Creativity’s
Global Correspondents – 1999

Dedicated to the strengthening of bonds between creativity teachers, researchers and trainers around the world through the dissemination of information rapidly and inexpensively.

Edited by
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Winslow Press
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Foreword

It is with a great sense of anticipation that I write to each of you in this third year of your exchange on creativity. This is the second year that publication of your contributions has been made possible through the efforts of The Foundation for Concepts in Education, Inc. and its publishing arm, Winslow Press.

As you know, the concept of this exchange started with Dr. Morris I. Stein, and we thank him once again for his tireless efforts in bringing you all together.

What has been started is fast becoming not only an on-going forum, as we have said, but also an on-going vehicle within the reach of all, to exchange unedited ideas on how creativity is perceived in different cultures—globally—as our world’s technology is allowing those cultures to become closer—each to the other.

It is our hope that furthering the development of the creative thought process will do its part in healing wounds and mending spirits, offering hope for the future of mankind.

We commend your endeavors in this regard, as we read this free exchange and we look forward to not only a continuation of this collaboration, but also a really significant advancement in furthering our collective goals for making this possible through our Web site in the near future.

Diane F. Kessenich
President and Publisher
The Foundation for Concepts in Education, Inc.

Delray Beach, Florida
April, 1999
Introduction

Welcome to the third publication in our series. It contains 45 contributors from 22 countries. A much larger number than we ever expected and we have not yet tapped all those who are working so hard to foster developments in this area. We shall get to them. Our purpose now is simply to introduce those who have worked so hard to make this a worthwhile issue.

We start with a report of “Creativity in Argentina Business Organizations and Psychology” by Eduardo Kastika assisted by Sebastian Plut and Juan Llanos. Since 1991, in different locations around Argentina, there are three day meetings on Creativity. And since 1987 there is an integral course on Creativity which students can take at different universities. This fascinating combination of courses and events are excellent ways for students to learn about creativity.

Miraca Gross of New South Wales in Australia, tells us about how the struggles of gifted children to get proper education has changed over the years. Initially they struggled to get themselves into private schools where they could be taught properly. More recently, the educational scene seems to have changed and we are treated here to the educational shifts that have occurred. But there have been changes at other levels also that we are told about. Australia seems beginning to recognize what gifted children have to offer and there is much valuable work going on in this area.

Creativity programs are magnificent when they do occur but when they are just starting up there may be much doubt. We don’t know how far they will go in Bolivia but our hopes are the highest for Ramiro Arteaga Requena who is constantly confronted with serious aspects of this question. He is forever confronted with the question—Can creativity ever take off in this land-locked community. Needless to say, we wish him well in all his endeavors.

In Brazil the situation is somewhat different. Here Solange Muglia Wechsler starts with an effective orientation to Creativity and she reports what is going in Brazil full of hope that the people will reach the levels of creativity and innovation that are planned. Much is going on in Brazil at various levels in the country that is fascinating. Special note should be made of the effort devoted to working with children as well as with adults. Where and when necessary it is possible to take advantage of available opportunities for further education in creativity in Spain and the United States.

From Canada we have three important contributions—from John Sedgwick, Rita Priestley and Lannie Kanevsky. John surveys creativity courses and creativity work in various areas in Canada. He finds it most directly observable in certain parts of industry. And, of this group, he tells us an interesting story that all should read. Rita Priestly, after a long period of working directly with people in various parts of the school system in Canada now serves these same groups as a consultant and she has also expanded her work to include consulting to business. She tells us much about the Canadian school system and provides us with a list of people who are ready for additional contacts, with those outside—write them! Lannie Kanevsky fulfills two roles in her paper. First, she tells us about other psychologists who are doing important work in this work area who readers will want to contact. Second, she tells us about her own research which has
been influenced by Lev Vigotsky. She modestly tells us that she has stood on Vygot-
sky’s shoulders but there is much that is new and exciting in her work and we hope that
readers won’t miss it.

From China we have two significant contributions from Yuan Zhangdu, Presi-
dent of the Shanghai Creative Studies Institute, who presents two papers. One focuses
on “Inspiration” (also called “Enlightenment”) which is regarded in China one of the
most important aspects of the creative process. In his second paper, the author tells us
about the very valuable work he has been doing in work at Shanghai Bao Steel, Dalien
Petroleum Corporation, Shanghai 2nd Textile Machinery works, etc. All these pro-
jects are of much value and contain significant information for our readers.

