

NEED FOR ENTREPRENEURSHIP EDUCATION IN SCHOOL STUDENTS

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Abstract:

If entrepreneurship education is isolated in a single course, apart from the whole curriculum, it may be missed by many students who then would not profit from their potential development as enterprising individuals. Placing entrepreneurial concepts and the entrepreneur into the standard economics course not only makes the course more reflective of the real world, but it also can help to improve students' comprehension and enjoyment of the economics course. Stories of success resulting from education in entrepreneurship inspire many people to think of starting their own business. This is further aided by the internet to throw the doors open to several opportunities for a new generation of entrepreneurs to seize upon. A certain fall out of this development is an increase in competition which motivated people to learn compete and innovate. Competition is countered by innovation and that leads to more and more inventions. Education in entrepreneurship prepared would be entrepreneur to accept risks and forge ahead. Entrepreneurship education means many different things to educators - from primary schools to university, from vocational education to a university MBA. The action of government in creating and limiting the environment for entrepreneurship should be included in courses of high school government.

Key words: Entrepreneurship, Education, Students, Risk taking, Creativity, Innovation.

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Introduction:

The term Entrepreneurship has broadened and wider implication. It does not merely mean the ability to start some business. It may bring about a change in the mind set of people and can be a change in the social order. But it has a good spectrum of basic principles responsible for strong character, creativity innovation intelligence independence, productivity and the ability to avail of the prevalent opportunities on resources to great advantage.

Peter F. Drucker writes in innovation and entrepreneurship that to learn and to behave like entrepreneurs one has to have the courage to take decisions. He further states that entrepreneurship is the behavior of personality which lies essentially in the concept and theory and not on intuition. Behavior, concepts and theories can be learned by anyone willingness to learn with open hearts and minds provides the opportunity to be self employed.

Concept of Entrepreneurship:

The concept of entrepreneurship has been owned for several hundred years and has evolved greatly since its inception. It means much more than a mere reference to the commencement of a business enterprise, as vouchsafed by many economics while some economists hold the view that an entrepreneur is someone willing to take on the risk of starting a venture with the hope of profiting greatly, other believe that an entrepreneur is an innovator cashing in on their innovation. In the absence of an apt definition of entrepreneurship it can be taken to mean someone venturing out on their own on an opportunity holding the promise of making it big.

Economist Joseph Schumpeter calls entrepreneurship as a force fo creative destruction. He backs his theory with the argument that an entrepreneur take son new ideas and new combinations to help render ideas from the past obsolete.

Everyday a new and improved virtuous of an earlier concept is hit upon which becomes an ongoing process of modification this should give a clean idea bout entrepreneurship. It is this quest for change, entertaining new ideas and responding to them to eventually converting these changes into new opportunities that entrepreneurship concerns itself with. That is why many

economists of today believe entrepreneurship is a catalyst stimulating growth and furthering the economy.

Definition:

The term 'entrepreneur' is derived from two French words 'entre' and 'prenure' meaning between and to take respectively. The word originally referred to those who would trade between the buyer and sellers on 'supply against demand' principle with its inherent risks and later it began to mean those starting a new venture [Barringer and Ireland 2006, p5].

In recent times entrepreneurship has attracted a lot of attention and is seen as an attractive career path, which, in its wake, has resulted in a barrage of literature and research on entrepreneurial behavior (Papers for you.com, 2006) flooding the market. The fact that Amazon.com holds nearly 5800 books on some aspect of entrepreneurial behavior bears testimony to this (Barringer and Ireland 2006). However, most of the literature is repetitive in content describing the same personal qualities of passion for business, tenacity despite failure; execution intelligence etc., with a large number of women entrepreneurs like Anita Roddick of the body shop barging on the situation lends itself to the debate whether women are better endowed with the qualities of good entrepreneurship. Be that as it may, it is becoming increasingly apparent that while starting a business is easy, running it successfully is a real challenge. This is evident in the recent statistics provided by the Global entrepreneurship monitor [GEM] to the effect that 20% of the new firm in the US failed in the first year itself. (Barringer and Ireland 2006).

