The FOURTH "R"
Real Learning Via Problem-based Entrepreneurship

Entrepreneurship literacy is an essential component currently missing in 21st Century Skills. Because of tight schedules and lack of teacher expertise we are creating an entrepreneurship problem-based strategy to weave into core curriculum.

Based on entrepreneur-created scenarios and questions for students to explore, activities require student engagement with the Internet and the community. The Consortium’s 403 performance indicators serve as a basis for design and evaluation of K-16 and adult problem-solving experiences.

Problem-based learning is not necessarily a "project", and Project-based Learning does not require addressing a "problem". Problem-based learning requires creativity, critical thinking, analyzing and interpreting, external contacts, community connections, questioning, and finding a solution ... all that prepare them for life.

Presenters:

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The Vision

The Consortium for Entrepreneurship Education’s vision is to integrate problem-based learning and entrepreneurship education (PBL/EE) utilizing the performance indicators from the National Content Standards for Entrepreneurship Education. This strategy will create a process for and database of activities and assessment tools that will promote authentic learning utilizing the concept of entrepreneurship as it relates to a real world experience.

At the same time, the growth and demands of today’s expanding global economy call for a highly educated, skilled workforce that can meet the needs of companies competing in this global environment. In Thomas Friedman’s “The World is Flat,” he talks of the growing competition from China and India.

The report Tough Choices or Tough Times states “If the work is routine, no matter how complex it is, chances are it can be automated. And if it can be automated, it probably will be, sooner or later… so, inevitably, simple economics dictates the progressive automation of more and more jobs.”

The report emphasizes “the reason, the only reason, that the rest of the world would be willing to pay us (Americans) twice as much as equally competent people is if we can add creativity and innovation on a grand scale to sheer competence.”

The US is experiencing a massive problem of students dropping out without the skills to succeed in advanced education or perform successfully in their jobs. According to a Gates Foundation study, it was partly attributed to boredom with school and the need for education to be more relevant to the real world.

The Challenge

Entrepreneurship has emerged as an exciting career choice for young people who are learning that they have the power within to create their own job and make it grow. Problem-based learning imbedded in entrepreneurship education utilizes students’ interest in entrepreneurship to engage them in learning.

Our challenge is to create a unique approach to bring entrepreneurship to all students at all levels of education without the need for their teachers to have all the answers.
The Goal

The Consortium in partnership with Consortium members, and/or groups of members in a state will create a process for and database of Problem-Based Learning/Entrepreneurship Education (PBL/EE) activities and assessments for teachers P-16 utilizing the Consortium’s National Content Standard’s Performance Indicators. The processes and authentic learning activities will be developed for use in all academic and/or career and technical classes (i.e.: Math, science, foreign language, social studies, communications, etc.) and appropriately linked with assessment tools. It will be available free and on-line utilizing an open source website for further development.

The Objectives

1. Develop a unique curriculum resource that would serve all levels of education to provide entrepreneurship-based problem-solving activities based on the 403 Performance Indicators of the National Content Standards for Entrepreneurship Education.

2. Provide a major contribution to educational change with a tested process to enhance the capacity of teachers to provide activity-based opportunities for each student to explore personal possibilities for entrepreneurship as their career goal.

3. Design and test a functional curriculum model in partnership with interested depart of education or other partners in keeping with their emerging emphasis on entrepreneurship as an essential element of a 21st Century K-12 curriculum.

4. Establish a national network in support of this model that will extend nationwide as a result of free access to the final online database that facilitates collaboration.


The Outcomes

1. Entrepreneurship Education will be available to all students at all grade levels, regardless of their education and career paths.

2. Entrepreneurship Education strategies will be easily infused into existing curriculum as an additional resource, not a replacement of current curricula.

3. Real world applications will be utilized in the classroom by creating a database of authentic problem-based activities and assessment tools correlated with the Consortium’s 403 entrepreneurship performance indicators.

4. Students will be guided to apply their new knowledge to future goals and career pathways.

5. Students will be engaged in their learning increasing their chances of graduation.

6. Students will possess a digital portfolio of their accumulated educational and entrepreneurial experiences.

7. Cooperating Departments of Education and their networks of teachers and advisors will create a model for developing and implementing a unique new approach to teaching entrepreneurship K-12.

8. A resource library of entrepreneurship problem-based activities and assessments will be used in all types of classes (academic and/or career and technical) and be available free-of-charge nationwide.

