

## **2006-1024: CREATING A POWERFUL EDUCATIONAL EXPERIENCE FOR ENTREPRENEURSHIP STUDENTS: A MODEL FOR PROGRAM AND CURRICULUM DEVELOPMENT**

### **Mary Secor, Institute to Promote Learning**

Mary Secor has over nineteen years of experience in higher education as an educator, program director, administrator, coach, and recruiter. As the Assistant Director of Exercise and Sport Science at Carthage College, Ms. Secor was responsible for the administration and direction of all phases of the Exercise and Sport Science program including curriculum development, staffing, scheduling, advising, and program and program evaluation. Ms. Secor was also involved in developing and implementing several curricular reform efforts designed to promote student retention, development, and success. Ms. Secor research interests are in the areas of student development and success and health promotion and employee performance programs. Ms. Secor developed the Model for the Developmental Assets of College Students (DACS) a model and approach for identifying, organizing, and mobilizing college resources to promote student learning, development, retention, and success and to promote faculty retention, effectiveness. She is currently President of the Institute to Promote Learning, Ltd.

### **Douglas Arion, Carthage College**

Dr. Douglas Arion is the Hedberg Distinguished Professor of Entrepreneurial Studies in the Natural Sciences and Professor of Physics at Carthage College. After a career at Science Applications International Corporation as head of the Applied Physics and Engineering Division, Dr. Arion conceived, started, and directs the ScienceWorks: Entrepreneurial Studies program at Carthage. This program has for the last twelve years successfully integrated entrepreneurship and career training into the undergraduate science and technology curriculum. He works extensively with regional business development groups and municipal organizations, combining academic activities with new business creation and business revitalization. He is also technical director at the Center for Advanced Technology and Innovation, a business incubator, technology transfer organization, and entrepreneurship education center in southeast Wisconsin. He also conducts research in the areas of astrophysics and instrumentation development.

# **CREATING A POWERFUL EDUCATIONAL EXPERIENCE FOR ENTREPRENEURSHIP STUDENTS: A MODEL FOR PROGRAM AND CURRICULUM DEVELOPMENT**

## **Abstract**

Programs focused on entrepreneurship (innovation, creativity, product development, etc.) demand and require students to operate at high levels of intellectual, social, and emotional maturity and sophistication. To promote students' learning and performance, and to help students develop increasingly higher levels of development and sophistication, entrepreneurship programs must organize their curricula, programs, and services to create a coherent, meaningful, powerful educational experience for students. This paper provides a research-based approach, plan, and process for helping entrepreneurship programs make the vision become a reality at their institution.

## **Introduction**

Building a successful entrepreneurship program involves more than creating and delivering a series of courses that meet accreditation or institutional requirements.

Programs focused on teaching entrepreneurship demand and require students to develop sophisticated skills and abilities that cannot be developed in a single class or course, or, necessarily, in traditional classroom environments. In my experience as a program consultant to entrepreneurship programs, I have found that while entrepreneurship and engineering programs are often innovative in using non-traditional approaches to teach engineering and entrepreneurship, the more rigorous demands of entrepreneurship education which must bring students to a particularly high level of ability and maturity can be more effective if delivered through a more coherent, seamless, educational experience for students. In this article I explain how faculty and program directors can utilize and apply curriculum development processes, student development theories, and Bloom's Taxonomy of Learning model to: (1) develop a curriculum that is tied to the

development of the student; (2) deliver each part of the curriculum utilizing the most effective instructional format; (3) optimally and seamlessly integrate campus programs and services, and business and community resources into the curriculum; and (4) build administrative and organizational structures that are consistent with and support the creation and implementation of innovative entrepreneurship programs.

### **Curriculum Development**

Effective delivery of complex programs, such as entrepreneurship, should be done within the broadest context of goals and objectives. While individual instructors or student experiences may be addressing individual content areas and topics, all of these components must fit together to bring the student from their entering state to achievement of the desired program outcomes. One can look at this at three levels: a ‘micro’ level – the day-to-day program and course activities’ a ‘meso’ level at which curricular elements are linked to bring student understanding from a basic introductory level to full competence, and a ‘macro’ level over which students develop from their initial developmental level as entering students to the level at which they are expected to operate upon program completion.

The ‘meso’ level demands an approach based on Bloom’s Taxonomy of Learning Domains, which organizes learning content into three domains– cognitive, (knowledge) affective (attitudes), and psychomotor (skills)<sup>1</sup>. Figure 1 presents a tabular representation of these three areas, and the appropriate sequence of developmental levels through which an individual must pass to reach the highest level of development. These developmental levels are ordered in levels of difficulty or sophistication. An important premise of Bloom’s taxonomy is that each category (level) must be mastered before progressing to

the next. Students *cannot skip* stages of development. For example, in the cognitive domain, an individual must develop and progress through developmental level 1: Knowledge, and developmental level 2: Understanding, before they are able to effectively operate at developmental level 3 Application. One of the complexities of entrepreneurship education is that it is often the case that this sequence is violated, or the pace of delivery is so rapid, that students are not able to develop the prerequisite capabilities to fully master a topic or fulfill a desired outcome. Successful programs must structure their curricula to meet these demands.

