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ABSTRACT

This paper presents results of a nationally normed achievement test given to two graduating classes of students from the first-in-the-nation Three-Year Bachelor's Degree program in business administration. This 3-year 120-credit program at a small university in the northeast represents a new paradigm for postsecondary degree programs in that an existing 4-year (i.e., eight-semester) degree program was transformed into a competency-based, team-taught, interdisciplinary, and highly integrated academic program delivered in six semesters without summer school or intersession attendance. The program is student and faculty team intensive, involves a high degree of collaboration, and takes advantage of Web-based technologies to achieve its goals: student competency mastery. The Major Field Test (Business II) was given to two graduating classes of Three-Year students (Year 2000 and Year 2001) and to their 4-year business administration major counterparts at the university. Test results show that both of the two graduating Three-Year degree classes achieved at the same level as their 4-year counterparts. The benefits were that the 3-year degree students saved 25% of the cost of their college education and were able to enter the job market 1 year earlier than their 4-year counterparts. (Contains 5 tables, 6 figures, and 21 references.) (SLD)

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A Collaborative & Competency-based Three-Year Bachelor's Degree: Empirical Results

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Abstract

The paper presents the results of a nationally normed achievement test given to two graduating classes of students from the first-in-the-nation Three-Year bachelor's degree program in business administration. This three-year 120-credit program at a small university in the northeast, represents a new paradigm for postsecondary degree programs in that an existing four-year (i.e., 8 semester) degree program was transformed into a competency-based, team taught, inter-disciplinary and highly integrated academic program delivered in 6 semesters without summer school or intersession attendance. The program is student and faculty team intensive, involves a high degree of collaboration and takes advantage of Web-based technologies to achieve its goals: student competency mastery. The Major Field Test (Business II) was given to two graduating classes of Three-Year degree students (Year 2000 and Year 2001) and to their four-year business administration major counterparts at the university. Test results show that both of the two graduating Three-Year degree classes achieved at the same level as their four-year counterparts. The benefits were that the Three-Year degree students saved 25% of the cost of their college education and were able to enter the job market one year earlier than their four-year counterparts.

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I. Introduction[1]

Southern New Hampshire University[2], a small private university in the northeast, was one of two institutions out of over 2000 applicants to receive a Fund for the Improvement of Postsecondary Education (FIPSE) grant to develop a Three-Year undergraduate degree program to reduce the cost of going to college. A team of six faculty and professional staff conducted research resulting in a set of thirteen competencies that students must master in order to attain their undergraduate degree in business administration. See Figure 1. This research also led to a set of highly interrelated educational experiences (i.e., modules), infrastructure and culture that support student competency development and mastery.

This curriculum development effort involved almost the entire undergraduate university faculty and resulted in a Three-Year degree curriculum designed to support student mastery of these competencies. Competency development support is interdisciplinary and cross-curricular throughout the Three-Year degree program curriculum. Major academic experiences are grouped together into modules that are then divided into sub-modules. All are tied together with intra- and inter-module common threads.

The initial modules provide the foundations for the competencies in the first part of Year-One, are built upon and reinforced in the latter part of the year and throughout Year-Two and Year-Three. In order to graduate, students must demonstrate mastery of all 13 competencies by the end of Year-Three. Competency development and reinforcement occur at varying levels of intensity in each academic experience and are planned and closely coordinated through a master-planning document. Progress assessment is a weekly activity. Students always know where they stand with respect to competency mastery.

Academic value, both affective and cognitive, is added to the curriculum in a number of areas. Information and communication technology is integrated into all curricular facets as a program requirement and students are required to use notebook computers inside and outside of their wired classrooms. Umbrella academic themes bind business and liberal arts in each year. For example, the Year-One themes are “Student as Leader and Manager" and "Humanities and the Individual."

A very high degree of instructional planning and implementation integration also adds value to the curriculum. Instructors collaborate and often teach in teams, working closely together on a regular basis to coordinate and integrate student learning experiences and activities. For example, English and Information Technology faculty members meet weekly to discuss student progress and to integrate module assignments. In addition, there are one-week long Integrating Experiences at the end of each of the six semesters where student teams synthesize knowledge and skills and see the relevance and relatedness of their learning experiences.

The Three-Year degree program has these characteristics:

- Student move through the program as a cohort taking almost all of their classes together.
- Students actively participate in the learning process.
- Technology is fully integrated to facilitate and advance this learning process.
- Mutually reinforced, highly integrated and coordinated activities are woven throughout the curriculum.
- Unnecessary redundancy and overlap in the curriculum are eliminated.
- Students participate in intact workgroups both inside and outside of the classroom.
- Academic experiences are sequenced so that foundations for competencies are acquired in a timely manner.
- Competencies are reinforced, expanded and reflected in a multitude of innovative and diverse academic experiences such as the creation and management of a company in Year-Three of the program.

Faculty and student collaboration, along with student competency achievement are hallmarks of the program. Another program hallmark is that all students are required to have their own notebook computer, which they use inside and outside of their wired classrooms. A Web-based delivery system supports the cross-curricular and highly integrated nature of the modules. The notion of "classroom" has been greatly expanded by adopting a technological infrastructure (Blackboard™) that electronically connects students, teachers and business partners together over a campus computer network and via the Internet. This infrastructure both augments and facilitates individual and group learning experiences inside and outside of the regular face-to-face classroom and helps to provide students (and their instructors) with an ongoing assessment of how they are doing with respect to competency mastery.

Many academic modules are team-taught and all faculty members participating in the program are considered part of a larger team and remain so during the entire academic year. Faculty participants serve as resources and consultants for other instructors and for all students in the program. This consulting function goes well beyond what faculty members do for their own module teaching commitments.

II. Institutional Background

Southern New Hampshire University was founded in 1932 as New Hampshire College and is accredited by the New England Association of Schools and Colleges, the Association of Collegiate Business Schools and Programs, the New Hampshire Post-Secondary Education Commission, the New Hampshire State Department of Education for Teacher Certification and the American Culinary Federation Education Institute. The university offers Associate, Bachelor, Masters and Doctorate degrees. It is divided into three schools: Business; Liberal Arts; Hospitality, Tourism & Culinary Management. Together the schools offer over 40 major areas of concentration leading to a bachelor degree and 16 minors. All full-time undergraduate students in all majors, including the Three-Year degree program, follow the traditional academic calendar of two fifteen-week semesters per academic year. There are 1500 full-time undergraduate students currently enrolled at the university.

The traditional four-year Bachelor of Science in Business Administration is an 8 semester degree program housed in the School of Business, while the Three-Year Bachelor of Science in Business Administration is a 6 semester program that was designed from the "ground up" as a custom three-year academic experience. The Three-Year degree program is not a "rescheduling" or a compression of the four-year program. Its 120 credits are spread out over 6 semesters without resorting to summer school and/or intersession classes.

III. Designing the 3-Year Curriculum

The development team used some of the distinctions that Barr and Tagg (1995) make between the "instruction" and "learning" paradigms as a guide in designing the new program. For example, instructors are considered primarily as "designers of learning methods and environments" rather than primarily as "lecturers." Also, the academic degree "equals demonstrated knowledge and skill" rather than "accumulated credit hours."

A. Assess current four-year curriculum in the Business Administration major

The goal was to redesign the existing four-year 8 semester degree curriculum so that it could be offered in three years (6 semesters) cutting the cost of college by 25% without sacrificing learning outcomes. One way this could be done was to eliminate the unnecessary redundancies that existed in the established curriculum, while at the same time maintaining 120 credits of "coursework", and by streamlining the learning process. But first, the team had to understand what topics and skills were offered in each of the 40 courses that constituted the existing degree program. The team needed to know: just where these topics and skills were sequenced in the program of study; whether these topics and skills were foundational, reinforced or were contributory (along with their level of emphasis) in a particular course; and under what general competence-knowledge categories they fell.

All existing courses in the traditional four-year Business Administration degree program were given close scrutiny. To satisfy the major area, 27 credit hours are needed. The University Core requires 48 credits. The Business core requires 24 credits and Allied courses constitute 21 credits. Faculty members who taught these forty 3-credit courses completed a comprehensive and detailed curricular survey. Many faculty members attended workshops to learn how to correctly respond to the survey.

The survey instrument was comprised of three data collection forms: "Common Professional Component Course Analysis"; "Liberal Arts Component Analysis"; "General Education Competencies Analysis." Each of these three forms contained multidimensional aspects: "Course topics" rows, which the course instructors filled in, and "Areas of competence/knowledge" columns, which were different for each of the three forms. The development team constructed these during the competency determination phase described below. In addition, each cell in the instrument required two multidimensional responses: Topic emphasis level (high, moderate, low) and Levels of competence/knowledge (foundational, reinforcement, contributing). Foundational and reinforcement topics did just that: laid the foundation of a competency and reinforced it later. Contributing topics support the development of competencies when they occur but are not necessary conditions for competency development.

The collected data were compiled into "Course Data Summary Sheets" and a comprehensive multidimensional meta-analysis helped to identify what and where unnecessary redundancies and overlaps existed. This meta-analysis also helped to identify what and where foundational material was, or was not, built upon in the existing four-year Business Administration program.

The results that were collected and summarized and the meta-analyses were utilized by the team, and by instructors recruited for the Three-Year degree program, to create and integrate modules that fostered topic and competence mastery. Details can be seen in Seidman (1998).

B. Competency determination

The development team of four faculty and two professional staff began their work in February 1996. They gathered numerous professional societies curricular recommendations, studied related research, surveyed existing competency-based programs and sought ideas from faculty colleagues. This information was analyzed, synthesized and judgments were made. The process produced the thirteen competencies. See Figure 1.

The team adopted this definition of "competency":

> Competency proficiency refers to the ability of an individual to demonstrate the mastery of a skill and/or the application of a theory that leads to the successful attainment of a performance-based outcome. (Southern New Hampshire University Three 3-Year Degree Program, 1999, adapted from Boyatzis, 1982, p33)

The team adopted this working explanation of the definition:

> A competency is a system of behavior that can be applied in a wide range of situations. To become competent in any skill or knowledge area [competency] a person needs to understand the content both conceptually and behaviorally; have opportunities to practice it; get feedback on how well he or she is performing the skill or applying the knowledge; and use the competency often enough so that it is integrated into his or her behavioral repertoire. (Johnson and Johnson, 1975, pp 8-10)

Two works in particular influenced the team's thinking: "A faculty program of assessment for a college level competency-based communication core curriculum" (Aitken & Neer, 1992) identified 12 core curriculum competencies based upon extensive research. Also, from the beginning, the development team was committed to the incorporation of a significant liberal arts component into the business curriculum. "Exploring common ground in liberal and professional education" (Stark & Lowther, 1989) demonstrated how to integrate professional and liberal study in order to achieve commonly valued outcomes.

Although a number of accrediting associations were contacted, none had developed explicit competencies at that time and only one had stated outcomes. See Figure 2.

With much study, analysis and discussion, the team developed the 13 competencies that served as the basis for the outcomes of the new program and at the same time ensured that the students graduate as educated persons. All of this deliberation and analysis took place within the credit distribution constraints of the existing 120 credit four year Business Administration Degree program.

In addition to these 13 competencies, the team constructed areas of competence/knowledge that were used in analyzing existing course content in order to build Three-Year degree program modules and outcome assessments.

C. Module design

As a result of the above meta-analysis, university faculty totally reconstituted the curriculum into new academic experiences: modules and their accompanying 3-credit sub-modules. These modules covered all of the existing course topics without the unnecessary redundancies and were specifically designed to contribute to competency mastery. Each module and sub-module is inextricably linked to all of the others. Mutually reinforcing intra-modular and inter-modular learning activities and cross-disciplinary coordination are module hallmarks. The modules and sub-modules for Year-One, Year-Two and Year-Three are shown in Figures 3, 4 and 5, respectively.. Each sub-module is equivalent to 3 academic credits.

Year-One modules are carefully sequenced to provide students with the foundations for the competencies in the first part of the year. Then, these competencies are built upon and reinforced in the latter part of Year-One and throughout the Year-Two and Year-Three. All sub-modules are explicitly linked to various competencies. Competency development and reinforcement occur at varying levels of intensity in each of the modules and are coordinated and planned through a comprehensive Master Planning document. A competency reinforcement plan for Year-One modules is shown in Figure 6.

Provisions have been made for sub-modules in Year-One to map directly into existing courses in the traditional four-year program. This mapping facilitates ease of credit transfer should a student leave the Three-Year degree program in any of the two Year-One semesters. There are ten 3-credit sub-modules in Year-One that map directly into existing courses. The two weeks of Integrating Experience count as 3 credits. Public speaking is spread throughout Year-One in communications modules taught by the English faculty and thus corresponds to a Public Speaking 3-credit traditional course. Study skills and college life adjustment are spread throughout Year-One. This corresponds to a Freshman Experience 3-credit traditional course. The Three-Year student thus earns 39 credits in Year-One.