9. A tested replicable model of entrepreneurship education strategies and programs will be deemed effective for use nationally.
Combining Two Innovative Learning Methods

This unique project combines the benefits of both entrepreneurship education and problem-based learning (EE & PBL) to develop resources and processes for teachers at all levels of education as they are challenged to prepare students for the opportunities of the 21\textsuperscript{st} Century and beyond.

“How can I get my students to think?” is a question asked by many faculty, regardless of their disciplines. **Problem-based learning (PBL)** is an instructional method that challenges students to solve problems and acquire knowledge—to “learn to learn” by working cooperatively in groups to seek solutions to real world problems. These problems are used to engage students’ curiosity and initiate learning the subject matter. PBL prepares students to think critically and analytically, and to find and use appropriate learning resources. (Cited from author Barbara Duch)

The Consortium defines **Entrepreneurship Education (EE)** as a lifelong learning process that provides young people with the skills and motivation to become an entrepreneur and/or to develop skills to work effectively in any growing industry. The Consortium also emphasizes the importance of entrepreneurship as the context for teaching academic skills as a way to help schools meet the requirements of No Child Left Behind. The Consortium published the National Content Standards that includes **403 Performance Indicators** of entrepreneurship

**Problem-Based Learning Cycle**

1. Orientation to change and opportunities everywhere
2. Student motivation based on the opportunity to develop and use personal skills and talents
3. Understanding that success and wealth come to those who create a business that benefits others.
4. Belief that entrepreneurship experiences of any kind develop expertise over time
5. Value entrepreneurship curriculum that provides students with 4 R’s: educational RIGOR, real world RELEVANCE, connections to adult world RELATIONSHIPS, and RESPONSIBILITY for becoming a productive citizen in a global economy

4. CSLS Presentation from the OH Department of Education Regional Meeting, September 2008, Handout attached.
Passion is the power that drives the engine of creativity.
Doing what you love gives you energy. Find what it is that you love doing.”
— John Dillon,

Money isn't everything. Understanding it is.
Questions for Discussion

- How is problem-based learning different from project-based learning?
- Why doesn't Entrepreneurship Education exist and succeed in very “traditional” K-12 environment?
- Why is experiential learning (accompanied by the ambiguities, problems and risk of real-world business startup and operation) important for entrepreneurship education?
- How do deep community connections facilitate learning?
- How can students learn problem solving skills as they work on a given situation?
- How will students react to problems that encourage them to find creative solutions?
- How can teachers integrate critical thinking/creativity in required curriculum?
- How can we include problem-based learning in student assessment?
- How can national content standards be used with Problem-based Learning?
- How can teachers cope with assignments where there is not a single right answer?

- Discuss the SIX A’S FOR DESIGNING PROBLEM-BASED LEARNING
  - Authenticity
  - Academic Rigor
  - Applied Learning
  - Active Exploration
  - Adult Connections
  - Assessment practices
• How would you define the ultimate outcomes of using problem-based learning?

• Will your students become more likely to be an entrepreneur or use entrepreneurial skills in their workplaces as a result of involvement in entrepreneurial experiences?

• Will your community be a better place in which to work because of the entrepreneurial spirit fostered among your students?

• Will students acquire knowledge and skills that prepare them for solving workplace problems?
Entrepreneurship: Where Does It Fit?

- Arts
- Language Arts / Languages / Communication
- Math
- Trades & Industry
- Sciences
- Social Studies / Economics
- Business & Marketing
- Family & Consumer Science
- Finance
- Critical Thinking
- Entrepreneurship Problem-based Learning
- Creative Problem Solving
- Technology
In 2004-05 the Consortium for Entrepreneurship Education conducted focus groups with entrepreneurs across the nation to try to capture the knowledge, skills and attitudes that entrepreneurs believed were important to be a successful entrepreneur. The result was 403 performance indicators organized in 15 standards, presented in three major categories. Published in 2005, the National Content Standards for Entrepreneurship Education have served as an umbrella, describing the field as a whole.