Failures in no way lessen the significance of entrepreneurial activities vis-à-vis economic development, the fundamental requirement of an entrepreneurial venture being new ideas and innovative business concepts. (Papers4you.cm, 2006). Schumpeter was the first to recognize that old technologies give way to new ones and products are continuously improved upon. He terms the process of current technologies becoming obsolete sooner or later 'creative distinction'. (Welsch, 2005). Joseph Schumpeter starting with the decision to become an entrepreneur the whole entrepreneurial process evolves through various steps like doing a feasibility analysis and industry analysis to come up with an effective business model. The next step would be to put this into operation under the name and style of a firm and devise a business

plan which helps in the arrangement of financial requirements. Once the firm becomes operational it is to be managed effectively for sustained growth (Barrign and Ireland 2006).

Between conception and operation entrepreneurship has a long passage and requires managerial skills and qualified to run it successfully.

However, the impression that entrepreneurs are born, not made is a myth. All that it takes to become a successful entrepreneur is a sound business plan and a through knowledge in the chosen field.

Essentials of entrepreneurship:

Entrepreneurship is the act of processing various resources and transmitting them into commercial products. Innovative ideas, financial management, efforts for the development and growth of the venture, human resource management, customers relations and each and every minutes devoted to business all constitute resources.

The tasks of entrepreneurs are often laborious. This applies equally to a small scale business venture as well as to corporate business. The methodologies and strategies of an entrepreneurial venture requires constant innovative measure to keep abreast of modern technological progress for survival. The major aim of any entrepreneur is creation of wealth, constant vigil and awareness of the market situation is important in order that cost worthy products to meet the customer demands are produced and supplied. Seasoned professionalism, discipline and a proper approach in handling things, are the other qualified expectation of an entrepreneur. A critical study of the market trends and a proper assessment of the opportunities that can be harnessed are the hall marks of entrepreneurship.

An overriding desire to succeed, spirit of competitiveness, self confidence, innovative mind, readiness for change and confident and sustained effort all go into the making of a good entrepreneur. A good entrepreneurial performance consists in handling the human resources with tact, not allowing the team spirit to safe and getting the best out of every employee. A unique entrepreneurship always strives to thrive and not just survive.

Risk: Perception more than skills matters in entrepreneurship. An entrepreneur has to anticipate and face risks. Opportunity risk is of little importance as opposed to financial and credibility risks.

Financial risk is a major issue since monetary issues are involved. Failure of the venture means loss of capital investment loss of capital and dearth of fresh funds will result in the collapse of the venture itself.

The personal risk entails emotional and relational issues. The other types of risks associated with entrepreneurship are credibility and value risks.

If the quality suffers, suppliers fall short of demand and when the publicity suffers due to inadequate promotional efforts any business venture is bound to collapse entrepreneurship must be well equipped to deal with these risks associated with the business.

Challenges of entrepreneurship:

Starting a business whether through invention, creative idea, finding the right opportunity and seizing hold of it or through franchise ship by itself poses a challenge. Proper planning of all aspects of the proposed business is a must. Every entrepreneur faces the additional task of arranging necessary finance for the venture. Intrapreneurs also are faced with financial problems at times even within corporate rules. Unless own capital is invested, raising funds for a business venture is a cumbersome process involving lot of procedures. Lot of information is available on the various stages to be gone through in an entrepreneurial venture that is useful in deciding on the right choice.

A successful negotiation of these challenges ensures a smooth passage for the entrepreneur towards profit. If sound planning has gone into the preparation the journey towards the goal is smooth with only some minor problems on the way that are easily dealt with. The implementation stage, however, is critical and the making or breathing of a business depends on it. That the hypotheses that govern the creation of an idea and its implementation do not run a concurrent course seems to be a general feature of entrepreneurship. A wide variety of skills are needed at the implementation stage and as are single individual can pass all of them. A good

entrepreneur must be able to realize their strength and weaknesses and employ a suitable work force that can fill in the gaps.

A good knowledge of the various skills that come into play at the implementation stage will give a deep insight into their proper management. A business operation involved performed management, communications, and publicity, marketing and sales not to mention legal issues that may crop up. A business without a strong technical basis cannot survive for long. The factors that contribute to the success of a business are work ethics, well planned strategies, growth stimulation and inspiring leadership.