To develop an effective curriculum, one can utilize Bloom's Taxonomy as a tool. Figures 2 through 4 lay out, for each of the three learning domains, the means to determine the level of development associated with each desired outcome, and should be applied to each content area and topic in the program. One can, for example, state desired outcomes in terms of action key words: execute, plan, write, etc. Bloom's Taxonomy provides a set of appropriate key words for each of the domains and each developmental level. Having selected appropriate terms for each desired outcome, suitable performance tasks (*i.e.*, assessment tools) can be selected to measure student performance against the identified student outcome. If students are successful in these measures, one can thus be assured that they have achieved the indicated developmental level. As this process is applied to the content areas and topics, one develops a *learning progression* by sequencing learning experiences from simple to complex and by expecting students to refine, apply, or utilize their knowledge, attitudes, and skills in new or different situation. It should be noted that students enter into any particular content area or topic with some basic level of ability (from none to mastery), and that in any

individual learning situation (exercise, experience, class, course, etc.) there is also a developmental level that is the ultimate goal. For example, one might ask that students become only conversant in some topics, while full mastery is expected in others. This may also vary depending on the target population of students being considered; different student outcomes may be appropriate for students either entering with differing abilities, or who are part of different programs or majors or who have different post-graduate aspirations. Thus, the learning progression must account for the *entering* level of development and the *desired* level of development on completion of the activity.

To develop a learning progression one completes a “*content or task analysis*.”<sup>2</sup> This identifies the critical aspects of learning and performing the content or task. For example, if the desired student outcome is for the student to be able to construct and present a business plan the student must have the knowledge, understanding, and ability to utilize and apply a variety of concepts such as business models, financial statements, profit forecasts, marketing concepts and strategies, and pricing. The student might also need to be able to utilize Excel to construct the financial statement and PowerPoint to present the business plan. A content or task analysis helps educators determine the prerequisite knowledge, skills, and basic elements of a task or activity. This information is useful in determining how to present and teach the task and how to assess students and evaluate their performance.<sup>3</sup>

In summary, the process to this point proceeds through the following steps:

1. *Construct student outcomes utilizing Bloom’s key works.* Utilizing Bloom’s key works makes it easier to construct outcomes that are matched to the appropriate learning domains (execute = psychomotor, knowledge = cognitive, value = affective).

2. Utilize Bloom's key words to determine the developmental level for which the student outcome is written. Identify the developmental level at which students are expected to operate to successfully achieve the desired outcome by matching the key term to the outcome and then to the appropriate developmental level.
3. Identify all of the developmental levels, including the level at which the student will enter and the ultimate level to be reached to achieve the student outcome.
4. Create a *learning progression* that helps students move through the developmental stages necessary to meet the desired outcomes.
5. Choose *performance tasks* (ways to measure students' performance) that are appropriately matched to the learning domain, student outcome, and developmental level students are expected to achieve.
6. *Develop Proficiency standards for each performance task* – Create rubrics, check lists, or written criteria describing standards of performance for each performance task. The standard may be a quantitative score students are expected to achieve (e.g., 80% on an exam); a qualitative measure describing a “good performance” by the student (e.g., comments/remarks from a review panel).

Once these steps are completed the sequence of the curriculum can be developed.

*Sequence* identifies the order in which topics are to be taught and the time (course, semester, year in the students' educational experience) at which they are presented. This begins the 'macro' level of curriculum development. The sequence of a curriculum is determined by identifying the students' prior knowledge and the developmental capabilities students need to possess to effectively learn and achieve the desired student outcomes. The curriculum is considered *developmentally appropriate* if the content or task is taught at a time and level of sophistication that matches students' intellectual, emotional, and social maturity.<sup>4</sup>

Student development has been studied extensively, and several of the primary theories that help to explain the development of college-age students include Erikson's

Theory of Psychosocial Development, Chickering's Vector of Development Theory and Perry's Theory of Intellectual and Emotional Development<sup>5,6</sup>. These can be applied to : (1) understand students' intellectual, emotional, social, and moral capacities, (2) choose appropriate teaching strategies to help students' develop their capabilities, and (3) choose appropriate student outcomes that meet their developmental needs. This is a particularly rich topic, and the references contain an extensive literature on the various physical, emotional, and psychosocial transitions that students experience. Key to the present topic are approaches that are suitable for students at the various stages of their undergraduate experience. Figure 5 displays, by academic year, the typical transitions and issues that students face that specifically affect their abilities and performance in programs such as entrepreneurship education, as well as approaches that mitigate these issues and can be used within a program to successfully achieve desired outcomes. For example, since most introductory level and core courses taken by first and second year students are often 'generic', students have difficulty seeing relevance and may perform relatively poorly, be disengaged, or retain little information<sup>7</sup>. A successful program, cognizant of this situation, could implement interdisciplinary studies programs that combined, for example, technology development and ecology, to help students make connections and see relevancy and meaning in what they are studying, while fulfilling general education or distribution requirements. Similarly, capstone experiences can be tailored to both allow synthesis of learning across the four years as well as providing professional skills (i.e., resumes, interviewing, financial planning skills, etc.) that will help them succeed post-graduation.