However, since their release in 2005 we have worked with a great number of educators that have chosen what is best for their programs. As a result of their input from use in programs at all levels of the lifelong learning model, we are proposing the attached matrix as a way to determine what is appropriate for a given class or program. See description of the five stages [http://www.entre-ed.org/_entre/5-stages.htm](http://www.entre-ed.org/_entre/5-stages.htm) and the model [http://www.entre-ed.org/_entre/lifelong.htm](http://www.entre-ed.org/_entre/lifelong.htm)

The newly published matrix represents a method of prioritizing which of the 403 performance indicators should be taught at each level of the Consortium’s Lifelong Learning Model. [http://www.entre-ed.org/Standards_Toolkit/matrix](http://www.entre-ed.org/Standards_Toolkit/matrix)

To simplify use of these 403 performance indicators, we have worked with teams of educators to determine how they fit at each stage, and then have prepared an easier method for you to select what you teach at your specific instructional levels. We have grouped "Basic Skills" and "Competency Awareness" in a searchable file that will help elementary, middle school, and high school basic programs to sort out where to start with their instruction. All of these performances build the base on which others then grow. [http://www.entre-ed.org/Standards_Toolkit/one-two](http://www.entre-ed.org/Standards_Toolkit/one-two)

The second searchable file is for "Creative Applications" (the third stage) alone which enable educators to find the performance indicators for more advanced entrepreneurship education where students are focusing their entrepreneurial skills or may be actually creating a business. Of course they can always reach back to pick up some of the more basic performance indicators if the students still need them. [http://www.entre-ed.org/Standards_Toolkit/three](http://www.entre-ed.org/Standards_Toolkit/three)

The third searchable file is for "Start-up" and "Growth" performance indicators which are used where programs address more advanced performance indicators for those actually starting a business or solving problems in an existing business. [http://www.entre-ed.org/Standards_Toolkit/four-five](http://www.entre-ed.org/Standards_Toolkit/four-five)
These three files allow entrepreneurial educators to focus the performance indicators to the level of the students they are guiding. These three files organize from basic instruction to really focused preparation, and finally to those individuals who are already establishing businesses or are currently operating their businesses.

Obviously all 403 Performance Indicators could also be picked up for these programs if needed.

As you review the complete matrix and the three searchable files, remember the following:

- Each column in the matrix represents a stage in the lifelong learning process.

- There are 15 basic standards that have 50 major sub-sections which are used to organize the 403 performance indicators on the matrix and for each searchable file.

- More than one performance indicator can be developed in any given curriculum activity.

- Instructors will determine the goals of their program and the background their students bring to the program in determining which performance indicators to address.

- Teachers will include items that have been identified as needed at an earlier stage if students have not had opportunities to develop those competencies.

- By the growth stage all 403 performance indicators should have been addressed in the entrepreneur's education.

- The Consortium for Entrepreneurship recommends that throughout their education students should have opportunities to gain more and more advanced learning about any given area, with emphasis on the important areas learned in the early stages.

- The matrix could serve as an evaluation document for all students....that they could progressively show the development of their entrepreneurial competency. See the Entrepreneurial Competency Checklist at [http://www.entre-ed.org/_how/ccr/tools.html](http://www.entre-ed.org/_how/ccr/tools.html) for a tool to help students assess their competency acquisition.

Source:   Consortium for Entrepreneurship Education   Columbus, OH   www.entre-ed.org
"D.I.Y." Problem Creation

- **ON YOUR MARK** *(COMPETENCIES)*

- **GET READY**

- **GET SET**

- **GO!**

- **FINISH LINE!**

- Assessment Ideas
My name is Micah Brochin. I am a senior at Riverwood International Charter School and I am 18 years old. I have been involved with many different sports teams here at my school. I am also heavily involved with the FBLA program. Last year I participated in the entrepreneurship competition for the state competition. My team won third in the state.

I got my start with children 6 years ago when I was 12 years old at my aunt’s preschool. I immediately fell in love with the work. The next year, upon my return, I was put in charge of running the water play. This consisted of setting up the water tubs and sprinklers for the children to play in. I stayed at the preschool until I was 14. Then the next summer I moved to Atlanta Jewish community Center. I worked at camp Isidore Alterman and the aquatics camp the first summer. Then during the school year I worked the clock for some of the youth sports game. I then took a summer off to travel to Israel. When I came back I got right back into the work. There is nothing more rewarding to me than having a positive impact on a child’s life. I feel that the age range of 4-8 are crucial years for their development and I feel very honored to be able to play a role in this stage.

I started this company, Nannies and Mannies, at the end of August. It was a lot of work to do all of the research necessary to start up a company like this. I had to find out where to go to get the proper licensing, I had to set up a police account to do the proper screening, and I had to come up with my own personal hiring contracts. This is just some of the basic stuff. I also had to come up with a very complicated pricing process, guarantees, insurance coverage, and new client forms. After everything was in place and official I saw my first dollar a month and a half later. I worked on the development of the company from when I started it till just a little while ago. I worked every day day at least 7-8 hours after school. I would be up till 1 or 2 in the morning doing work for it. At the end of the day, from the results that I have already had, I would say that it most definitely has paid off.