Entrepreneurship opportunities:

Opportunities for entrepreneurial ventures are ever present; only they have to be identified and utilized. Leading entrepreneurs testify to the abundance of opportunities which the prospective investor can take advantage of. Unfortunately they fail to get noticed. A would be investor upon identifying a need and its potential must move further to capitalize on their discovery devising suitable mechanisms to put it into operation. Marketability of the product is no less important than identifying a need. Product identification and marketability are the two essential prerequisites for a new venture.

Risk Path: Entrepreneurship carries with it its own risks. A prospective investor must study the market thoroughly for their intended product to make sure whether it is already available in the market and if so whether it takes care of the entire need for the consumers. An entrepreneurial opportunity involves treading on unfamiliar territory and unless all precautions are taken while planning for the venture it lands one in grief.

Skills: Certain guidelines are to be followed for the success of an entrepreneurial venture. These are arrived at on the basis of established business procedures an innovative mind and certain amount of business acumen together with an intelligence adherence to the guidelines will ensure success.

An invention, especially an engineering product needs constant streamlining which helps detect flaws in the product and eliminate them. Strict quality control is another important factor which ensures regular demand for the product. Uninterrupted supply or availability of the product in the market is a decisive factor. When all these skills are present the entrepreneur succeeds in their venture, realizing their ambitions.

Essence of entrepreneurship:

Entrepreneurship is a process of creating some thing of a value for public consumption. Before coming to function an entrepreneurial venture has to contend with and counter financial physiological and social risks. The result is a rich monetary reward and a sense of personal achievement for the entrepreneur. There is a conscious or unconscious awareness of need based products in people's mind and when their requirements are fulfilled by an investor it becomes service to them which justifiably carries its own reward. Some of the factors associated with entrepreneurship are dealt as under.

Opportunity: A person with resources can always look for an opportunity and evaluate its prospects in the prevalent climate and decide to pursue a venture utilizing the opportunity.

Creativity: Creating something novel and of utility value for the consumers. It benefits the investors monetarily.

Hard work: An entrepreneur cannot and should not allow any let ups in their devotion of time and effort to succeed in their venture. A product's hall mark of success depends on these two key factors which can be expressed in one phrase "Hard Work ".

Facing risks: An entrepreneur faces risk in the form of dearth of funds, psychological and social factors. When these are successfully negotiated and surrounded there is nothing else to block the success of the venture.

Entrepreneurship education:

Stories of success resulting from education in entrepreneurship inspire many people to think of starting their own business. This is further aided by the internet to throw the doors open to several opportunities for a new generation of entrepreneurs to seize upon. A certain fall out of this development is an increase in competition which motivated people to learn compete and innovate. Competition is countered by innovation and that leads to more and more inventions. Education in entrepreneurship prepared would be entrepreneur to accept risks and forge ahead.

Entrepreneurship is a **key driver of our economy**. Wealth and a high majority of jobs are created by small businesses started by entrepreneurially minded individuals, many of whom go on to create big businesses. People exposed to entrepreneurship frequently express that they have more opportunity to exercise creative freedoms, higher self esteem, and an overall greater sense of control over their own lives. As a result, many experienced business people political leaders, economists, and educators believe that fostering a robust entrepreneurial culture will maximize individual and collective economic and social success on a local, national, and global scale. It is with this in mind that the National Standards for Entrepreneurship Education were developed: to prepare youth and adults to succeed in an entrepreneurial economy.

Entrepreneurship education is a **lifelong learning process**, starting as early as elementary school and progressing through all levels of education, including adult education. The Standards and their supporting Performance Indicators are a framework for teachers to use in building appropriate objectives, learning activities, and assessments for their target audience. Using this framework, students will have: progressively more challenging educational activities; experiences that will enable them to develop the insight needed to discover and create entrepreneurial opportunities; and the expertise to successfully start and manage their own businesses to take advantage of these opportunities.

Benefits of Entrepreneurship Education

The Consortium for Entrepreneurship Education -sponsored Think Tank recently worked on group consensus about the different outcomes for entrepreneurship programs at various levels of education.