Modules are team taught, whenever possible, to enhance the educational experience for the students and to encourage interdisciplinary collaboration by participating faculty members. All instructors in the program are "hired" for the entire academic year even though their own module may constitute only a portion of the year. The idea is that all instructors comprise the "teaching team" and are available for students and for other instructors as consultants throughout the year. Teamwork is paramount. All instructors in the currently running modules meet in person or "virtually" on a weekly basis to review module and student progress and to coordinate instructional learning activities such as joint assignments and evaluations.

Students are continually evaluated in each of the modules and are thus able to know, on a weekly basis, where they stand with respect to module completion and competency mastery. Students who finish a module within the module time-frame but who have not mastered one or more competency levels, do not receive academic credit for the module until the competency level deficiency is remedied. Although total competency mastery is not expected until the end of Year-Three, mastery at certain levels of each competency is expected throughout the three years. Students can remain enrolled at the university at no additional tuition cost until competency is achieved.

D. Virtual Collaborative Environment

All students in the Three-Year degree program are required to have their own notebook computer which they use inside and outside of their wired classrooms. A Web-based delivery system supports the cross-curricular and highly integrated nature of the modules. The notion of "classroom" has been greatly expanded by utilizing this technological infrastructure, Blackboard™, which electronically connects students, teachers and business partners together over the campus computer network and the Internet. Blackboard™ facilitates individual and group learning experiences inside and outside of the regular face-to-face classroom.

This virtual classroom is an essential factor in making the Three-Year degree curriculum work. Blackboard™ provides a synchronous and an asynchronous collaborative platform for both students and instructors which allow the program to extend the classroom beyond the physical boundaries of the university campus and across time.

Each instructor can create a Blackboard™ classroom for their module. This virtual classroom consists of public (to the enrolled students) places for the module instructor to post announcements, documents, assignments and Web links. There is a module synchronous chat section that permits students to meet in real-time. The instructor has a white-board and a PowerPoint player that can be used within the chat environment. Public asynchronous module discussion forums can be created by the instructor that provide threaded discussion areas. In addition, the instructor can set up private synchronous chat and asynchronous discussion forums for student groups to operate in. These are private to the students in the group and the instructor. Blackboard™ has built-in email facility which allows private messages to be sent whenever and wherever the students and the instructors connect to the system.

Because Blackboard™ is Web-based, it is available from anywhere there is an Internet connection. Students can and do use Blackboard™ extensively from their dorm rooms, off-campus housing, and anywhere they travel to do collaborative group work and stay current on assignments. Blackboard™ has a facility that allows students to submit assignments in a 'drop box' for the instructor to retrieve, markup, grade and return. Private drop boxes are also available to groups so that they can easily share files. In addition, surveys, questionnaires, quizzes and exams can be given by the instructor within the virtual classroom environment.

Students learn to use their computers and Blackboard™ during their freshman orientation week.

E. Academic themes

The yearly program themes are meant to add even more cohesion to the academic experience. They help keep a common focus for the academic year and are addressed through guest lectures, module related readings, field trips, a summer "reading" list and other activities.

- Year-One: "Student as Leader and Manager"; "Humanities and the Individual."
- Year-Two: "Student as Leader and Manager"; "Humanities and the Group"
- Year-Three: "Student as Leader and Manager"; "Humanities and the Organization and the Community"

The themes help remind both faculty and students of some of the larger goals of the program which include: educating the student as a leader and manager; appreciate and cultivate the humanities in individual, group, organizational and community work.

IV. Curriculum Innovation: Integrating Experience

An Integrating Experience is a notable curriculum innovation built into the Three-Year degree program.

A. Year-One and Year-Two Cohorts

The Integrating Experience occurs at the conclusion of each of the six semesters in the Three-Year degree program. As part of the initial design of the Three-Year degree curriculum, the faculty created a space within the traditional semester whereby the students are required and challenged to demonstrate the integration of theories and concepts from the previous 14 weeks of study. Students are placed in intact work teams by their teaching faculty. Teams are intentionally designed to be as heterogeneous as possible. Research confirms that heterogeneous teams, while more challenging in the early stages of development, do in fact lead to higher degrees of creativity as compared to their counterpart homogeneous teams (Gordon, 2001; Katzenbach and Smith, 1993).

The Integrating Experience is an intense seven-day academic activity which begins with a kickoff meeting where students receive documentation that specifies team makeup as well as all of the things that will be required of them over the next seven days. The Integrating Experience serves several academic purposes. It reinforces several of the program competencies: teamwork, interpersonal communication, communications, information technology, and problem solving. It serves to demonstrate student acquisition and integration of knowledge and serves as a capstone experience for the just completed semester of learning. In Year-One and Year-Two, student teams typically get a comprehensive business case that is often drawn from real business events from the previous 18 months. During this weeklong Integrating Experience, students have a minimum requirement of 20 contact hours. However, students have consistently reported that team meeting time typically exceeds 60 hours during the Integrating Experience.

The Integrating Experience provides students with the opportunity to demonstrate to their faculty and other members of the university community the knowledge, skills, and abilities that they have acquired and developed throughout the concluding semester. The activities that they are required to engage in have intentionally been selected by the teaching faculty to build on the Yearly themes and material from the recently completed classes. During the weeklong experience, teams research the case and both plan and design a multimedia presentation that they present to the faculty addressing the charge given to them on the first day. There are a number of very specific requirements that reinforce the competencies and learning outcomes of the Three-Year degree curriculum. During this weeklong Integrating Experience, faculty members act as consultants to teams and are available to meet with them both a face-to-face and through the online Web-based virtual classroom environment.

On the day of the presentation teams present their findings to their teaching faculty and other invited members of the university community. Members of other teams are prohibited from attending presentations. This is consistent with the notion that a primary goal of the Integrating Experience is not competition between teams, but rather to focus on a standard of excellence within one's own team.

Shortly after the Integrating Experience, students receive a detailed narrative evaluation from their grading faculty. The grading schema for the Integrating Experience is team based. Thus while students receive both individual and team feedback, presenting team members receive a common grade. Due to the team based grading system, students are required to complete 360° evaluations. If students, through the assessment process, identify a non-contributor, then that student's individual grade will be adjusted based on the judgment of the grading faculty. The peer-based assessment framework is discussed in a later section of this paper.

B. Year-Three Cohort

In Year-Three of the program the students join together and operate as an organizational entity for the purposes of providing a service to area businesses. Specifically, students operate a business that places them in an environment where they must identify, contact, and market their services to a local business.

In the fall semester, the senior class develops a vision, mission, business strategies, and other components of a business plan that they will use to carry out the business throughout the remaining academic year. Throughout this yearlong Integrating Experience, students develop organizational policies and employment contracts which serve to define the roles and responsibilities that they accept as a participant in the Integrating Experience. This culminating Integrating Experience has proven tremendously successful in each of the last three academic years. Each senior class, in consultation with their faculty, is encouraged to take the business in a direction that best fits the class skill area and talents. As in the case of the Year-One and Year-Two Integrating Experiences, the seniors are required to make end of semester presentations to their faculty. The content of these presentations focuses on the business plan, key business strategies, operational issues, and evaluation of deliverables that were provided to clients by the students.

The first two graduating classes from the Three-Year Degree Program (i.e., Years 2000 and 2001) created a company to design and build Web sites for local businesses. The Class of 2001 was commissioned by New Hampshire's largest law firm to identifying best practices for law firm Web sites. After presenting their findings to the law firm's managing partners, the partners commissioned the students to move forward with a redesign of the law firm's existing Web site. This project was intensive and rewarding for the class. The feedback in the evaluation completed by the managing director of the law firm indicated the high level of satisfaction with the finished project and, in the written evaluation of the students, the managing director expressed praise for their skill, knowledge, and professionalism that the students displayed throughout the length of this educational experience.

The graduating Class of 2002 created a company that identified and pursued not-for-profit organizations in need of multimedia presentations for their constituents. By graduation time, this year's senior class will have completed three such presentations for their clients.

The Integrating Experience has proven to be a very powerful and comprehensive learning experience for the students. Students get to experience firsthand the benefits and practical applications of their curriculum. The curriculum takes on life and becomes meaningful for the learners. The Integrating Experience also provides a forum for faculty and students to share, discuss, debate, and advance the understanding of the challenges faced by the participants. Faculty involvement in the Integrating Experience has led to collaborative conversations across disciplines as to how this model might be integrated into the entire university.

V. Assessment Methods and Measures

The Three-Year degree program employs a variety of assessment measures in order to determine its effectiveness in meeting university expectations for student success and to demonstrate program outcome for accreditation agencies. What follows is a description of a standardized test that was used to establish a baseline of academic performance within the Three-Year degree program and to compare these students with their four-year counterparts at the university. In addition to the description of this standardized test and the results, we discuss a number of qualitative measures we use to further determine the impact of this student-centered curriculum: 360° Peer Assessment amongst other assessment measures.

A. ETS Major Field Test (Business II)

The Major Field Tests are used by colleges and universities to measure student academic achievement and growth and to assess the educational outcomes of their programs. In addition, the field tests are used by departments evaluating their curriculum and considering curriculum changes, and by faculty measuring the progress of their students. The tests also provide students with an assessment of their own level of achievement within a field of study.

The content for the Major Field Tests reflects the basic knowledge and understanding gained in the undergraduate curriculum. The tests have been designed to assess mastery of concepts, principles and knowledge expected of students at the conclusion of a major in specific subject areas. The Business II Test (Educational Testing Service, 2000) contains eight sub-areas of focus: accounting, economics, management, quantitative business analysis, finance, marketing, legal and social environment, and international issues.

In addition to factual knowledge, the Major Field Test evaluates the ability to analyze and solve problems, understand relationships, and interpret material. The Test may contain questions that require interpretation of graphs, diagrams, and charts based on material related to the field.

Question Addressed by the Test

We wanted to know whether or not students graduating from the Three-Year degree Business Administration program achieved the same level of business knowledge as their counterparts graduating from the four-year degree Business Administration curriculum?

Methodology

This was a descriptive post-test-only quasi-experimental design using: an intact convenience sample of the Three-Year degree Year 2000 (n=13) and Year 2001(n=13) graduating classes; and a random sample of Business Administration majors from the four-year degree senior class of Year 2000 (n=11) and Year 2001 (n=42).

The Major Field Tests (Business II) standardized test created and distributed by the Educational Testing Service was administered to the groups of graduating students in the spring semesters of 2000 and 2001. We examined the level of proficiency that each group demonstrated as measured by the "cumulative score."

The cumulative score on the Business II test was the dependent variable. We used analysis of covariance to compare the mean group scores against one another after factoring out high school GPA and combined math and verbal SAT scores in order to compensate for differential admissions policies.

Hypothesis:

Our first null hypothesis was that the Three-Year degree class of 2000 mean group score on the Business II test is equal to the mean group score of the four-year class of 2000 comparison group. Our second null hypothesis was that the Three-Year degree class of 2001 mean group score on the Business II test is equal to the mean group score of the four-year class of 2001 comparison group.

Results of the Major Field Test (Business II)

Class of 2000 Results

The Three-Year degree class of 2000 combined math and verbal SAT scores were significantly higher than the four-year degree student scores. $F(1,23)=5.642$, $p=.000$. See Table 1. Also, the Three-Year degree class of 2000 high school GPA scores were significantly higher than the four-year degree student scores. $F(1,23)=2.819$, $p=.010$. See Table 2. This reflected the differential admissions policies for the two programs.

An analysis of covariance shows that when controlling for high school GPA and combined math and verbal SAT scores, there is no significant difference between the Three-Year degree class of 2000 (n=13, mean=154.54, SD=10.27) and their four-year counterparts (n=11, mean=142.27, SD=12.17) on the Business II measure. $F(1,23)=.787$, $p=.386$. See Table 3.

Class of 2001 Results

The Three-Year degree class of 2001 combined math and verbal SAT scores were significantly higher than the four-year degree student scores. $F(1,53)=3.368$, $p=.001$. See Table 4. Also, the Three-Year degree class of 2001 high school GPA's scores were significantly higher than the four-year degree student scores. $F(1,58)=2.424$, $p=.018$. See Table 5. This reflected the differential admissions policies for the two programs.

An analysis of covariance shows that when controlling for high school GPA and combined math and verbal SAT scores, there is no significant difference between the Three-Year degree class of 2001 ($n=13$, mean=149.23, SD=11.23) and their four-year counterparts ($n=42$, mean=142.21, SD=11.32) on the Business II measure. $F(1,54)=.18$, $p=.893$. See Table 6.

Discussion of Results

An analysis of covariance demonstrates that when controlling for high school GPA and combined math and verbal SAT scores, there is no significant difference between the Three-Year degree class of 2000 and their four-year counterparts. Similarly, an analysis of covariance demonstrates that when controlling for high school GPA and combined math and verbal SAT scores, there is no significant difference between the Three-Year degree class of 2001 and their four-year counterparts.