I got the idea from when people kept asking me to babysit and I was unavailable. I thought that it was unfair to the parents we left without assistance. I decided to gather up some of the finest people that I know of that have had more than a year of experience with children. I then
started to build the company from the ground up. I started off by making hiring contracts. I then bought business cards and started to design the website. After all this was done I got all of the background checks done on all of my employees.

The goal of my company is to match a client with their dream babysitter. I have a wide variety of choices for people to choose from. We have people that can speak Spanish or French. We have boys and girls of different ages. We also accept new born babies and special needs children. All of these factors help me reach my target market more effectively than my competition. My company is currently on the referral list by two major hotels here, the Intercontinental and The W. My future goals are to open up branches in Miami, Florida, Boston, Massachusetts, and New York City, New York.

Nannies and Mannies
404-408-3343
MicahB@nanniesandmannies.com
www.nanniesandmannies.com
2526 Mt. Vernon Rd. Suite B #127
Atlanta, GA 30338
Micah Brochin got an early start in the childcare business. Read about his growing his childcare skills from the age of 12 working at a preschool to his own babysitting service with a diverse staff and a personal guarantee for client satisfaction.

• Where did Micah get his idea for a babysitting service?
• Explain Micah’s business name, Nannies and Mannies. Do you think this is an effective name?
• List the steps Micah had to take to get his business off the ground.
• List at least 3 unique selling points of Nannies and Mannies.
• How does being on the referral list of two major hotels increase Nannies and Mannies’ target market?

• Should Micah consider franchising Nannies and Mannies? Why or why not?
• Write a letter to Micah giving your advice.
• Check out franchise information on the web. What is a franchise?
• What major franchises can you list?
• What are the top ten US franchises?
• Often people say the advantage of a franchise is “being in business for yourself but not by yourself. Explain this-advantage. Is it an advantage? Are there any disadvantages?
1. Interview a franchise owner in your community and report back using the SWOT Chart below.

<table>
<thead>
<tr>
<th>SWOT</th>
<th>Investigation:</th>
<th>Looking at the</th>
<th>Evidence</th>
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</thead>
<tbody>
<tr>
<td>STRENGTHS</td>
<td>WEAKNESSES</td>
<td>OPPORTUNITIES</td>
<td>THREATS</td>
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Write a thank you note to the franchise owner.
Summarize your findings in a five minute report to your class.

2. Find a franchise in the top ten list that would be a good fit for your community.

What is the purchase cost?
Does it include site? building? training?
Where would you locate the business?
With what existing businesses would it compete?
3. Research a franchise that you would like to explore.

  What are the reasons you chose this franchise?
  What is the initial investment?
  What skills and talents do you have that would make this a positive choice for you?
  Study the website to see what restrictions might affect the success of this business. List any that you find.
  How might the franchise limit your creativity and reach?
  Develop a five minute "elevator speech" or sales pitch for funding and present it in class.

4. Create a concept for a new franchise in the health, energy-efficient, food, clothing or pet-related industries etc.

  Research the specific industry noting trends and sales.
  Name the franchise.
  Describe the good or service in specific detail.
  Describe the site - virtual or real community presence?
  Describe the competition.
  Design a promotional web page or brochure for your concept.
Rookie restaurant owner Maria Cabrera’s Cafe Bohemia has a breezy street-side ambience. The shrimp with garlic and lemon butter sauce is irresistibly luscious. If fine food is like art, some restaurants may be like a complex abstract; Cafe Bohemia is more like a lazy, dreamy Van Gogh.

It’s only open four days a week for now, and wisely, owner and chef Maria Cabrera has decided to ease the logistical burden a bit by supplementing the menu featuring fatty-luscious Cuban and Puerto Rican food with some local favorites -- Jamaican dishes from her friends at the nearby Caribbean Paradise restaurant ($8.95); water ice from Bernie’s stand; and homemade desserts from neighbors and friends. Eventually, she hopes to call on guest chefs to spark up the menu from time to time with other Latin dishes -- Peruvian, or Ecuadorean.

There are such hard-to-find specialties as fish and shrimp tacos (three for $7); a watermelon salad with feta and mango yogurt dressing ($4.50); and mango guacamole ($3.50). Light, lively flavors run right alongside the darker, deeper tastes of Latin cuisine -- represented most memorably by the chef’s garlic and lemon butter sauce, an irresistibly luscious creation that can be enjoyed either over shrimp ($10.95) or tilapia ($10.95). Each has its own character, its own flair, but both are probably best ordered with some of Cabrera’s fried plantains, the perfect vehicle for sopping up the garlic-laced butter.

