CREATIVITY AND ENTREPRENEURSHIP. METHODS OF STIMULATING CREATIVITY

Maria Irina Trofin (Dromereschi)
Colegiul Tehnic ,,Anghel Saligny” Bacău, România
dromereschi_irina@yahoo.com

Abstract
Creativity as producing new information system, you can put in what seems unconnected connection, after so many forms of the unfold plan and in content. An entrepreneur will think and do new things or old things in a new form trying to transform ideas into tangible things, products and services. Entrepreneurship is the process through which all functions, activities and actions are shared to identify business opportunities and creating organizations through which they will be used in order to obtain profit and meeting social interests. Boosting creativity is justified in that creative activity is educated, even if some native elements have their own importance in the creative process. If we start from the idea that most barriers to creative thinking are all human creations, tributaries of the left hemisphere, will have to find alternative responses to stimulation, shaping and maintaining the creative process and even create organizational culture conducive to the creative process. Ideas are our tenement dwellers and often are near us in the simplest and quickest form. Just educate us the activation process and instituting the ideas process which involves methods fall under three broad categories: imaginative, heuristics and logical approach. Subject to the risk taken, the combination of these methods can provide as many alternatives to a reality whose details they ultimately determines who assumes the risk of their own decisions.

Keywords
creativity; entrepreneurship; stimulating creativity methods

JEL Classification
L26; M14

Boundaries on addressing concepts
Psychologists argue that being creative means to create something new, original and appropriate reality. Due to the complexity of the phenomenon of creation, it is highly unlikely to reach a definition that a universally accepted definition because each author emphasizes different sizes. If for some authors „creativity is the ability or capacity to produce something new and valuable” according to others it is a process through which the new product (Rosca, 1981). Being creative means seeing the same thing but to think of something different. As a particularly complex mental formation, creativity is characterized by a multitude of ways: productivity, energy-efficient on, value, ingenuity, novelty, originality. Although there were trends to limit creation and productivity, utility, value, defining creative novelty and originality are. Productivity refers to the large number of ideas, solutions, papers, products or services. The usefulness of the results of the action, which must have at least one use and contribute effectively to meeting the need. Measurability performance capture efficiency refers to the efficiency of the action, the performance that can be obtained by the use of the creative work. The value of products of creative activity must be both theoretical and practical, and be recognized and respected socially. Ingenuity involves special elegance and effectiveness of methods of solving problems. Novelty refers to the distance in time
of things, ideas and originality of the scarcity of ideas, solutions or products. To
delineate the creative activity of reproductive health since 1959 I.A. Taylor stated that
creative performance must show a certain meaning economic, social, cultural,
scientific, technical, etc., value that is recognized and the results of creative activity
must be made consistent intelligible. Creativity is presented at several levels: expressive
behavior, process, productive, innovative, resourceful and emerging (at the legalities,
principles, theories that are revolutionizing the field). Neuro-bio-psychological theory
of creativity merges into a single model and integrative creativity as many of the
components that are placed in different areas of operation of the brain (cortex and
subcortex). After representatives of this theory in the creative process involved both
analysis and synthesis, as both image and word, both conscious and subconscious as
both cognition and affection, both on the concrete and the abstract. These dimensions
correspond to various ways of creation of knowledge, experience and behavior.
Creativity requires collaboration, cooperation between the two hemispheres, each
capturing reality in its own way. In terms of psychological and physiological balance
people differ in the two hemispheres. Each hemisphere controls half of her body
reversed, with the same functions and the same roles with the exception of language
and thought. Defined characteristics modal (Edwards, 1999) of the two hemispheres,
the left hemisphere is recognized by: verbal, analytical, symbolic, abstract, temporal,
rational, numerical, logical, linear while the right hemisphere is recognized by: non-
verbal, synthetic concrete, analog, timeless, non-rational, space, intuitive, globally.
Highly creative persons, regardless of profession, are available all four sectors brain
(cortical left as cortical, limbic left limbic law), which are activated depending on the