The two graduating class test results support the conclusion that the Three-Year degree class of 2000 and class of 2001 achieved at the same level on the Business II test as their four-year counterpart after controlling for the affects of high school grade point average and combined math and verbal scores.

We can conclude the Three-Year degree Business Administration students do as well in the business-related content as their four-year degree Business Administration student counterparts at the university. Because of differential admission criteria for the Three-Year degree and four-year programs, the statistical analyses factored out the influences of high school GPA and combined math and verbal SAT scores.

B. 360° Peer Assessment, Intact Work Teams and Team-based grades

The Three-Year degree curriculum is a team intensive academic experience. Students are intentionally placed in teams and work collaboratively toward the attainment of team based grades based upon completion of team based projects. The faculty recognizes that the role of teams in the curriculum helps students to develop the team skills and knowledge required for successful participation in team based organizations throughout their professional careers. A clear challenge in ensuring a successful team experience is providing a mechanism for team member peer assessment. Whether one participates in an academic type team or a true professional workplace team, the concerns of the participants, as acknowledged through the literature are indeed the same: no one wants to carry a non-performer. (Katzenbach and Smith, 1993)

Three-Year degree students are introduced in their first semester to a 360° comprehensive written peer assessment evaluation framework. The notion of 360° implies that every member of the team must provide performance-based feedback to every other member of that same team. If a team member receives an extraordinarily high mark or an extraordinarily low mark, team members must provide specific examples supporting their feedback. Through this process, students learn early on that their opinions matter and that they are empowered throughout the team process to hold one another accountable for performance-based behavior. Peer assessments are shared with faculty members who then may use the assessments as a means for following up with individuals students.

Team-based cooperative behavior reflects an important trend in businesses today. Throughout the decade of the 1990s and into this new century, organizational leaders have sought ways to flatten out the hierarchy that exists in so many traditional businesses. The urgency behind this movement to a flatter organizational structure lies within the competitive workforce. For businesses to be rewarded with customer loyalty, they must demonstrate their ability to respond quickly and flexibly to the demands of their customers. In fact, in a recent survey conducted of over 700 New Hampshire business leaders, 92% of the CEOs responding confirmed that they now employ some form of teams within their organization (Bradley and Painchaud, 2001). These findings are consistent with national trends regarding teams in both large and small organizations.

C. Qualitative Assessment Methods

We briefly describe several qualitative assessment measures utilized in the Three-Year degree program: Non-participant observation; Prolonged engagement; Participant observation.

A core group of Three-Year degree program teaching faculty committed themselves to this academic innovation. These faculty members participated in the initial research and development of the curriculum and taught in each of the years since the program began in September 1997. These faculty members serve as mentors, moderators, and facilitators in the ongoing faculty discussions regarding the performance observations that faculty do on students in the program.

Prolonged engagement and persistent observation as described by Lincoln and Guba (1985) are two of three recognized qualitative measures utilized by the faculty. Teaching faculty members meet weekly throughout the semester collaborating and sharing their observations of each and every student. Consideration of academic rigor, social pressures, and the coordination of academic assignments are three examples of content issues discussed in these weekly meetings. In addition to developing a "collective intelligence" regarding the Three-Year degree students, faculty members team teach and visit each other's classrooms thus adding to the development of a thick description.

The techniques of prolonged engagement and persistent observation were triangulated with the third qualitative assessment technique: non-participant observation. The employment of non-participant observation occurs each semester as faculty members teaching in one Year of the program observe the performance of students in the other two Years of the program. These documented observations, coupled with the close oversight of the Three-Year Degree Steering Committee, has and continues to provide important data on student performance which we will report on in a future paper.

VI. Lessons Learned and Potential Significance for Post-secondary Education

A. Three-Year Degree Program: What we have learned

To date, the Three-Year degree program in Business Administration is viewed as a success within the context of one university's learning environment. The program demonstrates several major strengths that are leveraged through the delivery of this innovative curriculum.

First, the curriculum represents a highly integrative learning environment that positions the student at the center of learning. Second, the program employs a cross-curricular competency development curriculum that eliminates overlap and unnecessary redundancy often found in the traditional curricula. Third, the academic courses/modules are grouped in the first three semesters in an intentional manner with prior modules providing the foundation for successive modules. Fourth, continuous assessment and curriculum improvement is a hallmark of this program. Fifth, the Integrating Experience that occurs at the conclusion of the each of the Year-One and Year-Two six semesters, and throughout Year-Three, is a powerful and efficacious culminating experience for the learner. Sixth, information and communications technology are fully integrated into the curriculum and as such, extend the physical classroom into a continuously available virtual classroom.

Since the inception of the Three-Year degree program, we have collected qualitative and quantitative data that confirms the following about students in the program.

- Students completing their Bachelor of Science in Business Administration in the Three-Year degree program do as well on the Business II Test as students who complete their Bachelor of Science in Business Administration in the university's traditional four year degree program.

- Students learn best in an interactive engaging learning environment. To this end, faculty members are challenged to move away from the lecture format and to utilize case studies, experiential learning, and team projects when and where appropriate and possible.

- Students learn best when they are able to apply what they are learning when they are learning it. Here again, faculty are challenged to create real world connections to the curriculum whether the curriculum be general education, humanities, or business specific.

- Students need the opportunity to develop group member skills and abilities and to demonstrate a high level of technology comfort. Teams are becoming an important strategy for organizational success in the 21st century. Yet, teams may be made up of members who are working from different continents from around the world. It is the combination of team development skills coupled with communication and information technology knowledge and skills that lead to high performance learners.

- Success in learning stimulates additional learning and to be successful to this end students desire and deserve continual feedback regarding their knowledge, skills, and abilities. The Three-Year degree program has and continues to employ multiple means of individual and team performance-based assessment.

B. Postsecondary Education Significance

This complete re-engineering of a four-year undergraduate major involved a number of novel curricular assessment tools and analysis techniques. The high degree of academic coordination in the development and promotion of student competence mastery and module delivery required a significant re-orientation of traditional academic structure and politics.

The results of the empirical study reported here demonstrate that students can reduce their time in college and their college cost by 25 percent while at the same time achieving at the same level as students in the traditional four-year program.

We do not attempt generalize our empirical results beyond Southern New Hampshire University. Although this non-compressed competency and outcomes based Three-Year Bachelor's degree program is unique in academe, we believe that it could presage a fundamental change in the way undergraduate education is structured and delivered in the future.

Notes:

1. Some of what follows in this paper is adapted from Seidman (1998).The determination of the program competencies, the analysis and re-engineering of the previous four-year degree program into a three-year degree program and the creation of the new modules has been chronicled in great detail (Seidman, 1998).

2. Southern New Hampshire University was named New Hampshire College at the time of the grant.

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Figure 1. Competencies: Southern New Hampshire University Three-Year Bachelors Degree in Business Administration

1. Communication: To master written, verbal, and electronic communication as well as reading comprehension that is appropriate for an entry level management position and for advancement thereafter.

2. Information Technology: To master and apply state-of-the-art computer information-based business applications.

3. Research: To conduct primary and secondary research and understand, analyze, and interpret the results of the research.

4. Problem Solving: To conduct analytical and creative problem detection and problem solving.

5. Organizational Leadership: To understand how and be able to function as an effective team, group, and organizational leader.

6. Group Membership: To understand how and be able to function as an effective group and/or team member.

7. Strategic Management: To think, analyze, manage, and plan strategically.

8. International Perspective: To achieve a multi-disciplinary, global perspective in order to understand others and make more effective international business decisions.

9. Interpersonal Skills: To develop a broad range of interpersonal skills to use in multicultural and diverse work force settings.

10. Business Directions: To master the importance, significance, and meaning of business trends in their larger historical, political, economical, social, cultural, geopolitical, and technological contexts.

11. Legal and Ethical Issues: To understand the legal and ethical considerations and implications of personal, social, business and international business behavior and activities.

12. Quantitative and Qualitative Analyses: To understand and apply quantitative and qualitative methods of analysis as a basis for making business decisions.

13. Humanities and Sciences: To understand and appreciate how science, history, literature, and the arts, impact society, politics, business, economics, culture, and technology trends.

Figure 2. Accrediting Associations Contacted

New England Association of Schools and Colleges (stated outcomes)