There’s a more hearty appeal in her Puerto Rican pork shoulder roast, cooked softly and slowly in lime, pepper, garlic and rosemary adobo marinade ($9.95). Her picadillo ($8.95), a home-style Cuban classic of ground beef with onions, peppers and olives, is nicely pugnacious, but needs a moister touch to fully succeed, something that a splash or two of tomato sauce could surely resolve.

Considering her concept has such inherent appeal, and her character is so caring and conscientious, Cabrera should be able to detangle those minor kinks, so long as she doesn’t get mired in the logistical snafus that plague any rookie restaurant owner.

That will mean diners can share the homey, fulfilling comfort foods of Cabrera’s youth, served without rush in a whimsically tropical setting that nicely emulates the breezy street-side ambience of a Caribbean village.

For the sake of such good and honest food, and such smart new ideas, I’m willing to wait for that day.

Eric Ruth   News Journal -   Hours: 11 a.m.-8 p.m. Thursday; 11 a.m.-midnight Friday; 5-11 p.m. Saturday; 10:30 a.m.-8p.m.
Solve Maria's Problem—
She needs Your Consultative Advice and Guidance

On Your Mark:

Competencies/performance indicators that you will utilize (Taken from National Content Standards For Entrepreneurship Education)

A.11 Assess start-up requirements
A.32 Explain the impact of resource productivity on venture success
B.19 Make decisions
D.04 Reinforce service orientation through communication
D.23 Treat others fairly at work
D.29 Use appropriate assertiveness
F.02 Explain the factors of production
F.09 Explain the concept of productivity
I.13 Explain the nature of overhead/operating expenses
J.13 Orient new employees (management's role)
J.23 Provide feedback on work efforts
L.11 Evaluate customer experience
L.21 Monitor and evaluate performance of marketing plan
L.22 Describe the elements of the promotional mix
L.34 Explain factors affecting pricing decisions
M.07 Implement quality improvement techniques
M.08 Evaluate productivity of resources

Get Ready:
Maria has opened Café Bohemia, a Latino café and grocery shop, her lifelong dream. There was a critical need in the city of Wilmington, Delaware, for a business to supply the groceries and menu that would appeal to the city's growing Latina population. Maria's menu, decor, and stock have been very popular. Read about the Café from this newspaper article..

Get Set:
Would you call this review of Café Bohemia positive or negative or a little of both? What is a comfort food? Why are comfort foods so popular? What do you think are the “logistical snafus that plague any rookie restaurant owner?” What ideas has Maria used to increase patronage of her restaurant? Why do you think the Café is only open four days a week? How do blogs and Twitter and Facebook promote word of mouth advertising?

Go:
Maria has a problem, though...her young staff is often distracted by their cellular devices—texting and calling.
If Maria pays her staff minimum wage, and the average time using cellular phones per 8 hour shift is 30 minutes, what is the amount of money Maria loses per employee per 4 day work week due to this problem?

(Minimum Wage differs from state to state. Use the link below to figure the cost per employee per 4 day work week if Café Bohemia’s location was in your state.  
http://www.dol.gov/whd/minwage/americ.htm)

What would be the amount lost over a month’s time if she had 5 workers with this problem?

**Finish Line:**
This staff problem impacts Maria’s bottom line, her profit margin.
- Do you think it is a serious problem? Why or Why not?
- Come up with a solution to help Maria solve this productivity problem in a constructive and effective way.
- Send your solution to Maria at Maria Cabrera, 1139 W Seventh St Wilmington, DE 19805
### Problem Solving Rubric

If the Learning Manager desires to specify and assign percentages to the various assessment categories they can weight each of the eight areas for which they want to assign the most focus of the problem solving activity.