The Think Tank is a voluntary "future thinking" group composed of a wide selection of educators who are practitioners in a variety of settings, educational levels, and locations throughout the US and beyond. While the results are not based on formal scientific research, they are provided here for the purposes of discussion and orientation to the concepts underlying the National Content Standards for Entrepreneurship Education.

Benefits to Elementary Students:

- Increased attendance
- Higher academic achievement
 - Standardized Tests
 - Pre & Post Tests
 - Portfolio
- Fewer discipline referrals
- Increased sense of "locus of control"
- Awareness of career and entrepreneurial options
- Acquire basic economic understanding
- Acquire basic financial concepts
- Define entrepreneurs' contribution to society
- Use opportunity recognition/ problem solving skills
- Explore ethics issues
- Consider steps in business startup

Benefits to Middle School Students:

- Continue on to high school
- Improved academic skills
- Experience entrepreneurship across the curriculum
- Increased self-esteem and respect
- Increased number of students identifying entrepreneurship as a career choice
- Heightened awareness of the role of entrepreneurs
- Encourage risk-taking & learning from failure
- Learn to identify and recognize opportunities
- Decrease in teen pregnancies and substance abuse
- Improved economic literacy and understanding of capitalism
- Improved financial literacy
- Develop workplace literacy
- Understand entrepreneurship process/ business plan
- Become an educated, empowered consumer
- Learn about opportunity cost
- Embrace diversity/ socialization skills
- Demonstrate conflict resolution/ negotiation/ sales-marketing/ persuasion skills
- Learn how entrepreneurs give back
- Learn how to make money
- Recognize the contributions of entrepreneurs (they started small)
- Foster and value idea generation

Benefits to High School Students:

- Creation of entrepreneurial thinkers who also have the skills and tools to start their own businesses.
- Write a business plan
- Apply economic principles
- Determine individual entrepreneurial interests
- Apply basic marketing skills
- Use strategies for idea generation
- Assess feasibility of ideas
- Manage risk
- Identify legitimate sources of capital
- Evaluate ownership structures
- Translate problems into opportunities
- Apply principles of human relations management
- Speak "business" & "entrepreneurship"
- Apply basic accounting principles
- Engage in ethical business practices
- Demonstrate financial management

Benefits to Post-Secondary and Adult Students:

- Demonstrate skills in business startup
- Demonstrate skills in maintaining business longevity
- Demonstrate knowledge of business closings versus failure
- Ability to find next level of training or access other resources and services

- Demonstrate business management/ operation skills
- Use components of a business plan
- Determine impact on unemployment
- Changed attitude toward entrepreneurship as a means of making a living
- Changes in personal and career attitudes including
 - Self-worth
 - Ability to control one's own life
 - Self awareness
 - Self management/ personality responsibility
 - Transfer of learning
 - Motivation
 - Teamwork
 - Interpersonal communications
 - Problem solving
 - Creativity

As can be seen, Entrepreneurship education can positively impact a learner at all levels in a wide number of contexts. This may explain why there are such a wide variety of entrepreneurship education programs, all of which can provide important outcomes at various stages of a learner's life. As supporters of entrepreneurship education the Consortium for Entrepreneurship Education applauds the great diversity of programs that fall under the framework of the National Standards for Entrepreneurship Education.

Motivation of Entrepreneurship Education:

As we move forward into the 21st Century it is important to reflect on the great contributions that entrepreneurs have made to the wellbeing of our people and the wealth of our economy.

Where would we be without the persistence and creativity of such notable entrepreneurs as Henry Ford, Bill Gates, and Joe Dudley?

For the past 22 years the Consortium for Entrepreneurship Education (the Consortium) has provided leadership to those who teach our youth and adults about their country, their career opportunities, and the skills needed to be successful. Educators have created a wide variety of programs and activities to provide students with the experiences that nurture the spirit of entrepreneurship everywhere.

"Entrepreneurs are not 'born'....rather they 'become' through the experiences of their lives." - Professor Albert Shapiro, Ohio State University

The Consortium has seen our special role in sharing interesting entrepreneur-building activities and innovative programs from elementary schools through secondary and post-secondary education. Through our national conference, our newsletter, and our website, we have encouraged the replication of these innovative educational ideas. We have supported our members - leaders in the field at local, state, and national levels. And we have built bridges between the Consortium and other organizations that are part of the potential delivery system that enables youth and adults to explore their entrepreneurial opportunities.

