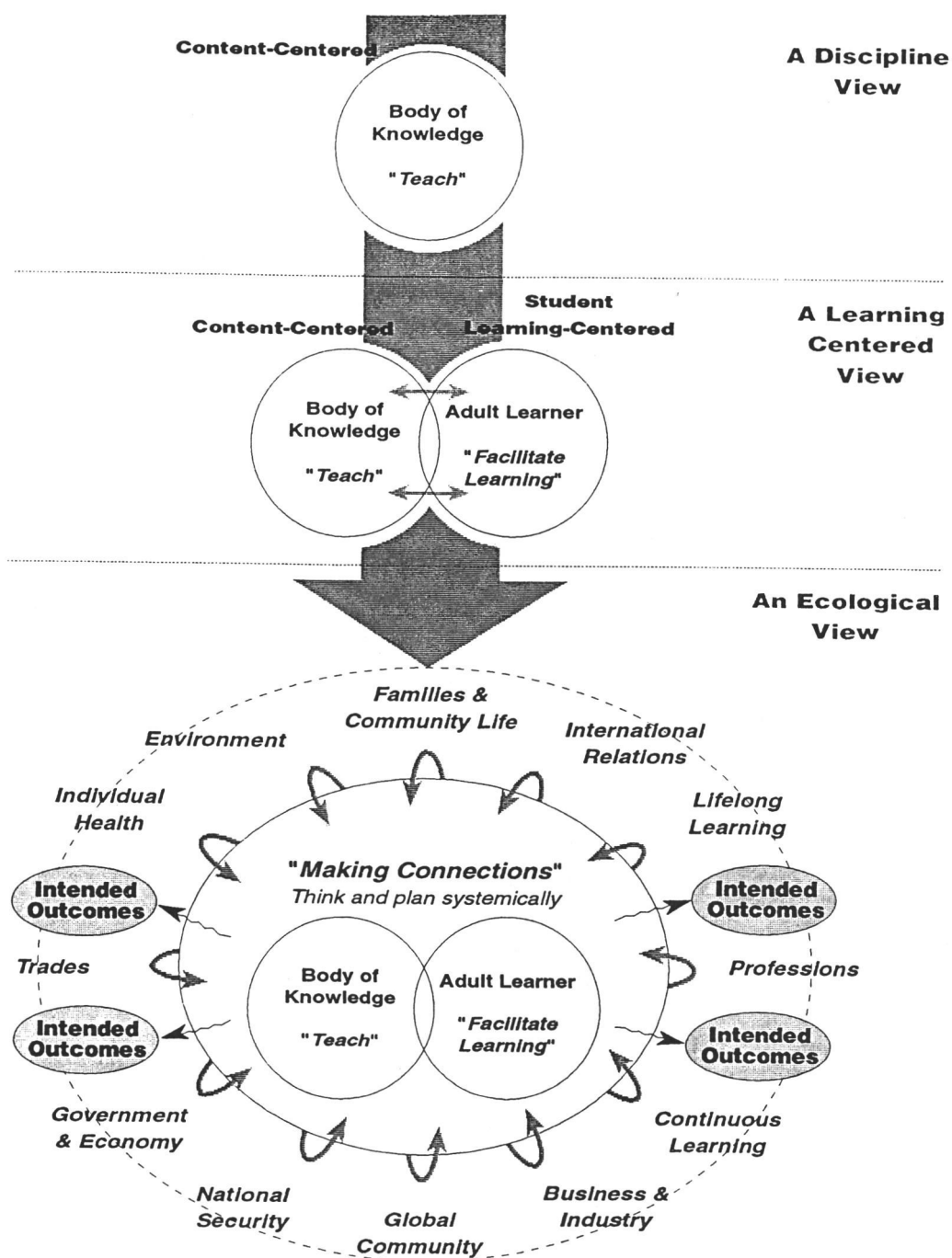


Figure 2.2 The Increasingly Complex Role of the College Instructor. Source: Stiehl, 2000, p. 21.

The key for the transformation from an emphasis on instruction to an emphasis on learning is in faculty development. Moving faculty from the position of instructor-centered to that of learner-centered, with connections to the business world and community, requires faculty to think in new ways. Building faculty capacity appears to be important.

According to Bradshaw and Buckner (1994) “those who do the work need to be involved in making the decision about how the work should be done”(p. 78). Faculty involvement in planning professional activities increases ownership and commitment to make changes. A number of studies have revealed characteristics of effective staff development. (Fulton, Licklider, Schneiker, 1997), (Showers, 1987), (Sparks & Loucks-Horsley, 1990), (Leinhardt, 1992). These include:

- Ongoing assistance and support of activities and new teaching methods
- Peer support as faculty labor through the process of developing a new skill
- Strategies that emphasize opportunities for faculty to learn from one another
- Administrators as well as faculty as planner of staff development activities
- Faculty in leadership roles during training
- Training that is concrete

- Training that allows for critical self-reflection of beliefs, and assumptions, and revisions
- Emphasis on demonstrations, supervised practice and feedback.

Olson (1994) reported that subject matter training and experience is a prerequisite for teaching. However, in addition to content understanding, instructors should have competencies on instructional design and delivery. Showers (1987) further reported that flexibility in thinking helped faculty learn new skills and incorporate them into their repertoire of methods. A basic level or skill in a new approach was necessary before a faculty member would accept it.

Another method of changing faculty behavior is through classroom research. Cross and Angelo (1992) have generated a great deal of interest in improving the quality of college teaching through classroom research using faculty's sensitive observation of students in the learning process. They suggest that teachers design feedback methods to determine what students are learning, and then adjust their delivery and materials to maximize student learning. One feedback technique consists of a half sheet of paper on which a student lists one idea learned that session and one idea that was unclear.

Massy, Wilger, and Colbeck (1994) through 300 interviews at twenty colleges and universities, found additional factors that influence effective teaching, including "frequent interactions among faculty, tolerance of difference, generational equity, workload equity, and course rotation" (p. 14). These

departments also practice peer evaluation, balanced pay incentives, consensus decision-making and effective leadership. The faculty members are supportive, helpful and involved in major decisions.

### **Discipline Characteristics**

Disciplines and departments have dominated college curriculum development and teaching for hundreds of years. A discipline can be viewed in many different ways: “a field of study, a mode of inquiry, an organized body of knowledge, an interrelated set of interested and value commitments, or a set of objects or phenomena that humans have tried to explain” (Dressel & Marcus, 1982, p. 85). Various disciplines exhibit “great variations in the nature of the problems attacked and the approaches used” (Dressel, 1982, p. 88). Dressel addressed the components of disciplines by looking at the substantive structures, including assumptions, variables, concepts, principles, and relationships to other disciplines. Kolb (1981) found that each discipline had its own language, norms, values, ideas of the nature of truth, and different patterns of power and authority. Different disciplines could study the same entity, but would view it from different perspectives. For example, a person viewed from one perspective as a biological entity and from another perspective as a creative or psychological entity.

Disciplines have developed their own knowledge structures or ways to describe their methodology (Donald, 1986), (Dressel & Mayhew, 1974), (Frederiksen, 1984). Biglan (1973) conducted research on different disciplines in

three areas: (a) existing paradigms “subscribed to by all members of the field”, (b) exhibited practical application, and (c) a concern with life systems. In this study, based on 200 faculty opinions, different disciplines are plotted with similar disciplines grouping themselves in the same quadrant. This study groups the sciences, agricultural, engineering and computer science, together. A second group was accounting, education, and communication. A third group combined psychology, economy, sociology, English, history and philosophy although these were not so closely aligned.

Despite the difference among the disciplines, commonalities assist in explaining the characteristics of disciplines: (1) A set of facts, concepts, and theories, (2) a system of symbols that facilitate discussion, (3) a method of inquiry, (4) a value component, and (5) relationship to other disciplines. (Dressel and Marcus, 1982).

In another study, K. Patricia Cross (1991) used a Teaching Goals Inventory to survey 2800 two- and four-year college faculty. The study developed a profile on nine discipline areas showing the differences in teaching goals. The English area rated as most important “higher order thinking skills”, while science rated “facts and principles”. (Table 2.3)

In another interesting chart under the topic “capacity to make informed ethical choices,” medicine ranked first while arts and mathematics ranked at the bottom of the list. English and humanities rated at the top of the list and

Primary Teaching Role	All	Humanities	English	Basic Skills	Social Science	Business	Medicine	Science	Math
Higher-orders Thinking Skills	28	32	47	13	44	26	17	28	35
Facts and Principles	28	31	17	8	35	28	18	55	44
Jobs/Careers	17	2	3	7	4	32	44	10	2
Student Development	17	24	19	20	14	12	12	3	7
Basic Learning Skills	7	6	15	51	2	1	1	3	9
Role Model	3	5	2	2	3	1	8	2	3

Table 2.3. Primary Teaching Roles as Perceived by Two-and Four-Year College Teachers, by Discipline N= 2700 in percents. Source: Cross, 1991, p. 10.

medicine and business at the bottom, when rating “lifelong love of learning” as a value. The different disciplines ranked in various orders, depending on the topic.

Limited research is available about the influence of disciplines on college course planning and teaching. Through a survey of faculty teaching introductory courses, Stark, Lowther, Bentley and Martens (1990) found the major differences in the fields are assumptions faculty made about students, and “that faculty draw heavily upon background and expertise to make planning decisions, using their

academic field as a foundation for content selection, arrangement and conceptual integration.” (p. 162).

Disciplinary content is often interwoven with other disciplines. As such, it is hard to choose a perspective for interpreting data. Many societal issues are interdisciplinary and not limited to one way of understanding.

### **Outcomes Reform**

Outcomes-based models for re-designing curriculum have been used extensively in K-12 systems. At the college level, few examples are documented in the literature.

Two colleges instituting outcomes-based curriculum include Alverno College and Sheridan College. Alverno College (1998) has redesigned the learning program over the last twenty years with the ultimate goal that:

- Knowledge and its application are inseparable; students must be able to do something with what they know.
- Abilities are complex integrations of knowledge, dispositions, skills, and self-perceptions.
- Assessment is integral to learning, both as a means of helping students learn and as a way of validating their achievement.  
(Alverno, 1998)

Learning how to design a curriculum that facilitates complex thinking and deeper levels of understanding is an evolving process. Alverno College views outcomes as becoming more specific, beginning with the institution,

progressing to the program, and then to the course. At the course level, the outcomes are assessed with criteria for evaluating the work.

Sheridan College has redesigned the curriculum to reflect learning outcomes that emphasize broader learning and cumulative skills. They believe that “learning outcomes are very appropriate because they cause educators to focus more on the actual results of the learning experiences. This emphasis results in a higher degree of certainty that graduating students can perform reliably at expected levels of achievements” (Sheridan College, 1995, p.1).

### **Thought Processes**

Once learning outcomes have been established, curriculum development and teaching can begin. However, our thought processes influence how curriculum is developed and the way that we teach. As a result, it becomes important to understand our thought processes when dealing with change or transitions in curriculum design and instruction. Anthony Gregorc (1979) was intrigued with thought processes and the implications in learning patterns. His research demonstrates that people tend to have preferred characteristics or ways of relating to the world and that these characteristics continue even though the context or content may change. He calls these patterns “mind styles.” “Mind styles” are theoretical constructs that “relate to systems of thought and the driving forces of the mind.” (Gregorc, 1984, p. 53). Through observations and interviews, Gregorc found two sets of qualities present in learning. These are abstract and concrete reference points for perceiving, and sequential and random preferences for



ordering. The two sets of qualities form distinctive learning patterns and styles, which Gregorc called, abstract sequential (AS), concrete sequential (CS), abstract random (AR), and concrete random (CR).

Abstract sequential (AS) learners have the ability to debate points, gather and analyze information and make judgements. They like mentally stimulating, ordered, and quiet environments, that provide for their thought process through intellectual, logical, analytical and correlative methods. They learn well through reading, lectures, and visual presentations.

Concrete sequential learners (CS) prefer direct hands-on experiences. They are highly organized, structured, and pay attention to details and facts. In learning new information, they like step-by-step directions and will follow them. The concrete sequential learner learns effectively through manuals, lectures with overhead transparencies, and hands-on materials.

Abstract random learners (AR) are intuitive, perceptive, flexible and adaptive. They work well with others, use imagination, and prefer a stimulus-rich, active and colorful environment. They learn well in unstructured environments such as group discussions, teamwork, and learning opportunities that allow processing time.

Concrete random learners (CR) like to experiment and “to make intuitive leaps in exploring unstructured problem-solving experiences” (Gregorc, 1977, p.23). These individuals function well in a stimulus-rich environment, and, as such,

learn through independent projects, reading, and problem-solving activities (Gregorc, 1977; Gregorc, 1985b).

Gregorc found in his research and the research of others (Buell & Buell, 1987; Mickler & Zippert, 1987; Ingham, 1991; Norris, 1998) that a learner exhibits a preferred way of using his/her abilities. Each person has varying amounts of each style, and reacts favorably to approaches that accommodate the preference. Other researchers have identified learning preferences when using the Gregorc Style Delineator.

- Using adult community college students, Mickler and Zippert (1987) found that modifying teaching methods to correspond with learning styles resulted in significantly higher gains on standardized achievement scores.
- Using adults employed at Entenmann's, a baked goods company, Ingham (1991) found matching instruction with employees perceptual preferences significantly increased learning and attitude towards the training program. She also found occupational groups may have distinctive learning style patterns.
- Using outstanding teachers, Norris (1998) found the vast majority of the teachers were either abstract random or concrete random in style. As such they were flexible, creative, and able to focus on the "big picture" involved in teaching.

- Buell and Buell (1987) reported significantly improved achievement when learning styles were utilized in post-secondary setting.
- Steward and Felicetti (1992) discovered that college students concentrating in sales or advertising tended to be random learners. Students interested in marketing management tended to be sequential learners, where as college marketing students were concrete sequential and abstract random.
- Wheeler, Rawson, and Vincz (1992) focused on teacher inservice and found teachers who were concrete sequential needed more specific support than random organizers.

Mind styles reflect an individual's point of view, thought process, patterns and mind set. Individuals with different styles approach learning from different perspectives and use varying techniques. Because faculties exhibit different styles, they bring different perspectives as they restructure curriculum. They learn in different ways, and they design outcomes that make sense to them.

## SUMMARY

The literature review explored the idea that open systems created flexible educational institutions that can respond to the influences of the society and the demands for increased learning. The role of faculty members becomes increasingly complex with emphasis on faculty facilitating student learning. The faculty member shifts from the information provider to the coach, innovator, researcher,

and collaborator with the student to create meaning through the learning process (Costa, 1997). Faculty development is the key to developing the capacity to redesign the curriculum into an outcomes-based framework that asks, “What do you want students to know and be able to do outside of the classroom?” Effective faculty development includes peer support, faculty leadership, on-going assistance, and opportunities for practice and feedback.

Faculty’s thinking, planning, and decision making constitute much of the context of teaching. However, a person’s thought processes influences the way he/she teaches. The literature suggests that differences exist between the disciplines and their approach to teaching because they value different goals. Gregorc (1984) proposed that people tend to have preferred “systems of thought and driving forces of the mind”(p. 53). This study explored process patterns that emerged in the work of curriculum committees from different disciplines and the role of facilitation in the process.

## **CHAPTER 3**

### **METHODOLOGY**

This study investigated how faculty curriculum committees from distinct disciplines move through a major curriculum change process. It is based on the assumption that individuals create their own meaning from their experiences. As different curriculum committees worked on curriculum outcomes, the members' understanding of the process evolved. I investigated this understanding through the observation of the work of the different curriculum committees, participants' narratives through interviews, and the use of the Gregorc Style Delineator. I then transcribed, analyzed, and synthesized their experiences through the curriculum development process.

A basic underlying assumption of qualitative research is that "reality is holistic, multidimensional, and ever-changing; it is not a single, fixed, objective phenomenon waiting to be discovered observed and measured..." (Merriam, 1998, p. 202). I attempted to describe and explain the process of designing curriculum as reported by those involved in the experience.

### **ROLE OF THE RESEARCHER**

In qualitative studies, the researcher is an instrument for observing and gathering data. According to Rubin (1995), the researcher is not neutral, distant or uninvolved, but forms a relationship with the one being interviewed. As feelings

and ideas are shared, learning about self and others occurs (Denzin, 1994). Without rapport, the personal characteristics and status of the researcher might influence the reaction of subjects to the research and thereby affect the data collected (Bogdan & Biklen, 1998). It was important to establish rapport so that a relationship of equality, genuine interest, and informality existed.

In this research project, I functioned as an “observer as,” a term used by Merriam,(1998). As such, the group knew me, and they were aware of my intent and purpose. As a qualitative researcher, it is important to disclose my background as it influences my observations.

I have participated in and observed educational planning groups for the past 32 years, including K-12 systems as well as higher education. These experiences have provided me with the insights necessary to quickly grasp the team members’ interaction. I also bring to this experience the ability to document thorough and careful notes with attention to details. Initially, I was concerned that I might be perceived as an evaluator and not as an observer. I attempted to reassure the committee chairperson that I would only observe and write notes. As I was not part of any academic committee at this time of this study, many of the fears were eliminated. I was, however, involved as a participant-observer on the Assessment Team at one of the campuses under study. The Assessment Team group met regularly in the winter and spring of 1998 to learn about implementing outcome-based curriculum and authentic scoring devices. Through involvement, I developed good rapport with many of the staff. In the last two years, I participated on the

college wide Leadership Outcomes Team involved in the implementation of outcome-based curriculum and authentic assessment of classroom instruction. This involvement prepared me well to observe the change process.

## DESIGN OF THE STUDY

I used a qualitative approach in the study, including participant observation and in-depth interviewing. This was an approach that allowed me a rich understanding of the participants' lives and experiences (Rubin & Rubin, 1995). Qualitative research attempts to understand the meaning of events and interactions of people and to understand the meaning they construct around these events (Bogdan, 1998).

Careful documentation of the research process safeguards against bias and inconsistency (Lincoln and Guba, 1985). My documentation included observing the different discipline groups working on curriculum development, interviewing individuals, administering a data collection tool, and collecting demographic information through a short questionnaire.

## RESEARCH PROCESS OVERVIEW

The schematic on page 46 provides an overview of the research process. I began the research by selecting an institution that was involved in moving the curriculum to an outcome perspective. I obtained permission for the study from the college. The second step involved identifying curriculum groups to study. I made purposeful decisions to select diverse curriculum areas that are working towards

outcome-based curriculum. I tried to follow Biglan (1973) format of selecting different disciplines that represented (a) existing paradigms “subscribed to by all members of the field,” (b) exhibit practical application, and (c) a concern with life systems. Data was obtained through observation from different academic disciplines including sociology (SOC), automotive service technology (AM), computer information systems (CIS) and health education (HE). I interviewed three faculty members from each academic discipline. During a curriculum committee meeting faculty members completed a short demographic survey and took the Gregorc Style Delineator to determine process style preference.

I observed Area Curriculum Committee (ACC) work sessions as the faculty members worked to design outcome-based curriculum. The length of time varied from five hours to twelve hours, as some ACCs met frequently with shorter meetings, while others met for all-day sessions.

After the observations, I selected three individuals to interview. Interviews lasted thirty to forty-five minutes. Complete verbatim transcripts of all interviews were produced by an experienced transcriptionist and then checked for accuracy with the tapes. Participants were given the opportunity to read and comment on the transcripts.

After interviewing and reviewing the all field notes, I analyzed the information for themes and patterns involved. Then I synthesized the information to reveal the process of moving to an outcome-based curriculum. I reported the findings, drew conclusions, and made recommendations.