<table>
<thead>
<tr>
<th>Score</th>
<th>Assessment Categories</th>
<th>4-Advanced</th>
<th>3-Proficient / On Target</th>
<th>2-Developing / Getting There</th>
<th>1- Incomplete / Needs More</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Competencies / Performance Indicators addressed appropriately</td>
<td>Evidence indicates that performance indicators are all addressed in solution provided</td>
<td>Most of the performance indicators are addressed in solution provided</td>
<td>A good portion of the performance indicators were addressed in solution provided</td>
<td>Few performance indicators were addressed in solution provided</td>
</tr>
<tr>
<td></td>
<td>Analyzing Situation and Gathering insights</td>
<td>Students identify more than 5 reasonable, insightful barriers/problems that need to change/improve</td>
<td>Students identify at least 4 reasonable, insightful barriers/problems that need to change/improve.</td>
<td>Students identify at least 3 reasonable, insightful barriers/problems that need to change/improve.</td>
<td>Students identify fewer than 2 reasonable, insightful barriers/problems that need to change/improve.</td>
</tr>
<tr>
<td></td>
<td>Generating Solutions</td>
<td>Students identify more than 5 reasonable, insightful possible solutions/strategies to encourage change</td>
<td>Students identify at least 4 reasonable, insightful possible solutions/strategies to encourage change</td>
<td>Students identify at least 3 reasonable, insightful possible solutions/strategies to encourage change</td>
<td>Students identify fewer than 2 reasonable, insightful possible solutions/strategies to encourage change</td>
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<tr>
<td></td>
<td>Thoughtful</td>
<td>The student has put careful thought and planning into their choice of solution and its presentation</td>
<td>The student has put some thought and planning into their solution and its presentation</td>
<td>The student has put some thought into their presentation but has not planned solution</td>
<td>It is difficult to tell if the student put thought or planning into their solution presentation</td>
</tr>
<tr>
<td>Persuasive Quality</td>
<td>The way information is presented persuades the reader/hearer to respond positively to the solution</td>
<td>The way information is presented somewhat persuades the reader/hearer to respond positively to the solution</td>
<td>The way information is presented is slightly convincing but does little to persuade the reader/hearer to respond positively to the solution</td>
<td>The way information is presented does not persuade the reader/hearer to respond positively to the solution</td>
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<tr>
<td>Organization</td>
<td>Solution is presented in logical, interesting way, which is easy to follow</td>
<td>Solution is presented in a logical manner, which is easily followed</td>
<td>Solution is presented in a mostly logical manner, with minor flaws or breaks which do not impede overall understanding</td>
<td>Solution is somewhat difficult to follow due to some lack of continuity and/or logical progression</td>
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<tr>
<td>Complete</td>
<td>The student fulfilled all assignment requirements and went beyond expectations.</td>
<td>The student completed all assignment requirements.</td>
<td>The student has one element missing from the assignment.</td>
<td>The student has more than one element missing from the assignment.</td>
<td></td>
</tr>
<tr>
<td>Creative</td>
<td>The student followed the guidelines for the assignment and was very creative in their presentation</td>
<td>The student followed the guidelines for the assignment and was somewhat creative</td>
<td>The student followed the guidelines for the assignment but was not very creative in their presentation</td>
<td>The student's solution was derivative and lacked creativity</td>
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</table>

Total Score
Entrepreneurs must develop the skills of analyzing situations and creating workable solutions that allow them to serve their customers. In the education environment educators need to use assessment processes that allow for assessing the student’s ability to think through situations/problems not just to remember the right answers.

In the workplace today, creative thinking is generally expressed through the process of creative problem solving. Increasingly, companies are identifying creative problem solving as critical to their success as creative solutions help the organization to move forward toward strategic goals. Therefore whether the entrepreneurship student is opening their own business or going into the workplace working for a company, they need to have the skill of thinking and solving problems in order to optimize customer service and profits.

Authentic assessment is a vehicle that is critical to ensuring that students are not just assessed on having right answers when they do their work in entrepreneurship learning environments.

Students can create portfolios of their work or teachers can organize rubrics so that parents and mentors can assess the work of the students along with the student and teacher. Helping students evaluate their own performance is one way of teaching students to use key skills that they will need in the future as they evaluate entrepreneurial opportunities or as they evaluate employees.

Self or peer assessment is the process of students or their peers grading assignments, projects or tests based on a teacher’s benchmarks. The reasons that teachers employ self- and peer-assessment are that it will save them time, students may gain a better understanding of the material, and student’s meta-cognitive skills may increase. Rubrics are often used in conjunction with self- and peer-assessment.

A rubric is a scoring tool for subjective assessments. It is a set of criteria and standards linked to learning objectives that is used to assess a student’s performance on papers, projects, problem-solving, essays, and other assignments. Rubrics allow for standardized evaluation according to specified criteria, making grading simpler and more transparent.

The rubric
- delineates consistent assessment criteria.
- allows teachers and students alike to assess criteria which are complex and subjective
- provides grounds for self-evaluation, reflection and peer review.