specific problem solving times (Herrmann, 1982). Traditionally it is considered that the
left hemisphere controls language fully but the latest research concluded that most of
the language components include complementary processes of left and right
hemispheres. While the right hemisphere processes information related to the language
by extracting paralinguistic information such as melody and intonation of speech and
speaker identification, the left hemisphere is more adept at using the structure of
sentences to reach this level interpretation of the message. Both hemispheres process
but realizes the meanings of words in different ways. Although they access dictionaries
mental similar, they differ in the way knowledge semantic activated by words heard or
read: the right hemisphere allows activation of semantic relations removed the multiple
meanings and interpretations metaphorical, while the left hemisphere select meanings
closely related and a unique interpretation of each word. Both hemispheres have their
contributions in decoding written texts and speech processing but left hemisphere
specializes in connective deductions and inferences looking to the right. While the left
hemisphere is typical rational approach (vertical), logical sequence, because a
guarantee of the validity of the approach (Chalvin, 1992), the right hemisphere
approach is dependent on the historical, geographical, economic, sociological etc.
(horizontal). Knowledge of nature creative approach to entrepreneurship is therefore
complementary and permanent one. Entrepreneurship is defined as a state sufficiently
durable to generate business ideas put into action. Defining starts from the individual
but from a cultural approach can be extended to communities and populations. The
essence of entrepreneurship is to be different (Casson, 2003). Gabriele Euchner
believes that entrepreneurs have values stronger than managers such as: responsibility
(total commitment to the company and its products, people trust in employees and
partners), will create originality, with performance, customer orientation and flexibility
(agility to seize opportunities, greater response and mobility to put into action). The
entrepreneur takes the uncertainty in each of the roles speculator (risk of loss or gain),
owner (possession) and decision maker (power). Rewards can take different forms from
their own work to the satisfaction of material, psychological, moral or social. Starting
from the theory of Sigmund Freud, personality is a result of individual action and
reaction to conflicting forces: aggressive impulses, desires biological and social constraints internalized. The exterior acts as the pleasure principle and provides tools for survival, reproduction and aggression. Ego acts as the reality principle: conscious perception, thinking, memory, decisions. Superego acts principle and will focus on how to exert effort, generating feelings of pride or shame (guilt). While personal characteristics of nature are relatively rigid social and professional characteristics can be modeled by type pedagogical interventions. In other words entrepreneurship educators has dimensions tailored to the main types of motivation: the desire for independence (self-determination), the desire to create something useful (creativity and innovation) and risk preparedness (assuming a moderate risk). In light of the technical realities, economic, social and political, each historical period has highlighted the different entrepreneurial concept. From land owners (capitalists) - Enterprises of Cantillon (sec. XVII), suppliers of goods, innovation and progress - entrepreneurs Marshall and Schumpeter (sec. XIX), the person that maximizes opportunities and builds an organization - the entrepreneur's Druker (sec. XX), in the XXI century, the entrepreneur can be played by William Bygrave in the "ten factors D": vision, the ability to make decisions, way, determination, dedication, devotion, attention to detail, self-determination, financial rewards and delegation of responsibilities and rights. Without going into a report annoyance with economic equilibrium neoclassical theory determines the business opportunities currently idea that credit is given the opportunity arising from economic imbalances. Shane and Venkataraman identifies and explains briefly the process of capitalizing on business opportunities in four phases: the emergence of opportunity (the existence of opportunities of economic imbalances and asymmetric information), eplorarea environment (recognition opportunity due to cognitive characteristics and based on knowledge), assessment (analysis of key factors influencing characteristics like timeliness and individual differences) and operation (commissioning equation of factors that could multiply operation result: solution market and the institutional solution). The difference in approach is given by the unequal access to the information or by generating either by distribution, or by usage. Identifying business opportunities has evolved from passive to active model creation and even "implementation" opportunities (Alvarez, 2005).