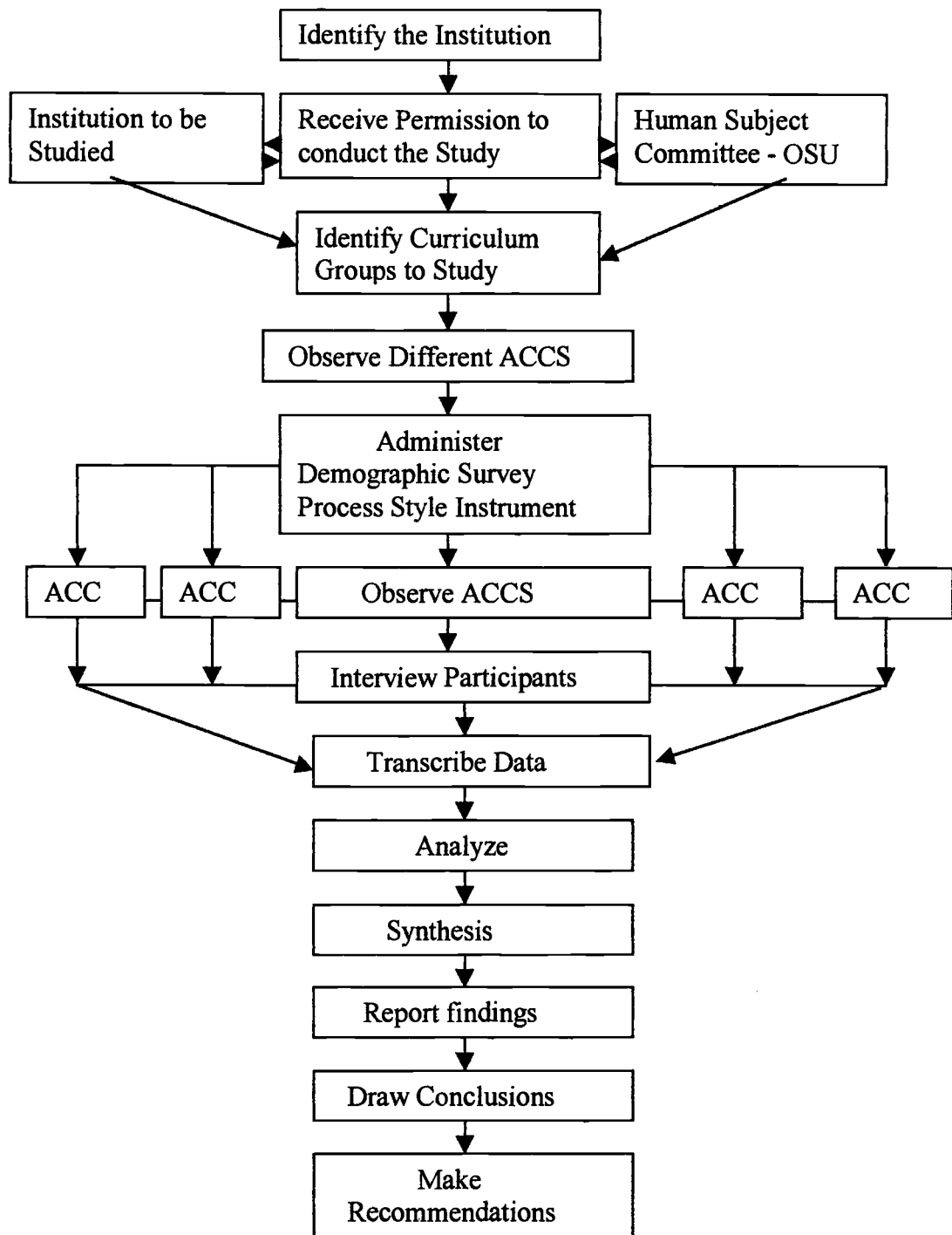


Figure 3.1 Research Design

## SITE AND STUDY POPULATION

I conducted this study at Northwest Community College (NWCC), which had been involved for five years in a process of infusing into the college culture a learning outcomes initiative. Considerable effort by the college has been invested in the effort to prepare three Learning Outcomes Teams (LOT I, II, III) to provide leadership for the process of implementing outcomes and authentic assessment throughout the college. The criteria I used in selecting the site include (a) a multi-campus system with a number of curriculum committees, (b) familiarity of researcher with the institution, and (c) an institution involved in staff-development to train faculty in outcome-based instruction.

At NWCC, Academic Curriculum Committees (ACC) are composed of all full and part-time faculty members who taught in a discipline. Most committees meet at least once a term to discuss curriculum issues. With the redesigning of programs, curriculum and an emphasis on outcomes, the ACCs met more frequently. The college required curriculum guides to be updated and revised every three years. NWCC is a large urban campus with three campuses and seven educational centers. The average student is thirty-six years old, employed at least part-time, and takes fewer than twelve credit hours per term. The student population consisted of 57% women with Caucasian students making up 81%. In addition to lower-division courses, transfer programs, and professional/technical programs, the college offers: basic skill education, community education job training and retraining, and small business development. At the time of admission,

55% of the students reported their reason for enrollment was job related either for skills to get a job, to upgrade current skills, to advance a present career, or to pursue a new career (FACTBOOK, 1999).

Long term initiatives for the college fell into three areas: curriculum and instruction; student success; and organizational development. The college stressed regularly assessing and updating curriculum; supporting faculty in their instructional methods; providing accessible library and learning resources; providing opportunities to broaden awareness of our multi-cultural society; and supporting partnerships with business. Full time faculty taught 65% of the classes, while part-time faculty taught 35% of the classes and serve 85,000 students for an FTE of over 19,000.

## PARTICIPANT SELECTION

In order to carry out an exploration of how different subject area curriculum design committees develop and process curriculum work, I needed to locate committees that were willing to participate in a research effort, that were currently meeting, and also willing to have an observer. Several Deans of Instruction and Division Deans provided suggestions. To further support the selection, I used a listing of the college administrator's department assignments and the curriculum areas each supervised. I also selected a curriculum group that had national certification from an outside agency such as NATEF (National Automotive Technical Education Foundation). The curriculum groups selected were Sociology,

Health Education, Computer Information System, and Automotive Service Technology.

In order to learn as much as possible about the individual's process in curriculum design, I selected three individuals from each ACC to interview. According to Rubin (1995), purposeful selection of who is interviewed is crucial to the qualitative design. Subjects should be knowledgeable, have different perspectives, and represent a range of points of view. After observing the group meeting, I selected three individuals based on involvement in the group process. I selected one person who was very involved and contributed verbally to the group process; one who was very quiet and said nothing or very little; and one who contributed a moderate amount to the group discussion. The purposeful sample of three individuals from each ACC was designed to gain maximum variation and to reflect the range of individuals involved in each ACC.

### DATA COLLECTION TECHNIQUES

Wolcott (1994, p. 10) divides the process of gathering data in qualitative research into three parts: participant observations, interviews, and examination of materials prepared by others. The source of data for this inquiry used all three categories: participant observation, interviewing and additional documentation, such as ACC minutes and curriculum guides. Additional data was gathered by administering the Gregorc Style Delineator, an instrument that evaluates "thinking patterns, mind sets, values and ways of expressing oneself" (Gregorc, 1985).

## **Interviews**

Interviewing is an important tool in qualitative research,. According to Seidman (1991), the purpose of in-depth interviewing is not to get answers to questions or test hypotheses, but rather to understand the experience of other people and the meaning they make of that experience. Interviews provide a method for the researcher to understand the meaning people give to their experiences.

I used “active interviews,” a term used by Holstein (1995), in which both parties respond and reflect. Holstein suggests that “the active interview is not so much dictated by a predesigned set of specific questions as it is loosely directed and constrained by the interviewer’s topical agenda, objectives, and queries” (Holstein, 1995, p. 29). The goal in this process is to have the participant reconstruct his or her experience (Seidman, 1991).

In planning the interviews, three concerns surfaced: consent, confidentiality, and establishing rapport and a conversational tone. Consent forms were completed at a curriculum committee meeting. Participants filled out a short questionnaire on their background. The methods used to protect confidentiality were also reviewed.

My third concern was establishing rapport with a conversational tone so that the interviewee and I were both engaged in exploring their experiences. I began each interview with chit-chat and used active listening. I limited the number of main topics, as it was easier to maintain a conversational flow with fewer items. During the process, I would sometimes share similar experiences that provided ideas for the faculty member, such as ways to enhance student portfolios.

Although I did not create rigid interview questions, I introduced the topics listed below.

Current position

Professional background

Initial experience in curriculum design work

Process you use in designing curriculum

Process used in making decisions to adjust curriculum

Assessing program effectiveness

Perceptions about outcome-based instruction

Examples of curriculum design

Training in the curriculum design process

Meaning or value of the curriculum design process

The interviews lasted thirty to forty-five minutes. I asked follow-up questions to further explore related topics or new ideas. I tried to schedule the interviews conveniently for the faculty members. Some were held during the lunch hour, while others were held at the beginning or end of the day. By interviewing three individuals from each ACC, I could connect their experiences and check the comments of one participant with another. The goal was to understand how the individuals understood and made sense of their experiences (Seidman, 1991).

### **Observations of Subject Area Curriculum Committees**

In observing the ACC's, I stated clearly to the facilitator and the members of the group that I would be just observing and not participating. I was interested in

how they engaged in the process of designing curriculum. As I was not a part of an academic area, I was not perceived as a threat. I sat quietly and took verbatim notes of the conversations and presentations. When the group divided into small work committees, I selected one group to join and observe. Each time a ACC met and committee work was involved, I joined a different group. While I was observing the ACC, I also noted those involved and those not verbally contributing. From this observation, I selected individuals to interview.

### **Gregorc Style Delineator**

On the second observation, I administered the Gregorc Style Delineator. I selected this instrument after evaluating a number of tools. I needed a tool that showed how faculty processed information, was quick to administer, and provided faculty members with immediate results and interpretation. This instrument measured the individual's preferred way of using his/her abilities by analyzing four distinct learning preference patterns. The test determined if a subject was Abstract Sequential, Abstract Random, Concrete Sequential, and Concrete Random in their thinking processes.

Many research studies have used the Gregorc Style Delineator to assess how individuals process information, as it is considered comprehensive. It is an inventory of ten sets of words in which individuals rate the words that best describe them on a scale of 4 to 1, for a possible total of 100 points. Gregorc identifies scores of 26 to 40 as indicating a dominant style. People are generally most

comfortable using one or two styles, although some individuals have relatively equal scores which represent a balanced style (Gregorc, 1984).

The Gregorc Style Delineator was used to triangulate information gathered through interviews and observations. Gregorc (1982) reported reliability coefficients ranging from .89 for the abstract sequential scale to .93 for the abstract random scale and predictive validity correlation's ranging from .55 to .76. However, Joniak and Isaksen (1988) reported lower alpha coefficients ranging from .23 to .66. In a study by O'Brien (1990), the results indicated that the four scales contained in the instrument were moderately reliable and may have "some practical utility."

## DATA ANALYSIS

The purpose of data analysis is to increase understanding of the data and to enable the information to be presented to others. Wolcott (1994) proposed a method of organizing and presenting qualitative data. He suggests that the three primary ingredients to transforming data are description, analysis, and interpretation. Description is an account of what is happening and addresses the relationships found in the data. Analysis of the data, identifies relationships. I used the grounded theory (constant comparative) methodology developed by Strauss and Corbin (1990). Specifically, grounded theory techniques use the process of collecting and asking questions about the data, making comparisons, thinking about the information, making hypotheses, developing a small, theoretical framework about the concepts and relationships. The process is repeated as additional data is



presented. The information is organized into categories and further analyzed for connections within and between categories. These categories are carefully analyzed according to the issues under investigation. Through this method of data analysis, I discovered themes and concepts embedded in the interviews and observations.

Next, I focused on interpreting of the themes and concepts that emerged. Wolcott (1994) refers to this process as probing to determine “what to make” of the analysis. Interpretation attempts to address “processual questions of meanings and contexts: ‘How does it all mean?’ ‘What is to be made of it all?’” (Wolcott, 1994, p. 12).

## DATA MANAGEMENT

I used several methods to organize the volume of data collected. First, I made two copies of each transcript from the observations and interviews, so one could be cut apart after I examined and coded the material. I also copied the material from the individuals ACC on different colored paper, which made the material easy to identify. I numbered the questionnaires completed by the different ACC's, as a method of keeping material from a particular ACC together.

Following the suggestions of Strauss and Corbin (1990), I used a process called “open coding” to examine, compare and categorize the data. I coded the text according to the content. Then I used cards, suggested by Wolcott (1994), to write words, phrases, and concepts so that I could manually sort and re-sort the data.

## TRUSTWORTHINESS

Scientific research involves systematic inquiry that is data-based, meets certain standards of reliability, and can be replicated. Lincoln and Guba (1985) call this trait “trustworthiness.” Trustworthiness consists of four elements: credibility, confirmability, transferability, and dependability, all of which correspond to internal and external validity, reliability, and objectivity (Denzin, 1994).

Credibility results from spending enough time to learn the culture and contexts, becoming aware of distortions, and building trust in the research situation (Lincoln and Guba, 1985). I established credibility through becoming involve in the Learning Outcomes Team (LOT I), attending a campus assessment committee meetings, observing the ACCs, and interviewing individuals over a year’s time period. A second factor that contributed to credibility was what Denzin (1994) refers to as triangulation. Triangulation involves the use of different sources, methods, and theories, which make the data believable. To enhance this research project’s trustworthiness, I used a multi method approach. I gathered information through observations, interviews, demographic questionnaire, and a process style instrument.

A third factor contributing to credibility is confirmation through member checks in which peers acts as a sounding board and offer suggestions in the area of methods, legalities, ethical concerns or other related areas. Lincoln and Guba (1985) believe that member checks are “the most crucial technique in establishing

credibility” (p. 314). In addition to my graduate committee, I discussed the methods employed with the ACC chairpersons.

A fourth factor involves transferability or writing of a research report in such a way that the reader can visualize the basic processes of data collection. The nature of qualitative research makes direct application to another situation very difficult, but according to Lincoln and Guba (1985) the researcher has the obligation to provide a ‘thick description.’ It is the researcher’s responsibility “to provide the data base that makes transferability judgement possible” (p.316). I created a ‘thick description’ of the research data and I have had other people read the research report who were able to visualize the process.

According to Lincoln and Guba, 1985, dependability and consistency are more appropriate terms for qualitative research than reliability. Dependability and confirmability rely on an audit trail. Detailed and careful records of interviews, raw data, the process of coding and analysis, and the development of themes are maintained. Inconsistencies are explained or acknowledged. Additionally, quotes from the data are used in the report to support the conclusions (Rubin, 1995). In this study, detailed and careful records of interviews, raw, and analysis have been maintained. In addition I have compiled notes on the development of the themes.

## ETHICAL ISSUES

I followed the principles outlined by Denzin and Lincoln (1994) for conducting research working with individuals. The areas of ethical concern involve

“the protection of subjects from harm (physical and psychological), deception and loss of privacy.” (p. 21). The specific measures that I took were to have each person read and sign an Informed Consent Document. The questionnaires were numbered with no names attached, just the ACC with which they were affiliated.

In reporting the interviews and observations, I assigned each person a fictitious name. I took care to not assign a name that could be construed as a specific person in a particular curriculum group. In addition, some of the specifics have been generalized for confidentiality. The specifics have been verified.

Kolb (1976) reported that a problem with gathering this type of process information is that college faculty would not allow outside observers to watch the process. The four curriculum groups that I observed received me warmly. In fact, I brought homemade cookies to one curriculum group that met regularly. Not all faculty members were willing to be interviewed and did not return my telephone calls to set up an appointment. After the second attempt, I called the next person on my list. This was only an issue in one curriculum group.

## SUMMARY OF METHODS

Interviewing and observing are powerful ways to gain insight into educational issues by understanding the experience of the individuals involved in the process. Individuals share their perspective and understanding of the situation as well as their feelings. The process of interviewing became intriguing and interesting, as I never knew what I would learn. It was like going on a scavenger hunt.

## **CHAPTER 4**

### **FOLLOWING THE JOURNEY: OBSERVATION HIGHLIGHTS**

#### **INTRODUCTION**

The institution-wide process of reconstructing curriculum around learning outcomes at Northwest Community College (NWCC) began in earnest in 1997 with a faculty planning team. The initial effort provided a rationale for outcome planning and assessment, and establish a common vocabulary and shared mental model. Out of this initial work, a structure emerged to prepare as many as sixty faculty leaders to assist curriculum-planning teams in their efforts to shift to an outcomes-based curriculum. An external expert in instructional design was retained over a period of three years to build this internal capacity. Each year, for three years, a new Learning Outcomes Team (LOT), consisting of twenty faculty, prepared themselves to lead NWCC through this curricular reconstruction process.

I became involved in this work in the spring of 1998 as a member of LOT I. I attended numerous sessions in preparation for explaining the outcome planning process. On a Friday in April, classes were cancelled on all campuses so all faculty could participate in conversations about learning outcomes and assessment. On that day, I led twenty-five faculty from different disciplines and different campuses through an initial conversation on outcomes planning.

This background, along with my teaching experience, provided a broad perspective from which to observe the different curriculum committees and interview faculty members. Using recommendations from the Instructional Deans, I contacted curriculum committee chairpersons who were actively involved in the process of redesigning their curricula to be outcome-based and represent different disciplines. I observed Health Education, Sociology, Automotive Service Technology and Computer Information Systems (CIS). Each curriculum committee was at a different place in the process and approached the process uniquely. I was interested in two different aspects: first, the different process patterns that emerged as the curriculum committees worked and, second, any patterns that might be unique to the disciplines and individual thought style.

## RESEARCH PLAN

The purpose of this chapter is to document the processes of four different ACC's as they moved through the curriculum re-design process under the direction of faculty leaders specifically trained for this purpose. In this section, I have included a description of each ACC, a description of the participants and the results of the Gregorc Style Delineator, excerpts from the observations, and interviews with individuals from each ACC. The four ACC's included health education, sociology, automotive service technology, and computer information systems. Describing their pathways is complicated by the fact that each planning team was at a different place in their work. However, all four groups were working towards the same end.

## HEALTH EDUCATION

### **Description of the Health Education ACC**

In the fall of 1999, the Health Education ACC, consisting of six full and part time faculty, was in the initial phase of restructuring a course around learning outcomes. From November 1999 through April 2000, I observed six work sessions which were usually scheduled for late afternoons to accommodate the teaching schedule of the different faculty members. The planning process was facilitated by an experienced faculty leader from LOT I, who had been highly successful in leading her own faculty through the process.

### **Description of the Participants**

Each faculty member completed a questionnaire and took the Gregorc Style Delineator. From this information, wide diversity in education and experience was exhibited. One faculty member had a Ed D, while four members had MS degrees and one member had a MPH degree. All of the faculty members had teaching experience, ranging from three to twenty-two years of experience, although not necessarily at the community college. Several had community health education experiences in other organizations. As such, each member had ideas to share as the group worked through the curriculum planning process to develop an outcomes-based curriculum. Although some members had extensive community college history, all members, both part-time and full-time faculty, were equal in their roles in the curriculum design process.

The Gregorc Style Delineator looks at eighteen frames of reference that represent dominant style characteristics for each of four groups. The four “Mind Styles” include concrete sequential (CS), abstract sequential (AS), abstract random (AR), and concrete random (CR). For this research, I concentrated on three frames of reference: thinking processes, focus of attention, ordering ability, as well as learner characteristics.

Members of the Health Education curriculum committee exhibited diverse Gregorc characteristics. Three of the members exhibited a concrete sequential preference. According to Gregorc, concrete sequential (CS) individuals are instinctive, methodical and deliberate in their thinking processes. There was one abstract sequential (AS) member who would be considered logical, analytical, and

<b>Frame of Reference</b>	<b>Concrete Sequential (CS)</b>	<b>Abstract Sequential (AS)</b>	<b>Concrete Random (CR)</b>
<b>Thinking Process</b>	Instinctive, methodical, deliberate	Intellectual, analytical, correlative	Intuitive, instinctive, independent
<b>Focus of Attention</b>	Material reality, physical objects	Knowledge, facts, concepts, ideas	Applications, methods, processes
<b>Ordering Ability</b>	Sequential step-by-step linear progression	Sequential, see patterns	Random three-dimensional patterns
<b>Learner Characteristics</b>	Patient, step-by-step directions, practical, concrete examples	Sequential, logical, rational, theories, symbols, concepts	Use insights to find “big picture”; create new ideas, approaches, and products

Table 4.1 Health Education Gregorc Characteristics. Adapted from Gregorc, 1982 and Gregorc, 1997.



correlative. Another committee member appeared to be balanced between CS and AS. The remaining two members were classified as of concrete random (CR). CR individuals are intuitive, instinctive, and independent (Gregorc, 1982). Table 4.1 summarizes the distinctions between the three style categories represented in the Health Education curriculum committee.

### **Stage of Curriculum Development**

When I began my observation of the committee process, the Health Education SAAC was in the initial phase of transitioning to an outcome-based curriculum. Up to this time, curriculum development was largely a matter of sequencing content and deciding how to cover it. In the past they had been concerned with topics, assignments, teaching strategies, and grading policies. Now they were being asked to begin at a very different place – with intended learning outcomes.