As discussed below, both the instructional format for each curricular element and the leveraging of various on- and off-campus activities can allow an entrepreneurship program to achieve its desired aims consistent with the continuously moving target that the developing student presents.

### **Choosing Instructional Formats**

The second major component of curriculum develop is selecting the instructional format. Instructional strategies are chosen to match the learning domain, student outcome, and developmental levels of the students. Examples of teaching strategies instructors can select include lectures, discussions, role-plays, values clarification exercises, case studies, field trips, debates, presentations, guest-speakers, experiential-learning (internships, field experiences, co-ops), hands-on labs, media (documentaries, newspapers, videos), and computer-aided instruction. Certain teaching strategies are more effective at teaching to specific learning domains, and certain teaching strategies are more appropriate for students who are at a higher developmental level<sup>8</sup>. Thus, faculty must choose the teaching strategy based upon the learning domain that is being addressed and the developmental level the students are at. The type of teaching strategy chosen will influence the administrative structure of the course (schedule, resources, credits awarded) and the organization of the curriculum. Different techniques are more appropriate if the learning domain is cognitive vs. affective, for example. Figure 6 shows a number of techniques that are appropriate for these learning domains, and demonstrates how important it is to consider not only *what* is being taught, but *how* that material is brought across to achieve the desired outcome.

### **Creating the Seamless Experience**



Entrepreneurship education is a new and innovative offering at colleges and universities, and does not, typically, fit neatly into the traditional programs and department structures on a campus. The need for significant experiential learning, the cross-disciplinary nature of the topic, and the need for input from many different disciplines nearly simultaneously tax traditional delivery methods. On the other hand, most if not all of the skills and resources needed to deliver an effective entrepreneurship program can be found on a campus or in the neighboring community, and it is possible, though with considerable forethought, to seamlessly integrate these resources into a program and thus achieve broad educational goals.

*A seamless curriculum* integrates and coordinates curricular and co-curricular resources and links in-class and out-of-class experiences to promote student learning and development<sup>9</sup>. A seamless curriculum seeks to (1) Integrate campus programs and services into courses, (2) Provide opportunities for students to engage in experiential learning experiences (research apprenticeships, internships, service learning, etc.) throughout their undergraduate experience, (3) Implement curricular innovations (interdisciplinary studies, first year experiences, cross-cultural experiences, etc.) shown to promote student learning, development, retention, and success, and (4) work with other departments, offices, and services on campus (student affairs, career services, alumni office, admissions, etc.) to address students' transitional and developmental needs and create a seamless experience for students. A seamless curriculum is particularly appropriate to address the developmental and transitional needs of students, since as their maturity grows more complex tasks and greater interaction with the 'real world' become appropriate. This also provides the opportunity to utilize a variety of education models,

incorporating off-campus experiences, on-campus activities, co-curricular activities, and traditional and non-traditional courses into the process to help students develop the knowledge, attitudes, and skills that are desired.

Developing, organizing, and implementing a seamless curriculum for an entrepreneurship program will require the identification of the individuals, offices, or groups on campus and within the surrounding community that may be helpful to the program. Examples of such offices include alumni office, career services, academic support programs, and student affairs. If one considers, for example, even those opportunities that are present only on-campus, there are many ways that educational opportunities can be provided to students. Figure 7 identifies contributions that some of these campus offices can make to an entrepreneurship program. These linkages are vital, in that they allow a program to offer many opportunities to students and achieve broad academic goals even in situations where staffing and administrative limits (e.g., credit hours) might otherwise seem to preclude inclusion.

Since administrative issues are often the greatest hurdles in implementing innovative programs, one should look for administrative structures that have the flexibility or existing curricula that allow program components to be easily implemented. Examples include first-year experiences (FYE), senior year experiences (SYE), learning communities, and interdisciplinary studies programs, which are particularly effective in improving program delivery because they create organizational structures and systems that address administrative issues such as assessment, planning, coordination, communication, and accountability<sup>10</sup>. Generally these programs organize teams from several departments and work together to identify and anticipate students' needs and

organize and coordinate campus programs and resources to deliver “just-in-time” programs and services to meet student’s needs. FYE and SYE programs are effective because they take a holistic approach to meeting students’ intellectual, social, and emotional needs.

### **Building Administrative and Organizational Structures**

To effectively administer and deliver the program and curriculum discussed in this paper, one must build organizational and administrative structures that promote and support communication, coordination, and the sharing of resources among academic departments, campus offices and programs across the campus. Job descriptions may need to be redefined, reporting and communication lines readjusted, workloads re-calculated, budget allocations guidelines revised, and promotion and tenure policies reevaluated. An optimized entrepreneurial studies program will stress the system, and program developers should create a proposal that: (1) describes why changing the organizational and administrative structures is necessary; (2) explains how changing the structures can benefit the institution; (3) provides a detailed description of the proposals changes; and (4) includes a strategic plan that addresses implementation issues such as governance, budget, staffing, resources, and a timeline for completion<sup>11</sup>. Good sources of information to support such a plan include data and examples from successful programs by contacting certifying agencies, professional organizations, publishing firms, or consulting groups for higher education<sup>12</sup>.