**Barriers to creative thinking**

If the success of a business is determined by the quality of ideas that develops when they need to be creative. Creative effort is constantly recalibrating the relationship between needs, resources and values. People need to analyze needs, to weigh the resources and adapt their behaviors. C. Rogers believes that creativity is the main reason the human tendency to actualize itself, becoming what is potential. Integrative approach-synthetic, dynamic and unified creativity identify contributory factors and its inhibitors. Barriers to creative thinking of E. languages were grouped into four categories: barriers related to socio-cultural context, barriers of fear endemic barriers due individualistic attitudes and barriers related to individual-group relations. Sociocultural context related barriers are felt by the individual who lives in an unsatisfactory environment or type of company for him. He can not admit nor can join the stairs of values, ideologies society he lives for that is not on itself. This leads to a conflict of values and the absence of reference frameworks. Volatility of societies, aging, scientific discoveries or philosophical supersaturation individual with individual reporting the information may disrupt a scale of values considered a benchmark and reference may fade within it. To the three traditional environments: family/community, profession/ education and leisure/entertainment appeared - informal, unstructured and diffuse - a fourth medium: media or information environment. Conditioning and manipulation by the media in the absence of lucidity and critical thinking is secure and
lasting effect in the collective memory deformed reality and events. Creativity is not missing but built on false premises. The quality of the creative act is conditioned by the quality of information used. Prejudices are related to traditions, habits born or adopted as satisfactory or as part of the identity of those who practice them. They often become obstacles in the effort facelift, change, and one that takes this action is perceived as having a deviant behavior. Cultural differences can be explained by compliance through education to values and ideologies specific to a culture. They offer a different perspective on the world and life and expanded information flow on a global scale is a positive factor in the popularization of its main creative features of different cultural types. Invoking these differences when they are not subject to competitive advantage can be attributed to the individual feeling of security provided by belonging to a culture or another. Frustration has its origins in the belief of being the victim of injustice, suffering, hate caused by others. Frustrations trigger reactions and behaviors retardants for creativity. Fuga (withdrawal), aggressiveness, transfer, compensation, resignation and frustration are integrating stages, segments and manifestations of their frustrations. Integrating the inevitable frustrations of any activity and ages, calls the individual's ability to adapt to a reality very dynamic and positive and creative manifestation of personality during this process. Barriers due to endemic fear refers to the fear that trying those persons exposed to vulnerable situations or who have personal sensibilities. The expressions are facing aggression, the principle of competition, resistance to change and lack of self-confidence. Facing with people known or unknown causes some reactions of fear, often unpredictable. For various reasons - shyness, exposure to prolonged stress, poor education - the person perceives the other as a judge, a person of authority tend to withdraw, to defend, to be suspicious collaborate, hostile attitudes creativity. Aggression is straining the state of conflict that marks certain people. Manifested verbally or in writing in public is harmful contagion creativity and creating a tense climate. Competition principle is not a principle in itself harmful than the excess. Although competition oppose rather than to bring together people in conditions of fair competition based on authentic values, says the best and stimulated the creative act. Resistance to change is one of the strongest barriers to the expression of creativity. The change involves breaking routine, the unknown, taking risks, loss of control inhibiting creativity. Lack of self-confidence makes every man to do much less than the opportunities it has. Self-confidence, motivation and conviction to achieve individual and collective progress claim and inspire creativity. Individualistic