Accrediting Council on Education in Journalism and Mass Communications

American Assembly of Collegiate Schools of Business

Computing Sciences Accreditation Board

National Council for Accreditation of Teacher Education

Accreditation Council for Independent Colleges and Schools

Association of Collegiate Business Schools and Programs

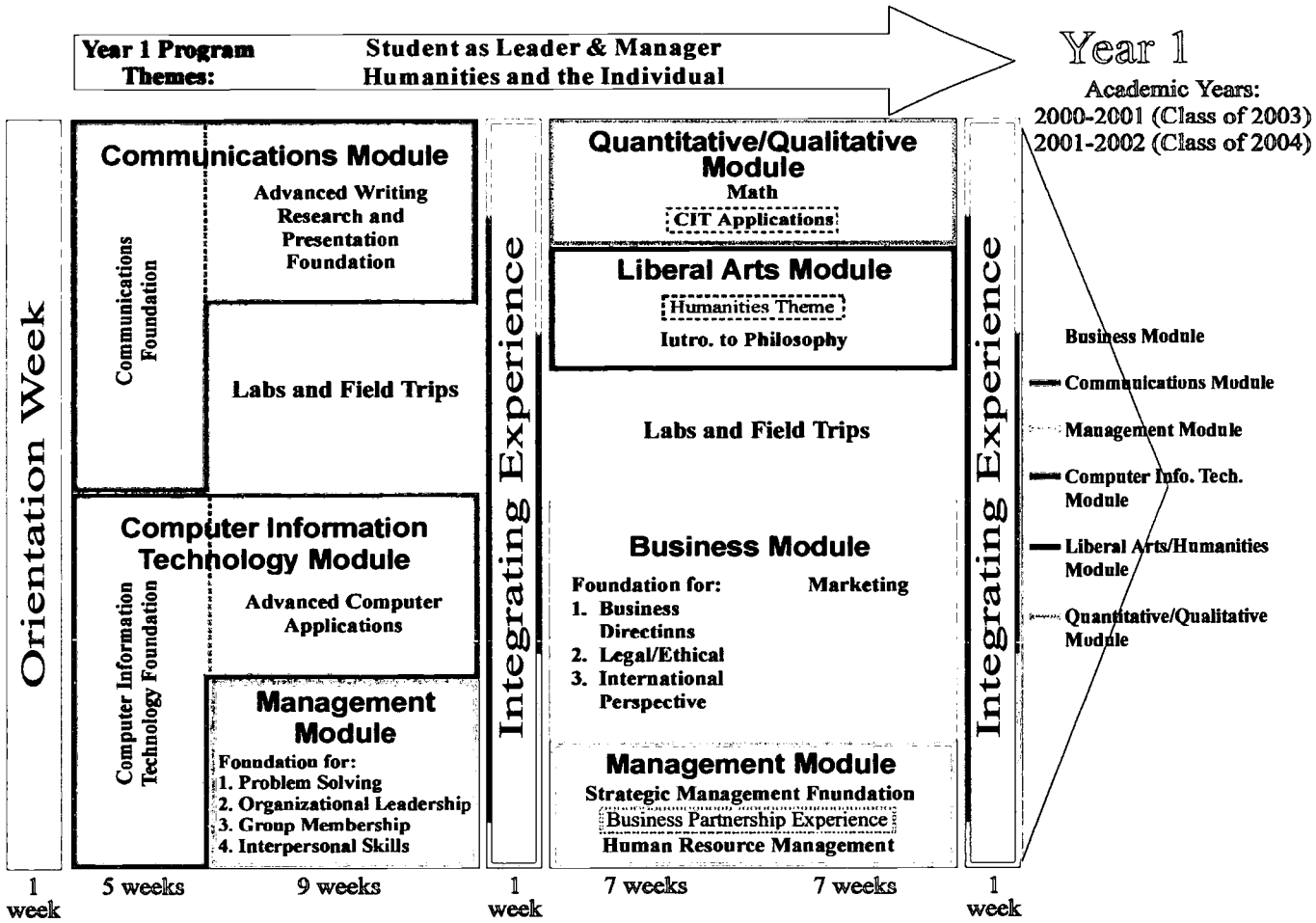

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Figure 3 Year-One Modules

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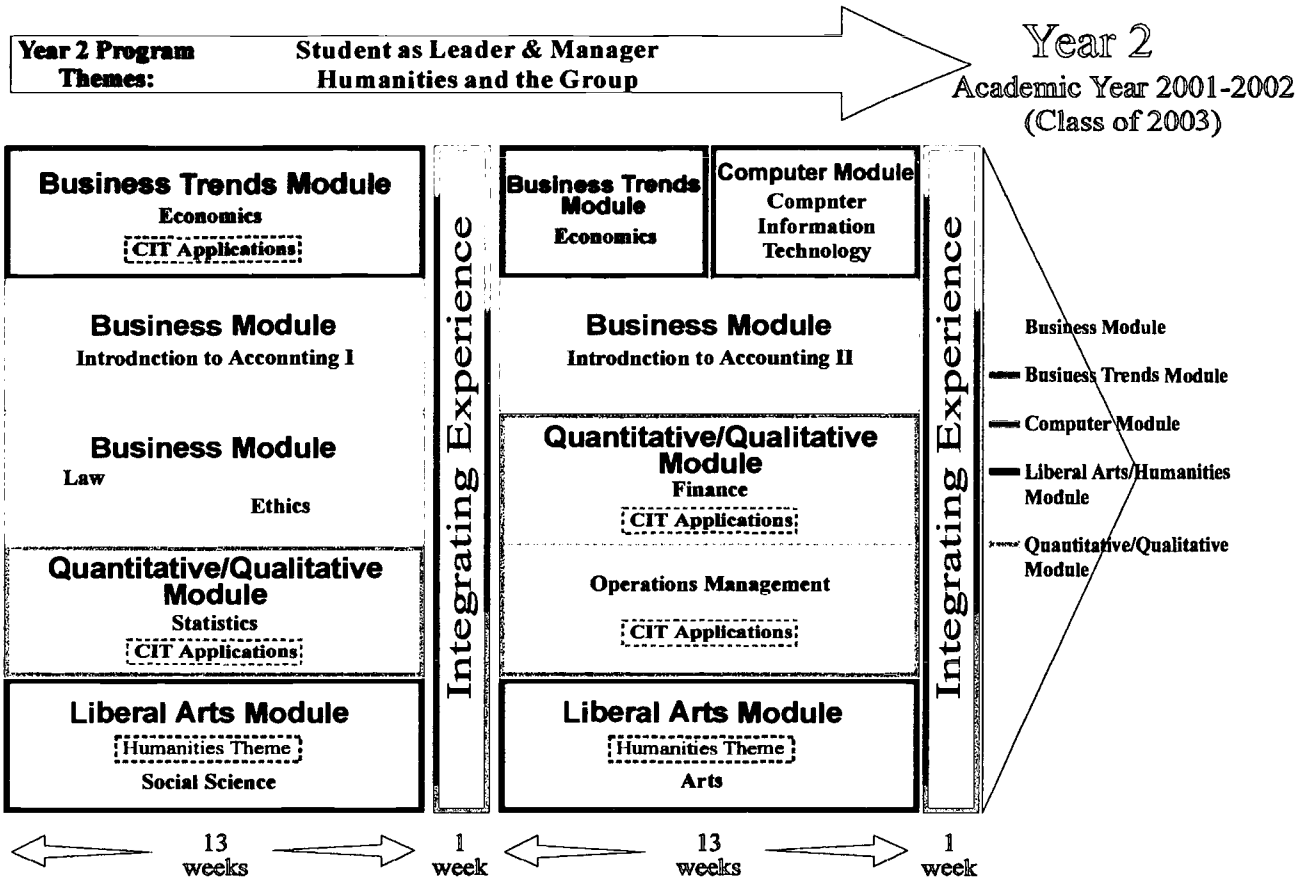

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Figure 4 Year-Two Modules

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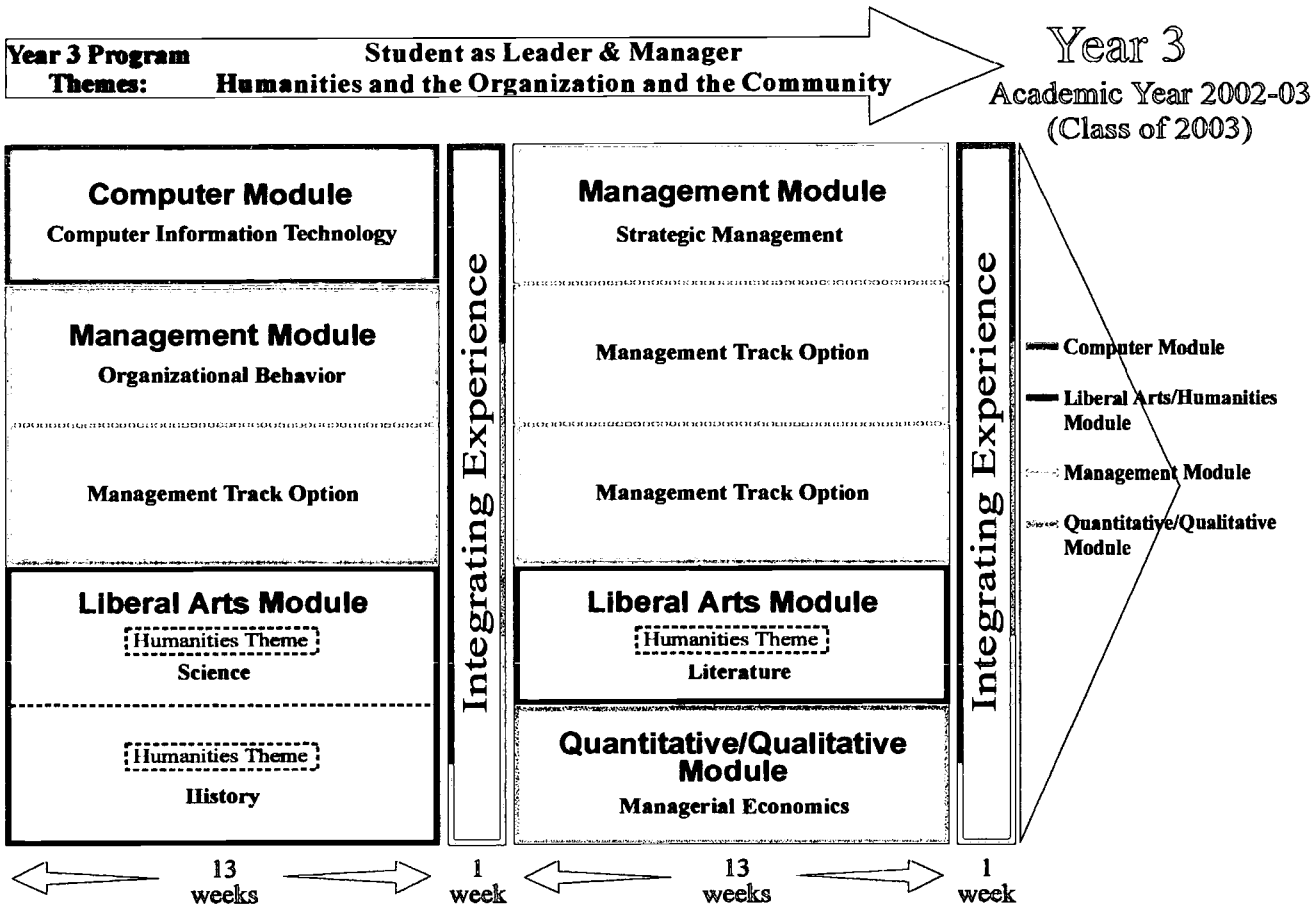

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Figure 5 Year-Three Modules

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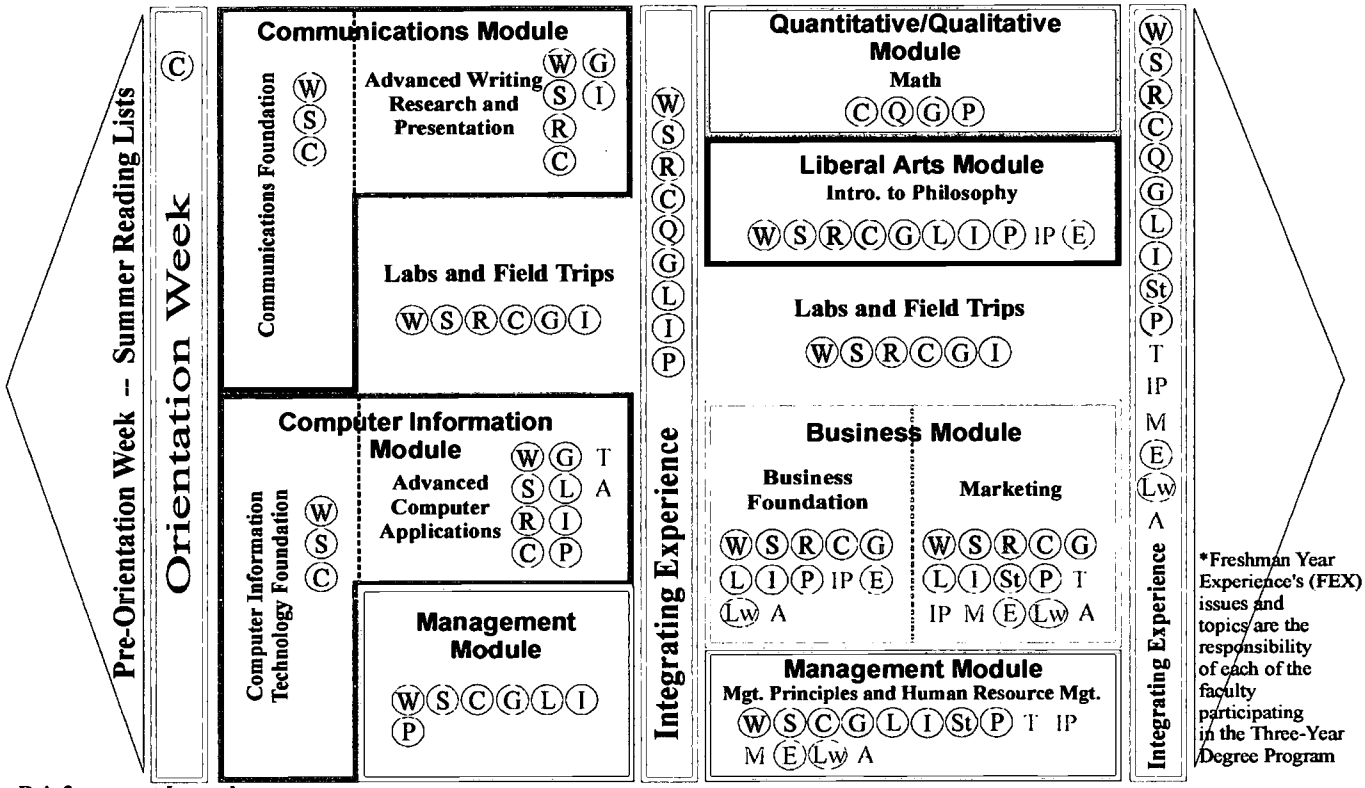
Year 1 Competency Reinforcement Plan

Assessment of student progress and the program will be conducted throughout.



Reinforcement Legend

W Writing	C Computer	L Org-Leadership	T Business Trends	Lw Law	St Strategic Mgt
S Speaking	Q Quant./Qual.	I Interpersonal Skills	IP Int'l Perspective		M Marketing
R Research	G Group Member	P Problem Solving	E Ethics		A Accounting

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Figure 6 Competency Reinforcement Plan for Year-One Modules

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	GROUP	N	Mean	Std. Deviation	Std. Error Mean
SATTOTAL	Four-Year	12	938.3333	73.09189	21.09981
	Three-Year	13	1121.5385	87.82996	24.35965

Table 1 Class of 2000 combined math and verbal SAT scores

	GROUP	N	Mean	Std. Deviation	Std. Error Mean
HSGPA	Four-Year	12	2.7253	.49327	.14240
	Three-Year	13	3.2292	.39880	.11061

Table 2 Class of 2000 high school GPA scores

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power
Corrected Model	1052.533	3	350.844	2.710	.072	.289	8.130	.569
Intercept	1647.459	1	1647.459	12.725	.002	.389	12.725	.924
SATTOTAL	151.906	1	151.906	1.173	.292	.055	1.173	.178
HSGPA	2.748E-04	1	2.748E-04	.000	.999	.000	.000	.050
GROUP	101.884	1	101.884	.787	.386	.038	.787	.135
Error	2589.301	20	129.465					
Total	535870.000	24						
Corrected Total	3641.833	23						

a. Computed using alpha = .05 b. R Squared = .289 (Adjusted R Squared = .182)

Table 3 Class of 2000 Tests of Between-Subjects Effects
(Dependent Variable: Business II Test Scores)

	GROUP	N	Mean	Std. Deviation	Std. Error Mean
SATTOTAL	Four-Year	42	946.4286	122.39124	18.88538
	Three-Year	13	1069.2308	84.40592	23.40999

Table 4 Class of 2001 combined math and verbal SAT scores

	GROUP	N	Mean	Std. Deviation	Std. Error Mean
HSGPA	Four-Year	46	2.7613	.53424	.07877
	Three-Year	14	3.1529	.51175	.13677

Table 5 Class of 2001 high school GPA scores

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power
Corrected Model	2460.850	3	820.283	8.731	.000	.339	26.194	.992
Intercept	5156.309	1	5156.309	54.886	.000	.518	54.886	1.000
SATTOTAL	1674.657	1	1674.657	17.826	.000	.259	17.826	.985
HSGPA	.138	1	.138	.001	.970	.000	.001	.050
GROUP	1.702	1	1.702	.018	.893	.000	.018	.052
Error	4791.259	51	93.946					
Total	1145717.000	55						
Corrected Total	7252.109	54						

a. Computed using alpha = .05 b. R Squared = .339 (Adjusted R Squared = .300)

Table 6 Class of 2001 Tests of Between-Subjects Effects
(Dependent Variable: Business II Test Scores)

A Collaborative & Competency-based Three-Year Bachelor's Degree: Empirical Results

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American Educational Research Association
2002 Annual Meeting - New Orleans, LA
Division J - Paper Session
Faculty and the Curriculum: Institutional and State Policy Issues and Implications

Abstract

The paper presents the results of a nationally normed achievement test given to two graduating classes of students from the first-in-the-nation Three-Year bachelor's degree program in business administration. This three-year 120-credit program at a small university in the northeast, represents a new paradigm for postsecondary degree programs in that an existing four-year (i.e., 8 semester) degree program was transformed into a competency-based, team taught, inter-disciplinary and highly integrated academic program delivered in 6 semesters without summer school or intersession attendance. The program is student and faculty team intensive, involves a high degree of collaboration and takes advantage of Web-based technologies to achieve its goals: student competency mastery. The Major Field Test (Business II) was given to two graduating classes of Three-Year degree students (Year 2000 and Year 2001) and to their four-year business administration major counterparts at the university. Test results show that both of the two graduating Three-Year degree classes achieved at the same level as their four-year counterparts. The benefits were that the Three-Year degree students saved 25% of the cost of their college education and were able to enter the job market one year earlier than their four-year counterparts.