It is aimed at accurate and fair assessment, fostering understanding and indicating the way to proceed with subsequent learning/teaching. This integration of performance and feedback is called “ongoing assessment.” Increasingly, instructors who rely on rubrics to evaluate student performance tend to share the rubric with students at the time the assignment is made in order to guide the student’s performance and to assist in self-assessment.

Portfolio assessment is an alternative way to evaluate learning processes and learning outcomes. One of the characteristics of a portfolio assessment is that it emphasizes and evidences the learning process as an active demonstration of knowledge. By collecting examples of the best work done in a particular project or over a series of assignments a student can demonstrate what they have done as a part of the learning process and what they have learned. Alternative assessments such as portfolios are used to encourage student involvement in their assessment, their interaction with other students, teachers, parents and the larger community.

Entrepreneurial educators should always consider ways to assess what their students are learning in ways that enhance the skills of the students which will be useful in their entrepreneurial future.

The performance indicators in the National Content Standards for Entrepreneurship Education assist teachers as they develop rubrics, and other alternative assessments. Entrepreneurial mentors can also be of great assistance as assessments are being done as they relate well to the performance indicators in the National Content Standards ...representing tasks they are performing daily.
Creating a Problem-Based Learning Environment

Encourage questions. You don’t need to know all the answers. Be a model for lifelong learning. With the Internet, knowledge and answers are at our fingertips today.

Create a stimulating atmosphere: things to read, observe, touch, question and wonder about; things to do; new words to learn; people to meet.

Teach the art and power of “Please” and “Thank you” and the thank you note. Model good manners.

Create a safe haven for risk taking – for your students…and yourself. Look at problems as opportunities. Encourage positive thinking. Be ready to admit you don’t know something, you were wrong, or accept a different solution to a problem than what you yourself envisioned.

Encourage positive talk. Talk toward the behavior you are seeking. Use “remember” instead of “Don’t forget.” Plan to “Do” rather than plan to “Don’t.”

Have high expectations.

Teach and model networking. Practice oral and written communication.

Teach a solid handshake.

Teach creative problem solving skills such as SCAMPER.

Teach a basic decision making model and add the critical final step!
1. State the problem.
2. List the alternatives.
3. Set criteria.
4. Evaluate the alternatives.
5. DECIDE.
6. EVALUATE YOUR DECISION.

Forget the walls. Venture out into the community. Find mentors and visiting “professors” and real life learning labs. Connect worldwide on the Internet.

Encourage independence: “You can handle it yourself.” Do not be the dispenser of all knowledge yourself.

Share the super successful entrepreneur Ewing Marion Kauffman’s philosophy:
- Those who produce share in the rewards.
- Follow the Golden Rule.
- Serve the community.

LAUGH. Laugh some more. Word play and puns foster creativity.
Collect catalogs and mailers for your entrepreneurs to peruse.

Share toys and interesting souvenirs.

Collect, display, share, and discuss stories of entrepreneurs and ventures.

Make a business card display.

Teach the art of the trade-off and how to pick one’s battles.

Connect learning to the world of work.

Remember that some problems cannot be solved immediately.

Make the camp or classroom your venture! What is your unique selling point? How do you differentiate yourself?

Use a timer to build awareness that time is a valuable, non-renewable resource.

Talk about priorities. “Must Do”, “Should Do,” and “Nice to Do” lists can help with organization of time. Model keeping an electronic calendar.

Be flexible. Model being flexible. Go with the flow! Ventures your students pursue in their futures may not even exist today.

Entrepreneurship education is about making a job, not taking a job. Intrapreneurship is making a job within an existing organization. Corporations today seek intrapreneurs who can say “This is what I can do for you…” Problem-based learning provides the experience and confidence to be able to say those words!

It has been said that society offers few options for the uneducated. Provide different ways to begin to acquire the education, experiences, and know-how needed to compete in the global economy of today…and tomorrow.

Post quotes everywhere.
Whatever you are, be a good one. Abraham Lincoln
If you find a job you love, you will never work a day in your life. Unknown