Figure 4.1, on page 63, documents the committee's conversation in the initial phase of the work. The top portion of the diagram represents the content driven curriculum planning steps, moving from left to right. The bottom portion of the illustration shows the four planning steps in outcomes-driven curriculum. It is a seemingly backward process, beginning on the far right with intended outcomes. The Health Education curriculum Committee was clearly moving back and forth between these two very different processes. It is important to note the important role of the facilitator (F), in the initial stage. Left on their own, the committee

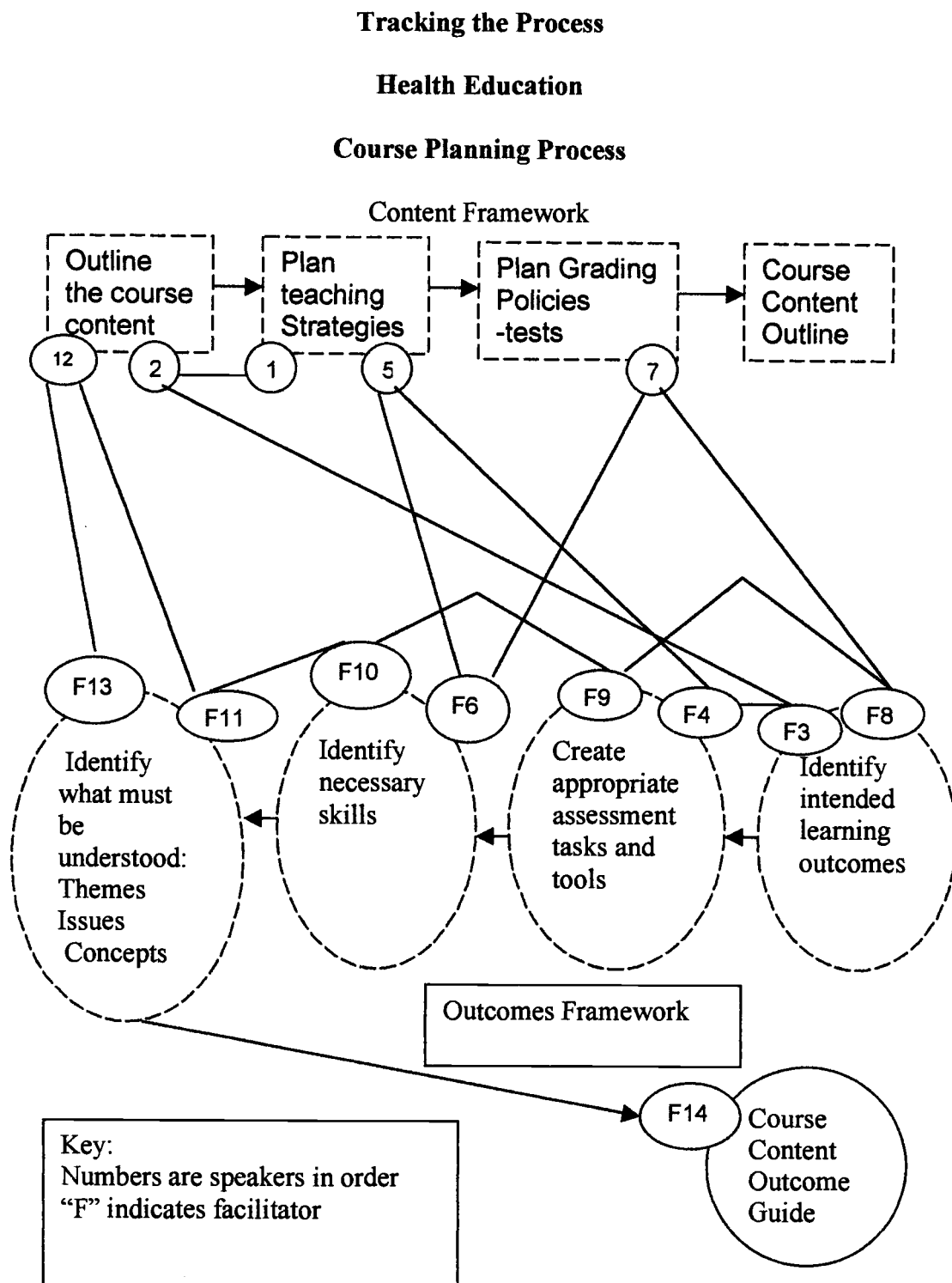


Figure 4.1 Moving Between Two Frameworks

talked about content, teaching strategies, and grading. The work of the facilitator was to keep bringing them back to an outcomes framework.

### **Tracking the Process**

The initial work session was opened by the Health Education ACC chairperson, “This is the first time we have all been together. It would help to have a consistent understanding of what others are doing” (HE1, 2)<sup>1</sup>. The group proceeded to focus their conversation on teaching methods until the facilitator reminded the group, “We need to migrate to outcomes”... (HE1, 3).

Part of the initial responsibility of the facilitator was to bring some meaning to the concept of “outcomes”. “Outcomes help you figure out at what your target is. They provide a clear picture of what students need to learn and take out into the world. Think of this planning process as a funnel” (HE1, 4). The facilitator illustrated how everything in the course can be aligned with the intended learning outcomes: themes, issues, concepts, skills, and assessment. Six months earlier part of the group had developed two outcomes for the course. They were now working on reviewing the outcomes. The facilitator said, “I think you have three outcomes here and not two”(HE1, 4). A discussion of the size and scope of learning outcomes at the course and program level followed.

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<sup>1</sup> Citations, which follow quoted or paraphrased material from field notes, include the ACC initials, session, and page number. HE1, 1 indicates Health Education, session 1, page 1.

Nancy, one of the faculty members, made the translation, “The outcomes are huge at the end of the course. How do I assess if the student could do it?” (HE1, 5). Another faculty member, Helen, shared her experience of redesigning a course after a brief inservice on outcomes with an inclusive assessment assignment.

The facilitator responded with, “You hit a key point. Outcomes require more complex skills and more complex assessment” (HE1, 5).

Members of the Health Education ACC taught similar courses at four different sites. Prior to this work session they had had little opportunity to share ideas about their teaching. As a result, part of each meeting migrated to sharing ideas about how they taught the content. Nancy commented, “Sometimes the case study may work. What do you think” (HE1, 6)?

Helen replied, “I critique projects and then have the students critique them also” (HE1, 7). [1] (The bracketed numbers track the course planning process on Figure 4.1 on page 63.)

Albert replied, “ I change the area of content around. With all the current information, everyone is in a group of three and comes up with a current issue that goes beyond the textbook. They each research their topic and come up with a one-page summary....” (HE1, 7). This kind of sharing appeared to be valued by the members, but still focused on how content was “covered”, and not on intended outcomes.

Zelda said, “We don’t all agree on the depth”(HE1, 8). This comment led to additional sharing and re-wording of the outcomes previously developed.

The facilitator, injected, “I heard ‘identify’” (HE1, 8).

Otto commented, “I use an analysis of case studies.”(HE1, 8). The groups shared the various ideas and viewpoints. [2]

Finally, the facilitator summarized the intended learning outcomes which had emerged from the group. The outcomes described what students would be able to do in “real life” with what they would learn in this course. The facilitator said, “This is what I heard, from a multi-dimensional perspective: 1. Identify current personal health status, 2. Analyze [personal] health risks, and 3. Plan effective health enhancements/ wellness strategies” (HE1, 9). [F3] After a little discussion, the group agreed that these were the three outcomes for the course.

With the direction provided by the outcome statements, the facilitator led the group to thinking about how these outcomes could be assessed in class. A discussion emerged around the need for assessment that changed behavior.

Nancy commented, “I relate to the personal. I give the students extra credit for changing personal behavior” (HE1, 11). [F4]

Helen added, “I spend very little time talking about behavioral change”(HE 1, 11). The group shared additional teaching techniques with the facilitator focusing the group on designing the outcome-planning guide. [5]

Following the assessment discussion, the facilitator again redirected the conversation by asking what the students needed to understand and what skills they had to master to realize the intended outcomes. [F6] Then they went back to talking about content for the course, but this time the discussion was derived from the outcomes. Helen then brought up another problem, “What if they don’t have the skills” (HE1, 13)? She was referring to a concern for writing skills, which were not a part of the course.

“Then you have to teach it,” the facilitator responded (HE1, 13). “Can you achieve the outcomes with poor writing?... [But] don’t teach what is not critical to the outcome”(HE1, 13). This led to a discussion on grading. [7] The facilitator reminded them that, “A grade is not an outcome”(HE1, 13).

Otto posed the next question, “So you’re saying grades are not closely linked?” (HE1, 14)

The facilitator responded, “In the syllabus, [grading] needs to be spelled out.... This topic [behavioral change] needs to relate to a standard for staying healthy for life...”(HE1, 14). In this initial session the group continually wandered to content and other topics and the facilitator brought them back to the discussion of outcomes.

On the second work session, the group continued to learn about outcomes [F8] as they worked through the *Course Content Outcome Guide*. The topic of

skills included more than just writing. Zelda asked, “Is using computer software a skill?” (HE2, 2).

The facilitator responded, “Yes, if it’s a requirement” (HE2, 2). Each individually identified different skills, which they believed were essential to the intended outcomes. They listed skills such as, analytical skills, critical thinking, problem solving, empathy, and value clarification. The discussion led to

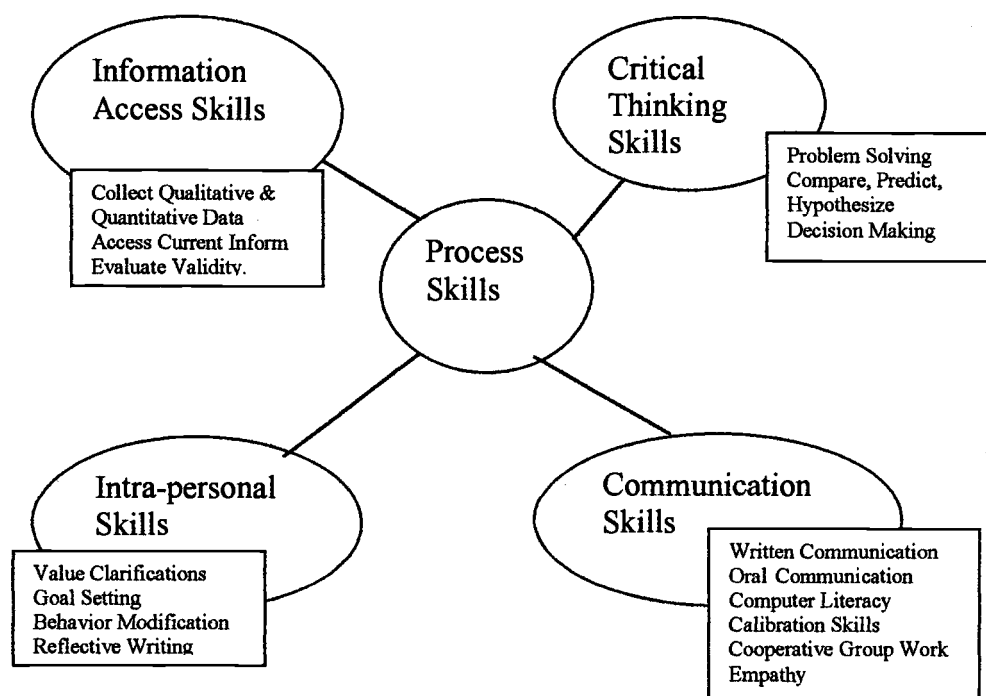


Figure 4.2 Health Education Affinity Diagram

synergistically developing a list of skills the learner must have. Terms such as “written communications, ability to collect data, behavior modification, goal setting, and use of technology” evolved from the group process (HE2, 5-7). After the committee had developed about twenty skills, the facilitator divided the faculty into two groups to develop affinity diagrams using flip chart paper. Adhesive notes were clustered, and then each group developed headings for each cluster. The final step, directed by the facilitator, was to combine the two affinity diagrams. As shown in Figure 4.2, the final four process skills developed by the committee included information access skills, critical thinking, communication skills, and intra-personal skills.

After two and a half months, the committee reviewed the previously developed outcomes, and assessments. Otto commented, “The first and second outcomes are physical assessments.”

“How about outcome number 2?” asked the facilitator (HE3, 2).

Zelda replied, “All of them analyze personal health risk”(HE3, 2).

The facilitator responded, “What about outcome number 3?” (HE3, 2).

To which Zelda answered, “I liked Nancy’s answer, of using the Nutra Quest.”(HE3, 2). The discussion continued in this fashion as the different members shared assessment activities that supported the different outcomes. [F9] They decided three outcomes and the assessment tools to evaluate the outcomes.



After the review and clarification of outcomes and assessment plans, the team turned to content once more. This time they were asked to describe what the students would need to “understand” in order to demonstrate the intended outcomes. [F10] They were asked to identify the content under three areas: themes, issues, and concepts.

The discussion was often laced with humor. The facilitator asked if anyone had written down any themes or concepts down since the last meeting. Nancy replied, “If I did, my cat ate it” (HE3, 3).

Zelda responded, “My cat sat next to yours.” Everyone laughed (HE3, 3). Using the old course content guide, (CCG), the committee reviewed the content of the course.

The facilitator suggested that the content needed to be reduced. “...to get to a few bullet points” (HE3, 4). [F11] Immediately, the committee became concerned with providing enough guidance for new or part-time faculty.

Zelda observed, “I’m feeling resistance, because we have had part-timers who ‘shoot the breeze.’ So they [Deans of Instruction] asked us to really say what was to be covered” (HE3, 4).

The facilitator replied, “I’m not suggesting we throw it out. I don’t know why we can’t keep it and reduce it” (HE3, 4). The committee immediately supplied stories of why an expanded content was very important.

Demonstrating a common example of bridge building often done in this group of diverse individuals, Zelda said, “Maybe we need to read it with different eyes” (HE3, 4). The committee began to read the old CCG to see if it supported the outcomes and assessments. Zelda, still hesitant to condense the document, said, “I’m just being honest. I’m a quality freak. Someone has got to get more. They interpret it in so many ways. We need to depend upon the depth” (HE3, 5). The committee felt the same way about instructional goals.

One of the new instructors said, “The instructional goals were very helpful to me to know what to accomplish” (HE3, 5). So the instructional goals were not eliminated.

The facilitator proceeded to work through the document with the committee. “The first unit is wellness. I’d zap the second major heading, as it is well covered below. Also zap [throw out] the objective. Let’s start with 1.1.... Let’s change [the old CCG’s] to themes, concepts and issues” [12] (HE3, 5). The next item was instructional goals. Though they condensed the content, they made sure the facilitator understood how important they regarded the details.

The committee proceeded to work through the document changing words, and eliminating duplication, and the facilitator continued defining or clarifying words to use in writing the *Course Content Outcomes-planning Guide*. Otto asked, “Is ‘defining’ a theme, concept or issue?” (HE3, 5).

To which the facilitator responded, “‘Prevent’ is a concept.” She continued, “if you’re talking about what to know, ‘define’ is the theme or concept” (HE3, 5).

[F13]

Later, the facilitator said, “I’d change assess to identify in 1.9. ‘Identify’ and ‘define’ are all knowledge words. ‘Analyze’ and ‘plan’ are outcome words” (HE3, 7). After about thirty minutes of working through the course content guide with many word changes, deletion and rewrites, the facilitator exclaimed, “I’ve got you guys so well trained” (HE3, 12). With a little more work, the first course content outcome guide for health education was completed. [F14]

A committee member suggested that the ACC work on one more course content guide together before they started working individually on the remaining OCG’s. They selected HE 295 as they were all involved in teaching the course. This course had a lecture and a lab. However, the PE department taught the lab. Much the same process, as previously described, was followed, as the ACC continued to develop their skills in writing intended learning outcomes. They began with the intended outcomes, then identified the assessment tasks, and followed by the themes, concepts, issues and skills required for the course.

### **Summary**

The journey of the Health Education ACC involved moving from not knowing how to write intended learning outcomes to implementing the “design down” process with increased skills. However, they wanted a second attempt with the process in the group before they worked individually. Great effort was exerted

in each session to share ideas, and create a cooperative endeavor in this very diverse group. Care was taken to assure that no misunderstandings occurred, particularly when they worked with the PE department. Communication lines were established in the joint department session where individuals learned everyone was interested in a high quality class.

### **Interviews with Health Education Faculty**

From The Health Education ACC I selected three individuals to interview regarding their experience with the process of designing curriculum. The selection criteria were based on observation during the ACC meetings. One person contributed a lot to the discussion, one person talked an average amount, and one was quiet. In some ACC's, part-time faculty participated and were therefore interviewed. I did not interview any of the chairpersons of a ACC. To assist with confidentiality, each person was assigned a fictitious name. To provide context, the Gregorc style of the individuals interviewed for Health Education are: Albert's weak preference for CS; Nancy's preference for CR; and Helen's balance style between CS and AS.

### **A New Health Education Instructor**

Albert, a CS on the Gregorc Style Delineator, was a new full-time instructor at the community college, having gained his experience through a nonprofit health education organization and having taught as a part-time faculty member. In discussing the curriculum design process, he related, "The really important thing is

that the people who are teaching the course, the same course, can brainstorm and run things by each other during the course.” Albert said, “Today this didn’t work, or how would you do that” (HEint1, 2)? He found talking with people very helpful. Later in the discussion, he related, “I copied some of Zelda’s [ideas] and shared some of mine with her so the process was good” (HEint1, 5).

In re-designing a course that had not been taught for ten or twelve years, Albert said,

First, I took a look at the old syllabus from 10 or 12 years ago and obviously public health has changed and changes all the time. But I talked with Zelda and Otto and said, ‘What worked well back when you did it?’ So we met a couple of times informally and talked our way through... So I was able to take the pieces that were good. I tweaked them a little bit and put [in] those pieces of service learning”... I took a look at current books that were out there in the field. That wasn’t too hard of a process for me to find what text I was comfortable with [and] to do that review... What I wanted to do is say, ‘OK, who is going to be taking this course?’ I think the target is going to be people that are just interested in current issues and taking this as an elective for the transfer degree or folks that are going to be involved in community health... (HEint1, 3)

Then the next step well, how do we make this relevant to the issues?... I think that’s where my strength is, being involved in community health for 20 odd years. What are the issues we are going to discuss and who’s going to discuss them... it’s more interactive, has service learning plus representative from organizations and people that have worked with current community issues come in and talk and we could have a forum. We will probably have a forum once a week on average. (HEint1, 4)

In talking about the other classes that he was teaching, Albert commented,

I’ve taught mostly at night for a number of years. The class makeup is different. I hadn’t taught full time before so a lot of it was a process of learning every term, learning students, learning about what their needs are and kind of what to expect. What kind of level they’re at. And I found that there are all sorts of levels. (HEint1, 5)

Albert was happy with the new emphasis on using outcomes for designing curriculum.

I think it's a good communication tool and a good check to see where you're really going... In the end, what do we want students to have a knowledge base of?... It's not only a good communicator for students, but a double check for us as instructors. Are we on target? (HEint1, 1)

### **A Part-time Faculty Member**

Nancy, a CR and a AS on the Gregorc, teaches part time in two different departments of the college. In addition to Health Education, she also teaches communication classes and team building classes for customized workforce training. She has extensive experience in health education organizations coordinating and delivering training programs.

In discussing the process of working as a curriculum group to develop the outcomes for one of the classes she teaches, Nancy said,

What was nice, is that we had the discussion at the ACC meetings. We found new and better ways to do things... So I think the process was really good. It created consistency. I think it will create consistency with all the instructors. I think it creates more relevancy in what, why, and how we're teaching it. (HEint2, 3)

Nancy went on to explain about the contrast between designing short 2 to 2 ½ hour classes and a 30-hour course.

I was excited about it, and I got a course content guide, a syllabus, and the textbook, and they said go ahead and teach the material... The feeling I got was you can teach it however you want, but you got to cover this. (HEint2, 3)

Nancy discussed the issue of standards for the class or student level.

I don't know if the content is too high of a level, but the students are

not prepared for HE 295 class. HE 295 level class infers that you've had writing 121, that you can put together a basic paper, how to write a paper and put together a report. And I get students in there all the time that can not do that. They can not even write a basic report... (HEint2, 4)

She was concerned with student success and shared her frustration with having unprepared students in class.

### **Full-time Faculty Teaching at Several Campuses**

As the college had three campuses and five other centers, some of the faculty taught more than ten miles from each other. Helen has taught several different health education classes at two of the three campuses. Helen described her process of designing a course as:

The first thing I do is I read ...the course description. What is the course suppose to do and then I look at the topics that I an suppose to cover officially, and I make sure that I cover the topics that are suppose to be covered... Then I reference myself, so that will bring us back to the course description, and I wonder if everything that the course is suppose to teach I feel is covered in the course description, to see if something is lacking" (HEint3, 1)... As I went along each term I would make changes based on whether I thought that worked or didn't work or didn't really cover the material... based on what the course was theoretically suppose to be. (HEint3, 2).

Helen continued by explaining that the student population was different in the day classes than in the evening classes, and also a difference between the campuses.

I taught nighttime, I taught day and night at SE; I taught day and night at C and I've taught during the night at RC. It's an entirely different student population day and night and also different student population depending on which campus it is... So to make it relevant to the population, I have to tweak it a little bit. So, it makes a difference based on the racial mix, the age groups... This is

theoretically a course for a college student, second year. That's theoretically a student who is 19, 20 years old. [The] students are in their 50's, so I think the text is a little insulting to them. It's not very meaningful (HEint3, 3).

Helen expressed concern for the relevancy of the material and textbook for some of the students in her classes. She continued to explain how she designed her classes.

I look back on the courses that I took as a student and structured the course based on what I thought were good courses. Not just the material I would include, but how I would adjust the grading scale. I try to be the instructor that I would have wanted to have. (HEint3, 3)

In explaining her first introduction to designing an outcome-based curriculum, Helen talked about a new faculty institute she attended at the community college the previous September. Annie, the facilitator,

was so clear, she explained it so well. After talking and listening to her I re-arranged my entire syllabus...for both classes. And it was just a disaster because I tried to make too many changes all at once... I tried to change the assignments and develop new assignments that were more outcomes-based (HEint3, 3).

Helen continued to explain how she made changes in her assignments to correct some of the problems she encountered fall term.

... I required everyone to do a group project and I just didn't go over it...It went over like a lead balloon, because some people wanted to do a group but then those that didn't want to, didn't have an alternative... So now what I do is let them do either [a term paper or a group project]...They have a choice... And then I fine-tuned the process a little bit more. (HEint3, 4)



Student feedback and the student population exerted a major influence on Helen's planning process.

So I guess just looking at the student's feedback and how well they seem to do and what the population is. I have made modifications to the way I structure the assignments to make it more effective. What I've tried not to do is cut material. I'm under a lot of pressure to do that. (HEint3, 5)

In discussing the type of help she had received as a newer faculty member, Helen said, "I still am a little bit in a vacuum, because I'm the only health person at RC, I'm the only health person at C" (HEint3, 5). Helen continued to explain her initial experiences in teaching at one of the centers and the isolation from the faculty and course content at the campuses. Without a mentor, Helen was on her own to develop her own assessment methods. Helen explained a technique she had developed to more fairly assess a student's understanding of the subject.