I. Introduction[1]

Southern New Hampshire University[2], a small private university in the northeast, was one of two institutions out of over 2000 applicants to receive a Fund for the Improvement of Postsecondary Education (FIPSE) grant to develop a Three-Year undergraduate degree program to reduce the cost of going to college. A team of six faculty and professional staff conducted research resulting in a set of thirteen competencies that students must master in order to attain their undergraduate degree in business administration. See Figure 1. This research also led to a set of highly interrelated educational experiences (i.e., modules), infrastructure and culture that support student competency development and mastery.

This curriculum development effort involved almost the entire undergraduate university faculty and resulted in a Three-Year degree curriculum designed to support student mastery of these competencies. Competency development support is interdisciplinary and cross-curricular throughout the Three-Year degree program curriculum. Major academic experiences are grouped together into modules that are then divided into sub-modules. All are tied together with intra- and inter-module common threads.

The initial modules provide the foundations for the competencies in the first part of Year-One, are built upon and reinforced in the latter part of the year and throughout Year-Two and Year-Three. In order to graduate, students must demonstrate mastery of all 13 competencies by the end of Year-Three. Competency development and reinforcement occur at varying levels of intensity in each academic experience and are planned and closely coordinated through a master-planning document. Progress assessment is a weekly activity. Students always know where they stand with respect to competency mastery.

Academic value, both affective and cognitive, is added to the curriculum in a number of areas. Information and communication technology is integrated into all curricular facets as a program requirement and students are required to use notebook computers inside and outside of their wired classrooms. Umbrella academic themes bind business and liberal arts in each year. For example, the Year-One themes are “Student as Leader and Manager" and "Humanities and the Individual."

A very high degree of instructional planning and implementation integration also adds value to the curriculum. Instructors collaborate and often teach in teams, working closely together on a regular basis to coordinate and integrate student learning experiences and activities. For example, English and Information Technology faculty members meet weekly to discuss student progress and to integrate module assignments. In addition, there are one-week long Integrating Experiences at the end of each of the six semesters where student teams synthesize knowledge and skills and see the relevance and relatedness of their learning experiences.

The Three-Year degree program has these characteristics:

- Student move through the program as a cohort taking almost all of their classes together.
- Students actively participate in the learning process.
- Technology is fully integrated to facilitate and advance this learning process.
- Mutually reinforced, highly integrated and coordinated activities are woven throughout the curriculum.
- Unnecessary redundancy and overlap in the curriculum are eliminated.
- Students participate in intact workgroups both inside and outside of the classroom.
- Academic experiences are sequenced so that foundations for competencies are acquired in a timely manner.
- Competencies are reinforced, expanded and reflected in a multitude of innovative and diverse academic experiences such as the creation and management of a company in Year-Three of the program.

Faculty and student collaboration, along with student competency achievement are hallmarks of the program. Another program hallmark is that all students are required to have their own notebook computer, which they use inside and outside of their wired classrooms. A Web-based delivery system supports the cross-curricular and highly integrated nature of the modules. The notion of "classroom" has been greatly expanded by adopting a technological infrastructure (Blackboard™) that electronically connects students, teachers and business partners together over a campus computer network and via the Internet. This infrastructure both augments and facilitates individual and group learning experiences inside and outside of the regular face-to-face classroom and helps to provide students (and their instructors) with an ongoing assessment of how they are doing with respect to competency mastery.

Many academic modules are team-taught and all faculty members participating in the program are considered part of a larger team and remain so during the entire academic year. Faculty participants serve as resources and consultants for other instructors and for all students in the program. This consulting function goes well beyond what faculty members do for their own module teaching commitments.

II. Institutional Background

Southern New Hampshire University was founded in 1932 as New Hampshire College and is accredited by the New England Association of Schools and Colleges, the Association of Collegiate Business Schools and Programs, the New Hampshire Post-Secondary Education Commission, the New Hampshire State Department of Education for Teacher Certification and the American Culinary Federation Education Institute. The university offers Associate, Bachelor, Masters and Doctorate degrees. It is divided into three schools: Business; Liberal Arts; Hospitality, Tourism & Culinary Management. Together the schools offer over 40 major areas of concentration leading to a bachelor degree and 16 minors. All full-time undergraduate students in all majors, including the Three-Year degree program, follow the traditional academic calendar of two fifteen-week semesters per academic year. There are 1500 full-time undergraduate students currently enrolled at the university.

The traditional four-year Bachelor of Science in Business Administration is an 8 semester degree program housed in the School of Business, while the Three-Year Bachelor of Science in Business Administration is a 6 semester program that was designed from the "ground up" as a custom three-year academic experience. The Three-Year degree program is not a "rescheduling" or a compression of the four-year program. Its 120 credits are spread out over 6 semesters without resorting to summer school and/or intersession classes.

III. Designing the 3-Year Curriculum

The development team used some of the distinctions that Barr and Tagg (1995) make between the "instruction" and "learning" paradigms as a guide in designing the new program. For example, instructors are considered primarily as "designers of learning methods and environments" rather than primarily as "lecturers." Also, the academic degree "equals demonstrated knowledge and skill" rather than "accumulated credit hours."

A. Assess current four-year curriculum in the Business Administration major

The goal was to redesign the existing four-year 8 semester degree curriculum so that it could be offered in three years (6 semesters) cutting the cost of college by 25% without sacrificing learning outcomes. One way this could be done was to eliminate the unnecessary redundancies that existed in the established curriculum, while at the same time maintaining 120 credits of "coursework", and by streamlining the learning process. But first, the team had to understand what topics and skills were offered in each of the 40 courses that constituted the existing degree program. The team needed to know: just where these topics and skills were sequenced in the program of study; whether these topics and skills were foundational, reinforced or were contributory (along with their level of emphasis) in a particular course; and under what general competence-knowledge categories they fell.

All existing courses in the traditional four-year Business Administration degree program were given close scrutiny. To satisfy the major area, 27 credit hours are needed. The University Core requires 48 credits. The Business core requires 24 credits and Allied courses constitute 21 credits. Faculty members who taught these forty 3-credit courses completed a comprehensive and detailed curricular survey. Many faculty members attended workshops to learn how to correctly respond to the survey.

The survey instrument was comprised of three data collection forms: "Common Professional Component Course Analysis"; "Liberal Arts Component Analysis"; "General Education Competencies Analysis." Each of these three forms contained multidimensional aspects: "Course topics" rows, which the course instructors filled in, and "Areas of competence/knowledge" columns, which were different for each of the three forms. The development team constructed these during the competency determination phase described below. In addition, each cell in the instrument required two multidimensional responses: Topic emphasis level (high, moderate, low) and Levels of competence/knowledge (foundational, reinforcement, contributing). Foundational and reinforcement topics did just that: laid the foundation of a competency and reinforced it later. Contributing topics support the development of competencies when they occur but are not necessary conditions for competency development.

The collected data were compiled into "Course Data Summary Sheets" and a comprehensive multidimensional meta-analysis helped to identify what and where unnecessary redundancies and overlaps existed. This meta-analysis also helped to identify what and where foundational material was, or was not, built upon in the existing four-year Business Administration program.

The results that were collected and summarized and the meta-analyses were utilized by the team, and by instructors recruited for the Three-Year degree program, to create and integrate modules that fostered topic and competence mastery. Details can be seen in Seidman (1998).

B. Competency determination

The development team of four faculty and two professional staff began their work in February 1996. They gathered numerous professional societies curricular recommendations, studied related research, surveyed existing competency-based programs and sought ideas from faculty colleagues. This information was analyzed, synthesized and judgments were made. The process produced the thirteen competencies. See Figure 1.

The team adopted this definition of "competency":

> Competency proficiency refers to the ability of an individual to demonstrate the mastery of a skill and/or the application of a theory that leads to the successful attainment of a performance-based outcome. (Southern New Hampshire University Three 3-Year Degree Program, 1999, adapted from Boyatzis, 1982, p33)

The team adopted this working explanation of the definition:

> A competency is a system of behavior that can be applied in a wide range of situations. To become competent in any skill or knowledge area [competency] a person needs to understand the content both conceptually and behaviorally; have opportunities to practice it; get feedback on how well he or she is performing the skill or applying the knowledge; and use the competency often enough so that it is integrated into his or her behavioral repertoire. (Johnson and Johnson, 1975, pp 8-10)

Two works in particular influenced the team's thinking: "A faculty program of assessment for a college level competency-based communication core curriculum" (Aitken & Neer, 1992) identified 12 core curriculum competencies based upon extensive research. Also, from the beginning, the development team was committed to the incorporation of a significant liberal arts component into the business curriculum. "Exploring common ground in liberal and professional education" (Stark & Lowther, 1989) demonstrated how to integrate professional and liberal study in order to achieve commonly valued outcomes.

Although a number of accrediting associations were contacted, none had developed explicit competencies at that time and only one had stated outcomes. See Figure 2.

With much study, analysis and discussion, the team developed the 13 competencies that served as the basis for the outcomes of the new program and at the same time ensured that the students graduate as educated persons. All of this deliberation and analysis took place within the credit distribution constraints of the existing 120 credit four year Business Administration Degree program.

In addition to these 13 competencies, the team constructed areas of competence/knowledge that were used in analyzing existing course content in order to build Three-Year degree program modules and outcome assessments.

C. Module design

As a result of the above meta-analysis, university faculty totally reconstituted the curriculum into new academic experiences: modules and their accompanying 3-credit sub-modules. These modules covered all of the existing course topics without the unnecessary redundancies and were specifically designed to contribute to competency mastery. Each module and sub-module is inextricably linked to all of the others. Mutually reinforcing intra-modular and inter-modular learning activities and cross-disciplinary coordination are module hallmarks. The modules and sub-modules for Year-One, Year-Two and Year-Three are shown in Figures 3, 4 and 5, respectively.. Each sub-module is equivalent to 3 academic credits.

Year-One modules are carefully sequenced to provide students with the foundations for the competencies in the first part of the year. Then, these competencies are built upon and reinforced in the latter part of Year-One and throughout the Year-Two and Year-Three. All sub-modules are explicitly linked to various competencies. Competency development and reinforcement occur at varying levels of intensity in each of the modules and are coordinated and planned through a comprehensive Master Planning document. A competency reinforcement plan for Year-One modules is shown in Figure 6.

Provisions have been made for sub-modules in Year-One to map directly into existing courses in the traditional four-year program. This mapping facilitates ease of credit transfer should a student leave the Three-Year degree program in any of the two Year-One semesters. There are ten 3-credit sub-modules in Year-One that map directly into existing courses. The two weeks of Integrating Experience count as 3 credits. Public speaking is spread throughout Year-One in communications modules taught by the English faculty and thus corresponds to a Public Speaking 3-credit traditional course. Study skills and college life adjustment are spread throughout Year-One. This corresponds to a Freshman Experience 3-credit traditional course. The Three-Year student thus earns 39 credits in Year-One.

Modules are team taught, whenever possible, to enhance the educational experience for the students and to encourage interdisciplinary collaboration by participating faculty members. All instructors in the program are "hired" for the entire academic year even though their own module may constitute only a portion of the year. The idea is that all instructors comprise the "teaching team" and are available for students and for other instructors as consultants throughout the year. Teamwork is paramount. All instructors in the currently running modules meet in person or "virtually" on a weekly basis to review module and student progress and to coordinate instructional learning activities such as joint assignments and evaluations.