In developing a proposal that will be well received by fellow faculty and the administration, the following questions about the institution should be considered: (1) What programs, services, and offices do we have on campus that can help us more

effectively deliver our program? (2) What organizational structures do we need to create or reorganize to promote the coordination and integration of campus programs and services with the entrepreneurship program? (2) What organizational policies, procedures, or practices do we need to revise, clarify, implement, or eliminate to promote the effective and efficient delivery of programs and curricula? (3) How can we organize positions and job responsibilities to better meet the needs of students and deliver our vision of the seamless curriculum? (4) What resources (staff and funding), facilities, technology, and equipment do we need to be more effectively delivery our curriculum and fulfill the mission and goals of the entrepreneurship program? (5) How can we develop, support faculty in their efforts to develop and deliver our innovative curriculum?

Faculty development is also a critical component to the successful implementation of the program. Faculty must have the knowledge and expertise to effectively deliver the program and must understand students, entrepreneurship, the organization and priorities of the institution, the needs, expectations, and demands of business and society, and the trends, innovations, and best practices in teaching. Orientation and mentoring programs and faculty development workshops can provide faculty knowledge and information in these areas.

### **Summary**

Entrepreneurial studies programs are new, and in a way, nonconforming to the traditional academic environment. Successful programs have found ways to fit in (or fit around!) many of these issues on campuses. Those contemplating developing, revising, or reorganizing entrepreneurship programs should consider the range of issues outlined in

this paper, and take advantage of the body of research that provides effective strategies and approaches suitable for the college environment.

<b>Level</b>	<b>Cognitive (Knowledge)</b>	<b>Affective (Attitude, Values, Behavior)</b>	<b>Psychomotor (Manual/Business Skills)</b>
<b>1</b>	<b><i>Knowledge</i></b> (Recall or Recognize)	<b><i>Receive</i></b> (Open to experience, willing to hear)	<b><i>Imitation</i></b> (Copy action of another; observe and replicate)
<b>2</b>	<b><i>Comprehension</i></b> (Understand meaning)	<b><i>Respond</i></b> (React and participate actively)	<b><i>Manipulation</i></b> (Reproduce activity from instruction or memory)
<b>3</b>	<b><i>Application</i></b> (Use or apply knowledge, put theory into practice)	<b><i>Value</i></b> (Understand and act willingly)	<b><i>Precision</i></b> Proficiency (Execute skill reliability, independent of help)
<b>4</b>	<b><i>Analysis</i></b> (Interpret elements, organizational structures, principles, relationships, quality, reliability of components)	<b><i>Organize Personal Value System</i></b> (Reconcile internal conflicts; develop value system)	<b><i>Articulation</i></b> Adaptable Proficiency (Adapt and integrate expertise to satisfy non-standard objective, address situation)
<b>5</b>	<b><i>Synthesis</i></b> (Develop new unique, structures, systems, models, approaches; creative thinking)	<b><i>Internalize Values</i></b> (Adopt and live belief system and philosophy)	<b><i>Naturalization</i></b> Mastery (Automated, unconscious mastery of activity and related skills at strategic level)
<b>6</b>	<b><i>Evaluation</i></b> (Assess effectiveness of whole concepts in relation to values and outputs, efficacy, viability, critical thinking, strategic comparison, review, judgment)		

Figure 1. Bloom's Taxonomy Model. This model identifies three categories or domains in which people develop - Knowledge, Attitudes, Skills – (KAS). Each domain is ordered in degree of difficulty or sophistication. An important premise of Bloom's taxonomy is that each category (level) must be mastered before progressing to the next.

<b>Level</b>	<b>Cognitive (Knowledge)</b>	<b>Examples of Performance Tasks (Ways to Measure Performance)</b>	<b>Key Words to describe Student Outcomes (What students should know and be able to do) The Student Will (TSW):</b>
<b>1</b>	<b><i>Knowledge</i></b> Student has the ability to recall information.	Multiple choice tests, recall facts and statistics, recall process, rules, definitions, quote law or procedure	Arrange, define, describe, label, list, memorize, recognize, reproduce, select, identify, state,
<b>2</b>	<b><i>Comprehension</i></b> Student has the ability to grasp the meaning of the information.	Explain or interpret meaning from a given scenario or statement, suggest treatment, reaction or solution to given problem, create examples, demonstrate, solve a problem	Explain, classify, summarize, illustrate, report, discuss, estimate, paraphrase, provide examples, reference
<b>3</b>	<b><i>Application</i></b> Student has the ability to use information in new and concrete situations.	Put a theory into practical effect, demonstrate, solve a problem, manage an activity	Use, apply, discover, manage, execute, solve, produce, implement, construct, change, prepare, conduct, perform, respond, role-play
<b>4</b>	<b><i>Analysis</i></b> The student has the ability to break down information into component parts.	Identify constituent parts and functions or a process or concept, deconstruct a methodology or process, make a qualitative assessment of elements, relationships, values and effects; measure needs and requirements	Analyze, break down, categorize, compare, quantify, measure, test, examine, experiment, relate graph, diagram, plot, extrapolate, value, divide,
<b>5</b>	<b><i>Synthesis</i></b> The student has the ability to develop new unique, structures, systems, models, approaches. (creative thinking)	Develop plans or procedures, design solutions, integrate methods, resources, ideas, parts; create teams or new approaches, write protocols or contingencies	Develop, plan, build, create, design, organize, revise, formulate, propose, establish assemble, integrate, rearrange, modify
<b>6</b>	<b><i>Evaluation</i></b> The student has the ability to assess effectiveness of whole concepts in relation to values and outputs, efficacy, viability. (Critical thinking, strategic comparison, discrimination, judgment)	Review options or plans in terms of efficacy, return on investment or cost-effectiveness, profitability, practicality; assess sustainability; perform a SWOT analysis in relation to alternatives, produce a financial model and proposal, perform a detailed and risk analysis	Review, justify, assess, present a case for, defend, report on, investigate, direct, appraise, argue, project-manage