One thing I do is incorporate essay questions in [the test] although I think writing an in-class essay is a real skill someone should have. The reality of the situation is these students can't do it, so what I'll do is give them an essay question and I'll say okay this is the test question, but I want you to take it home and I'm giving you 15 minutes in class to do this. I want you to do it at home, but... I expect you to type it and spell check it and all that stuff so you can use your book or whatever... I'm giving it to you to take home, I don't want you to write 5 pages, and I want 15 minutes of material. I just want it organized and nice. (HEint3, 10)

### **Summary**

The Health Education ACC addressed the issue of writing an outcomes-based curriculum from the perspective of what they knew and were familiar with as a student and teacher. The facilitator worked at teaching the group how to think

from a learning outcomes perspective. The group started with developing three intended learning outcomes for the course, then moved to discussing appropriate assessment tools. Next, they identified necessary skills, and, finally, identified the themes, issues and concepts that needed to be incorporated. By cooperatively designing a second course, the ACC members continued to practice their newly developing skills of thinking differently about designing curriculum. Outcomes-based planning provided structure and a good check for students and instructors to see where they were going.

## SOCIOLOGY

### **Description of the Sociology ACC**

I began observing the Sociology ACC in November 1999. At that time the committee consisted of three full-time faculty members, two members who had a job shared, and a secretary who took minutes and handled the paper work. The department was short one full-time faculty member, so there was several part-time faculty members in the department, but they did not participate in the curriculum committee meetings. The Sociology ACC consisted of relatively new faculty, with five members hired in the last five years. Only one of the members had been with the college longer than five years. Another new faculty member was to be hired to fill a position that had been covered by part-time instructors. Also, there was reference to another faculty member who did not participate in the ACC meetings. The Chairperson, who planned the agenda and kept the meeting on track, facilitated

the ACC meetings. The meetings met at different campuses to accommodate the faculty members and to share the logistics of driving to different locations.

My observations began after the faculty was partially trained in writing outcome-based curriculum. The Sociology ACC had been working on the development of outcome-based OCG for six months. As the committee worked on the curriculum for different courses, the facilitator, who was a member of the sociology department, continued to develop the skills and knowledge of the faculty.

### **Description of the Participants**

Each faculty member completed a questionnaire and took the Gregorc Style Delineator. The Sociology faculty was similar in their Gregorc Mind Styles with a preference for random ordering. Most of the committee's preferred style was concrete, though one was abstract. This person, who was AR, brought her strength of caring for others so that communications was not affected by the style differences. The members were highly educated, with four faculty members having a Ph D and one having a MS degree. The faculty members' extensive teaching experience ranged from three to eighteen years. Several members of this committee had training in writing curriculum. The group read a wide variety of materials and had a variety of life experiences that enriched their teaching.

The Gregorc Style Delineator illuminated the Sociology ACC's similarity in style that made identifying unique patterns easily apparent. In the area of thought processes, CR individuals were intuitive, instinctive, and independent. These characteristics helped the group sense where others were in the process of

developing the OCG's, since they appeared to jump (randomly) from topic to topic. However, as they all processed by the same method, it was not a problem. The members were comfortable working independently on developing the guides and then coming together to share their work and make suggestions. The group shared teaching suggestions as well as books and videos that they found effective. As the majority of the group was CR, looking at the big picture was natural. They wanted to create long-range plans and offer classes in other formats to see if this would

<b>Frame of Reference</b>	<b>Abstract Random (AR)</b>	<b>Concrete Random (CR)</b>
<b>Thinking Process</b>	Holistic, creative perceptive,	Intuitive, instinctive, independent
<b>Focus of Attention</b>	Caring, empathic, relationships, cooperative	Applications, methods, processes
<b>Ordering Ability</b>	Random web-like and multi-dimensional	Random three-dimensional patterns
<b>Learner Characteristics</b>	Variable ways of learning, work together, relate parts to whole	Use insights to find "big Picture; create new ideas, approaches, and products

Table 4.2 Sociology Gregorc Characteristics. Adapted from Gregorc, 1982 and Gregorc, 1997.

better meet the needs of students. Other formats included offering classes on the weekends, on a Monday, Wednesday instead of a Monday, Wednesday, Friday, and during the summer term.

The committee members consistently exhibited CR learner characteristics in looking at new ideas and approaches. They discussed new textbooks in detail. Other than the time constraint of selecting a new textbook in the middle of an academic year, new textbooks were viewed as a great opportunity to try new ideas. Designing the curriculum from an outcome perspective made “sense” to them in trying a new approach to help students apply sociology to their lives. These CR processors looked at the big picture, and then were willing to create new ideas, approaches and products.

### **Stage of Curriculum Development**

At the beginning of this study, the Sociology ACC was in the process of negotiating and revising changes they had already proposed. As was evident in the curriculum development interviews, some of the members were still content-focused. However, as a group, the members had made the transition to thinking first about the intended learning outcomes, and designing their instruction from the perspective of what they want students to do with what they know when they leave the classroom. The committee reviewed the drafts and negotiated changes in the OCG's and moved on to talking about connecting with other disciplines in the planning process. As this ACC was further along in their OCG development, they were addressing the issues of formal course descriptions, handling textbook recommendations, preparing the curriculum document for submission and scheduling of classes logistics.

The following diagram, Figure 4.3, summarizes the order and flow of two planning events I observed. The numbers on the right side of the chart track the first part of the curriculum work, while the numbers on the left represent a later process. Both processes are labeled in the body of the conversation with the numbers in brackets. The diagram shows the four steps in the outcomes-based curriculum. It appears to be a backward process beginning on the far right with intended outcomes. The Sociology curriculum committee was in the process of negotiating and revising the changes they had already proposed.

## Tracking the Process

### Sociology ACC

### Course Planning Process

### Outcomes Framework

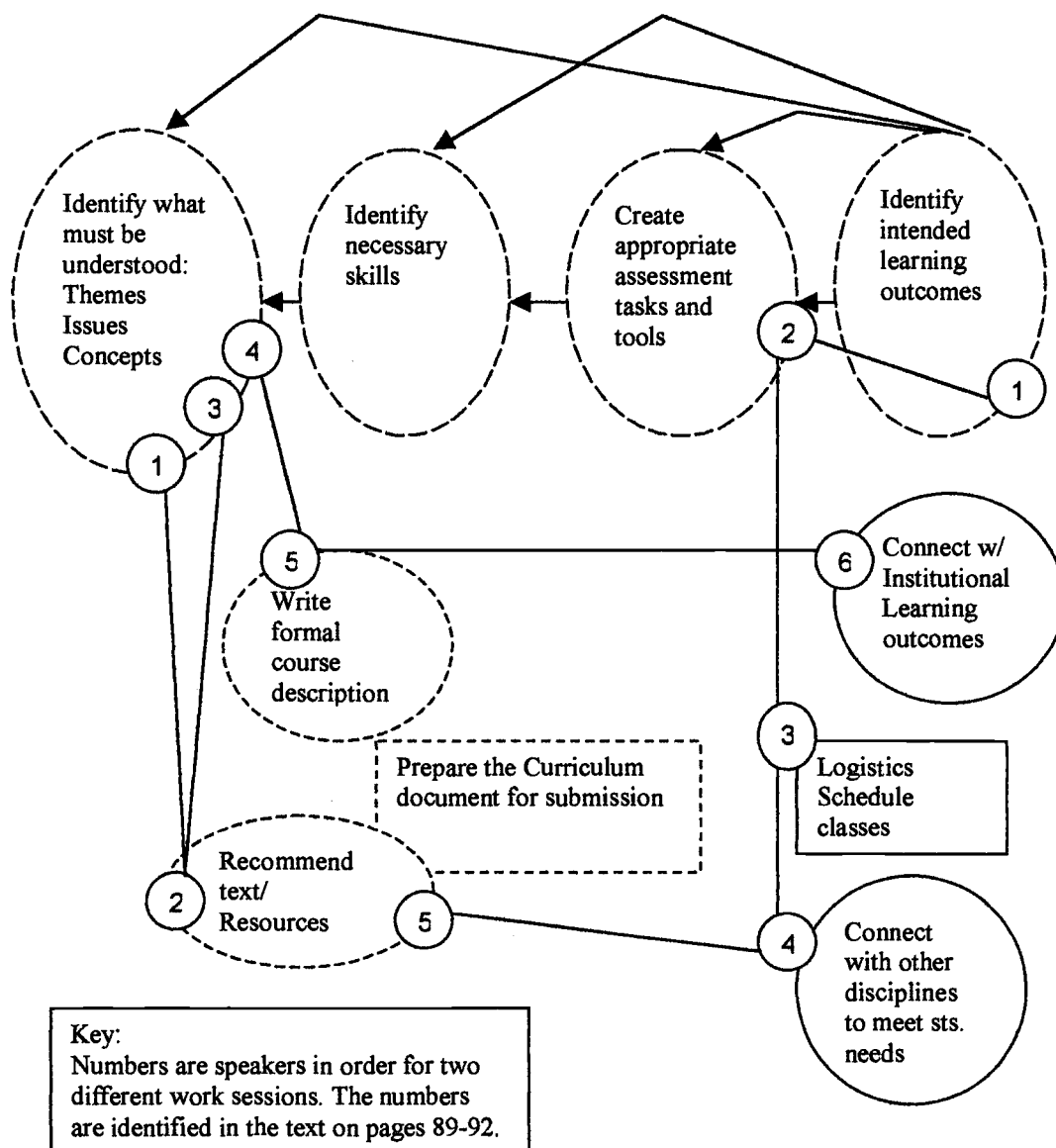


Figure 4.3 Sociology Course Planning Process

### Tracking the Process

The initial discussion in the November 1999 meeting concerned a member who was not present, but had left the previous meeting angry. The group, sitting in student desks arranged in a circle, expressed their concerns. The ACC chairperson responded, "To meet ACC needs, we're asked to do more and more and to have no more extra time in which to do the work" (SOC1, 1).

Mary Sue expressed concern, "I would like to re-visit the S thing. Did everyone see the note? Lots of anger. I don't know the history. Just so we can all work together, I would like to resolve the past issues and then move on..." (SOC1, 4). The ACC chairperson replied,

I will respond. She should have her say on SOC 218. I think she should have her say on all the OCG's. There seems to be more expectations than in the past. It's more of an institutionalized function.... Maybe we need one workday per term. So we can address how we want to do that [OCG's]. There are few enough not to meet only once [a term]. We need to meet as a ACC, not as a campus, since we want to work on a course model. I'll send it her way, then we can approve them at the winter meeting. (SOC1, 4)

Norma suggested, "With e-mail it's possible to do it that way and get approval" (SOC1, 4).

The committee moved to looking at the OCG's for Soc 204, 205, and 206. Norma started the discussion,

The course descriptions are problematic. We can handle the corrections by e-mail. Let's divide them up with someone to take each one. We need to look at the descriptions that convey the course content. In Soc 206, what do we do? This needs to be a ACC product. We see the course as a social problem course. We could change it every year. This is the new one [OCG] with all the



suggestions. Still, it has not changed to social problems. We agreed at the last meeting (SOC1, 4-5).

Moving to an outcome-based course content curriculum guide created some transitional issues. Wynne commented, “We’ve lost something between the CCG and the OCG. There was special information for the faculty, including the approved text and the ISBN No. These, we had to update and it made it easy” (SOC1, 5). The committee, like Health Education, wanted specific details in the OCG as to textbooks and course expectations.

The committee moved on to the next course, after verifying that the OCG’s for SOC 204, and 205 had been approved by the committee. The ACC chairperson, Wynne, suggested, “Now on to Sociology 228.” The committee read the OCG and then asked clarifying questions. Wynne asked, “Environmental infrastructure? Is that ecology” (SOC1, 6)?

Norma asked, “Different instructors emphasize different things. How much detail do we want” (SOC1, 6)?

Wynne commented,

I just don’t know how your course flows... Then there are two others that I’m not seeing, institutional recycling, and the other term maybe under globalization. This is like a token issue of the global issue. I don’t know how you include that. Is it included as a global issue? (SOC1, 7) [1]

The discussion continued as the committee worked to refine the OCG. Wynne suggested, “Some of this is closer to a syllabus than a OCG. [We] need to generalize the way you run the course, but not the way that everyone needs to run the course” (SOC1, 7).

Norma suggested,

You're asking them to do more and act. You want them to see environmental sociology and analyze and understand the whole area of environmental debate. This makes the student an actor and not the receptor. Outcomes demonstrate. (SOC1, 7)

Mary Sue was receptive to the suggestions and said she would redo the OCG, taking into account the suggestions.

Norma continued, "It should flow. You want them to do this out in the real world. It's like a trial balloon. So they will do it out there" (SOC1, 8).

Mary Sue replied, "I will revise the OCG using the right format" (SOC1, 9).

The next CCG to be revised by the committee was for a newer, evolving course on gerontology. In explaining the course, Norma commented, "The content covers issues that cut across all ages. Most focus on social policies, but we focus on experiences of people who are aging."

After reading the OCG's, Wynne asked, "Do you do anything from a cross-cultural perspective?" (SOC1, 11).

Norma replied, "I had this very detailed and then I cut it out [of the OCG]." The discussion continued with suggestions for interesting textbooks. [2] (The bracketed number tracks the course planning process on Figure 4.3.) Norma replied, "I should make it more explicit" (SOC1, 12).

As the committee discussed each course, information was exchanged on issues covered in that specific course. On the next course, Norma commented, "The main points focus on program and policies in the field. [3] But one big trend

is intergenerational programs... a huge area of cumulative disadvantage. I left that out.” (SOC1, 12).

Wynne added, “A lot of social power is not from the extreme elderly. The power block is in the independent middle-class older people” (SOC1, 12).

Norma supported the idea by saying, “Most of the people working with frail elderly are newly retired people. Most of the reform efforts benefit men. The women are in the worst position” (SOC1, 12).

“Do you talk about laws, too?” Zeb asked (SOC1, 13).

Mary Sue added to the discussion, “Students are shocked when talking about the elderly” (SOC 1, 13). Through the process of sharing the OCG’s, the faculty learned about the content and issues of the courses as they checked to ensure all issues were covered. [4]

Accurate course descriptions challenged the ACC to do some word-smithing. Mary Sue remarked,

I did have a couple of suggestions for changes on the new course description. On the second line it should read, ‘The focus is on individuals and groups and how they are shaped by their social location (status, role, race, class, sex and age) structure of society that created those locations (stratification, social institutions, groups and organizations), and processes that shape lives (culture, socialization and group interaction).’ (SOC2, 5).

The ACC members each made suggestions until the wording was acceptable to everyone. Finally, the new course description that would appear in the college catalogue and the schedule of classes read as follows:

‘The focus is on individuals and groups and how they are shaped by

their social location (status, role, race, class, sex and age) in society's structure that created those locations (stratification, social institutions, groups and organizations), and by such processes as socialization and group interaction' (SOC2, 6). [5]

With the development of acceptable wording, two courses were left that required committee discussion. Mary Sue suggested, "I'll send it by e-mail"(SOC2, 6). Later, through the e-mail, the course descriptions were modified.

Outcomes also apply to the college as an institution. Wynne brought up this topic: "When we are looking at program outcomes, we may look at retention, specific things we want them [students] to come out with as well" (SOC2, 13).

Lucy asked, "Aren't we to approach the college outcomes and mission? (SOC2, 13). Norma filled in the details, [6]

I'm on the campus assessment committee. There is a good draft on service/civic learning. In the ideal institution, students come in and all of the courses tie into core outcomes such as writing and research. Now, talking about transfer students, there are skills you will acquire so there must be some form of uniformity. It will help us get around prerequisites. Students will get skills reinforced. In addition to tying it to a course, it will include writing, critical thinking and other core outcomes (SOC2, 13-14.)

### **Refining Outcomes**

The discussion moved to outcomes for the next course discussed. Mary Sue commented, "As an outcome suggestion, we need to focus on three outcomes. I didn't know we had that many" (SOC2, 7). [1] The OCG had six outcomes listed.

Wynne responded, "I don't know how to shrink them. I guess I could join one and six... If you like, I can kind of compress these" (SOC2, 7).

Lucy suggested, "Maybe combine two and four" (SOC2, 7).

Later, the issue of outcomes surfaced again. Mary Sue asked, “Norma, is there a preferred number of outcomes?” (SOC2, 8).

Norma replied, “Outcomes should be comprehensive when pulling things together. They should be [also] global. They should be specific in skills and knowledge”(SOC2, 8). Through the discussion, the other members of the ACC increased their understanding of outcomes and arrived at three outcomes for the course.

Suggestions on writing the OCG led to ideas for assessing the outcomes of the course. [2] Norma commented, “Put in something to integrate what you see the students doing. It should be phrased in a more integrated way” (SOC1, 10).

Mary Sue remarked, “My big leap was moving from pop quizzes to take home” (SOC1, 11).

Don, added, “I’m also using take-home quizzes. That accommodates a lot of [student] needs, particularly with students with special needs” (SOC1, 11).

Norma further supported the idea, “I just call them worksheets. They really are successful” (SOC1, 11).

On the topic of assessment in another course, Mary Sue, said, “These are more skills (SOC1, 13).

To which Norma replied, “Yes, it requires them [the students] to integrate. I’ll expand, but the general idea is how they relate” (SOC1, 13).

As the committee worked, other issues emerged. Norma commented, “There is a strategic problem as we don’t do promotions [of the courses]. We offer

one course every term to about 20 students. [3] That way we don't compete with ourselves on enrollment of a class" (SOC1, 13).

Sandy added, "I've had some calls... shall I refer them to you"? (SOC1, 13).

Norma replied, "Yes, I think we need a full-time person to relate to the students. I'm interested in doing it.... I'd like to develop it [the gerontology course] and sit on the advisory board. I can talk to Marylhurst and Oregon State so it fits with other programs" (SOC1, 13). Working on the OCG's provided the opportunity for the faculty members to discuss other issues that would enhance the total program.

Another concern that surfaced involved textbooks. [5] Wynne asked, "Are you using the same text for both [classes]?" (SOC2, 9).

Norma commented, "I use half the text for one class and the other half for the other class. The field is developing so quickly that I have to supplement the material" (SOC2, 9).

Wynne observed, "What just struck me is, we need to specify that in the other classes... In Sociology 204 and 205, we're not covering the entire text in each class" (SOC2, 9). Use of textbooks became an issue that was clarified on all of the OCG's under a heading titled, 'recommended text'.

As the OCG's were developed, the discussion moved to scheduling of classes. A little frustrated, Norma commented, "We can't only plan from one term to the next. Then say next year, 'This is what and how classes will be offered'" (SOC2, 18).

Lucy replied, “Some components of the college do it [long-term planning], like the Workforce Training Centers” (SOC2, 18).

Norma responded, “We want liberal arts in this” (SOC2, 18).

Lucy commented, “Are we going to respond to educational reform? In terms of high school, advance placement and so on?” (SOC2, 18).

“How do you feel?” Mary Sue asked (SOC2, 18).

To which Lucy replied, “Ask me after this class with six high school students. Aren’t some of the outcomes related to this?” (SOC2, 18)...

Norma commented, “Students become very self-motivated and self-evaluating according to the standards” (SOC2, 18).

As the OCG’s were developed, the opportunity to dialogue with other areas emerged, along with concerns. Lucy asked, “What about criminal justice students? Can we get some information on their students”(SOC2, 15)? [Criminal justice students were required to take sociology classes, but with little exchange of program outcomes.]

Norma commented, “I had talked about talking to other programs and what would be the best fit. I was shocked when dental assisting required students to take one of the gerontology courses”(SOC2, 15).

Wrestling with the use of intended learning outcomes strengthens the process of developing the outcomes and addressing the issues of appropriateness. Talking through the issues helped the ACC members clarify the OCG’s. It also brought up additional issues that needed to be addressed, like scheduling, long-term

planning, talking to other departments, and meeting with universities to evolve a strong relevant program.

### **Interviews of Sociology Faculty**

In selecting the faculty members to interview, I selected one who taught only part-time daytime classes, one who was a long-term faculty member, and one full-time faculty member who spoke willingly during the meetings. All of the sociology ACC members contributed to the discussion, so identifying one that was quiet was impossible. To assist with confidentiality, each person was assigned an imaginary name.

#### **Part-Time Sociology Instructor**

Mary Sue, a AR on the Gregorc, had over four years of teaching experience, which included supervised teaching experience as a graduate assistant and then as an assistant instructor at a Midwestern university. That experience included “designing curriculum, designing syllabi, observing classes...and learning how to do all the grading” (SOCint1, 1). Mary Sue continued to explain that in her initial teaching, she “starting by borrowing from other faculty... looked at their syllabi, books, and their packets and then developed my own”(SOCint1, 1).

As a part-time faculty member teaching three classes each term, She did not feel she, “had much guidance... I needed to seek it out. Nobody came to me. I didn’t have an orientation. I really thought that was something that had to be done” (SOCint1, 2). She went on to explain that she was not included in the new faculty orientation because she was considered part-time. She had started her community



college teaching experience by teaching for Lucy while she was on sabbatical.

“She did give me some guidance, told me the books she used and then I designed my own syllabus... I used her videos and overheads...”(SOCint1, 3).

Mary Sue has the responsibility of designing and teaching a new course called Environmental Policy. To design the new course Mary Sue said,

I was reading a lot [on the topic] because I was doing Environmental Policy [for] my Ph.D. minor and I was trying to assess what I felt were the foundations of environmental sociology.... It's a new discipline.... So, I started to identify what are the key concepts I want to teach... what are the key theories and so I lay all that out....

Mary Sue continued to explain how she makes curriculum decisions in the process of designing a class.

I've always had it in my head as to what are the key concepts and inquires... I will go through my textbook. I'm going to choose what chapters I am going to use and it's organized. I organized it by looking at chapter 1. This is the theory and concept section. Chapter 2 is the research methods, so I am going to go through the book, based on a standard introduction to sociology.... I'm going to focus on the things that are really going to catch student's attention the most, with the most efficient use of time... I have an outline on the board... It helps me because that's how I think.... So I put my framework on the board. I organized my notes that way and then I fill in from my notes allowing time for discussion and allowing time for videos, etc. And I'm rather inflexible in terms of if we don't get through that material, next class we will start with that material, because it has to get in there. I'm pretty much straight forward. I tell a lot of anecdotes. I tell stories all the time. (SOCint1, 5-6)

Assessment is part of Mary Sue's curriculum design process.