Students are continually evaluated in each of the modules and are thus able to know, on a weekly basis, where they stand with respect to module completion and competency mastery. Students who finish a module within the module time-frame but who have not mastered one or more competency levels, do not receive academic credit for the module until the competency level deficiency is remedied. Although total competency mastery is not expected until the end of Year-Three, mastery at certain levels of each competency is expected throughout the three years. Students can remain enrolled at the university at no additional tuition cost until competency is achieved.

D. Virtual Collaborative Environment

All students in the Three-Year degree program are required to have their own notebook computer which they use inside and outside of their wired classrooms. A Web-based delivery system supports the cross-curricular and highly integrated nature of the modules. The notion of "classroom" has been greatly expanded by utilizing this technological infrastructure, Blackboard™, which electronically connects students, teachers and business partners together over the campus computer network and the Internet. Blackboard™ facilitates individual and group learning experiences inside and outside of the regular face-to-face classroom.

This virtual classroom is an essential factor in making the Three-Year degree curriculum work. Blackboard™ provides a synchronous and an asynchronous collaborative platform for both students and instructors which allow the program to extend the classroom beyond the physical boundaries of the university campus and across time.

Each instructor can create a Blackboard™ classroom for their module. This virtual classroom consists of public (to the enrolled students) places for the module instructor to post announcements, documents, assignments and Web links. There is a module synchronous chat section that permits students to meet in real-time. The instructor has a white-board and a PowerPoint player that can be used within the chat environment. Public asynchronous module discussion forums can be created by the instructor that provide threaded discussion areas. In addition, the instructor can set up private synchronous chat and asynchronous discussion forums for student groups to operate in. These are private to the students in the group and the instructor. Blackboard™ has built-in email facility which allows private messages to be sent whenever and wherever the students and the instructors connect to the system.

Because Blackboard™ is Web-based, it is available from anywhere there is an Internet connection. Students can and do use Blackboard™ extensively from their dorm rooms, off-campus housing, and anywhere they travel to do collaborative group work and stay current on assignments. Blackboard™ has a facility that allows students to submit assignments in a 'drop box' for the instructor to retrieve, markup, grade and return. Private drop boxes are also available to groups so that they can easily share files. In addition, surveys, questionnaires, quizzes and exams can be given by the instructor within the virtual classroom environment.

Students learn to use their computers and Blackboard™ during their freshman orientation week.

E. Academic themes

The yearly program themes are meant to add even more cohesion to the academic experience. They help keep a common focus for the academic year and are addressed through guest lectures, module related readings, field trips, a summer "reading" list and other activities.

- Year-One: "Student as Leader and Manager"; "Humanities and the Individual."
- Year-Two: "Student as Leader and Manager"; "Humanities and the Group"
- Year-Three: "Student as Leader and Manager"; "Humanities and the Organization and the Community"

The themes help remind both faculty and students of some of the larger goals of the program which include: educating the student as a leader and manager; appreciate and cultivate the humanities in individual, group, organizational and community work.

IV. Curriculum Innovation: Integrating Experience

An Integrating Experience is a notable curriculum innovation built into the Three-Year degree program.

A. Year-One and Year-Two Cohorts

The Integrating Experience occurs at the conclusion of each of the six semesters in the Three-Year degree program. As part of the initial design of the Three-Year degree curriculum, the faculty created a space within the traditional semester whereby the students are required and challenged to demonstrate the integration of theories and concepts from the previous 14 weeks of study. Students are placed in intact work teams by their teaching faculty. Teams are intentionally designed to be as heterogeneous as possible. Research confirms that heterogeneous teams, while more challenging in the early stages of development, do in fact lead to higher degrees of creativity as compared to their counterpart homogeneous teams (Gordon, 2001; Katzenbach and Smith, 1993).

The Integrating Experience is an intense seven-day academic activity which begins with a kickoff meeting where students receive documentation that specifies team makeup as well as all of the things that will be required of them over the next seven days. The Integrating Experience serves several academic purposes. It reinforces several of the program competencies: teamwork, interpersonal communication, communications, information technology, and problem solving. It serves to demonstrate student acquisition and integration of knowledge and serves as a capstone experience for the just completed semester of learning. In Year-One and Year-Two, student teams typically get a comprehensive business case that is often drawn from real business events from the previous 18 months. During this weeklong Integrating Experience, students have a minimum requirement of 20 contact hours. However, students have consistently reported that team meeting time typically exceeds 60 hours during the Integrating Experience.

The Integrating Experience provides students with the opportunity to demonstrate to their faculty and other members of the university community the knowledge, skills, and abilities that they have acquired and developed throughout the concluding semester. The activities that they are required to engage in have intentionally been selected by the teaching faculty to build on the Yearly themes and material from the recently completed classes. During the weeklong experience, teams research the case and both plan and design a multimedia presentation that they present to the faculty addressing the charge given to them on the first day. There are a number of very specific requirements that reinforce the competencies and learning outcomes of the Three-Year degree curriculum. During this weeklong Integrating Experience, faculty members act as consultants to teams and are available to meet with them both a face-to-face and through the online Web-based virtual classroom environment.

On the day of the presentation teams present their findings to their teaching faculty and other invited members of the university community. Members of other teams are prohibited from attending presentations. This is consistent with the notion that a primary goal of the Integrating Experience is not competition between teams, but rather to focus on a standard of excellence within one's own team.

Shortly after the Integrating Experience, students receive a detailed narrative evaluation from their grading faculty. The grading schema for the Integrating Experience is team based. Thus while students receive both individual and team feedback, presenting team members receive a common grade. Due to the team based grading system, students are required to complete 360° evaluations. If students, through the assessment process, identify a non-contributor, then that student's individual grade will be adjusted based on the judgment of the grading faculty. The peer-based assessment framework is discussed in a later section of this paper.

B. Year-Three Cohort

In Year-Three of the program the students join together and operate as an organizational entity for the purposes of providing a service to area businesses. Specifically, students operate a business that places them in an environment where they must identify, contact, and market their services to a local business.

In the fall semester, the senior class develops a vision, mission, business strategies, and other components of a business plan that they will use to carry out the business throughout the remaining academic year. Throughout this yearlong Integrating Experience, students develop organizational policies and employment contracts which serve to define the roles and responsibilities that they accept as a participant in the Integrating Experience. This culminating Integrating Experience has proven tremendously successful in each of the last three academic years. Each senior class, in consultation with their faculty, is encouraged to take the business in a direction that best fits the class skill area and talents. As in the case of the Year-One and Year-Two Integrating Experiences, the seniors are required to make end of semester presentations to their faculty. The content of these presentations focuses on the business plan, key business strategies, operational issues, and evaluation of deliverables that were provided to clients by the students.

The first two graduating classes from the Three-Year Degree Program (i.e., Years 2000 and 2001) created a company to design and build Web sites for local businesses. The Class of 2001 was commissioned by New Hampshire's largest law firm to identifying best practices for law firm Web sites. After presenting their findings to the law firm's managing partners, the partners commissioned the students to move forward with a redesign of the law firm's existing Web site. This project was intensive and rewarding for the class. The feedback in the evaluation completed by the managing director of the law firm indicated the high level of satisfaction with the finished project and, in the written evaluation of the students, the managing director expressed praise for their skill, knowledge, and professionalism that the students displayed throughout the length of this educational experience.

The graduating Class of 2002 created a company that identified and pursued not-for-profit organizations in need of multimedia presentations for their constituents. By graduation time, this year's senior class will have completed three such presentations for their clients.

The Integrating Experience has proven to be a very powerful and comprehensive learning experience for the students. Students get to experience firsthand the benefits and practical applications of their curriculum. The curriculum takes on life and becomes meaningful for the learners. The Integrating Experience also provides a forum for faculty and students to share, discuss, debate, and advance the understanding of the challenges faced by the participants. Faculty involvement in the Integrating Experience has led to collaborative conversations across disciplines as to how this model might be integrated into the entire university.

V. Assessment Methods and Measures

The Three-Year degree program employs a variety of assessment measures in order to determine its effectiveness in meeting university expectations for student success and to demonstrate program outcome for accreditation agencies. What follows is a description of a standardized test that was used to establish a baseline of academic performance within the Three-Year degree program and to compare these students with their four-year counterparts at the university. In addition to the description of this standardized test and the results, we discuss a number of qualitative measures we use to further determine the impact of this student-centered curriculum: 360° Peer Assessment amongst other assessment measures.

A. ETS Major Field Test (Business II)

The Major Field Tests are used by colleges and universities to measure student academic achievement and growth and to assess the educational outcomes of their programs. In addition, the field tests are used by departments evaluating their curriculum and considering curriculum changes, and by faculty measuring the progress of their students. The tests also provide students with an assessment of their own level of achievement within a field of study.

The content for the Major Field Tests reflects the basic knowledge and understanding gained in the undergraduate curriculum. The tests have been designed to assess mastery of concepts, principles and knowledge expected of students at the conclusion of a major in specific subject areas. The Business II Test (Educational Testing Service, 2000) contains eight sub-areas of focus: accounting, economics, management, quantitative business analysis, finance, marketing, legal and social environment, and international issues.

In addition to factual knowledge, the Major Field Test evaluates the ability to analyze and solve problems, understand relationships, and interpret material. The Test may contain questions that require interpretation of graphs, diagrams, and charts based on material related to the field.

Question Addressed by the Test

We wanted to know whether or not students graduating from the Three-Year degree Business Administration program achieved the same level of business knowledge as their counterparts graduating from the four-year degree Business Administration curriculum?

Methodology

This was a descriptive post-test-only quasi-experimental design using: an intact convenience sample of the Three-Year degree Year 2000 (n=13) and Year 2001(n=13) graduating classes; and a random sample of Business Administration majors from the four-year degree senior class of Year 2000 (n=11) and Year 2001 (n=42).

The Major Field Tests (Business II) standardized test created and distributed by the Educational Testing Service was administered to the groups of graduating students in the spring semesters of 2000 and 2001. We examined the level of proficiency that each group demonstrated as measured by the "cumulative score."

The cumulative score on the Business II test was the dependent variable. We used analysis of covariance to compare the mean group scores against one another after factoring out high school GPA and combined math and verbal SAT scores in order to compensate for differential admissions policies.

Hypothesis:

Our first null hypothesis was that the Three-Year degree class of 2000 mean group score on the Business II test is equal to the mean group score of the four-year class of 2000 comparison group. Our second null hypothesis was that the Three-Year degree class of 2001 mean group score on the Business II test is equal to the mean group score of the four-year class of 2001 comparison group.

Results of the Major Field Test (Business II)

Class of 2000 Results

The Three-Year degree class of 2000 combined math and verbal SAT scores were significantly higher than the four-year degree student scores. $F(1,23)=5.642$, $p=.000$. See Table 1. Also, the Three-Year degree class of 2000 high school GPA scores were significantly higher than the four-year degree student scores. $F(1,23)=2.819$, $p=.010$. See Table 2. This reflected the differential admissions policies for the two programs.

An analysis of covariance shows that when controlling for high school GPA and combined math and verbal SAT scores, there is no significant difference between the Three-Year degree class of 2000 (n=13, mean=154.54, SD=10.27) and their four-year counterparts (n=11, mean=142.27, SD=12.17) on the Business II measure. $F(1,23)=.787$, $p=.386$. See Table 3.

Class of 2001 Results

The Three-Year degree class of 2001 combined math and verbal SAT scores were significantly higher than the four-year degree student scores. $F(1,53)=3.368$, $p=.001$. See Table 4. Also, the Three-Year degree class of 2001 high school GPA's scores were significantly higher than the four-year degree student scores. $F(1,58)=2.424$, $p=.018$. See Table 5. This reflected the differential admissions policies for the two programs.

An analysis of covariance shows that when controlling for high school GPA and combined math and verbal SAT scores, there is no significant difference between the Three-Year degree class of 2001 ($n=13$, mean=149.23, SD=11.23) and their four-year counterparts ($n=42$, mean=142.21, SD=11.32) on the Business II measure. $F(1,54)=.18$, $p=.893$. See Table 6.

Discussion of Results

An analysis of covariance demonstrates that when controlling for high school GPA and combined math and verbal SAT scores, there is no significant difference between the Three-Year degree class of 2000 and their four-year counterparts. Similarly, an analysis of covariance demonstrates that when controlling for high school GPA and combined math and verbal SAT scores, there is no significant difference between the Three-Year degree class of 2001 and their four-year counterparts.

The two graduating class test results support the conclusion that the Three-Year degree class of 2000 and class of 2001 achieved at the same level on the Business II test as their four-year counterpart after controlling for the affects of high school grade point average and combined math and verbal scores.

We can conclude the Three-Year degree Business Administration students do as well in the business-related content as their four-year degree Business Administration student counterparts at the university. Because of differential admission criteria for the Three-Year degree and four-year programs, the statistical analyses factored out the influences of high school GPA and combined math and verbal SAT scores.