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<table>
<thead>
<tr>
<th>Questions and Cues</th>
<th>Examples &amp; Samples</th>
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<tbody>
<tr>
<td><strong>Substitute</strong></td>
<td></td>
</tr>
<tr>
<td>What else instead? How else?</td>
<td>Boxer shorts for outerwear</td>
</tr>
<tr>
<td>What other ingredients?</td>
<td>Sugarless gum</td>
</tr>
<tr>
<td>What other ?</td>
<td></td>
</tr>
<tr>
<td><strong>Combine</strong></td>
<td></td>
</tr>
<tr>
<td>Blend purposes and ideas</td>
<td>Brunch, cran-apple juice</td>
</tr>
<tr>
<td><strong>Adapt</strong></td>
<td></td>
</tr>
<tr>
<td>What other idea does this suggest?</td>
<td>French fries for the microwave</td>
</tr>
<tr>
<td>What could I copy?</td>
<td>Book of the Month Club</td>
</tr>
<tr>
<td><strong>Modify, Magnify, Minify</strong></td>
<td></td>
</tr>
<tr>
<td>Try a new twist</td>
<td>Double-stuff Oreos®</td>
</tr>
<tr>
<td>Change__________</td>
<td>Mini Oreos®</td>
</tr>
<tr>
<td>Add ___________</td>
<td>Halloween Oreos®</td>
</tr>
<tr>
<td>Improve _______</td>
<td>Multi-colored chocolate chip cookies</td>
</tr>
<tr>
<td>Exaggerate _______</td>
<td>Low-salt foods</td>
</tr>
<tr>
<td>Reduce _______</td>
<td></td>
</tr>
<tr>
<td><strong>Put to other uses</strong></td>
<td></td>
</tr>
<tr>
<td>What other use?</td>
<td>Avon's Skin-so-Soft® as bug repellent</td>
</tr>
<tr>
<td>What other markets?</td>
<td>Old tires into doormats or mulch</td>
</tr>
<tr>
<td><strong>Eliminate</strong></td>
<td></td>
</tr>
<tr>
<td>Subtract ___________</td>
<td>Sugar-free, fat-free foods</td>
</tr>
<tr>
<td>Streamline__________</td>
<td>Seedless melon</td>
</tr>
<tr>
<td><strong>Reverse</strong></td>
<td></td>
</tr>
<tr>
<td>Interchange</td>
<td>Bunk bed</td>
</tr>
<tr>
<td>Turn it backward</td>
<td>Sectional couch</td>
</tr>
<tr>
<td>Turn it upside down</td>
<td>Modular storage</td>
</tr>
<tr>
<td>Try opposites</td>
<td>Yogurt with fruit on top</td>
</tr>
<tr>
<td></td>
<td>Upside-down cake</td>
</tr>
</tbody>
</table>

*A creative thinking/problem solving strategy designed by Edward DeBono*
Idea Invokers

Using the problem you choose after doing your due diligence or survey, try these thought-provoking sentence starters and see if something spurs your creative thinking powers.

My Problem:

In what other ways can I ________________________________
If I combine _________________________________________
Suppose _____________________________________________
What would happen if _________________________________
What if _____________________________________________
What if _____________________________________________
If I were ___________________________________________
How many different _________________________________
What else __________________________________________
If I add ___________________________________________
Without ____________________________________________
Looking at nature, I see ______________________________
I need _____________________________________________
It might be impossible, but __________________________
By turning _______ around____________________________
I can improve this by _______________________________
Imagine ___________________________________________
I’ve never seen _____________________________________
**BIBLIOGRAPHY**

**Basic Tools**
- Guide to The FOURTH "R" - Real Learning Via Problem-based Entrepreneurship, Developed by The Consortium for Entrepreneurship Education, Columbus, OH, www.entre-ed.org

- "Roadmap" for ENTREPRENEURSHIP TEACHER TRAINING - A Collaborative Plan from the YOUTH ENTREPRENEURSHIP ALLIANCE, 2010 www.YEAleaders.org

- National Content Standards for Entrepreneurship Education (c) Consortium for Entrepreneurship Education, Columbus, OH (copyright 2004) www.entre-ed.org


**Out Of The Ordinary Resources That Make Creativity Fun**

Sign up for free creativity newsletter: http://www.creativity-portal.com
This website offers tools and support to creative folks of all walks of life. http://www.artofthesong.org/about

- Never Let a Fool Kiss You or a Kiss Fool You by Dr. Mardy Grothe – For inspiration


- Problem Solving 101: A Simple Book for Smart People - Ken Watanabe (creator of fads such as the Wacky Wall Walker...)

- The 101 Greatest Business Principles of All Time by Pockell and Avila (found in airport shops!)

- The Back of the Napkin (Expanded Edition): Solving Problems and Selling Ideas with Pictures - Dan Roam (For the visual thinker...)

- The Toilet Paper Entrepreneur by Mike Michalowsicz

- Anything by Roger von Oech (A Kick in the Seat of the Pants, A Whack on the Side of the Head)

**ASSESSMENT SOURCES -**

http://rubistar.4teachers.org/

http://www.rubrics4teachers.com/