Figure 2. Identifying and Developing Curricular Goals Using Bloom’s Taxonomy Model: Cognitive Domain

<b>Level</b>	<b>Affective (Attitude, Values, Behavior)</b>	<b>Examples of Performance Tasks</b>	<b>Key Words to describe Student Outcomes (What students should know and be able to do) The Student Will (TSW):</b>
<b>1</b>	<b><i>Receive</i></b> The student is willing to attend to an idea, open to an experience, willing to listen.	Attend, listen to the instructor or supervisor, take interest in learning experience, take notes, participate passively	Ask, listen, focus, attend, take part, discuss, acknowledge, hear, be open to, retain, follow, concentrate, read, do
<b>2</b>	<b><i>Respond</i></b> The student chooses to act, react, and participate actively.	Participate actively in group discussion, active participation in activities, interest in outcomes, enthusiasm for action, question and probe ideas, suggest interpretation	React, respond, seek clarify, provide other references, examples, contribute, question, present, cite, help team, write, perform,
<b>3</b>	<b><i>Value</i></b> The student accepts responsibility or assumes responsibility for a value or action.	Decide worth and relevance of ideas, experiences; accept or commit to particular stance or action, qualify and quantify personal views, state personal position and reasons, state beliefs	Argue, challenge, debate, refute, confront, justify, persuade, criticize
<b>4</b>	<b><i>Organize Personal Value System</i></b> The student synthesizes and resolves conflicts between value positions.	Qualify and quantify personal views, state personal position and reasons, state beliefs and personal philosophy	Formulate, defend, prioritize, reconcile, contrast, arrange, compare
<b>5</b>	<b><i>Internalize Values</i></b> (Adopt and live belief system and philosophy)	Self-reliant, behave consistently, demonstrate behaviors in out-of-class situations, without direction or supervision	Act, demonstrate, display, solve, practice, influence

Figure 3. Identifying and Developing Curricular Goals Using Bloom's Taxonomy Model: Affective Domain



<b>Level</b>	<b>Psychomotor (Manual/Business Skills)</b>	<b>Examples of Performance Tasks</b>	<b>Key Words to describe Student Outcomes (What students should know and be able to do) The Student Will (TSW):</b>
<b>1</b>	<b><i>Imitation</i></b> (Copy action of another; observe and replicate)	Watch teacher or trainer and repeat action, process, or activity	Copy, follow, replicated, repeat, adhere
<b>2</b>	<b><i>Manipulation</i></b> (Reproduce activity from instruction or memory)	Carry out task, from written or verbal instruction	Re-create, build, perform, execute, implement
<b>3</b>	<b><i>Precision</i></b> Proficiency (Execute skill reliability, independent of help)	Perform a task or activity with expertise and high quality without assistance or instruction; able to demonstrate an activity to other learners	Demonstrate, complete, show, perfect, calibrate, control
<b>4</b>	<b><i>Articulation</i></b> Adaptable Proficiency (Adapt and integrate expertise to satisfy non- standard objective, address situation)	Relate and combined associated activities to develop method, standards, model. Innovation	Construct, solve, combine, coordinate, integrate adapt, develop
<b>5</b>	<b><i>Naturalization</i></b> Mastery (Automated, unconscious mastery of activity and related skills at strategic level)	Utilizes and applies various approaches, skills, and concepts to complete a project, develop a proposal, or construct a model, or create a new innovation	Design, specify, manage, invent, project-manage

Figure 4. Identifying and Developing Curricular Goals Using Bloom's Taxonomy Model:  
Psychomotor Domain