attitudes are specific barriers due to their focus on their person in this category comprising entrepreneurs, managers and executives. Among the forms of this type of obstacle remember egocentric behavior, lack of self, feelings of incompetence or inefficiency, lack of objectivity and realism and excessive passivity. Egocentric behavior indicates an excessive concern for oneself at the expense of activities, relationships or people. Creativity requires dedication, commitment, generosity and altruism. Not knowing oneself self makes it difficult reactions and behaviors in professional, social, cultural and where our roles are different interchangeable. Everyone perceives multiple levels of meaning in relation to the different social roles that we have with the processing of information - rational, socio-emotional and rational. The possibility of moving from one level to another significance occurs depending on the degree of emotional involvement, circumstances, alertness and mental tone. For personality development is necessary to know the unseen part ,, "Johari Window (Meissner, 2000). Knowledge is easier to obtain feedback with regard to their conduct and their actions. Feelings of incompetence or inefficiency are at the origin of depressive states clearly unfavorable creativity through persistence inferiority. Supposed inferiority design in social and reporting to others in terms of intellectual, aesthetic, economic. The deficiency is one of the self, the individual expects to be appreciated and considered by others, not having enough self-confidence. Lack of objectivity and realism is a source perception of reality
through the prism of personal feelings, external forms of manifestation is the
dramatization, simplification, trivializing, personal interpretation, indifference and
generalization. From this perspective, creative attitude requires a truthful and authentic
perception of reality. Excessive passivity induced inertia, indolence, lack of
involvement and lack of interest. The causes of this behavior quite common in
organizations can be: the discrepancy between the draft prepared by others and project
personnel required to carry out activities that do not like, you do not approve, or whose
purpose you do not understand, pressure or coercion, lack of interest in the proposed
task or required, convenience (awaiting instructions from others), fear of making
mistakes and responsibility implicit or fatigue and poor health. Unlike these
unproductive behaviors, creativity assumes full employment, dedication, personal
consumption and group resources. Barriers related to individual-group relations are
positioned in proximity personal or organizational sphere and manifest lack of real
communication, marginalization, lack of authenticity, isolation and addiction. Lack of
effective communication can occur in three areas: poor communication due to language
or vocabulary, incomplete communication (handling) and communication distorted,
falsified or willfully distorted. Creativity requires open communication, empathy,
assertive and constructive. Marginalization occurs when people do not respect my
word, bypass or do not comply with the norms, rules, laws including bureaucratic
societies perceived as inhibiting of creativity. Creative behavior is usually deviant from
the norm, the average, but in a constructive manner, rewarding. Lack of authenticity
feeds constant fear, censorship people expressing themselves according to what they
feel and want actually. Between what they feel and what they would like to be and
outwardly, there is a difference it produces discomfort relationships without substance
and durability. Figuration roles poorly rewarded produce frustration and lack of
cooezion at group level. The isolation and self-isolation can be directly correlated
inversely with creative abilities but also depending on the purpose and subject initiator
of this phenomenon. If the group is one that excludes one of its members, or if mutually
exclusive, it is likely that the excluded feel inhibited expression of creative potential.
Dependence does not stimulate creativity regardless of the currency: money,
information, power control, rewards, punishments, physical or mental force of
seduction, a person's status in the group. Creative people are independent, appreciate
and cultivate the spirit of initiative and freedom of expression. Communities with a
greater degree of conservatism and mass education systems tend to cultivate
dependence on the individual but the group as proof of belonging to this group is the
one who can provide extra security.