B. 360° Peer Assessment, Intact Work Teams and Team-based grades

The Three-Year degree curriculum is a team intensive academic experience. Students are intentionally placed in teams and work collaboratively toward the attainment of team based grades based upon completion of team based projects. The faculty recognizes that the role of teams in the curriculum helps students to develop the team skills and knowledge required for successful participation in team based organizations throughout their professional careers. A clear challenge in ensuring a successful team experience is providing a mechanism for team member peer assessment. Whether one participates in an academic type team or a true professional workplace team, the concerns of the participants, as acknowledged through the literature are indeed the same: no one wants to carry a non-performer. (Katzenbach and Smith, 1993)

Three-Year degree students are introduced in their first semester to a 360° comprehensive written peer assessment evaluation framework. The notion of 360° implies that every member of the team must provide performance-based feedback to every other member of that same team. If a team member receives an extraordinarily high mark or an extraordinarily low mark, team members must provide specific examples supporting their feedback. Through this process, students learn early on that their opinions matter and that they are empowered throughout the team process to hold one another accountable for performance-based behavior. Peer assessments are shared with faculty members who then may use the assessments as a means for following up with individuals students.

Team-based cooperative behavior reflects an important trend in businesses today. Throughout the decade of the 1990s and into this new century, organizational leaders have sought ways to flatten out the hierarchy that exists in so many traditional businesses. The urgency behind this movement to a flatter organizational structure lies within the competitive workforce. For businesses to be rewarded with customer loyalty, they must demonstrate their ability to respond quickly and flexibly to the demands of their customers. In fact, in a recent survey conducted of over 700 New Hampshire business leaders, 92% of the CEOs responding confirmed that they now employ some form of teams within their organization (Bradley and Painchaud, 2001). These findings are consistent with national trends regarding teams in both large and small organizations.

C. Qualitative Assessment Methods

We briefly describe several qualitative assessment measures utilized in the Three-Year degree program: Non-participant observation; Prolonged engagement; Participant observation.

A core group of Three-Year degree program teaching faculty committed themselves to this academic innovation. These faculty members participated in the initial research and development of the curriculum and taught in each of the years since the program began in September 1997. These faculty members serve as mentors, moderators, and facilitators in the ongoing faculty discussions regarding the performance observations that faculty do on students in the program.

Prolonged engagement and persistent observation as described by Lincoln and Guba (1985) are two of three recognized qualitative measures utilized by the faculty. Teaching faculty members meet weekly throughout the semester collaborating and sharing their observations of each and every student. Consideration of academic rigor, social pressures, and the coordination of academic assignments are three examples of content issues discussed in these weekly meetings. In addition to developing a "collective intelligence" regarding the Three-Year degree students, faculty members team teach and visit each other's classrooms thus adding to the development of a thick description.

The techniques of prolonged engagement and persistent observation were triangulated with the third qualitative assessment technique: non-participant observation. The employment of non-participant observation occurs each semester as faculty members teaching in one Year of the program observe the performance of students in the other two Years of the program. These documented observations, coupled with the close oversight of the Three-Year Degree Steering Committee, has and continues to provide important data on student performance which we will report on in a future paper.

VI. Lessons Learned and Potential Significance for Post-secondary Education

A. Three-Year Degree Program: What we have learned

To date, the Three-Year degree program in Business Administration is viewed as a success within the context of one university's learning environment. The program demonstrates several major strengths that are leveraged through the delivery of this innovative curriculum.

First, the curriculum represents a highly integrative learning environment that positions the student at the center of learning. Second, the program employs a cross-curricular competency development curriculum that eliminates overlap and unnecessary redundancy often found in the traditional curricula. Third, the academic courses/modules are grouped in the first three semesters in an intentional manner with prior modules providing the foundation for successive modules. Fourth, continuous assessment and curriculum improvement is a hallmark of this program. Fifth, the Integrating Experience that occurs at the conclusion of the each of the Year-One and Year-Two six semesters, and throughout Year-Three, is a powerful and efficacious culminating experience for the learner. Sixth, information and communications technology are fully integrated into the curriculum and as such, extend the physical classroom into a continuously available virtual classroom.

Since the inception of the Three-Year degree program, we have collected qualitative and quantitative data that confirms the following about students in the program.

- Students completing their Bachelor of Science in Business Administration in the Three-Year degree program do as well on the Business II Test as students who complete their Bachelor of Science in Business Administration in the university's traditional four year degree program.

- Students learn best in an interactive engaging learning environment. To this end, faculty members are challenged to move away from the lecture format and to utilize case studies, experiential learning, and team projects when and where appropriate and possible.

- Students learn best when they are able to apply what they are learning when they are learning it. Here again, faculty are challenged to create real world connections to the curriculum whether the curriculum be general education, humanities, or business specific.

- Students need the opportunity to develop group member skills and abilities and to demonstrate a high level of technology comfort. Teams are becoming an important strategy for organizational success in the 21st century. Yet, teams may be made up of members who are working from different continents from around the world. It is the combination of team development skills coupled with communication and information technology knowledge and skills that lead to high performance learners.

- Success in learning stimulates additional learning and to be successful to this end students desire and deserve continual feedback regarding their knowledge, skills, and abilities. The Three-Year degree program has and continues to employ multiple means of individual and team performance-based assessment.

B. Postsecondary Education Significance

This complete re-engineering of a four-year undergraduate major involved a number of novel curricular assessment tools and analysis techniques. The high degree of academic coordination in the development and promotion of student competence mastery and module delivery required a significant re-orientation of traditional academic structure and politics.

The results of the empirical study reported here demonstrate that students can reduce their time in college and their college cost by 25 percent while at the same time achieving at the same level as students in the traditional four-year program.

We do not attempt generalize our empirical results beyond Southern New Hampshire University. Although this non-compressed competency and outcomes based Three-Year Bachelor's degree program is unique in academe, we believe that it could presage a fundamental change in the way undergraduate education is structured and delivered in the future.

Notes:

1. Some of what follows in this paper is adapted from Seidman (1998).The determination of the program competencies, the analysis and re-engineering of the previous four-year degree program into a three-year degree program and the creation of the new modules has been chronicled in great detail (Seidman, 1998).

2. Southern New Hampshire University was named New Hampshire College at the time of the grant.

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Figure 1. Competencies: Southern New Hampshire University Three-Year Bachelors Degree in Business Administration

1. Communication: To master written, verbal, and electronic communication as well as reading comprehension that is appropriate for an entry level management position and for advancement thereafter.

2. Information Technology: To master and apply state-of-the-art computer information-based business applications.

3. Research: To conduct primary and secondary research and understand, analyze, and interpret the results of the research.

4. Problem Solving: To conduct analytical and creative problem detection and problem solving.

5. Organizational Leadership: To understand how and be able to function as an effective team, group, and organizational leader.

6. Group Membership: To understand how and be able to function as an effective group and/or team member.

7. Strategic Management: To think, analyze, manage, and plan strategically.

8. International Perspective: To achieve a multi-disciplinary, global perspective in order to understand others and make more effective international business decisions.

9. Interpersonal Skills: To develop a broad range of interpersonal skills to use in multicultural and diverse work force settings.

10. Business Directions: To master the importance, significance, and meaning of business trends in their larger historical, political, economical, social, cultural, geopolitical, and technological contexts.

11. Legal and Ethical Issues: To understand the legal and ethical considerations and implications of personal, social, business and international business behavior and activities.

12. Quantitative and Qualitative Analyses: To understand and apply quantitative and qualitative methods of analysis as a basis for making business decisions.

13. Humanities and Sciences: To understand and appreciate how science, history, literature, and the arts, impact society, politics, business, economics, culture, and technology trends.

Figure 2. Accrediting Associations Contacted

New England Association of Schools and Colleges (stated outcomes)