Carlos Alberto Gonzalez Quitian then reports on a variety of fascinating creativ-
ity activities being pursued very actively by various organizations in Colombia. This
plus the emphasis that involves tying creativity with school conditions, the role of the
educator and the living conditions of the students makes for exciting conditions there.

We come now to Western Europe. The first group that greets us is that of Suz-
anne Polewsky and Hermann Will of Germany. They are both involved in the all-
important activity of training trainers. Readers who are involved in training others
would do well to pay attention to what these two authors have to say and what they
have to offer. The other very valuable contribution in this area is from Klaus K. Urban
of Hanover who is currently President-elect of the World Council for Gifted and Tal-
ented Children. Urban starts with comments about the 1998 report of the Federal Minis-
try for Education and Research and wends his way through the various exciting activi-
ties of the BIP Creativity Center, and concludes his contribution with a discussion of
recent developments of his unique work—“The Test for Creative Thinking-Drawing
Production (TCT-DP).”

M.K. Raina then presents us with his magnificent contributions from India. His
brief statement of “News from India” includes coverage of the book by Asha Bhatnagar
and Sushma Gulati that focuses on career development of creative adolescent girls.
Raina also tells us briefly about the 5th Asia Pacific Conference on Giftedness held in
New Delhi in 1998. It was at this conference that he presented a paper on “The Tor-
rance Phenomenon: Extended Search for Lord Visvakarma.” But, he does not stop there
since he has prepared a new paper for us, for which we are grateful, which he has called
“The Divine Creativity: The Mythical Paradigm and Lord Visvakarma.”

We are then grateful to Ananda Kumar Palaniappan for providing us with a
framework to understand what is going on in Malaysia insofar as creativity is con-
cerned. There are many new developments here of importance involving creativity in
organizations and creativity in schools that are of major importance as the country
moves toward the year 2020 when we shall hear more about the country’s creativity
achievements and how successful it has been in reaching its autonomous status and
goals.

Jason E. Flesh writes movingly about his experiences in and his discovery of
Nepal. How often he reminds us of our own experiences when we ventured forth to a
new country and set out to discover where it was more or less creative than the cities we
came from. His contribution must be read with eyes fixed on both what he says and
what he leaves unsaid but which he expects a reader to think about in evaluating the ex-
periences he describes.

We come then to “Education in the Netherlands” where, amongst other things,
Kees Epskamp tells us about the importance of the “study house” experience in the
Netherlands on what the student may get out of his/her education after two years of (lower) secondary school experience. Let the reader be wary of coming to any conclusions before reading some of the criticism that the author has to offer before completing his piece.

Next we come to one of our favorite contributors who is earnestly followed by many readers—Edward Necka of Poland. Necka not only tells us about what is going on both in his own university and others in Poland, but he also provides us with most interesting information on various applied projects. He then concludes by providing us with an abstract about some fascinating research in which he is engaged.

Portugal then provides us with two very valuable contributors. Maria de Fatima Morais discusses her doctoral dissertation and tells us how much she believes cognitive factors contribute to predicting creative achievement. Fernando Sousa then focuses on a completely different matter. He tells us about his fascinating work on “A Typical Profile of the Creative Teacher in Higher Education” that he found in his work at the Lisbon Polytechnic. This work should set off numerous similar works in other institutions around the world.

Carmen-Mihaela Cretu and Ama Stoica-Constantin, working together as a team, then provide us with a very fascinating summary of creativity work going on in Romania. Their very thoughtful piece involves a historical overview of how creativity work has fared in different political periods in the past and how it is at present. This is a discussion that should not be missed for it alerts us all to how politics affects scientific work. Fortunately, the authors bring us into the present where creativity researchers continue to select important works for study.

Three investigators then discuss the fascinating work they have been doing in Russia. This is an amazing piece of work for all three should be heard simultaneously. This being impossible, we trust that the reader will not feel impeded by the order we chose. We start with Theodore A. Calisto who tells us informally of the excitement that permeated all that the group did—the people they met and their fascinating experiences. The second to present is the Russian who invited them—Alexey F. Tcheremnykh. But, by the time we got to him, he already had a visit to the U.S. Consequently, his presentation involves a comparison of Russian and American educational systems. The third person, who played a most critical role in all that the group did from its very beginning to its very end, is Virginia G. Simmons. In her piece we not only get an overview of the total situation but also many of the details that made the experience most exciting.