Methods to stimulate creative thinking
When we put the question of educating creative thinking that we know about creativity
is not only important but also justified. No matter which profession you: trader,
mechanic, responsible for customer relations at a hotel, teacher, doctor, courier or
designer but personality type and context matters. Propose creative problem solving
-paradoxically - unlearning, without which learning act, be it personal or organizational
level is not sustainable. Educating creative thinking lies not in finding solutions, but to
create new options. It is understandable why the manager is unhappy with a solution
that does not come with "how to use" and why new methods of marketing research
focus on ethnographic studies and observation. The future will be like never past. As
such solutions in the past are no longer present or future solutions. What is learned in
business schools is what was and could resemble what might be. On the other hand,
transfer theories in the exact sciences to human resources - employees, customers,
managers, associates - becomes problematic and unrealistic because it applies adaptive
complex systems subjected to nonlinear dynamics (Ramachander, 2010). A new idea is
usually rejected for reasons immediately so-called pragmatic and realistic. The fact is most common confusion between a new idea a perfect idea. In order to eliminate this roadblock creativity, Osborn has developed the principle of separation timing of completion or occurrence of an idea of the valuation of its (basic principle of brainstorming). According to the theory of Hubert Jaoui, a creative approach completely comprises five stages, each entailing a beam divergence (opening) and a convergent (closing), gathered under the banner PAPSA: perception, analysis, production, selection, application (Jaoui, 1990). In each of the five stages were developed creative techniques which respect the alternation of divergence-convergence. To be creative you have to separate the two essential stages of the creative process: phase of opening and closure. Since their function is a complementary, during the opening stage will be used those techniques that allow for the creation of a field as broad ideas obscene language, while in the closure phase of the extracted ingredients and filtered energy released during diverging to reach the original settlement a few options, effective, feasible problem. In general, the methods of stimulating creativity can be grouped into three categories: imaginative approaches (brainstorming, synectic method book collectively method Philips 66), heuristics (method morphological matrix discoveries, concasaj) and methods of logical approach (functional analysis, value analysis and graphical analysis). *Brainstorming* old indian origins (Prai-Barshana, now nearly 400 years old) and it was proposed by Alex. F. Osborn early 30s. It aims to create the necessary environment to enable the organized expression of ideas and fostering the best of them. The problem may be an object, a method, an advertisement etc. and deliver results when the goal is capturing a greater number of ideas within a maximum of 30-45 minutes. The principles of the method are: the quantity generates quality (30 to 200 ideas), adjournment (criticism and evaluation not ste admitted during the meeting) and effect chain reaction (an idea can be born a new idea to the same participant or to others). Based on the rules that apply to a hearing they were developed three variations on the method: Little technique, technique "fresh eye" and organized technical research the problem. Little technique involves several consecutive sessions and is characterized by the fact that only the presiding know the exact nature of the problem by approaching gradually through stimulating questions. Justification small steps and make the issue into obscurity assumes that those involved will not apply to existing solutions and provide ideas totally new perspective to the problem stated. Technique "fresh eye" assumes that group meetings can be more effective if participants are not specialists or have a prolonged Know-how in the field. Organized research technique involves breaking the problem into sub-problems and seeking solutions for each of them. It believes that alternatives to solve subproblmelor will offer original ideas and problem overall. *Synectic*, a method developed by William Gordon, based on the following operational mechanisms: turning the unknown into familiar (analogy personal - the identification of the problem to be solved), transforming the familiar into something unusual (direct analogy - comparing elements belonging to different domains), ignoring any laws by assigning different meanings to those known or regular (fanciful analogy - the creation of a new world, imaginary, different from the real one). Although requires collective participation and duration of sessions not exceeding one hour rules sinecticii have features: participants from all sectors / departments, people who do not enjoy overly reward and not remain demobilized phase failure and should show strong interest affairs specialist; Participants aged between 25 and 40 years, the group should consist of 5-7 people and the discussions should be held contradictory, each proposal is scientifically justified. The two mediators, one specialist questioned the other outside it, they will pursue discussions to be recorded. Method book assumes that collective creative process needs a longer period of reflection to each participant and competent actions combine creative individual with the collective. It involves setting up a group of creativity where each receives a notebook in which you write the problem studied,
personal ideas for solving the problem for a month and summarize them. Coordinator of the group will take the books, will synthesize the ideas participants will distribute books with summaries made by him and will hold group discussions that will choose the best ideas. Philips 66 technique brings together 30 participants in a creative activity has lasting two hours. Participants are divided into five groups diverse as professional precupări and ages, and each microclustered shall appoint a person with representative role. Business leader presents the problem to be solved and every microgup will retire for 6 minutes to discuss the problem and note the ideas. Then micro-groups are brought together in a joint session in which each representative micro group will present its ideas. Among them will be selected the most interesting ideas and will choose the most advantageous solution for the intended purpose. As a heuristic method is suitable morphological those types of problems for which solutions involving the cumulative satisfaction of a number of limitations that may be of technological, financial, commercial, infrastructure or cultural. Or morphological matrix method was developed by astronomer Fritz Zwicky and is basically an individual technique but at certain stages, can be applied as a technical group. The strength of the method is analytical and systematic description of the solutions we choose the best one. The method steps are to establish requirements (parameters, functions, attributes) that must fulfill solution of the problem, the inventory of possible options to achieve each requirement are described combinatorial all possible, be placed in a table morphological describe clearly all variants obtained by combination removes solutions mundane and familiar (common), make another sorting by removing incompatible solutions, disadvantageous or absurd, and finally the