Based on the vision of our original mentor, Professor Albert Shapiro at The Ohio State University (deceased in 1985) the Consortium created the Lifelong Learning Model to demonstrate that entrepreneurship is a developmental process. We recognize the importance of nurturing the entrepreneurial spirit from early ages, and continuing it right through all educational levels. In most cases entrepreneurship is infused in classes where it provides the context for learning other basic skills and motivating students to want to learn. In the more advanced grades it also has become a separate course supporting the outcomes of the higher levels of the lifelong learning model.

Refining Techniques of Entrepreneurship Education:

Entrepreneurship education is different from a typical business education. Business entry is a fundamentally different activity from managing a business. Entrepreneurship Education must address the equivocal nature of business entry. To this end, the Entrepreneurship Education must

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include skill-building courses in negotiation, leadership, new product development, creative thinking and exposure to technology innovation. Other areas identified as important for Entrepreneurship Education include an awareness of entrepreneur career options; sources of venture capital; idea protection; ambiguity tolerance. These are characteristics that define the entrepreneurial personality from which one draws when faced with the challenges associated with each stage of venture development. The following learning tools are useful in Entrepreneurship Education: business plans; student business start-ups; consultation with practicing entrepreneurs; computer simulations; behavioral simulations; interviews with entrepreneurs, environmental scans; “live” cases; field trips, and the use of video and films.

Different educational institutions have different situations; a successful model in one institution may not be available in other institutions. Entrepreneurship Education in the different institutions may have characteristics peculiar to each institution, but some key elements must be considered compulsory. Student selection is the first step, and then those selected students need to be motivated. After the motivation phase, they should be given special entrepreneurship training.

And finally, students have to be provided with proper and adequate support.

Conclusion:

Entrepreneurship education means many different things to educators - from primary schools to university, from vocational education to a university MBA. At each level of education, it is reasonable to expect different outcomes as students mature and build on previous knowledge. But the overall purpose remains to develop expertise as an entrepreneur. The fact that an MBA qualification played a very important role in the country's economic growth cannot be overemphasized. Indian economy owes its surprising rise in the recent years in no small measure to the large influx of MBA qualified personnel in the business world. The action of government in creating and limiting the environment for entrepreneurship should be included in courses of high school government.

References:

- Allinson, C.W., E. Chell, and J. Hayes (2000), “Intuition and Entrepreneurial Behaviour”. **European Journal of Work and Organisational Psychology**, 9,1,31-43.
- Bolton, W.K. 1986. “The university sector and technology transfer” in Wayne S. Brown and Roy Rothwell (eds). *Entrepreneurship & Technology: World experiences and policies*. Harlow: Longman.
- Brockhaus, R.H. and P.S. Horwitz. 1986. “The psychology of the entrepreneur” in D. Sexton and R. W. Smilor (eds). *The art and science of entrepreneurship*. Cambridge, Mass: Ballinger.
- Brockhaus, R.H., G.E.Hills, H.Klandt, H.P.Welsch (2001), **Entrepreneurship Education: A global view**. Aldershot Ashgate Publishing Ltd.
- *Business Today*, October 10, 2004, p. 32.
- Calabrese, T. and B. Silverman. “Don’t go it alone: Alliance network composition and start ups' performance in Canadian biotechnology.” *Strategic Management Journal*, 21, 2000.
- Carland, J.W., (1982), **Entrepreneurship in a Small Business Setting: An exploratory study**. Athens, GA: Unpublished doctoral dissertation, University of Georgia.
- Chia,, R., (1996), “Teaching Paradigm Shifting in Management Education: University Business Schools and the Entrepreneurial Imagination.” **Journal of Management Studies**, 33:4, 409-428.
- Chirantan Chatterjee/ETIG. “IIMs, IITs Set Up Centers to Bring Innovations to Market, Big Idea may Come Out of This Box.” *The Economic Times New Delhi*, 24 April 2004.
- Cromie, S., I. Callaghan and M. Jansen, (1992), “The entrepreneurial tendencies of managers: A research note”. **British Journal of Management**, 3, 1-5.
- Davidson, P. 2003. “The Domain of Entrepreneurship Research: Some suggestions” in Katz, J. and S. Shepherd (eds). *Advances in Entrepreneurship, Firm Emergence and Growth*, Vol. 6, Greenwich, CT: JAI Press.
- Education, Enterprise Education, and Education for Small Business Management: A Ten Year Literature Review.” *International Small Business Journal*, April-June 1997.