I do two exams that are multiple choice, true and false, short answer and short essay... I just like the activity on the paper and then as much detail as they can give. I give partial credit.... I do two term papers... for my intro class so they have two choices. They can either analyze their socialization experience in their life or a time when they were deviant.... It's just an application of concepts and

theories. They are only five pages.... I do like to have quizzes. I do this as a take home. I want people to see what my questions look like and be able to assess themselves prior to exams.... I had them hang on to these and study them. I tell them, 'Assess yourself first, do your test on your own without the book and if you're finding that you're not understanding something, then you know you don't have the material in your head as well as you need to for the exam'... I also have a lot of homework assignments.... They are still little one-pagers, but more application type things. (SOCint1, 6-7)

Mary Sue exhibited concern for her students, not only through her organization of her material presentation, but also in her assessment. She commented, "That's another thing that makes me feel good, I have repeat students. Lots of times they take my classes again" (SOCint1, 7). Mary Sue continued to explain,

I also do surveys to figure out where students are in their training.... I want to know where they are in the sociology series? How many classes have they taken? How are they doing? Are they a first generation student? Are they going to need me for some support because they aren't getting it at home? Some of them are high school students. Can I help make their experience better? (SOC1, 7).

Mary Sue liked the move to outcome-based instruction as,

I think we are clearer as to what we are actually trying to gain... These are concepts I want them to learn, [and] these theories... It has helped me design my classes in terms [that] I am going to talk about... I [have] clarified assignments to students. Before I [would] just do it, but I didn't really say why... I haven't changed my assessment styles that much; I still feel those were pretty solid tests, homework, and papers, but I at least tell them a little bit more why I want them to do those things... By teaching the series class of 204-5-6... I really found these three in particular helped me to unite what I am actually trying to achieve and so develop a ... broader outline that... unites those three... [I] have students think about their own lives and analyze their own experiences and really get into their own micro-level type of application of material, and in the second class, I designed the class to be more outward thinking in terms of thinking about institutions and analyzing the family and economy and

themselves.... The third class is social problems. We are using material from other classes, but we are looking at [things] much more broadly now. We are looking at society, at specific issues, cause and effect. The paper I have them do is service learning (SOCint1, 1-2).

Mary Sue has found through the used of outcomes that her assignments and teaching are clearer and more unified.

### **An Experienced Sociology Instructor**

The next instructor I interviewed had over fifteen years of teaching experience. Lucy, a CR on the Gregorc, received her initial experience with curriculum development as a graduate student at a university fifteen years ago.

We would teach and then be shepherded by women faculty members... So in some ways we learned to do curriculum... under the wing of other faculty. We'd watch them or they would be guests in our classes [and watch] what we would teach as a group.... And in those days it was always done in groups so that you weren't intimidated to be the whole show. We approximately taught one course with maybe two other students that would be shepherded by this full time faculty member and the faculty member would really be the teacher of record. But we were allowed to design our own syllabi and run our own discussion groups (SOCint2, 1).

In curriculum change, Lucy felt that it needed to begin with informal assessment from the students, who are actually in your classroom. She conducted surveys of her students, as she believes you need to find, "where are the holes. So you do need the assessment for students and you need the assessment for industry and [you] need the assessment for your own curriculum" (SOCint2, 2). Part of the benefit was informal sharing and checking with other faculty. Lucy said she asked the following questions about students.

Do they seem to be younger? Are they significantly different than students that are here at night or on Tuesdays and Thursdays? Check out the demographics. I suppose some of us also look at the work force... to anticipate the needs of workers in the future (SOCint2, 2).

Also, Lucy attempted to incorporate activities in the curriculum that actively involve the student. "Service learning is a rerun for me. It's [been] called experiential education; it's been called coop education.... I was doing service learning all the time the college wasn't interested" (SOCint2, 3).

Lucy continued to explain the multifaceted process she uses in her strategy for change.

[I think] people [who] get emotionally engaged have fun, enjoy themselves, enjoy their peers, [and] learn more.... So I think some of the things I build in are for fun. I build in [activities] so they get to know each other and now they [researchers] are starting to show that those things really do matter.... They'll [the students] stay with you even if they don't always perform the best up front (SOCint2, 2).

The students that Lucy has in her class influence her curriculum design.

I'm finding though, as the students get younger and as they get ... more affluent, I'm seeing less of [service learning]. Because that's a younger population, it's a new group of students, now I have to take a look at how that curriculum is designed and how can I then encourage people to participate, how can I create service learning as part of my process (SOCint2, 3)?

In addressing the effects of outcome-based curriculum, Lucy said, "I think I'm much more hands on now than I had been in the past". Students need "some hands-on or they're not going to process it" (SOCint2, 4). Lucy went on to explain that the bulletin board posters were the result of a new textbook. She had asked the

students to research and develop posters to convey a message on current issues. As such, the bulletin boards in the classroom were covered with posters.

So, I was adamant about the textbook...It was the first time I really had confidence in sending students out...to do something practical. So a lot of it was in selecting the right vehicle that matched where I wanted to go with curriculum. I knew I needed to do something that was more hands-on. And I think once you start that you say, 'Oh, we can do this and we can do that' (SOCint2, 4-5).

Lucy explained that she, "looked more at education than at sociology because of my background and degree". She has been interested for a long time in student success and conducted her research in that area. "I think you're always influenced if you do something like ... a long-term research project. [I] listen to students more carefully" (SOCint2, 8). She has been successful in her endeavor, as she has just been recognized for her long-term work with students in the area of service learning.

### **Sociology Instructor's Insights**

The next sociology instructor has taught at the community college for five years. Prior to joining the college faculty, Norma had lived overseas for fifteen years. A CR on the Gregorc, she explained that when she began teaching she followed the old style course content guides and the textbook to design her curriculum. "Then I just evolved from there. Critical for me was taking the LOT I course. That made a lot of sense to me... This [outcomes-based planing] is the way you should do things with what you want to accomplish" (SOCint3, 2).

I branched out and started having more projects for the students, and less worried that I was covering the material. Using the [LOT I]

model, I was kind of following the content... You have to fit in all the material and go over all the topics... certain issues have to be covered... You have to give them some basis, build [a] knowledge base. Then I became a little more creative. I did a lot of innovative things because there wasn't a set thing. It was easier for me in that class, to define really clear goals that I wanted the students to realize... That's when I started... realizing that I could design, and you can be more creative with how you do the [curriculum]. [I had] a little more confidence in the process that the students would learn what they need... (SOCint3, 3).

Norma continued to explain that she then started to redesign all of her classes. "There are concepts you have to understand for Sociology, but this term or that term is not so critical. I would rather they get the idea, and process"... (SOCint 3, 3). Norma explained that she has been involved in designing a workbook for a textbook company that has influenced her assessment tools. As such, she designed worksheets that she might not have developed otherwise.

I've been using these worksheets, which are... the way you can determine what are the key concepts that you want the students to understand.... I don't have any tests... I give them weekly worksheets, that have to be completed when we do the weekly discussions so we don't have to go over the basics... I have them do these applications which are extending beyond applying a concept that they learned in one of the applications.... They have to apply the theories of socialization, agents of socialization, what we know about changes of people's behavior in designing their program.... I'll have them do a little bit of research and then they have to analyze what they've found on a particular topic, and sometimes that ties into some kind of a group thing that they do. I try to design those, so they are picking up their skills for the capstone project, which is a term project.... They look at the research and know how to critically analyze it, consider variables and answer that question. Once they answer that question, the second part of the paper is their response, what to do about it. How would you go about designing a program that would lessen the possibility... I try to encourage students to use [community] resources; otherwise the Internet is the place to find stuff like that... They have to give their paper to an outside reviewer that knows something [on the topic]... to get a real life feedback.

Then the exam, which is really fun, they come with their final project...and talk about what they come up with. [Topics such as] teen pregnancies [and] different approaches, [they] start having these really professional conversations...(SOCint3, 3-4).

When I can, in class, I get students together to compare notes and that helps students that say I can't find anything. I give students resource guides... I have to have the whole course done [at the beginning of the term]. I have to plan ahead and know what I want to do... as I'm going through the term, I'm spending less time on the direct preparation.... I have the study guides, I know what the students have to do and I'm winging it because I want to know what questions they have and I go in that direction and I emphasize what I think is going to be controversial or difficult...(SOCint3, 4).

Innovation and design of curriculum takes time. Norma has found that if you have students do written assignments, more grading time is required. "...I think we need to push people in the direction [that] more innovative curriculum takes more time. Either up front preparation or the work you do in giving feedback to students where they are more self-directed. It is a lot of work" (SOCint3, 5).

Norma found professional development helpful in thinking about curriculum in a new way. She also found getting the ACC together was important. "You get ideas from your colleagues and it also helps if you move your colleagues towards what you are doing" (SOCint3, 5). Norma observed that inservices are helpful and feels the college needs to continue to support innovation. In summarizing her process of curriculum design, she said,

... [The] 'design down' process is something I use it all the time, even when I'm thinking about a particular [idea]. If I want [the student] to learn, what do I have to do to get them to learn that? And I use that a lot... and then I always get student feedback on things [as to] what works and what doesn't work (SOCint3, 6).

## AUTOMOTIVE SERVICE TECHNOLOGY

### **Description of the ACC**

The Automotive Service Technology department consisted of only full time faculty members. The ACC meetings were scheduled in the afternoon because classes were offered in five-hour blocks beginning early in the morning. All of the classes were taught at one campus, so the faculty worked as a team on a daily basis. As I began observing the ACC, they were to apply the information on writing outcomes to the modules that each taught and have rewrites of these modules completed before Christmas. Another major project utilizing some of the same material was preparing for National Automotive Technicians Education Foundation (NATEF) certification, which took place in May 2000. The national certification demonstrated and provided recognition for the program as a quality automotive service technology program. The department also received certification from Automotive Service Repair Technology, and Automotive Service Education Program. These certifications were very important to the group.

Before the automotive technology department began work on learning outcomes, some of the faculty worked with the advisory group to develop an affinity diagram that identified the core skills that students needed to have by the time they completed the program. The affinity diagram formed the basis for the program outcomes. Next, the faculty held focus groups with students and developed a student survey, which was used in the spring of 1999. The results were interesting. Forty-nine percent of the students stated they “learn best with



their hands' in a 'structured environment (39.8%)'". In addition, 48.9% said they 'learn best in the afternoon.' The student survey provided a foundation from which to re-align the three-week modules. Many of the students, according to the survey, "have multiple barriers that need some adjustment to assist them in learning at their best." (AMSUV 1).<sup>2</sup>

### **Description of the Participants**

The Automotive Service Technology faculty, who had teaching experience ranging from two to twenty years, were similar in their Gregorc Mind Styles. They exhibited their preference for concreteness in a fairly even split between random and sequential processing with three CR and four CS. Being concrete means they prefer to deal with things in a hands-on way. This seems logical for individuals teaching automotive maintenance skills. All faculty had industry-based work experience and academic training.

Four of the faculty members exhibited a Gregorc style preference for concrete sequential (CS), which means they are methodical, instinctive and deliberate. CS focus easily on the material reality, in this case, automobiles. A sequential step-by-step progression was the method used to teach automotive maintenance.

The other half of the faculty was concrete random (CR). The CR preference makes sense, as working with automobiles required a methodical and deliberate

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<sup>2</sup> Citations, which follow quoted or paraphrased material from a survey, include the ACC initials, SUV for survey and page number. AMSUR 1 indicates automotive survey, page one.

approach to solving the problems of engines, transmissions, and other systems involved in making an automobile run smoothly. Instinctively, these

<b>Frame of Reference</b>	<b>Concrete Sequential (CS)</b>	<b>Concrete Random (CR)</b>
<b>Focus of Attention</b>	Material reality, physical objects,	Applications, methods, processes
<b>Ordering Ability</b>	Sequential step-by-step linear progression	Random three-dimensional patterns
<b>Learner Characteristics</b>	Patient, step-by-step directions, practical, concrete examples	Use insights to find "Big Picture"; create new ideas, approaches, and products

Table 4.3 Automotive Service Gregorc Characteristics, Adapted from Gregorc, 1982 and Gregorc, 1997.

individuals "know" where the problem exists. This combination of two different styles added strength to their planning process.

### **Stages of Curriculum Development**

When I began observing the automotive service technology ACC, they were just beginning to learn the new process. Outcome-based thinking was similar, but different from, the approach they had been using. Individuals worked on the actual creation of the draft of the new OCG's. Then, as the process evolved, the instructors got together and negotiated revising the OCG's. The faculty members met twice. Using a projector, they projected the OCG's on the screen so everyone

could see and make changes to then. The OCG's was based on the old CCG with the material reorganized.

The ACC felt some urgency to complete a OCG for all the classes by January, as they were preparing for their certification review. The new OCG's were to be part of the materials submitted.

The following Figure 4.4 graphically tracks the committee's conversation as the automotive faculty worked through the process. The circled numbers appeared as bracketed numbers in the text on pages 104-108. The committee is in the writing phase of curriculum planning but with a clear understanding of the demand for student performance.

### **Tracking the Process**

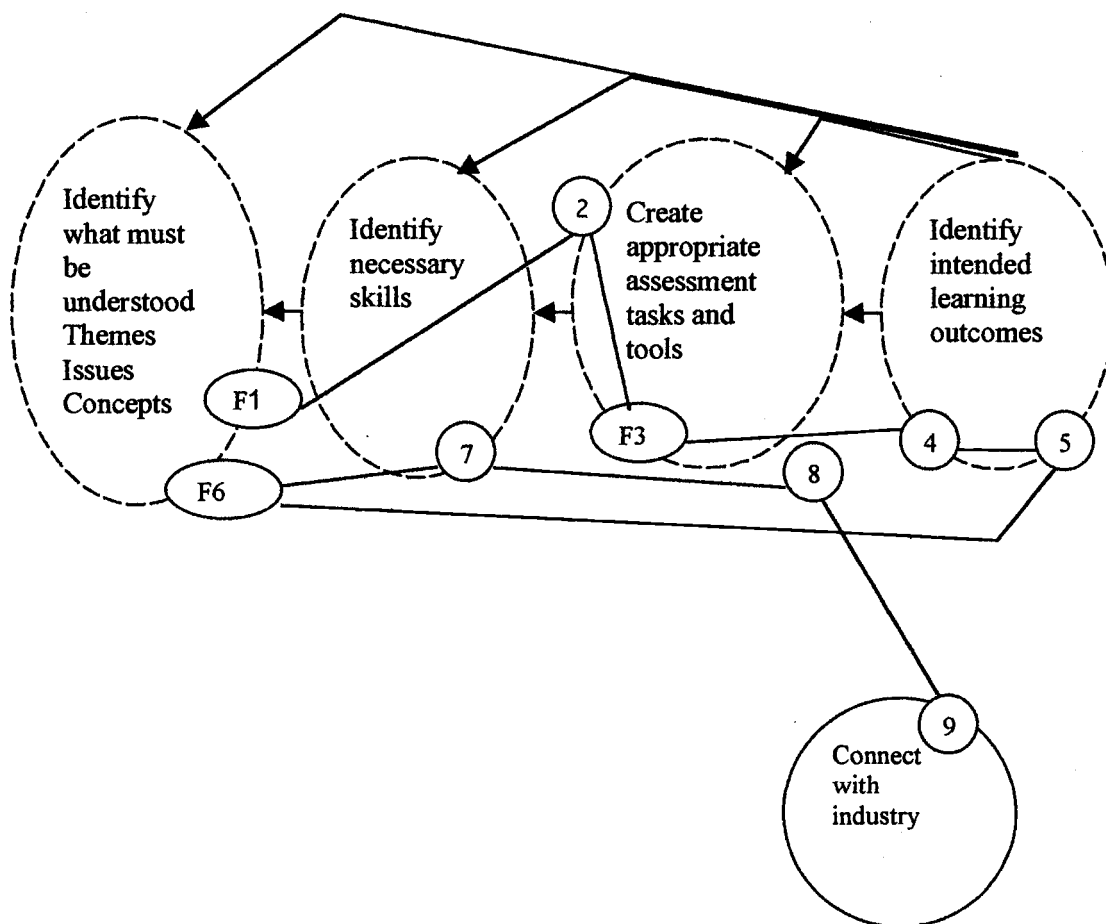
The Automotive ACC gathered frequently since they needed to also prepare for the certification review by NATEF in May 2000. The development of the outcomes helped in that review process. The facilitator began the training by passing out the survey, the general outcomes for the automotive group, and the outcome map guide. Using the overhead projector, the facilitator explained the process. "With the information on the [concept] map, now we need to get it into paragraph form" (AM1, 2). He provided a sample of a completed OCG for the Brake I class. [F1] "This is my take on how they should look. It needs some touching up and maybe it's a little too wordy... This is a tool for curriculum design. That's another thing that all of the NATEF requirements are included" (AM1, 2-3).

## Tracking the Process

### Automotive Service Technology ACC

#### Course Planning Process

#### Outcomes Framework



**Key:**

Numbers are speakers in order for a work session. The numbers are identified in the text, pages 104-108. "F" indicates the facilitator.

Figure 4.4 Automotive Service Course Planning Process

One faculty member asked, “Does this cover the embedded programs?” (AM1, 4).

The process of clarifying continued, “We must meet all requirements for this GMC course to be included in the course content outcome guide... You want to document them to get them to the GMC level... We need to get employers to start student work at a very high professional standard.” (AM1, 4)

The conversation moved to assessment. [2] “The students also need to maintain good attendance. If they show up on time and successfully do the work, aren’t they ready to successfully complete the course? I give the same written test and prepare for the ASE [test]” (AM1, 2).

The Automotive ACC decided that each faculty member would write the OCG’s separately for their courses and review them. The major issue was preparing for the NATEF certification visit. Without a good review, the program could lose its national certification. Preparation involved hours of work from the faculty.

Ted, chairperson for the visitation, explained the procedures involved in the preparation for the visit. He also reminded the faculty of the standards. “The people from NATEF are just checking what we are doing” (AM1, 6).

Sam inquires, “Should I give him a copy of the OCG to put in?” (AM1, 6).

“Yes” was the answer. Ted went on to explain, “These books need to be done by Thanksgiving. In January and February, the advisory committee can look at it. Then by spring we can revise it. Outcomes in the course content guides can be put in the book. We need to put in all 36 performances” (AM1, 7).

The ACC meetings often cover more than curriculum, such as missing equipment, general problem solving, and facilities management. The facilitator had collected most OCG's before the Christmas break. He stated, "I have a better idea. It's not that much different from what we are now all doing. Do the OCG's reflect what we are now doing? If you submit it to me, I will make changes and return them to you" (AM2, 4). Anxiety over the OCG's was still evident.

Sam said, "The ones I looked at on the Web were shorter. They were two pages, not five pages" (AM2, 4).

The facilitator replied, "Ted's were pretty long" (AM2, 4).

Sam responded, "I'll just use the form on the Web" (AM2, 4).

The facilitator again reminded them that they needed two to three outcomes per class as well as assessments, concepts, themes, issues, and skills (AM2, 4).

Sam inquired, "Can we talk about assessment?" (AM2, 4).

To which the facilitator replied,

Assessment is how you gauge if it is professional. It needs to be broken down as to what you can see. Maybe we want to rely on a written test. It doesn't have to prove that they are technicians (AM2, 5). [F3]

The committee continued to discuss outcomes, with the facilitator making the following suggestions.

We can use a broad statement, such as, 'when a student performs a trans-axle... We already have outcomes. [F4] The hard ones are for initial or pre-classes like 7. They need to do the basic work for preparation for the next class, which is 17. 'The students will perform rear and front wheel drive overhaul.' (AM2, 6). [F5]

Owen continued clarifying outcomes, “[Modules] 27 and 37? All outcomes for each of these?”

The facilitator suggested, “The area starts with the bottom line. Then go to [modules] 3, 9, 13, and 19 which are all part of that.”

Owen replied, “These are pieces of this and that.”

To which the facilitator remarked, “They have to have [modules] 1, 6, and 12 to even start.” [F6]

Ben inquired, “Where does [module] 12 fit in?”

The facilitator responded, “It’s a prerequisite for [modules] 43 and 53” (AM2, 6). The discussion continued as the committee tried to understand and clarify how to write outcomes for the different three-week modules.

The facilitator suggested, “Don’t retype, just cut and paste. I used almost all the same examples for one and two on brakes [as on the CCG}. In Brakes I, it went really fast, then there were more details. ‘Students will develop...’ or ‘Students will apply...’” (AM2, 7). [F7]

A question followed, “Can we say ‘with supervision’ and ‘limited supervision’”. The facilitator replied, “In Brakes I, it’s with constant supervision, while in Brakes II it’s with limited supervision” (AM2, 7).

The discussion moved to related topics such as grading, student preparation and student drop out and completion rates. Preparation and demands by the industry influences the discussion on standards and the need for students to earn a certificate even if they do not earn an associate degree. [8]

The Automotive service technology ACC later got together to refine and develop agreement on the different OCG's. This process required two meetings, which also helped in preparation for the May visitation of the NATEF review committee.

### **Faculty Interviews**

The faculty interview selection was based on ACC meeting participation. I selected one faculty member who was quiet or didn't speak, one who talked some, and a third who was actively involved in the meetings.