remaining solutions is selected either randomly or taking into account other elements, the solution final. Matrix discoveries is also a technical matrix that uses a table that introduce both horizontally and vertically, variables that can associate and combine giving a particular response of each combination on a product, process or needs and how where can it be satisfied. Matrix allows the combination of technical factors (horizontal and vertical) current and future, and the combination of technical factors (vertical) and economic (horizontal) in an organization. For example, some variants satisfy current situation of the organization with technical resources and economic conditions while others may be applicable in future versions either with superior technology or additional financial resources. Concasaj is a technique that aims revaluing creative products, processes, phenomena relatively familiar pecum and relationships between them through „breaking“ problem in its component elements and their inclusion in a matrix analysis. Fritz Zwicky has created a three-dimensional matrix with which, for example, for a product, are the relationships between product parameters (size, weight, color, composition etc.), grid research (alteration, enlargement, reduction, etc.) and questions of control ( who ?, where ?, when ?, what ?, how?). Each of answers constitute as a solution to solve the problem. Methods of tackling them specific analytic logic. Functional analysis is a research method and involves a product functions: identification, determination, characterization, sorting, ranking and evaluation functions. It can be used as a method to solve logic problems independently or as a method associated value analysis in the design of a product. Functional analysis can be external and internal. The external analysis is the expression of functional necessity and is completed by the Specification Functional. From this perspective, the product is a set of functions and represent the views of the client user. The internal analysis of the product design stage belongs, expresses the views of the manufacturer. It highlights the technical functions, design and must respond optimally need at minimum cost. Essentially the method allows splitting of a product in its main functions, the ranking of these functions, costing functions and seeking solutions to fulfill them in terms of improvement and reduced costs. The method of value analysis is defined as a functional approach (by functions/objectives and not just through solutions) with economic (the costs related
functions) and multidisciplinary (requires a working multidisciplinary in an organization with an arbitration managers). The method differs from other methods of cost reduction by reducing the cost not only of components and functions of the product. Last of the methods listed logical approach is graphical analysis method. Graphical analysis method is common and immediate impact by accessibility. It expresses succinctly analyze product or service, technology or process using graphical representation. This category includes road Criticized technique, decision tree, mental maps etc. Critical path method is a heuristic based on graph theory. The method allows the timing of the activities of a complex process (is a repetitive, with a well-defined objective whose achievement is developing a variety of activities that consume resources, time and categorii more portions that are made by staff). It is modeled by a graph and enables follow up of the final term planning process and the interim periods. Managers controls the process so that it can be done in an optimal duration with an optimal consumption of resources and ensure the compliance process with other objectives beyond. Decision tree method is a method of project management and specific assistance projects with external funding is even mandatory. All decisions are made in a sequence of alternatives (decisional situations) taking into account the likelihood of future events. The decision tree allows segmentation of a complex managerial problems in a logical and orderly series of math problems easier and evaluating concrete gains or losses at each level decision making. The decision tree is used in solving complex managerial issues with major financial implications: the introduction of new products into production, positioning the productive units choice, choice of equipment, increase production capacity, planning maintenance and repair machinery. To build decision tree the following steps: problem identification, goal setting and determine possible alternatives, determining the level of consequences for each alternative, determining probabilities of events, calculation hope mathematical each alternative decision, the stage at which it is estimated the expected values for each possible combination of the alternatives and choosing the decision based on the maximum value obtained, reported value for money (EMV - the expected monetary value). Mental maps is the visible expression of how we think and helps to practice differential thinking long term. It's about thinking in colors, symbols and images plus associative thinking. Configuring mental maps it is based on scientific fact that most natural form structure is circular or spiral around a center or nucleus from which initiates a process of creative thinking. Each keyword can be connected by lines to other keywords. It can be represented simply and easily structure a personal business ideas, a new strategy, a new approach to a project or solve a problematic situation in an organization. Bionics is a technique for generating ideas using analogies. "Inventions" of nature are sources of inspiration for anthropogenic environmental problems. Bionic steps are: defining the problem, the search for analogies in nature, analyze examples from nature and identifying solutions to the problem. Technical SCAMPER proposed by Alex Osborn is based on a series of questions that generates ideas, solutions to problems to be solved: the substitution (which can be substituted?) Combination (which can be combined?), Adaptation (which can be adapted?) modification (which can be changed?), increase/addition (which can be added?), challenge other uses (what other uses can be found for the product or service?), elimination (which can be removed?), overturning (which is the opposite of this?), rearrangement (rearrangement product which is better?)

**Conclusion**

Creativity does not comply patterns. It involves breaking routine especially in those issues where we do not have a clear answer. The traditional model predictive (forecasting, planning, control) domeni rarely works related to human behavior,
society, culture, organization. Working life through excellence is conducted by probabilistic rules. Conventional methods certainly have their value in solving specific problems and punctual, but when the time comes to seeking new ideas or inspiration for a product, process or new, creative methods can support our hope. Suitable means entrepreneur and manager, should be based on systems thinking, dialogue, paradox and nonlinear models. Generating business ideas is not a random process, especially as people seek reasoned ideas, solutions for businesses, their problems or just curiosity. Conscious or subconscious level, problem situations always seem to have solutions for people who search using techniques more or less structured but is a beginnings.

References
Bygrave, W., Zacharakis, A. (2010), The portable MBA in entrepreneurship, 4 ed., John Willey Sons New Jersey,
Meissner, A. (2000), Selbstmanagement, GWI, Munchen.