Accrediting Council on Education in Journalism and Mass Communications

American Assembly of Collegiate Schools of Business

Computing Sciences Accreditation Board

National Council for Accreditation of Teacher Education

Accreditation Council for Independent Colleges and Schools

Association of Collegiate Business Schools and Programs

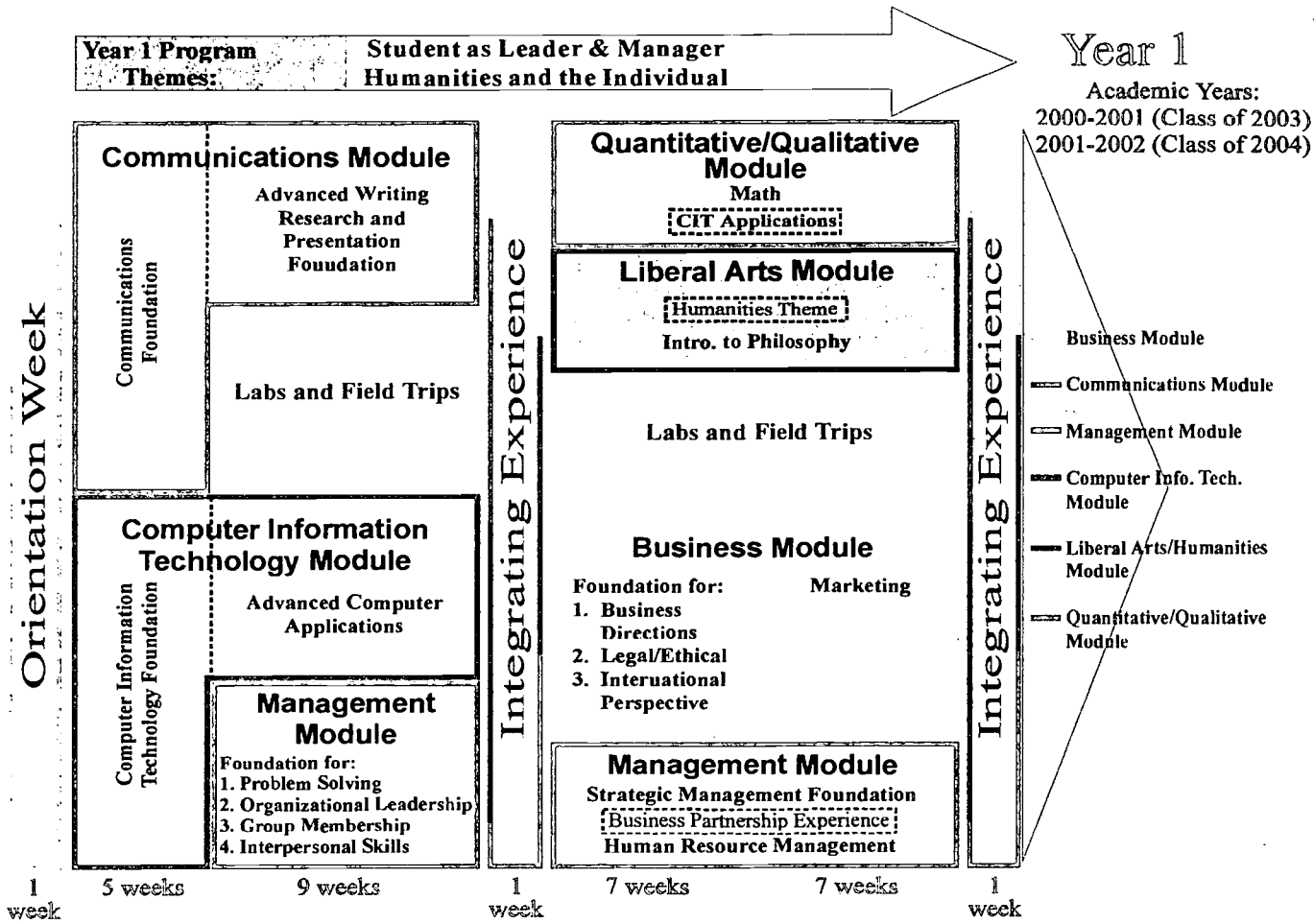

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Figure 3 Year-One Modules

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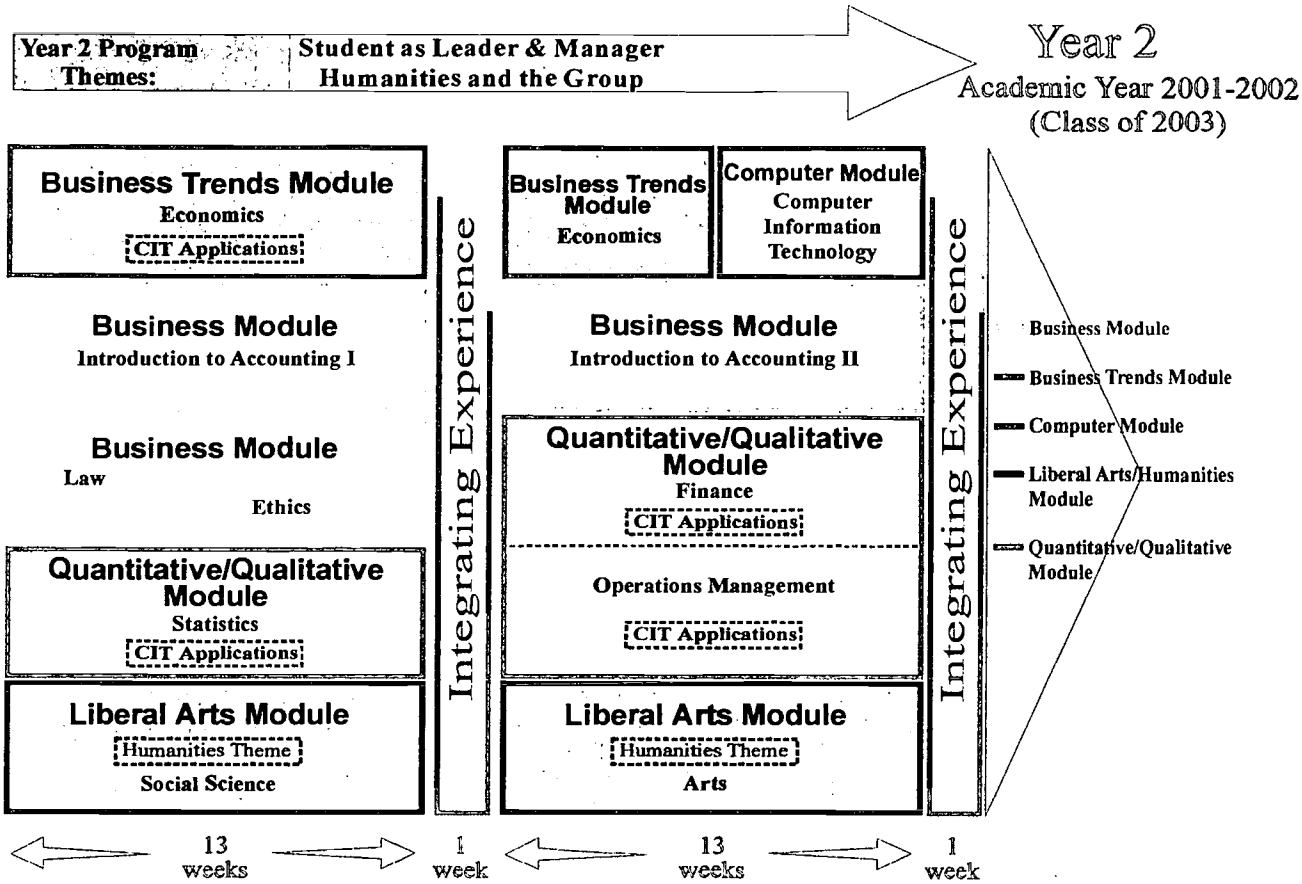

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Figure 4 Year-Two Modules

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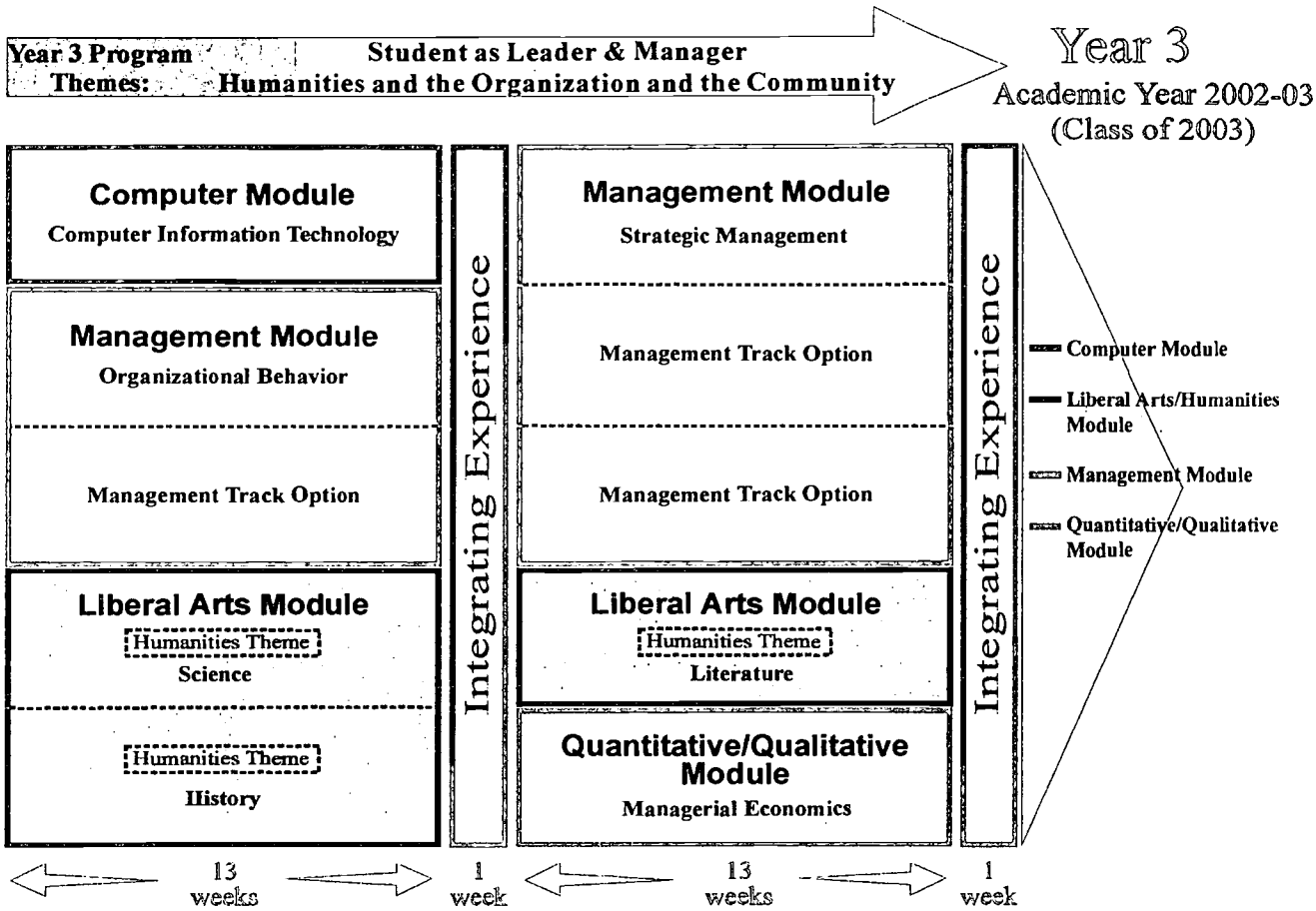

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Figure 5 Year-Three Modules

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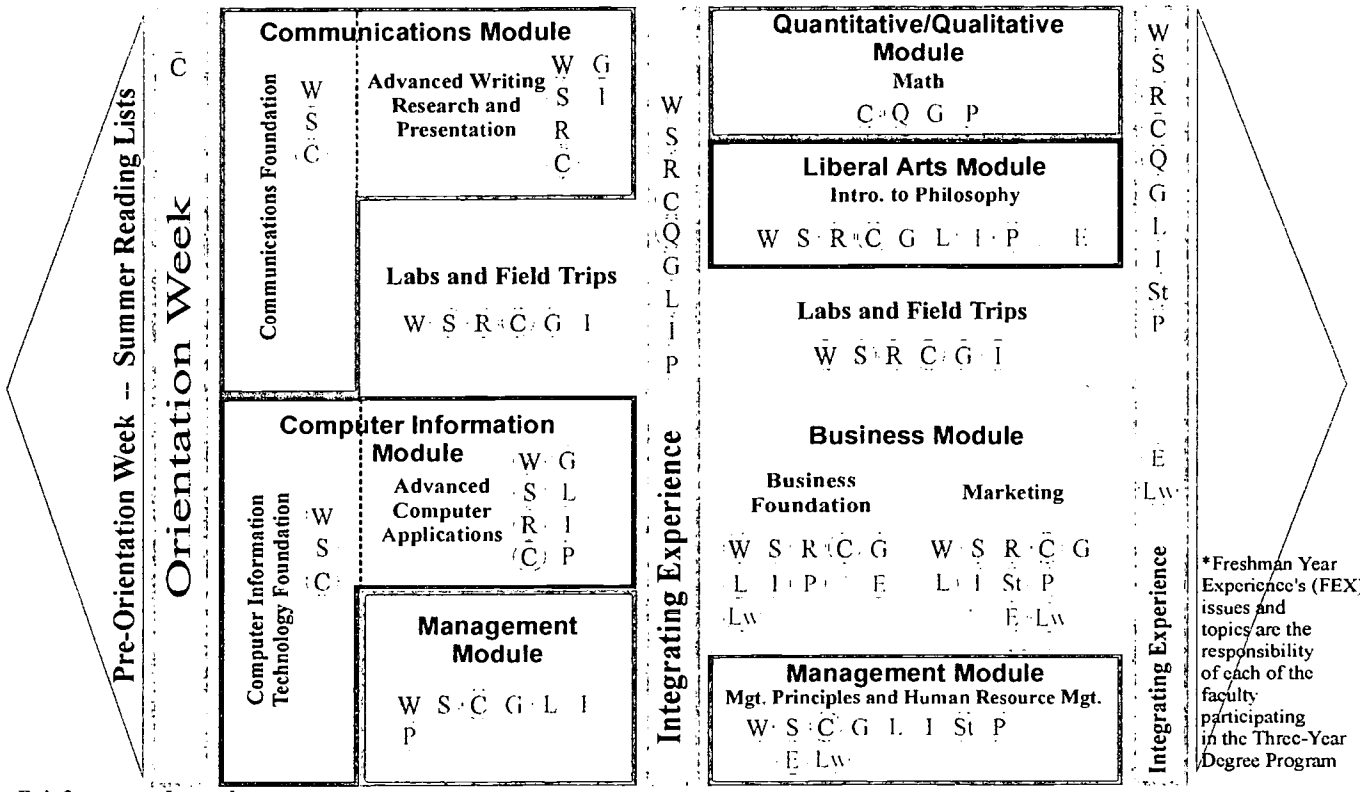
Year 1 Competency Reinforcement Plan

Assessment of student progress and the program will be conducted throughout.



Reinforcement Legend

W Writing	C Computer	L Org-Leadership	Business Trends	Law	St Strategic Mgt
S Speaking	Q Quant./Qual.	I Interpersonal Skills	Int'l Perspective		Marketing
R Research	G Group Member	P Problem Solving	E Ethics		Accounting

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Figure 6 Competency Reinforcement Plan for Year-One Modules

	GROUP	N	Mean	Std. Deviation	Std. Error Mean
SATTOTAL	Four-Year	12	938.3333	73.09189	21.09981
	Three-Year	13	1121.5385	87.82996	24.35965

Table 1 Class of 2000 combined math and verbal SAT scores

	GROUP	N	Mean	Std. Deviation	Std. Error Mean
HSGPA	Four-Year	12	2.7253	.49327	.14240
	Three-Year	13	3.2292	.39880	.11061

Table 2 Class of 2000 high school GPA scores

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power
Corrected Model	1052.533	3	350.844	2.710	.072	.289	8.130	.569
Intercept	1647.459	1	1647.459	12.725	.002	.389	12.725	.924
SATTOTAL	151.906	1	151.906	1.173	.292	.055	1.173	.178
HSGPA	2.748E-04	1	2.748E-04	.000	.999	.000	.000	.050
GROUP	101.884	1	101.884	.787	.386	.038	.787	.135
Error	2589.301	20	129.465					
Total	535870.000	24						
Corrected Total	3641.833	23						

a. Computed using alpha = .05 b. R Squared = .289 (Adjusted R Squared = .182)

Table 3 Class of 2000 Tests of Between-Subjects Effects
(Dependent Variable: Business II Test Scores)

	GROUP	N	Mean	Std. Deviation	Std. Error Mean
SATTOTAL	Four-Year	42	946.4286	122.39124	18.88538
	Three-Year	13	1069.2308	84.40592	23.40999

Table 4 Class of 2001 combined math and verbal SAT scores

	GROUP	N	Mean	Std. Deviation	Std. Error Mean
HSGPA	Four-Year	46	2.7613	.53424	.07877
	Three-Year	14	3.1529	.51175	.13677

Table 5 Class of 2001 high school GPA scores

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power
Corrected Model	2460.850	3	820.283	8.731	.000	.339	26.194	.992
Intercept	5156.309	1	5156.309	54.886	.000	.518	54.886	1.000
SATTOTAL	1674.657	1	1674.657	17.826	.000	.259	17.826	.985
HSGPA	.138	1	.138	.001	.970	.000	.001	.050
GROUP	1.702	1	1.702	.018	.893	.000	.018	.052
Error	4791.259	51	93.946					
Total	1145717.000	55						
Corrected Total	7252.109	54						

a. Computed using alpha = .05 b. R Squared = .339 (Adjusted R Squared = .300)

Table 6 Class of 2001 Tests of Between-Subjects Effects
(Dependent Variable: Business II Test Scores)

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