- Gibb, A.A., (1990), "Entrepreneurship and Intrapreneurship - Exploring the differences". In R. Donckels and A Miettinen, (Ed), **New Findings and Perspectives in Entrepreneurship**. Aldershot: Gower.
- Gorman, G., D. Hanlon and W. King. "Some Research Perspectives on Entrepreneurship
- Gupta, A. "The informal education of the Indian entrepreneur." *Journal of Small Business and Entrepreneurship*, 9 (4) 1992.
- Kirby, D.A., and D. Mullen, (1990), "Developing Enterprising Undergraduates". **Journal of European Industrial Training**, 14:2, 27-32.
- Lynskey, M. J. and S.Yonekura. 2002. *Entrepreneurship and Organization - The Role of the Entrepreneur in Organizational Innovation*. Oxford: Oxford University Press.
- Olsen, P.D. (1995), "Entrepreneurship: Process and Abilities". *Entrepreneurship Theory and Practice*. 10, 1, 25-32.
- Rogers, E.M. 1986. "High tech companies that are university spin offs" in Wayne S. Brown and Roy Rothwell (eds). *Entrepreneurship and technology: World experiences and policies*. Harlow: Longman.
- Schumpeter, J. A. 1934. *The Theory of Economic Development*. Cambridge, Mass.: Harvard University Press.
- Scott, M.G. and D.F.Twomey (1988), "The long-term supply of entrepreneurs: Students' career aspirations in relation to entrepreneurship". **Journal of Small Business Management**, 26,4, 5-13.
- Sexton, D. L. "Characteristics and role demands of successful entrepreneurs." Paper presented at the meeting of the Academy of Management, Detroit,1980.
- Shane, S. and S. Venkataraman. "The promise of entrepreneurship as a field of research." *Academy of Management Review*, 25(1) 2000.
- Shaper, A. 1982. "Social Dimensions of Entrepreneurship" in C. Kent, D. Sexton and K.Vesper. *The Encyclopedia of Entrepreneurship*. UK: Prentice-Hall, Englewood Cliffs.
- Shaver, K.G. and L. R. Scott. "Person, process, choice: The psychology of new venture creation." *Entrepreneurship. Theory and Practice*, 16 (2). 1991.
- Small Business Research Trust (1988), **Entrepreneurship**. Milton Keynes: Open University.

- Solomon, G.T., Duffy, S. and A. Tarabishy. "The State of Entrepreneurship Education in the United States: A Nationwide Survey and Analysis." *International Journal of Entrepreneurship Education*, 1(1): 2002.
- Stewart, W. H., W. E. Watson, J. C. Carland and J. W. Carland. "A proclivity for entrepreneurship - determinants of company success." *Journal of Business Venturing* 14 (2), 1999.
- Sutton, F. X. 1954. "Achievement norms and the motivation of entrepreneurs" in *Entrepreneurs and Economic Growth*. Cambridge, Mass: Social Science Research Council and Harvard University Research Center in Entrepreneurial History.
- Timmons, J. A. "Characteristics and role demand of Entrepreneurship." *American Journal of Small Business*, 3, 1978.
- Timmons, J.A., (1989), **The Entrepreneurial Mind**, Andover, Mass: Brick House Publishing.
- Welsch, H.P., and J.R. Kickul (2001), "Training for Successful Entrepreneurship Careers in the Creative Arts". In R.H. Brockhaus, G.E.Hills, H.Klandt and H.P. Welsch (eds), **Entrepreneurship Education: a global view**. Aldershot: Ashgate Publishing Ltd.
- Welsh, J. A., and J. F. White. 1981. "Converging on characteristics of Entrepreneurs" in K. H. Vesper. *Frontiers of Entrepreneurship Research*. Wellesley, Mass: Babson Center for Entrepreneurial Studies, 1981.