#### **A New Instructor's Experience**

Owen, a CR on the Gregorc, is a newer instructor with fifteen years of industrial experience, plus experience as a student in the program. The first year of his experience, he looked at the existing curriculum and just repeated it. Now he says, "I've gone through the learning curve... Coming from industry, I have a good sense of [what] the students need to be able to do when they leave here... I've thrown out large sections of stuff or gone through it quickly or in a different way or emphasized different things" (Amint1, 2). He went on to explain that previously the class was 60 to 70% lecture and 30 to 40% lab.

I sat through that; I was bored, especially coming from industry. I tried to teach it that way and I couldn't, so I made a lot of changes... The way I'm currently doing it is that I still cover the same material and lecture, but I do it more concisely, get to the point. I give them something to do. They usually don't have questions in the lecture anyway. They are glazed over... They are not a good audience for a lecture anyway... I changed it from working with a partner to working individually... They all have to do their own work... That



was a lot in itself, because you have to have twice as many [engines] and twice as many stations... I've been going to instruction where they have to put the engine together [and] make it run (AMint1, 2).

Owen continued to explain the problems involved with needing six or seven year old engines without the sophisticated electronic parts, if beginning students were to get the engines to run. "It makes it more exciting for the students when they fire one up. They are about this high off the ground" (AMint1, 2).

Owen later explained that the changes in the three-week modules freed up more time to teach additional material.

"So I ... have them do a second engine as time permitted. Sometimes by themselves, sometimes with a partner... I just say, '... You can work together if you have problems', so that gives them teamwork as a concept (AMint1, 3).

Owen explained that he added compression testing and battery leakage testing, which are a couple of tests to evaluate the condition of an engine.

It fits right in because it's ... diagnosing... Still... if they get through that I'll show them how to grind valves. They'll probably never do it but it gives them an insight into what goes wrong..." (AMint1, 4).

With redesigning his curriculum, Owen found time to add additional teaching experiences while increasing the students' excitement for learning.

In talking about his experiences in designing curriculum, Owen said he asked an experienced faculty member if he thought his ideas would work. After receiving an affirmative answer, Owen tried working with the students to run their engines for a short period of time, since there is currently no cooling device. "I should be able to hook up a cooling system to these engines and then I can run

them for extended periods of time so they [the students] could fine-tune them” (AMint1, 5).

Owen explained that the assessment for the class was more than just making the engines run.

“Part of it is traditional testing that was always done here. Which I think is a good outcome to have because their ASE testing and most of the employers want to have their employees ASE certified. So our test prepares them for that... I try to cover that type of material in the lecture presentation part of the class. In addition to the tests, they have quite a bit of homework to do. Reading and stuff (AMint1, 7).

(I visited the lab and saw the mounted engines. Very proud students had painted three engines as the instructor had explained.)

### **A More Experienced Instructor**

Sam, a CR on the Gregorc, entered teaching automotive classes after she had earned a Bachelor’s degree in communications and agriculture. After working in the area of agricultural equipment, she attended the community college in agricultural mechanics. When she began teaching, she had a retired female automotive instructor as a mentor. “She was very helpful.” And from her experience, Sam designed the curriculum.

I knew from my perspective what worked for me... I knew the frustration of my fellow students when I was going through the program... I’ve always tried to take the curriculum writing from that point of view... Some of this stuff can be complex because of the electronics and there’s a lot of physics in cars. Everything in a car runs off of physics... You can take this stuff and break it down into what we call applied physics... You’re going to learn about heat transfer... in an air conditioning class... I think students can identify with those. So if you can incorporate a more simplistic way of this

physics stuff into worksheets, lab worksheets... They don't want to sit in a physics class and learn physics for physics' sake or math for math's sake. (AMint2, 4)

According to Sam, updating curriculum is less complicated than it first might appear as "in a lot of cases the basics are the same." When there were new systems she explained the process.

For example, when airbags first came out you have to... start from scratch and decide from a lecture point how much of this do the students need to know... [I] make a lab sheet that really reflects what they are going to be doing in the work world... The first thing they have to do... is learn how the system operates... Later on we will get into the diagnostic end... This class even though it's a beginning class, we bug systems. I put problems in systems and they have to [find them]. (AMint2, 6)

Sam related wiring schematics to a road map, so those students can transfer information about maps and symbols to reading diagrams on automotive systems.

I'm one of those who doesn't like to lecture too much, because after an hour it's like sitting in church... They don't know what to ask yet. The questions aren't going to come until they have their hands on whatever it is we're studying... I try and keep the lectures to the bare bones minimum and sometimes I will put them off and say, 'Let's wait until you've gone through the worksheet...' They might answer the question themselves. I would rather have them discover the answer than me giving it (AMint2, 7).

Sam uses questioning as a method to help the students find the answers themselves. She went on to explain, "I want [them] to know how to go seek the information out." The department has technical information in books and CD's as well as technical service bulletins that the student use as references. There are computers in all classrooms and "six in the engine pen and a couple in the parts

room.” For a new or unusual situation, the Internet can also be used as a source of information.

Sam explained that, with much of the experience in teaching and designing curriculum, she

...ended up doing it at the seat of your pants and you get better as the years go by... I had a new worksheet this module and I tried it and my students became guinea pigs... Then you end up tweaking things. I even tell my student, ‘This is a new worksheet, let me know what’s working and what’s not working and we will adjust it.’ (AMint2, 7-8)

In an automotive class, learning and skill attainment are assessed through several different methods. Sam shared that the students had homework, tests and class participation. However it was

...almost an exclusively diagnostic class. They have X amounts of diagnostic projects they have to do... The majority of those problems are problems I’ve created in cars. So that way it makes it easier on the teacher when you have problems under your control... I need to know what the problems are to help the learning process (AMint2, 8).

In assessing the students’ understanding of the concepts, Sam asked, “Can they figure out what’s wrong?... What it comes down to at least in this field. It’s either you know it or you don’t, and even if you don’t know it, you know how to access the information so you can figure it out” (AMint2, 8-9).

Curriculum design and redevelopment had been a cooperative effort.

A lot of times we feed off of each other [teachers]... Nathan and I a few years back rewrote most of all the signal electrical class curriculum. He would feed me the ideas and discuss it and I would type up the worksheet. For three weeks we did a team teaching things and we said, ‘Let’s just get in here and redo all this.’ Since then I’ve redone some... We were trying it out and said. ‘This

worked and this doesn't work'... I'll think, this just isn't coming together, and what am I trying to get them to figure out? I'll run it by somebody else and say, 'What am I looking for here.' (AMint2, 10)

Sam went on to explain that there was

none of this territorial turf because everybody has a vested interest, since in the car all these systems relate to each other... It's really in everybody's interest to help when they can whether it's a test question or something... If the transmission is acting up it may not be a transmission problem at all. It may be another system that somebody else has taught, so it's in everybody's best interest (AMint2, 10).

Improving the curriculum or working to teach effectively, becomes a team issue with everyone contributing. "The end product involves all these pieces of everybody's curriculum" (AMint2, 10).

Sam stressed again her concern for the students and how important it was to get the students involved with the "doing".

I had two students stay after for 1 ½ hours and I could see that the questions they were asking me, that something wasn't clicking and I knew if it wasn't clicking for them it wasn't clicking for these other guys. So we backed up today and for the first hour I did a hands on demo here and I gave them handouts and would follow along (AMint2, 11).

### **An Experienced Automotive Instructor**

Ted, a CS on the Gregorc, has extensive experience in teaching automotive repair, having first gained expertise as a technician. He explained that the automotive classes were taught in three-week modules with five hours of instruction per day. The program follows an open-entry design with students starting in the program each term and taking a two-year sequence of modules.

Terminology is descriptive to the industry, such as, “‘dead’ means that none of this [work] is customer work” (AMint3, 1). Beginning students also have to learn new terminology. Ted expressed his concern for the students. He found that, “our students’ attention span is poor” which he attributed to “too much TV and computer.” He went on to observe that, today, very few students have much outside experience working on cars.

As the auto industry has become more complicated, Ted feels frustration with the squeeze of time,

We only have two years to make them employable... Where it becomes a real question on how much lecturing we do, because that sort of thing takes more lecture time to explain hands-on. But, if you spend so much time lecturing, they don’t have the hands on and then when they go out into the trade they are learning that at their job site and that doesn’t work because the job demands production. (AMint3, 2)

Ted observed that in curriculum design,

We have always felt that automotive has been outcome-based. We have always had performances and performance based on an outcome-base... For instance, we have to make sure that the students can properly know and explain how a one-way clutch works. And I have to sign it off... So, this is an area where I can’t have him just take a test. I have to physically see them, because if they put it in backwards the transmission won’t work... (AMint3, 3).

Ted continued to explain the process in teaching transmissions.

They do all these steps just to get the one [transmission] done. They are complicated... Now they have to complete three in three weeks... One GM, and one Ford, and one Chrysler... I’ve had to look at the student and I’ve had to look at what industry wants and then I had to come up with something time wise.... In addition to assembling the transmission, they have to tell me what I call the power flow of first, second, third, and reverse and that is how the gears move in it (AMint3, 4).

As the student becomes more experienced, the classroom work transitions to “live customers” vehicles. “I need for them to really take their time and so they only have to do two instead of three” (AMint3, 4). However, the student has to remove the transmission from the car and then reinstall it.

Ted went on to explain that he redesigned the curriculum after volunteering for a couple of weeks in a transmission shop during the summer. “I would help them on some of the new stuff... but also, I was learning how fast they could do the stuff, and then it made it nice so I can see what was expected of my students when they go there” (AMint3, 5).

Ted has taken on the major role in preparing the department for re-certification by NATEF. The certification is extremely important for the recognition of a high quality department. The two-step process began with the local advisory board to determine if the department was prepared and the second visit, met with eight individuals from industry to review the course contents and outcomes.

I have a box that’s this big and it weighs about thirty pounds [and contains] all the areas... They open up the book [from the box] and everything is there in some order... We have to prove it when they come and our OCG’s have a lot of the NATEF stuff in it. That also helped to write those (AMint3, 7).

Ted felt that it might be easier to work towards outcomes because the final tangible product needs to work. As such it can be taken apart and put back together.

## COMPUTER INFORMATION SYSTEMS (CIS)

### **Description of the CIS ACC**

In the fall of 1999, the CIS ACC consisted of twenty-one full-time faculty members and numerous part-time faculty members. None of the part-time faculty attended any of the sessions that I observed, as many of the part-time faculty were employed full-time in industry-related jobs. In April 1999 the curriculum committee met and drafted outcomes for the areas of database, networking, software development and computer general education classes. The drafted outcomes formed the foundation for the processes that I observed.

The CIS outcomes process was facilitated by a faculty member who had one-third release time to organize and direct the re-structuring process. The chairperson planned the activities that occurred on the workdays, developed the agenda, and assisted in moving the process along.

Another feature of the CIS ACC was an easy-to-use web site to communicate with the faculty members. Minutes of the session were posted, as well as ways to prepare for the next meeting. The agenda consisted of a time schedule, activities and a description of each activity. Reports from subcommittees were also posted on the web. A subcommittee then came prepared to the ACC meeting with materials that needed to be discussed and voted on by the whole ACC. In addition, anticipated outcomes for the meeting were listed. The web site seemed to communicate effectively with all the members, as it was a tool that each member used comfortably.



### **Description of the Participants**

Each faculty member completed a questionnaire and took the Gregorc Style Delineator, which assessed thought processes and styles. The CIS faculty members exhibited diverse academic preparation with MS, MBA, MSCS, and MPH degrees with seven of the faculty members having industry experience. Those with industry background expressed clear ideas of what students needed to know and do when they completed the program in a specific expertise. Because of the diversity of preparation, different perspectives were voiced, but some members did not feel heard.

The Computer Information Systems faculty displayed the range of Gregorc mind styles. The majority of those who completed the instrument showed a preference for random processing. Random processing allows an individual to jump easily from one area to another, or pull diverse areas together. The second most evident trait was that of being concrete, or dealing with things. The area of computer information systems, handling software, hardware and network systems can be considered part of the concrete world. Those members who were CR tended to be intuitive, instinctive, and independent. CR individuals also like to create new ideas, approaches and products. This ACC had the faculty work independently or in individual subject specific groups after several hours of training. For those who like to work independently in developing curriculum, this was an acceptable method.

Table 4.4 displays the characteristics of the four different styles. Four of the faculty members had a preference for AR, which means they tend to be

creative, holistic and perceptive as well as caring and empathic. With the diversity of this committee, these characteristics were valuable in working toward cooperative relationships and seeing patterns and relating the parts to the whole. One faculty member was balanced between CS, AR, and CR, which means the person, had equal access to all three areas. Two members were CS. CS individuals are instinctive, methodical and deliberate, preferring a step-by-step progression. These traits are needed to succeed at programming or troubleshooting network systems.

<b>Frame of Reference</b>	<b>Concrete Sequential (CS)</b>	<b>Abstract Sequential (AS)</b>	<b>Abstract Random (AR)</b>	<b>Concrete Random (CR)</b>
<b>Thinking Process</b>	Instinctive, methodical, deliberate	Intellectual, analytical, correlative	Holistic, creative, perceptive	Intuitive, instinctive, independent
<b>Focus of Attention</b>	Material reality, physical objects	Knowledge, facts, concepts, ideas	Caring, empathic, relationships, cooperative	Applications, methods, processes
<b>Ordering Ability</b>	Sequential step-by-step linear progression	Sequential, see patterns	Random web-like and multi-dimensional	Random three-dimensional patterns
<b>Learner Characteristics</b>	Patient, step-by-step directions, practical, concrete examples	Sequential, logical, rational, theories, symbols, concepts	Variable ways of learning, work together, relate parts to whole	Use insights to find "big picture"; create new ideas, approaches, and products

Table 4.4: CIS Gregorc Characteristics. Adapted from Gregorc, 1982 and Gregorc, 1997

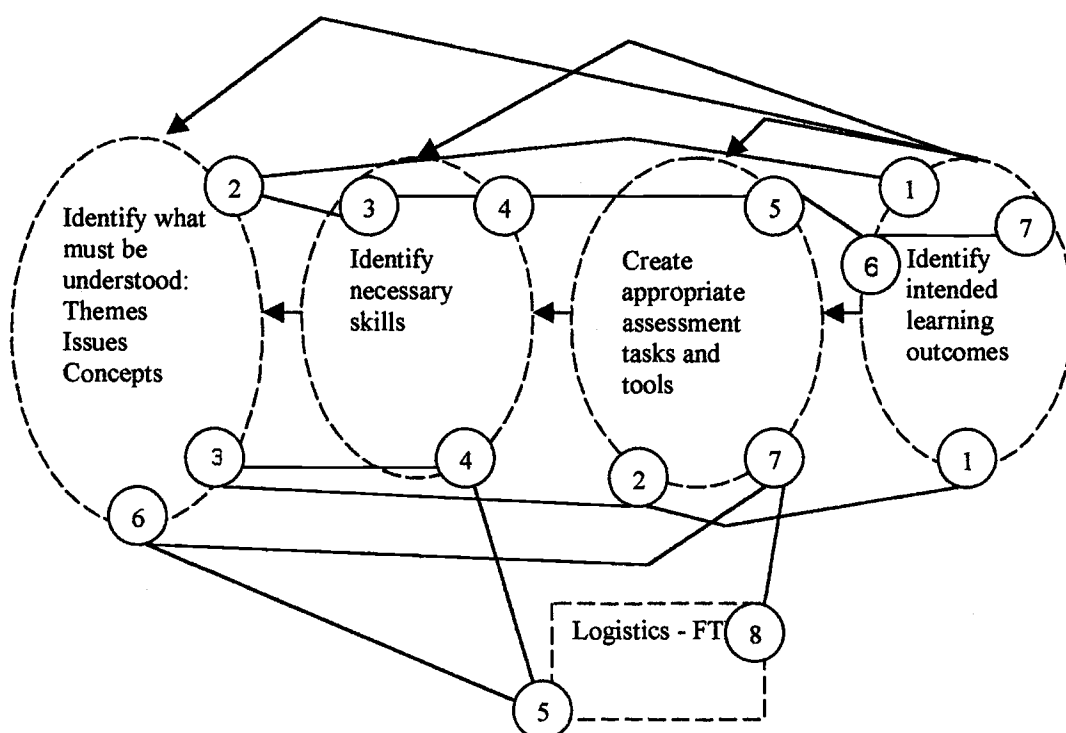
### **Stage of Curriculum Development**

The CIS ACC members worked in one of four small groups: networking, software development, database, and computer general education. By March of 2000 the groups were to have developed their outcomes and assessments for the classes. In the spring, the committees used the e-mail system to send the OCG's to each other and get suggestions. One member mentioned there was "some confusion as to what they were to do and how they differed from CCGs". Through the e-mail, and then in a ACC meeting, the whole committee reviewed the drafts and negotiated the changes.

From the two all day ACC meetings, a major effort evolved to address the content of several of the courses and add a new class, which was to strengthen preparation for the advanced classes in programming. The basic class of CIS 120 was changed, so that students were expected to have intermediate level skills in Windows, Word and Excel before enrolling. The next class, CIS 121 also changed content. A new class, CIS 279, Network Administrator (Linux) was added.

The diagram on the next page, Figure 4.5, graphically documents the committee's conversation in the writing and then redesigning of courses to meet the intended outcomes. The circled numbers appear as bracketed numbers in the text on pages 127-129. The top group of numbers was one session while the lower group represents a later session. The diagram shows the four planning steps in outcomes-based curriculum, beginning on the far right with intended results.

**Tracking the Process**  
**Computer Information System ACC**  
**Course Planning Process**  
**Outcome Framework**



**Key:** Numbers represent the speakers in order during work session. The top group of numbers is one session while the lower group is a later session.

**Figure 4.5 CIS Course Planning Process**

### **Tracking the Process**

At the first CIS ACC meeting I observed, the group was divided into four subject specialty areas of database, networking, software development, and general education. They discussed the question, "Do our outcomes match the needs of both full-time degree students and part-time industry students?" The group concurred that the outcomes do address the needs of all students, regardless of background. However, some of the students may already demonstrate some of the skills before entering the class or program. The database group suggested some kind of an assessment process, so students entered classes at the appropriate level. The network group discovered additional outcomes for their program, while the general computer education groups suggested one new outcome for one class and noted a need for an outcome on ethics.

Another activity involved each faculty member writing "My personal vision of the 'ideal' CIS program in 5 years." Each person's vision was shared on the CIS web site. A common description was "a program that allows for flexibility and growth for both students and faculty...with more scheduling options and encouragement (read: resources) for curriculum development, retraining, student advising, and industry involvement" (CISweb1, 3-4)<sup>3</sup>. Many of the vision statements mentioned "more time (and money) for professional development and to

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<sup>3</sup> Citations, which follow quoted or paraphrased material from minutes from the department's web site, includes the ACC initials, web and page number of the minutes. CISweb1, 3 indicates Computer Information System, web minutes from first meeting, page 3.

keep abreast of changes in technology” (CISweb1, 5). Staying current with the rapid changes in the field of CIS was a major concern for the faculty.

One of the most visually powerful exercises that the curriculum committee participated in involved placing yellow stickers on five questions represented with continuums from a negative answer to a positive one. The questions were:

- If you had unlimited time, how excited are you about implementing program change?
- How much faith do you have in obtaining time/resources to complete this work?
- How much time/energy do you have for program redevelopment?
- How important is the process we are undertaking this year in supporting the CIS program?
- How much change do you expect in the CIS program in the next five years?

The faculty didn’t have much faith in obtaining time, energy, or resources for the program redevelopment work. They were positive about their excitement in implementing change and anticipated change in 5 years. On the importance of the process undertaken this year, the faculty was distributed along the length of the continuum. The department dean and division dean felt the continua might help convey to administration some of the CIS faculty member’s feelings.

As a part of the first all day ACC meeting, I joined the computer science general education subcommittee, as they reviewed the outcomes that had been developed the previous spring. The question that the group addressed was, “Do the

outcomes adequately represent the expectation for the entry classes of CIS 120 and CIS 121?” After some discussion, it was decided that an outcome on ethics was needed. [1] (The bracketed numbers track the course planning process on Figure 4.7.)

From that discussion, the conversation randomly moved to themes, concepts, and issues. [2] Celia discovered, “There is nothing about the Internet” (CIS1, 5). The group was concerned with students taking the class as some were not adequately prepared.

Donna commented, “We should be teaching those who are prepared” (CIS1, 6).

Susan, referring to the college catalogue said, “The college recommends Writing 121, Math 60, and touch keyboarding” (CIS1, 6). [3] The discussion migrated to the themes, concepts, issues and tools used to teach critical thinking.

Donna commented, “What I like about [PowerPoint] is that I can get them to do critical thinking” (CIS1, 7). [4]

To which Celia replied, “I’d rather use Web site design” (CIS1, 7). [5] The discussion moved to talking about outcomes, “Identify, communicate, and manage issues related to information technology” (CIS1, 8). [6]

Celia commented, “I think of this as a network. We don’t go far enough” (CIS1, 8). [7]

Donna helped with the wording, “The verb we’ve used doesn’t get to problem solving. We could use analyze instead of describe...I want them to tell me

the process they would go through... written papers with objectives. They're at a deeper level. Are they at an analysis level"(CIS1, 8)? [7]

As time was limited, the computer general education group decided to meet the next week to complete the discussion. The results evolved into a meeting in the summer of 2000, which completely re-designed the content of CIS 120 and CIS 121. Donna shared part of the process in the interview with "An Experienced Faculty Member."