<b>Year in School</b>	<b>Needs, Transitions and Developmental Tasks</b>	<b>Innovations &amp; Programs</b>
Freshmen Year	<ul style="list-style-type: none"> <li>• Fit into the Community</li> <li>• Transition to New Life</li> <li>• Build a New Support Network</li> <li>• Develop Competence (skills for college)</li> <li>• Establish Relationships</li> <li>• Maintain Health and Wellness</li> </ul>	<ul style="list-style-type: none"> <li>• Orientation Programs</li> <li>• Mentoring Programs</li> <li>• Career Services</li> <li>• First-Year Seminar</li> <li>• Learning Communities</li> <li>• Service Learning</li> <li>• Introductory Courses in the Program</li> <li>• Health and Wellness Courses</li> </ul>
Sophomore Year	<ul style="list-style-type: none"> <li>• Develop Competence</li> <li>• Establish Autonomy</li> <li>• Establish Identity</li> <li>• Develop Purpose</li> <li>• Avoid Sophomore Slump</li> </ul>	<ul style="list-style-type: none"> <li>• Cross-Cultural Experiences</li> <li>• Community-Based Service Learning</li> <li>• Interdisciplinary Studies Courses</li> <li>• Leadership Programs</li> <li>• Research Apprenticeships/Field Experiences</li> </ul>
Junior Year	<ul style="list-style-type: none"> <li>• Demonstrate Competence</li> <li>• Concentrate on Future Profession</li> <li>• Begin Transition to Post-College Life</li> </ul>	<ul style="list-style-type: none"> <li>• Experiential Learning in Experience in the Profession</li> <li>• Project-Based Learning Courses</li> <li>• Interdisciplinary Studies Course in the Major</li> </ul>
Senior Year	<ul style="list-style-type: none"> <li>• Bring Integration and Closure to College Experience</li> <li>• Provide Opportunities to Reflect on the Meaning of the Undergraduate Experience</li> <li>• Prepare for the Personal and Professional Issues Related to Post-College Life</li> </ul>	<ul style="list-style-type: none"> <li>• Career Services</li> <li>• Alumni Development Programs</li> <li>• Capstone Courses</li> <li>• Internships</li> </ul>

Figure 5. Developmental Needs and Suitable Programs for Students.

Cognitive Domain	Affective Domain	Psychomotor Domain
<ul style="list-style-type: none"> <li>▪ Lecture</li> <li>▪ Discussions</li> <li>▪ Brainstorming</li> <li>▪ Case studies</li> <li>▪ In the News (articles, professional journals)</li> <li>▪ Demonstrations</li> <li>▪ Presentations</li> <li>▪ Reports</li> <li>▪ Charts</li> <li>▪ Mind Maps</li> <li>▪ Models</li> <li>▪ Exhibits</li> <li>▪ Poster Sessions</li> <li>▪ Projects</li> <li>▪ Problem Solving</li> <li>▪ Peer Teaching</li> <li>▪ Observation and evaluation</li> <li>▪ Advisory Boards</li> </ul>	<ul style="list-style-type: none"> <li>▪ Value clarification exercises</li> <li>▪ Cooperative Learning Activities</li> <li>▪ Media/Literature – Documentaries, stories and story telling biographies, videos, dramatizations, plays,</li> <li>▪ Guest speakers</li> <li>▪ Pretests/Post Tests</li> <li>▪ Games</li> <li>▪ Interviews</li> <li>▪ Field Trips</li> <li>▪ Panel Discussions</li> <li>▪ Role Reversals</li> <li>▪ Study Groups</li> <li>▪ Tournaments and Competitions</li> <li>▪ Journals</li> <li>▪ 1-Minute papers</li> <li>▪ Experiential Learning – internships, co ops, service learning, community service</li> <li>▪ Study abroad</li> <li>▪ Cross cultural experiences</li> <li>▪ Learning Contracts</li> <li>▪ Mentoring</li> <li>▪ Professional Meetings/Conventions</li> </ul>	<ul style="list-style-type: none"> <li>▪ Labs</li> <li>▪ Computer Aided Instruction</li> <li>▪ Construction Activities (models, media,</li> <li>▪ Role-Plays</li> <li>▪ Practice-Rehearsal Pairs</li> <li>▪ Simulations</li> </ul>

Figure 6. Appropriate teaching techniques for the *cognitive, affective, and psychomotor* learning domains, contrasting the approaches among these situations.

Figure 7. Campus offices that can significantly contribute to entrepreneurship programs.

Department	Roles and Contributions	Goals & Possible Activities
<i>Recruiting and Admissions</i>	Assist the ES team with developing a recruiting strategy and plan for identifying and recruiting talented and motivated students to the institution.	<ul style="list-style-type: none"> <li>• Help students learn about the college and the ENTREPRENEURSHIP program</li> <li>• Help students’ determine fit – needs, interests, and ES program offerings</li> <li>• Help students begin to develop realist expectations of college experience</li> <li>• Help students to develop connection and commitment to the institution and ES program</li> </ul>
<i>Orientation Programs</i>	Assist the ES team in planning, and administration an orientation program for first-year and transfer students (and their parents) interested in the entrepreneurship program.	<ul style="list-style-type: none"> <li>• Help students’ identify the skills needed to succeed academically</li> <li>• Help students with personal adjustment issues,</li> <li>• Help students to develop a sense of community especially within ES program</li> <li>• Learn more about the needs, characteristics, and interests of the ES students entering the program</li> </ul>
<i>Advising/ Placement</i>	Work with the ES team to develop strategies, policies, and procedures for testing, placing, and registering first-year and transfer students interested in enrolling in the entrepreneurship program.	<ul style="list-style-type: none"> <li>• Administer appropriate placement and assessment tests to ES student</li> <li>• Help ES students identify and register for appropriate courses</li> <li>• Identify ES students’ needs and connect to campus programs and resources</li> <li>• Provide information for academic planning to students interested in entrepreneurship</li> <li>• Communicate results of assessment and placement tests to ES faculty.</li> </ul>
<i>Counseling/ Mentoring Programs</i>	<p>Work with the ES team to develop an advising program designed to help students with academic, social, career, and personal issues and to help the student develop the skills and abilities to successfully deal with the transitional issues and challenges associated with the college experience</p> <p>Develop strategies, procedures, and mechanisms for identifying, referring and assisting students experiencing academic, personal, or health difficulties.</p>	<ul style="list-style-type: none"> <li>• Develop a Student Assistance Program (SAP) for the ES program.</li> <li>• Organize special event where first-year students meet advisors and faculty in ES program</li> <li>• Provide advising help to first-year and undecided student to successfully matriculate to academic majors and programs</li> <li>• Ask students to begin to develop portfolio or professional development plan</li> <li>• Create and implement learning communities within the program</li> <li>• Develop and Implement a peer mentoring program</li> <li>• Create an electronic system for communicating and tracking students in ES program</li> <li>• Organize events where students can meet alumni and community leaders</li> </ul>
<i>Wellness Programs</i>	<ul style="list-style-type: none"> <li>• Work with the ES program to provide programs and services to help students’ learn how to manage and maintain their health and well-being.</li> <li>• Work with the ES program to provide programs and services</li> </ul>	<ul style="list-style-type: none"> <li>• Provide wellness courses that fulfill general education credits.</li> <li>• Develop interdisciplinary courses that examine motivation theories, leadership theories, organizational management principles and models, and theories related to the psychology and sociology of human performance.</li> </ul>

	<p>to help students' understand the factors that influence learning and performance.</p> <ul style="list-style-type: none"> <li>• Help students develop life management skills.</li> </ul>	<ul style="list-style-type: none"> <li>• Provide skill development workshops such as 7 Habits of Highly Effective People.</li> <li>• Provide workshops, seminars, and courses in time management, communication skills, emotional intelligence, stress management, conflict management skills,</li> </ul>
<i>Academic Support Programs</i>	<p>Work with the ES team to develop, plan, administer, and implement, an academic support program for the ES program.</p>	<ul style="list-style-type: none"> <li>• Identify high attrition and failure courses in the ES program and develop strategies to support students and faculty to improve student retention and success</li> <li>• Provide tutoring and supplemental instruction for ES courses</li> <li>• Identify or develop complimentary software programs design to teach and reinforce skill development in areas such as writing, math, and information literacy</li> <li>• Provide professional development seminars to help faculty to become sensitive to the conditions that promote student learning and success</li> <li>• Help faculty learn how to work with students with special needs</li> <li>• Package and market training and instructional units and seminars in: study skills, writing, information literacy, time management, learning styles, etc. to promote students' learning and skill development</li> </ul>
Student Affairs	<ul style="list-style-type: none"> <li>• Work with the ES program to provide credit courses for mentor training and leadership development programs.</li> <li>• Help the ES program develop, organize, and support student organizations or professional fraternities in the ES program.</li> <li>• Encourage students to become involved and engaged in academic, social and campus events by providing opportunities, guidance, training, and resources.</li> </ul>	<ul style="list-style-type: none"> <li>• Develop and provide training, courses or programs for peer mentoring, leadership development, character development, and mentoring programs.</li> <li>• Provide leadership and assistance in organizing formal and informal social and academic events for ES students.</li> <li>• Work with student organization or professional fraternity to assist in: recruiting activities, orientation events, career nights, advising sessions, and ES program traditions</li> <li>• Work with student organizations and fraternity to organize and conduct recreational and social programs and events for ES students.</li> <li>• Provide funding to ES students to attend professional conferences.</li> <li>• Bring guest speakers and special events to campus.</li> <li>• Assist with the organization, development, and implementation of SYE and SYE.</li> </ul>
Career Services	<p>Assist ES students in connecting to career interests by helping students: (1) explore career options, (2) develop a career decision plan, (3) understand the realities of the workplace, and (4) become aware of co-curricular experiences that may enhance</p>	<ul style="list-style-type: none"> <li>• Provide students' opportunities to take workplace readiness surveys or aptitude tests to determine strengths and interests.</li> <li>• Develop internship opportunities for students to explore career options early in academic career.</li> <li>• Provide seminars to help students become aware of skills and abilities employers are looking for.</li> </ul>