The work of revising courses and parts of programs was conducted in the sub-committees. I observed the software development group during the second session. The group began by discussing the need for a "design class that is object oriented" (CIS2, 15). [1] The discussion began with tools used to teach design – Java, Cobalt, or Visual Basic.[2] Then the group discussed how to fit the classes together with the other CIS classes. [3] Alice suggested, "Then CIS 122 is an overview. A design class would be procedural such as a CIS 123. They [students] need to know design, functions, and then they are ready to go into CIS 133" (CIS2, 16). Revising the more advanced classes would require revising the computer general education classes of CIS 120 and 121. [4]

That led to a concern for losing FTE [5] "We're fed on those FTE. If we made CIS 120 and 121 basic classes, we'd lose students" (CIS2, 17). After much talking and discussing, the group decided to make significant changes to CIS121 so that students would receive an overview of the software development process and some practice with creating a product. In order for students to be prepared to take



higher level software classes, the group proposed adding a new class to cover functions, structure and object-oriented design. [6] Next, the groups suggested reactivating a course that would provide the opportunity for students to create a large-scale design project as a capstone course. [7]

The changes precipitated realignment and a re-configuration of other courses. The software development subcommittee met to propose the changes for the whole ACC. Coordination with the Computer Science ACC was also necessary for some of the suggestions.

### **Interviews with Computer Information Systems Faculty**

From the CIS ACC I selected three individuals to interview regarding their experience with the process of designing curriculum. The selection criteria were based on observation during the ACC meetings. One person selected contributed a lot to the discussion, one person talked some, and the third person talked very little. In the case of the large CIS faculty, if a person did not talk much, I was unable to associate a name with the person. So in selecting someone to interview, if I had trouble with the right name, they had not talked a lot. In this ACC, no part-time faculty participated, so that was not a criterion for selection. As a result, I selected one person who had taught only two years for the college, having come from industry, one who had more experience, and one who had extensive teaching experience. To assist with confidentiality, each person was assigned an imaginary name.

### **A Newer CIS Faculty Member**

One of the CIS faculty I interviewed taught mainly Visual Basic. Ralph, a AR on the Gregorc, explained his background by saying, “I have a Masters in computer science and worked in industry. I moved here and did some adjunct teaching and got a full time job. I got tired of the industry, so I always wanted to do it [teaching]... I don’t like the industry, and I like teaching” (CISint1, 1). He went on to explain that when he first started teaching a class,

I tried to get the course content guidelines and I also asked for a syllabus from different people. And then I just tried to figure out what topics they wanted me to teach and I went through the book and found out what chapter corresponded to that and that's what I based my outline on. (CISint1, 1)

Ralph explained, he

never had any training [in designing curriculum]... I change my classes every couple of terms to some extent. I try something new that might work a little better. I’ve just had assignments and say this is not good. Don’t do this one again. Or we need more handouts or something... I’ve just learned to go a lot slower than when I started... I thought they knew a lot more than they did. And now that I’m teaching day classes particularly the student are at a different level... They’re not as sophisticated. I just learn to go very slow, don’t make any assumptions that they know what I am talking about, explain everything, [and] do a lot of repeating. (CISint1, 6)

Ralph continued to explain, “I’m getting better now that I’ve taught it a lot. I’m getting a set of assignments that are doable, reasonable, but they are not impossible and, if you work at them, the average student can do them” (CISint1, 7).

Ralph voiced some concern with the process of writing outcomes. He had not been to any training on how to write outcomes.

It's just been a thing that nobody know what they are supposed to do or how to write them. There was always some confusion about ... what we are suppose to get on paper and how it is different than the CCGs that [we] already have. And I think that trial and error of putting things on paper and having them circulated maybe [I] sort of understand what we are suppose to do (CISint1, 4).

Ralph shared that the software programming subcommittee distributed the OCG on the e-mail "to get comments." Several got approved at the ACC meeting, but "most of the others are still circulating."

Our conversation moved to the topic of [outcomes-based] assessment. Ralph explained,

We were going to try and come up with one final project that would be given to all the students in all the sections that took the course... [The students] would all get the same project, all the teachers would grade it individually, but the students would be expected to pass it... The teachers would prepare their students to pass that... We would have one for each course. The idea was that when they got done with the programming sequence we would have some degree of assurance that they could at least do a programming project at a certain level (CISint1, 5).

## **A Second Interview**

Ned, a CR on the Gregorc, was a newer faculty member, having had twenty years of professional experience as a computer operator and computer programmer before he starting teaching at the community college. His professional experience influenced his teaching and curriculum design efforts. When asked how he designed curriculum initially, he said,

I found some other people's work and worked off of what they had done before. [I] looked at how other people had done things with more experience, which obviously meant just about everybody. There was a teacher who was here. Her name is Bonnie. She was great. She helped me out a lot by showing me some examples of

what she had done. Jerry also helped me out. They gave me some examples of things and I just took those things to develop. So I sort of personalized them a little bit and every term I would update them (CISint.2, 1).

As to using an outcome approach in curriculum design, Ned thought it was a good idea.

I think that by the time that I was here, people were already talking about outcomes... I always had a section that would say at the end of the course, 'you should be able to do these' things. So I would always list as to what they had to do and I would try to design my teaching style around getting them to do those particular things. It hasn't changed a lot because I've always had those things. Like I said, I probably had good models (CISint2, 2).

Ned gave a lot of credit for his curriculum design skills and use of outcomes to his mentors. "Bonnie was good at outcomes, too. She really talked about that and Bob is another person that helped me along the VB (Visual Basic) area and he always had outcomes" (CISint2, 2).

Ned continued to explain how he modifies and redesigns his classes.

I've changed [the classes] around how things are. I've dropped some stuff. I've been a lot more ambitious than really I should be. And I realized that it's not so much what you teach, that sometimes less is better. There's certain material you have to cover, but you don't have to go into a lot of depth in all those areas... My basic goal is to have them be able to get a programming job after they take the VB sequence... I want them to be able to acquire some sort of portfolio that they can then show to people and get jobs out of that... If they don't have experience, they have to show something to... backup the fact that they've learned things. I'm trying to... give them sufficiently complex problems, [however] sufficiently easy so that they can do them, but sufficiently complex so that it's impressive to somebody looking on the outside. (CISint2, 3)

As Ned viewed himself as a programmer, he had a realistic understanding of the requirements of the computer industry. "I gear my assignments towards the

real world. And they are based on real world things that I've had" (CIS.int2, 3).

Ned explained the process he uses to modify his curriculum.

If I find that students are struggling with particular areas then I will change around how I'll be doing things... [Originally,] I chose not to use the 'call' verb because it was a lot easier than writing 'call' all the time. But I found that students had a hard time picking out the things that were referring to the solve routine. So basically it was just a way in which they would understanding it a little bit better... So when a student has a problem understanding concepts, I try to go back and try to figure out how to help them and make it easier to do. (CISint2, 4)

Ned continued to explain techniques he uses to make programming more understandable to students.

When I'm teaching about objects, I... bring in these juggling balls and juggling rings and talks about objects in those terms. [In] my design class, the very first day we started out by... make a paper airplane in groups and writing a design that they can pass to the next group and the next group can make a paper airplane and explain how that works in the process. I try to do some... things like that to make it reality based rather than just an abstraction. (CISint2, 4)

In his systems analysis class, Ned explained that students worked in teams and applied the information to real problems that they brought to class.

One project they work in groups and I change around the teams for the first of the term. Then I assign them to particular teams that they'll be on for the last half of the term... Basically it starts out lecture, little bit of team, less lecture, more team. Then at the end, it was all teams. No lecture at all, they would go into teams, and I was going around from group to group trying to see where they were, how they were doing, how we could help them out and so forth. (CISint2, 4)

Ned continued to explain that the systems analysis class was another class in which he reduced the amount of material and tried to make the class more learner-based by using team activities.

That was another class where I have less material... I use to present a lot of material... I present a lot less material, but I think they learn how to take that material and bring it into a real project... In that class they start out with a project of their choosing. Everybody does individual projects of their choosing in the first half of the term. As a team they get together and choose one of the individual projects as what they are going to be working on as a team project. And they all seem to be reality based... [For] a team project they tend to go with things that are more complex. Somebody worked in a hotel chain and so [they used] the hotel reservation system or somebody had worked for his father and worked giving salespeople commissions and bonuses... (CISint2, 5)

Ned continued explaining his process of curriculum change as an on-going process.

Every term I modify and change the things. [I] try to access what things work, what things haven't worked. I do that sometimes when I'm going through the term and then at the end of the term I try to look back and look at the things. I make little notes to myself, 'I need to change this around'... and then at the end of the term I go back and make the changes that would work (CISint2, 5).

### **An Experienced Faculty Member**

Donna, a CR on the Gregorc, is an experienced faculty member having taught fifteen year in the community college and nine years in the public schools. As we started our discussion, Donna was excited to relate an experience from this past summer in which she and other CIS faculty members from the different campuses had gathered to re-work CIS 120, Computer Concepts I. "The instructors worked together this summer... and it's been a really neat process" (CISint3, 4). She continued by explaining the process involving a part-time instructor who was a fast typist. She typed the outcomes, which were projected on a screen so everyone could see them.

Then we started brainstorming on ways to do that. The goal was to have multi-level outcomes in one or two assignments... We looked for a common thread, and this is when we said it's going to be the system's development life cycle. We are going to have a series of projects where they [students] demonstrate their understanding... They are applying the theory, and they are also applying the tools. And then as we went through, we made a grid of the outcomes, numbered them, and then we started making a grid of what outcomes were met with different assignments... This is where I think teachers excel. Once you tell them what those outcomes are, and how they relate to your discipline, then the ideas for how to make sure they've got those just abounded. We had some real creative ones and we had some real structured ones. And so the result is a creative structured plan that almost anyone can implement." (CISint3, 4)

Donna continued to explain that CIS 120 was completely different from the past.

"Instead of teaching the tools, we expect students to already know the tools and be able to use them" (CISint3, 5). The faculty members want the students to understand computer information system concepts.

The over arching goal ... is to get students thinking about the systems development process, and my first project that I had them do was applying a non-technical personal [problem]. Buying a skateboard or a snowboard or a new car ... to see if they understand the process... They did very well. Now the next part, I've given them an unlimited amount of money, play money, and they are to build their dream computer system... The first step is to analyze their needs and the second step is to find the components, and build the system and the next project will be actually saying what they would do." (CISint3, 3)

The last part of the class is to create a Web site using a very simple composer called Wizzy Wig Editor, which will provide a basic skill developed in the next computer class. Donna feels very comfortable with the redesign of this class.

However, she is concerned with the following class, CIS121, which was also redesigned.

We have two separate books that we are using for that class... We have an analytical engine which again is the concepts and then we have a database book. And so there's been a lot of complaints, and so I put it out to the general education group... Alice had a very good suggestion. It was to collect some imperial data with surveys of the students and surveys of the instructors (CISint3, 11).

As Donna was very concerned with effectiveness and quality of the courses, a survey was one method to learn if adjustments were needed.

Donna was excited to explain a drawing on the white board which illustrated a new concept that would provide students with advanced skills before they started a job or a practicum. She explained that the department had purchased three servers and a DSL Gateway.

We have a wide area network that hooks up into other computers in the room where they can remit networking. Then we have 20 more machines that are hooked up to a LAN server and so we have a lot of computing power that we can do some of the high level things. So, the whole purpose behind this was to have a place where students could do production work... So we have the operating system, which has a system administrator which we are going to hire a part time person. Then our servers... like an ISP because we are going to become a host, and any revenue we make goes back into the department (CISint3, 3).

With the additional equipment, the computer department will be able to integrate the instruction for the computer application systems and strengthen several areas of instruction.



## SUMMARY OF THE JOURNEY

Each of the four curriculum committees was in a different place in the process of developing curriculum focused on intended learning outcomes. As with the learning of any new skill, the process, developed and evolved with practice and experience. Some faculty stated that they liked outcomes, which provides consistency, but allows for individual instructors to use their own methods and strategies to achieve them. Some individual instructors had a more developed understanding and implementation of the process than the curriculum committees as a whole. Two of the curriculum committees had business and industry influence to prepare students with certain skills. As a result, these curriculum committees felt pressure from industry, which accelerated the need to change their curriculum to one that is outcomes-based. The other curriculum areas were interested in creating outcomes, which prepare student for integration into other departments, programs or universities.

## **CHAPTER 5**

### **PATTERNS AND FINDINGS**

Through observations, interviews, questionnaires, and the Gregorc Style Delineator discussed in the previous chapter, the curriculum committees revealed patterns as they moved from a content framework to an outcomes framework in curriculum design. In this chapter, the patterns and findings that emerged in the curriculum committee's work formed nine themes. They include: stages of the curriculum design process, increased interdisciplinary concerns, role of the facilitator, ACC differences and similarities, collaborative process among campuses, change, strategic and systemic thinking, renewed energy of faculty members, and including sufficient details in curriculum guides.

#### **STAGES OF CURRICULUM DESIGN PROCESS**

With Northwest Community College (NWCC) and the approach used, the process of moving from a content framework to an outcomes framework was accomplished in stages. The institution hired a consultant to prepare facilitators who led the ACCs. The process involved the initial phase of immersion, as the faculty members were asked to "jump right in," and looked at the curriculum from the end result before asking, "How do I get the students there?" During this first stage, faculty members frequently had difficulty reversing old thought patterns. They tended to return to thinking first about "what they needed to cover" and the

old strategies they had formerly used. Conversational interaction was valuable even when not focused on outcomes, as faculty members generally relished the opportunity to talk together rather than plan in isolation.

The four curriculum teams studied seemed to move through five stages in their revision process. While I did not observe the complete process for any given team, these patterns seemed to emerge from seeing different stages. The five stages included Immersion, Creation, Negotiation, Revision, and Submission. Table 5.1 shows these five stages.

Stage	Description
<b>1. Immersion</b>	Groups immersed in the new process attempted to work through the redesign of the course under guidance of a trained facilitator.
<b>2. Creation</b>	A sub-group of individuals prepared a draft of the OCG.
<b>3. Negotiation</b>	The group reviewed the draft and negotiates changes in all parts of the OCG.
<b>4. Revisions</b>	The group reviewed the negotiated draft and does further word-smithing.
<b>5. Submission</b>	The curriculum document was filed with the institution curriculum office.

Table 5.1 Stages of Outcomes-Based Curriculum Design

At NWCC, all curriculum planning teams were given a trained facilitator who asked them to “jump right in” to developing new curriculum plans without formal training. The facilitator was responsible for guiding the process and educating the members as they moved along. For this reason, the Immersion stage

was the place in which faculty tended to return to thinking primarily about “what had to be covered.” The facilitator’s job was critical in the Immersion Stage. This process can also be viewed circularly.

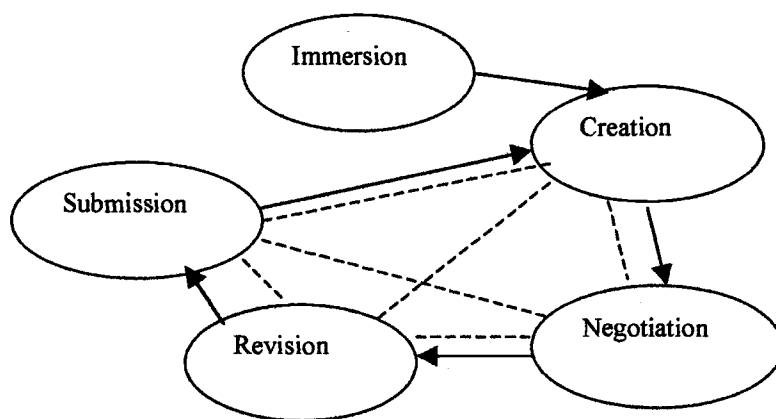


Figure 5.2 Stages of Outcome-Based Curriculum Design

The Health Education ACC was in the initial stage of Immersion, with the faculty involved in a step-by-step curriculum design process of taking one class and identifying the outcomes. In the process, all of the faculty members systematically learned how to develop learning outcomes and support them with skills, themes, issues, concepts, and appropriate assessment tasks. One faculty member stated, “The outcomes are huge at the end of the course.” (HE1.5). After a discussion about complexity, the facilitator summarized, “You hit a key point. Outcomes require more complex skills and more complex assessments” (HE1.5). Through this facilitated process, the faculty members continually shared teaching strategies as they learned how to express and design a course content outcome guide (OCG). As

the process progressed, the committee was able to collaboratively reorganize the course for the agreed upon outcomes.

In the second stage, Creation, the ACC members worked individually, or in subgroups to draft a course content outcomes guide (OCG). This included four essential components: intended outcomes, assessment tasks, skills, and themes, issues and concepts. In this stage, the facilitator continued to shed light on refining the outcomes, aligning the assessments, and defining the content students would need to reach the intended outcomes. The Creation Stage was done either in subgroups as in CIS, or by individuals as in the automotive and sociology disciplines.

In the third stage, Negotiation, the group as a whole reviewed the draft and negotiated changes. They also shared suggestions for assessment methods that more closely address what the students will do “out there” with what they learn. In addition, some themes, issues, concepts and skills were renegotiated to better support more advanced classes, programs, and college outcomes. This Negotiation Stage served the purpose of continuing to help faculty learn to distinguish outcome statements from competencies, as well as to distinguish skills, themes, issues and concepts, or content descriptors. A comment from the sociology group illustrates some of the thinking involved. “Some of this is closer to a syllabus than a OCG. [You] need to generalize the way you run the course, but not the way that everyone needs to run the course” (SOC1, 7). Similar negotiations occurred in automotive, CIS and health education that illustrated the stage of Negotiation.

Revision surfaced as an important stage in itself. While Revision included more Negotiation, it involved clarification of wording, with more negotiation of intent. While Negotiation was handled best in face-to-face meetings, Revision could be handled through e-mail. Both CIS and Sociology used e-mail as well as face to face discussions for revisions. This step included refining the course catalogue descriptions, which is a particular challenge in word-smithing. The need to interact and communicate with other departments or institutions of higher education also became evident as faculty expressed concern for the students' total educational plan.

The final stage of Submission moved the curriculum document to the institution's curriculum office. The institution's required format was followed for consistency. Where major course redesign had occurred, the OCG was forwarded to an interdepartmental academic advising committee for review. This process involved further review of how the OCG supported the institution's intended learning outcomes.

The characteristic of continuous improvement, as the cycle repeats itself, is inherent in the design of outcomes-based curriculum. As the faculty members work with the curriculum and refine assessment techniques to more adequately assess the outcomes, the process is modified and improved. Different themes, issues and concepts may evolve to more adequately prepare the students for the assessment tasks. For example, the CIS faculty discovered during the Creation phase, that two courses needed to be redesigned and new courses added. Since the subgroup had

the skills to write outcomes-based curriculum, they began again with the Creation phase and continued through the next three phases. The process continues as they work to define and refine the content in one of the classes particularly.

The Sociology committee also showed evidence of continually making modification in the courses by including service learning and relating the content to projects in student's lives. They included current sociological topics such as environmental sociology and globalization.

Health Education offered a new class that incorporated numerous community health organizations as speakers in the class. The class added depth to the course offerings by focusing the content toward the community at large.

### INCREASED INTERDISCIPLINARY CONCERNS

In this study, as individuals worked through the "design-down" process, the conversation identified the need to work or talk with other disciplines to integrate the material and create greater synergy for student learning. The Health Education curriculum committee faculty was concerned with the writing skills of the students. Poor writing skills affected the quality of the work that students produced. In addition to the English department, the faculty saw college counselors as critical in resolving the problem, in that they often referred students to the Health Education classes. The Sociology faculty identified a need to meet with liberal arts, nursing, criminal justice, and dental assisting faculties, as well as three universities to which students commonly transferred.

“What about criminal justice students? Can we get some information on their students” (SOC2, 15)?”

“I was shocked when dental assisting required students to take one of the gerontology courses” (SOC2, 15).

The faculty was concern that in order to demonstrate the learning outcomes student would need more than just an understanding of the content in their program. They began to view the learning as interdisciplinary.

### ROLE OF THE FACILITATOR

The facilitator’s role was most critical in the initial phase of Immersion as the faculty easily reverted to the old paradigm of content-based curriculum. The facilitator assisted the curriculum committee in focusing on articulating learning outcomes. Being thoroughly prepared in the process, the facilitator was able to assisted the committee in evolving a unique OCG for each course.

“Outcomes help you figure out at what you are aiming. They provide a clear picture of what students need to learn and take out into the world. Think of this planning process as a funnel” (HE1, 4).

The process began with achieving agreement on the outcomes. To be effective, a facilitator needed to know and believe in the process.

“Outcomes should be comprehensive when pulling things together. They [also] should be global, but they should be specific in skills and knowledge” (SOC2, 8).



Usually three outcomes per course were a manageable number. The facilitator used skills of clarifying, paraphrasing, listening and guiding the discussion.

You're asking them to do more and act. You want them to see environmental sociology and analyze and understand the whole area of environmental debate. This makes the student an actor and not the receptor. Outcomes demonstrate (SOC1, 7).

Additional facilitation skills include keeping the process moving, watching the time, and pulling the ideas together. With more practice, the facilitator's skills increased.