	<p>career choices, (4) test and practice professional skills in professional setting.</p> <p>Assist the ES program in developing experiential learning opportunities for the ES program.</p> <p>Assist the ES program in tracking and communicating with alumni.</p> <p>Assist the ES program in developing strong relationships with business and community organizations.</p> <p>Help the ES program prepare by students for post-college life including: (1) job search skills, (2) life-planning skills, (3) process and skills for applying and succeeding in graduate school.</p>	<ul style="list-style-type: none"> <li>• Structure partnerships with employers, business, and community organizations.</li> <li>• Provide job training workshops and seminars (resume writing, job search, networking, etc.) to ES students.</li> <li>• Provide counseling and workshops for transition to work (business etiquette, dress for success, business writing etc).</li> <li>• Provide opportunities for seniors to receive mentoring from recent graduates.</li> <li>• Provide resources to help ES students develop professional skills.</li> <li>• Develop and support strong co-op and intern programs</li> <li>• Conduct surveys of recent ES graduates and provide ES faculty information about job placement rates and satisfaction rates with ES program</li> </ul>
Office of Institutional Research	<p>Assist the ES program in developing an assessment plan which measures: (1) student outcomes, (2) faculty effectiveness, (3) program efficiency, (4) students' needs and capabilities, (5) program effectiveness.</p> <p>Assist the ES program in developing, implementing, and evaluating effective and innovative programs.</p> <p>Assist in the collection and dissemination of information regarding students' needs, characteristics, achievements, performance, expectations, and satisfaction with the ES program.</p>	<ul style="list-style-type: none"> <li>• Collect and report information of why students attend the institution and chose ES program</li> <li>• Collect and report student demographic information (high schools, SAT, GPA, family characteristics, etc.)</li> <li>• Collect and report information about why students leave the school (retention and graduation rates)</li> <li>• Assist with the dissemination of best-practices and research regarding effective programs and curricular innovations.</li> <li>• Assist with developing and assessing pilot programs.</li> <li>• Assist with the collection of program information including: student enrollments (numbers and interests), program retention rates, program graduation rates, job placements for ES graduates, etc.</li> <li>• Assist with locating grants and publishing research findings.</li> </ul>
Alumni Office	<p>Help the ES program develop, strengthen, and sustain strong relationships with alumni.</p> <p>Encourage alumni to leverage their skills, abilities, and position in life to develop, support, and provide opportunities for current ES students and the ES program.</p> <p>Recognize and acknowledge the achievements of alumni</p>	<ul style="list-style-type: none"> <li>• Connect alumni with the ES program and students by organizing formal and informal social and professional events.</li> <li>• Encourage ES alumni to contribute to ES program by mentoring ES students, teaching courses, serving on advisory committees, providing financial support, offering and advertising contacts for employment and internships</li> <li>• Develop websites, e-letters, and newsletter to provide alumni ways they can communicate and remain connected to the ES program</li> <li>• Develop incentives (rewards,</li> </ul>

	<p>Help current ES students learn about the history and legacies of the institution through interactions with alumni</p>	<p>acknowledgements, memberships) for alumni to contribute to the ES program.</p> <ul style="list-style-type: none"><li>• Develop and publish an on-line alumni directory.</li></ul>
--	--	--

## References

---

- <sup>1</sup> Anderson, L. W., et al (2000). *Taxonomy for Learning Teaching and Assessing: A Revision of Bloom's Taxonomy of Educational Objectives*. Allyn & Bacon.
- <sup>2</sup> Rink, J. E. (2001). *Teaching Physical Education for Learning*. Boston, MA: WCB McGraw-Hill.
- <sup>3</sup> Arion, D. N. & Secor, M. (2005). *Entrepreneurship Across the Curriculum: Creation of a Developmentally-Appropriate 4-Year Entrepreneurship Program*, National Collegiate Innovators and Inventors Alliance, San Diego, CA.
- <sup>4</sup> Secor, M. (2003) *Helping College-Aged Students Survive and Thrive Their College Experience: A Review of Relevant Literature*. Master of Science Project, University of Wisconsin – La Crosse.
- <sup>5</sup> Chickering, A. W. & Reisser, L. (1993). *Education and identity* (2<sup>nd</sup> ed.). San Francisco: Jossey-Bass Publishers.
- <sup>6</sup> Evans, J. E., Forney, D. S. & Guido-DiBrito, F. (1998). *Student development in college theory, research, and practice*. San Francisco: Jossey-Bass Publishers.
- <sup>7</sup> Secor, M. (2003) *Helping College-Aged Students Survive and Thrive Their College Experience: A Review of Relevant Literature*. Master of Science Project, University of Wisconsin – La Crosse.
- <sup>8</sup> Simons-Morton, B. G., Greene, W. H. & Gottlieb, N. H. (1995). *Introduction to health education and health promotion*. Prospect Heights, IL: Waveland Press, Inc.
- <sup>9</sup> Upcraft, M. L., Gardner, J. N. and Associates, (1989). *The freshman year experience: Helping students survive and succeed in college*. San Francisco: Jossey-Bass Publishers.
- <sup>10</sup> Gardner, J. N., Van der Veer, G., and Associates (1998). *The senior year experience: Facilitating integration, reflection, closure, and transition*. San Francisco: Jossey-Bass Publishers.
- <sup>11</sup> Kotter, J. P. (1996). *Leading change*. United States: Harvard Business School Press.
- <sup>12</sup> More information on these sources, as well as additional papers with information on student development, curriculum development, and program implementation, can be found at [www.iplltd.com/IPL-research.htm](http://www.iplltd.com/IPL-research.htm) and [www.iplltd.com/IPL-resources.htm](http://www.iplltd.com/IPL-resources.htm).