### ACC DIFFERENCES AND SIMILARITIES

The diversity of the curriculum committee members was evident through the Gregorc Mind Style, the questionnaire, observations and interviews. Two ACCs, Health Education and CIS, were diverse in thought processes, academic preparation, and experience. In the curriculum creating process, diversity sometimes contributed to a richness of ideas. The Health Education ACC was cognitive of their differences, but viewed it as an asset. Care was exercised to ensure that everyone felt heard. At one point, Zelda observed, "We don't all agree on the depth" (HE1, 8). This comment led to additional sharing and rewording of the outcomes until everyone was comfortable with the wording. The diversity of style added new, interesting perspectives, and different methods of handling information. Some of the members were "savers" and kept all paper, while others cleaned out files regularly only to discover a need for the papers tossed. As such,

they assisted each other when necessary. The diversity of style added to ideas for methods to assess intended learning outcomes or ways to present themes, issues or concepts.

The CIS faculty also had diverse thought processing styles. They came from different backgrounds and different preparations. This diversity created challenges and sometimes tensions in the group. Individual suggestions were proposed that would have been detrimental to the committee as a whole. One person suggested that all computer classes should be taught as a lecture. Other faculty members expressed strong beliefs that hands-on-teaching with computers was more effective. This group had differing ideas of how classes should be taught.

Conversely, two of the curriculum committees exhibited noticeable similarity within the committee. These similarities included processing styles, which were evident on the Gregorc, preparation and academic backgrounds. The Automotive Service Technology faculty had similar backgrounds and preparation in dealing with the concrete world of automobiles. Other similar characteristics included being methodical, intuitive, independent, patient, and practical. These Gregorc characteristics were easily identifiable as the committee worked on moving to an outcomes-based curriculum.

The other committee with similar Gregorc Mind Styles and preparation was Sociology. Their characteristics included concrete, intuitive, insightful, independent, thinking and the ability to look at the big picture. With similarities

the faculty member used their strengths to communicate concerns and issues important to sociology.

### COLLABORATIVE PROCESS AMONG CAMPUSES

This study suggests that the need to develop outcomes-based curriculum has encouraged increased communication and cooperation among the faculty in the same discipline. The Health Education faculty shared stories of lack of communications and hostilities among the institution's various campuses.

One of the newer full-time faculty members commented, "I still am a little bit in a vacuum, because I'm the only health person at RC. And I'm the only health person at C" (HEint3, 5). Many times the new full-time faculty members and part-time faculty members suffered from a lack of support, lack of knowledge of textbook selection, or capstone projects such as Nutra Quest.

The Sociology faculty faced the mid-year challenge of selecting a new textbook, because the old book was no longer available. The committee was concerned with adopting a uniform text, so students taking part of the sequence at a different campus would not have to purchase new textbooks. They wanted to select a textbook that met all faculty members' teaching style.

Wynne expressed her concern, "One text for Soc 204 and 205 and then if the students move between instructors, they would have to buy and sell textbooks. ... With the increased number of students moving between campuses, this is a problem" (SOC2, 3).

The CIS general education group met to redesign two classes over the summer. One faculty member observed that each campus was represented. The information was furthered shared through the CIS web site so that all faculty members would have access to the information. One faculty member stated that new equipment at one campus would enhance educational opportunities for all students.

### CHANGE

Some disciplines were attuned to change because of the demands of the content field. CIS continually voiced concerns with the challenge of remaining current with the rapidly changing computer industry. The CIS faculty was concerned with the preparation of students, their continual learning of new computer programs, the need for new and expensive equipment, new teaching methods using the Internet, and new developments in the industry such as e-commerce. One faculty member related the results of new equipment that would enhance educational opportunities.

We have a wide area network that hooks up into other computers in the room where they can remit networking. Then we have 20 more machines that are hooked up to a LAN server and so we have a lot of computing power that we can do some of the high level things. So, the whole purpose behind this was to have a place where students could do production work... So we have the operating system, which has a system administrator which we are going to hire a part time person. Then our servers... like an ISP because we are going to become a host and any revenue we make goes back into the department (CISint3. 3).

The faculty felt a continual pressure to learn and adapt to multiple changes.

The Automobile Service Technology also expressed concern with the need to adequately prepare students to learn the basic of automobile repair and learn how to apply the information to hundreds of models with increased complexity and computerization. Change created by the demands of the industry impacted the content and pressures exerted on the faculty.

Sociology ACC felt pressure to create relevant instruction for students transferring to four-year universities. One of the members volunteered to contact the universities to establish effective communications and improve the transfer process.

Part-time faculty and full-time faculty, recently from industry, provided valuable contributions to the curriculum planning process. Their personal experience enhanced the planning process with a thorough understanding of outcomes required by businesses.

Then the next step, well, how do we make this relevant to the issues? And I think that's where my strength is, being involved in community health for 20 odd years. What are the issues we are going to discuss and who's going to discuss them?.. It's more interactive, has service learning plus representative from organizations and people that have worked with current community issues come in and talk and we could have a forum. We will probably have a forum once a week on average (HEint1, 4).

Their intended outcomes clearly stated the business section's expectations for students when they leave the community college. One CIS instructor explained, "I gear my assignments towards the real world. And they are based on real world things that I've had" (CIS.int2, 3).

## STRATEGIC AND SYSTEMIC THINKING

Strategic thinking appears to be a critical skill in outcomes-based planning. The NWCC is asked to show what students can do with what they know when they leave the college. As such, the outcomes-based process encouraged strategic thinking as the curriculum committees worked through their courses from an outcomes perspective. The health education group found that some of the old material did not contribute to the intended outcomes and needed to be eliminated. Sometimes new material needed to be developed or synthesized, as with the CIS group.

The outcomes-based planning process also involved systemic thinking. The committees considered the whole system of students, other departments within the college, and industry. This was particularly evident in the last stages, as the individuals felt comfortable with the process. The skills and outcomes were developed in the context of the whole system. Different disciplines struggled with this issue in different ways. The Sociology faculty members were concerned with different sub-groups within the culture, such as aging Americans and Native Americans. Automotive faculty members were concerned that their students not only had the knowledge and skills, but also the speed to meet an employer's demands. The CIS faculty was concerned with adequate preparation of their students, so using a "feedback loop" of the system planning process redesigned two classes by listening to students', faculty members, and business sector needs.

## RENEWED ENERGY OF FACULTY MEMBERS

From my observations, the outcomes development process at NWCC promoted engagement and dialogue among the faculty. The faculty members were energized by the process and sought to share ideas and develop new ways of looking at curriculum planning to better meet the needs of students. The faculty seemed to emerge with renewed commitment to continue re-designing courses. One CIS faculty member talked about the wonderful ideas the group developed once the outcomes were established. “The ideas for how to make sure they’ve got those [outcomes] just abound. We had some real creative ones and we had some real structured ones” (CISint3, 4). The magic of the experience sparkled in this faculty member’s eyes as she told of the experience. A Health Education faculty member found the sharing helpful in learning what other faculty members were doing on different campuses. “...when we were talking about the WHIP thing, I have no idea” (HEint3, 5).

## SUFFICIENT DETAILS IN CURRICULUM GUIDES

A major concern of the different curriculum committees was that the new curriculum templates (OCGs) would provide enough details for part-time faculty and new faculty. Health Education wanted to include sufficient details on textbook usage and assessment tools to ensure adequate teaching by faculty that may be isolated from a campus situation. One of the health educator said, “... we have had

part-timers who ‘shoot the breeze’. So [the Deans of Instruction] asked us to really say what was to be covered” (HE3, 4).

The sociology ACC identified core ideas, principles, and problems that would allow for autonomy, then made sure specifics were covered, so that new or part time faculty could comply with the course expectations. Wynne, one of the Sociology faculty members expressed concern, “We’ve lost something between the CCG and the OCG. There was special information for the faculty, including the approved text and the ISBN No. These, we had to update and it made it easy” (SOC1, 5). Another faculty member exclaimed later, “In SOC 204 and 205, we’re not covering the entire text in each class” (SOC2, 9). Part-time faculty members depend on the OCG to convey practical information such as textbooks, outcomes, and specific class details.

CIS faculty conducted lengthy discussions on capstone projects and evaluation standards for programming classes. They expressed concern that students needed to obtain a specific level by the time a programming series was completed.

We were going to try and come up with one final project that would be given to all the students in all the sections that took the course... [The students] would all get the same project, all the teachers would grade it individually, but the students would be expected to pass it... The teachers would prepare their students to pass that... We would have one for each course. The idea was that when they got done with the programming sequence we would have some degree of assurance that they could at least do a programming project at a certain level (CISint1, 5).



## **CHAPTER 6**

### **CONCLUSIONS AND RECOMMENDATIONS**

The intent of this study was to examine how faculty curriculum committees from different disciplines move through a major curriculum change process. The investigation followed four curriculum committees that were in different stages of the process of constructing an outcomes-based curriculum. Information was gathered through direct observation, committee member interviews, a questionnaire, and the Gregorc Style Delineator assessment. The following questions guided the study:

1. What are the common process patterns that emerge in the work of curriculum committees when the process is driven by learning outcomes rather than the structure of the discipline?
2. Are these process patterns unique to a discipline?
3. Are individual thought patterns and styles evident in the planning process?
4. What implications do the findings have for committee facilitation and the training of curriculum development facilitators?

### **DISCUSSION OF THE RESEARCH QUESTIONS**

The intent of the four research questions was to provide guidance for the study, rather than to limit it. The findings tended to cluster around the first question, with evidence pointing to the common process patterns that the committees shared. Differences in the processes among the four curriculum groups

appeared to depend more on the characteristics of individuals who comprised the committees rather than on any unique characteristics of the subject area. Therefore, findings regarding the preparation of facilitator and the facilitation process need not be distinguished by discipline, but can be applied across the entire college in all subject areas.

## HYPOTHESES

As this was a qualitative study, its purpose was to form theory. I developed the following hypotheses based on the patterns that emerged from four curriculum committee design groups at one institution. While the results of this study cannot be generalized to other institutions or programs, there is reason to investigate these hypotheses further.

**Hypothesis 1: The stages of outcomes-based curriculum development can be predicted and are common across all disciplines.**

Each curriculum committee moved through the same general stages beginning with the initial stage of Immersion, in which the committee members learned how to develop an outcome-driven curriculum by jumping right into the process. The initial stage involved learning how to think about learning outcomes, how to write outcome-driven curriculum through a “design down” process, which begins with the outcomes and assessment and works backwards to the themes, issues, concepts, and skills.

The first stage, Immersion, was completed only once for a course. The next four phases of Creation, Negotiation, Revision and Submission were processes that

became a continuous improvement loop as the committees reworked courses for refinement and improvement. To further encourage this process, a community college needs established rules for the committees to periodically reassess and revise the different courses. NWCC required an update in three-year intervals.

**Hypothesis 2: A knowledgeable outcomes-based curriculum facilitator can successfully immerse a committee in designing curriculum without first “training” them in outcomes-based theory.**

In this case, trained faculty facilitators were critical in the process of designing outcome-driven curriculum. Related findings included:

- The facilitator’s function was most important in stage 1 (Immersion), and diminished through the remaining stages.
- Facilitators believed in the outcomes-based process.
- The Committee’s trust in the facilitator was essential
- Trust was enhanced by the a facilitators’ in depth preparation in both conceptual understanding and facilitation techniques.

**Hypothesis 3: On an outcomes-based curriculum planning committee, knowledge of member differences and similarities in thought process, academic preparation and workplace experience enhances the work.**

Style differences in committee members, when acknowledged, added richness and options. In one curriculum committee, the discussion was sprinkled with relaxed humor around the style differences that were acknowledged. Members

could laugh at others as well as themselves. Two of the curriculum teams consisted of individuals with diverse styles and backgrounds.

In a similar way, when a committee understood that everyone had similar ways of addressing issues, empathy was readily available. When dealing with committees with marked similarities in thought process and preparation, ideas and suggestions flowed smoothly. The key to good committee communications was acknowledgement of similarities and differences.

**Hypothesis 4: Interest in interdisciplinary connection emerges naturally as a result of faculty dialogue about student learning outcomes.**

As the committees searched to identify the issues, themes, concepts, and skills needed to obtain an outcome, interdisciplinary thoughts emerged and subject-area boundaries blurred. Unlike content-based curriculum that is contained within a discipline boundary, outcomes-based curriculum makes it essential to add skills and understanding outside the discipline area to assure complex and contextual learning outcomes. The Sociology committee discussed the advantages of meeting with individuals from other disciplinary areas.

**Hypothesis 5: Outcomes-based curriculum planning increases collaboration and reduces competition between programs and campuses in multiple campus institutions.**

Of the three curriculum committees in this study who had faculty on different campuses, all were concerned with collaborating and working with one another to

provide a coherent program. The committee members wanted to share ideas and hear methods and techniques that worked in other classroom situations. Through the collaborations, great ideas abounded. In the past the sharing between campuses had not been the case at NWCC. Competition and hostilities had arisen. The ACCs suggested to the president of the institution, that care be given in structuring policies so as not to erode the new cooperation.

**Hypothesis 6: Outcomes-based curriculum planning opens programs to the influences of external constituents, and in turn changes the program.**

Programs such as computer information systems (CIS) and automotive services, who were closely aligned with businesses, experienced continuous change. Systemic thinking, or thinking about the demands of industry on student preparation, removed boundaries and impacted the curriculum design. CIS added new programs, such as e-commerce and web-design, that met the job market demands. Automotive Service Technology was concerned that students have the skills to quickly and accurately fix motors, even though there are over a hundred different models.

Sociology's external constituents are the universities to which students transferred. That curriculum committee was concerned that the courses would transfer and meet university requirements. In disciplines not closely aligned with their constituents, less change occurred.

**Hypothesis 7: The dialogue inherent in outcomes-based curriculum planning renews faculty member's energy and commitment.**

The faculty enjoyed sharing ideas as they created outcomes and assembled the courses and programs. Renewed energy was evident as the faculty arranged their schedules and drove to different locations to meet with other faculty members. This was not just a paper process of “putting the right stuff” on the page for accrediting requirements. The renewed energy came from the human interaction of sharing ideas and thoughts. As such, the process involved both strategic and systemic thinking. Together they created better ideas than would have been possible in isolation.

**Hypothesis 8: Effective outcomes-based curriculum planning documents provide sufficient structure for institutional continuity and accountability, yet sufficient flexibility for faculty creativity and style.**

As the OCGs were developed, greater curriculum consistency evolved as faculty members learned of capstone projects others were using successfully in their classes. However, since the OCGs were designed based on outcomes and themes, issues, content and skills used to prepare students for the assessment task, a faculty member could use any method to arrive at the results. As the OCGs were strategic planning documents, no methodology was included. Faculty, however, felt the need to require a specific textbook in the OCGs to assist part-time faculty who may be isolated at a center or teaching at night with limited assistance.

## RECOMMENDATIONS

### **Recommendations for Practice**

This study was conducted at Northwest Community College (NWCC) as the institution moved through a process of developing outcome-driven curriculum. The following are eight recommendations for practice that emerged from this study.

1. Make curriculum committees aware of the common stages involved in the outcomes-based curriculum design work. The knowledge should relieve some of the anxiety associated with a new process. Emphasize the continuous improvement nature of the process.
2. Rather than attempting to “train” faculty in outcome-based curriculum reconstruction methods, build institutional capacity by preparing faculty leaders who can function as curriculum development facilitators. Provide extensive preparation for faculty facilitators so that they can facilitate the work.
3. Make planning groups aware of member differences by using such tools as a questionnaire and Gregorc Style Delineator. Provide a structure for dialogue to occur within the ACCs on an ongoing basis.
4. Do not attempt to “push” interdisciplinary collaboration early in the curriculum design process. Rather, trust that interdisciplinary motives will emerge with the process.

5. Expect outcomes-based curriculum planning to enhance collaboration and lessen competition among institutional units. As the curriculum committee works, the need to connect with other departments evolves.
6. Expect outcomes-based curriculum planning to establish strong bridges to the external community of constituents. Through the process, the necessity to view the outcomes from the community's perspective and requirements emerges.
7. Expect outcomes-based curriculum planning to renew faculty energy and commitment. Dialogue is central to the outcomes-based process as the dialogue renews energy and builds relationships through shared ideas. Arrange to pay faculty and facilitators for additional time required in making this process successful.
8. Revise curriculum planning templates and forms to balance continuity with flexibility.

### **Recommendations for Further Study**

Several questions and issues surfaced that would merit further study.

1. Test these hypotheses in another study and institution using different disciplines to compare the results and gain further insights.
2. Conduct indepth interviews of faculty members to more fully discover the cause of the renewed energy and commitment.
3. Compare the facilitated process with another institution that is converting to outcomes, but through a paper change process.



4. Investigate the needs of new instructors or part-time instructors who may need more guidance or structure from curriculum documents.

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## **APPENDICES**

**APPENDIX A**

**QUESTIONNAIRE**



## Questionnaire

Number \_\_\_\_\_

Preparatory training for current position \_\_\_\_\_

Formal degrees or certifications \_\_\_\_\_

Age \_\_\_\_\_

Sex \_\_\_\_\_

Subject matter  
background \_\_\_\_\_

Courses currently teaching \_\_\_\_\_

Number of Years teaching \_\_\_\_\_

Number of staff development workshops, conferences, or information sessions  
attended yearly \_\_\_\_\_

In the last two years, what conferences did you attend? \_\_\_\_\_

What type of sessions did you attend? \_\_\_\_\_

What type of professional reading do you do? \_\_\_\_\_

\_\_\_\_\_  
CS\_\_\_\_\_  
AS\_\_\_\_\_  
AR\_\_\_\_\_  
CR

**APPENDIX B****COURSE CONTENT OUTCOMES GUIDE**

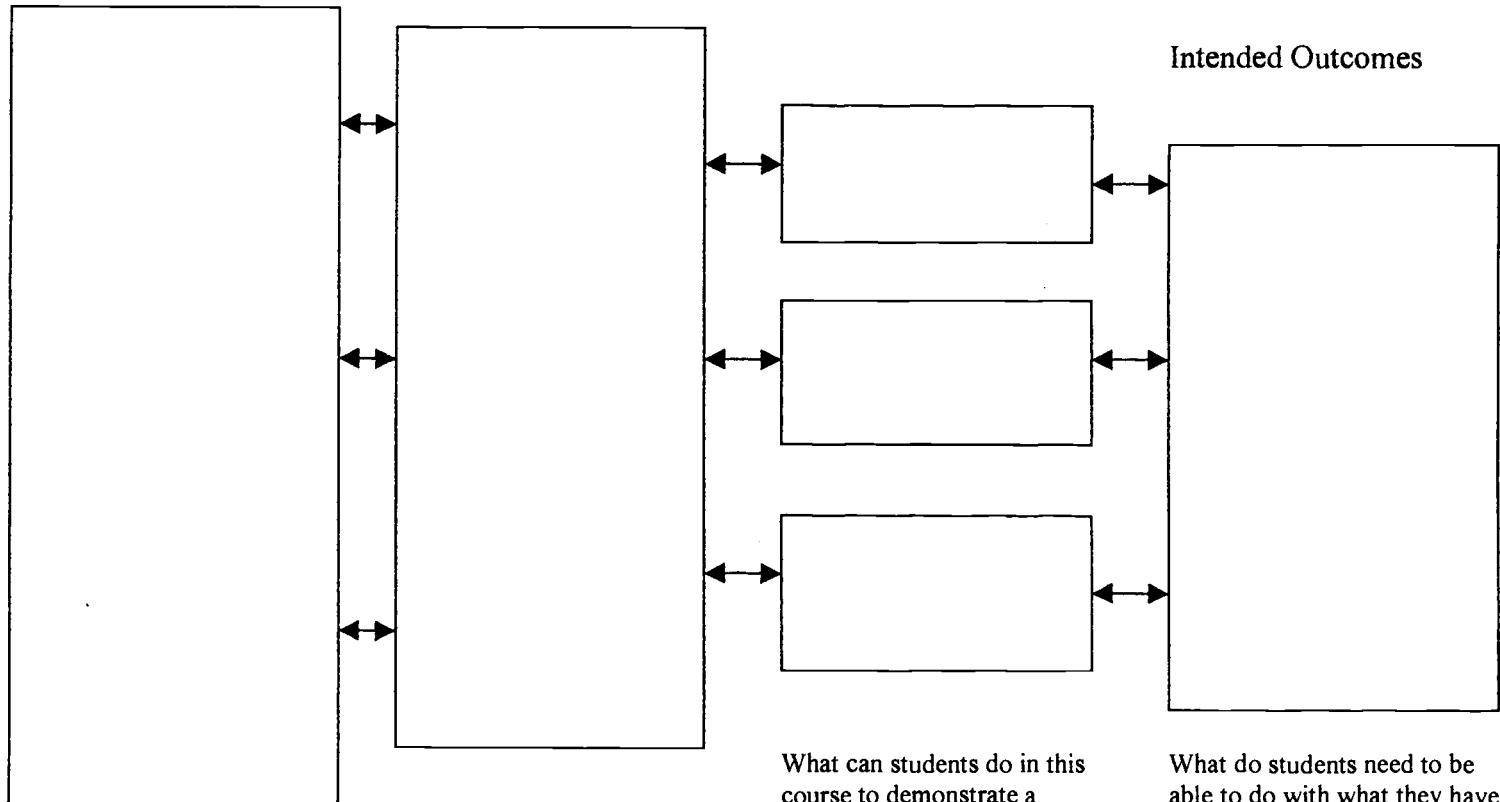
## Course Content Outcomes Guide

Themes, Concepts and  
Issues

Competencies  
And Skills

Assessment Tasks

Intended Outcomes



What concepts, themes,  
or issues must be  
understood?

What skills must be learned?

What can students do in this  
course to demonstrate a  
level of proficiency in the  
outcomes?

What do students need to be  
able to do with what they have  
learned in the course?