Kobus Neethling follows with a discussion of the magnificent work he has been doing in South Africa which is undergoing continual change. As a sensitive leader he constantly helps prepare those who follow him for the new demands that are made upon them. In his contribution here, Kobus explains the changes taking place in business and industry in South Africa and he also prepare them with a new educational model for the developments that will occur in the new South Africa. We then turn to the fascinating work that Daniel du Toit is doing teambuilding with people in the Western Cape of South Africa as they work on an olive farm. All this is preceded by his intensive and fascinating effort to get several points across in training.

Spain offers us three important contributors. Our first is Manuela Romo who has done so much for creativity in Spain and Portugal and in the Latin American countries. Her contribution brings us up to date on what others and she are doing for creativity. We note and wish her well on her plan to organize soon in Madrid “the first national meeting of teachers and investigators in the area of creativity.” Our second major con-
A contributor from Spain is Raquel Taboada Vazquez who has taken on the difficult job of teaching mathematics to children and teenagers who fear it. To those of you who have encountered similar problems, all I can say is listen to her and follow what she suggests. May you report similar successes. Then, to close the presentations from Spain, we have the veritable educator himself, David de Prado Diez, who has done so much to help people become excited about learning how to teach others to become more creative. What he says here is only a very small sample of what he has to say about his exciting approach to creativity.

Turning now to the United Kingdom, we have three very important contributions. Joan Freeman tells us that gifted girls in Britain “do better than boys up to their late teens” but they too often underachieve boys in post school life. This is a very valuable observation and help is needed to learn why this is so and to do something about it. Marilyn Fryer then describes an exciting year at the Creativity Centre at Dean Clough Mills—“once the largest carpet factory in the world, but now a thriving creative business and arts community.” She has brought to the fore works of many creative people and we look forward to hearing more about this creative activity in the future. Then, we turn to the work of Andrew Burnett at the Cranfield School of Management who tells us that creativity and innovation have become more fashionable in 1998. He discusses a number of exciting processes that are evident on the part of government, business, industry and educational institutions—all of which bear careful watching.

From the United States we have to report on a number of valuable offerings. Sandra Kay presents us with a significant copyrighted Talent Profile System that helps identify students with talents in a variety of areas that might otherwise escape our attention. Rosa L. Kennedy, building on the work of Lowenfeld and Mezirow, provides us with an invaluable technique for recognizing and developing the creativity of young children. Rena Subotnik tells us of the marvelous experience she had working as a Congressional Fellow for Senator Jeff Bingaman (Democrat—New Mexico), sponsored by the American Psychological Association. In this relationship Rena was able to fulfill “The fantasy of the biggest of canvases on which to paint my ideas....” G. David Hughes then argues that Creativity “is a critical part of the scientific process because it generates hypotheses that are later used with experimental data and deductive thinking” and he then, in an admirable manner, argues for three ways in which innovations play a critical role in the curriculum of business schools in the U.S. Anthony J. Le Storti, follow this with a fascinating understanding of insight—a topic he has studied carefully and intensively over the years. This is then followed by Janet E. Finley who presents us with a fascinating paper that focuses more on “deliberate” creativity than on “natural” creativity. Her paper is then followed by one by Christopher Barlow that moves away from “individual’s working alone” to “one of the most effective applications of deliberate creativity” in which teams composed of individuals representing different “academic disciplines, business functions and organizational levels” work together. The last paper in his group that deals with content is by Jerry Spivack who deals with the ways in which “the world of the future is one which results in a greater sense of possibility and growth for all, rather than the final chapter of the human odyssey” and he discusses the very important ways in which humans can assume their roles in this odyssey.

Contributions from the U.S. are then concluded with papers containing invaluable reviews of sets of journals. Linda C. Bowman, Judith E. Donaldson and Sondra T. Ezrin examined three journals—The Journal of Creativity, Creativity Research Journal, and Creativity and Innovation Management and presented their analyses of the various
themes covered by these journals for the year 1998. Andrew J. Dutcher concludes this section with a superb description of the program he has been involved with at the Center for Studies in Creativity at Buffalo State College for maintaining a “bibliographic database containing references to scholarly literature about creativity” that can serve all who work and do research in the field of creativity. We also want to acknowledge our appreciation to Mary Murdock for supervising these efforts.

Nusia Feldman then provides us with coverage of what is going on in Venezuela. She says that “adults must be constantly innovators and agents of change” and her report here covers various activities going on in Venezuela which are designed to keep creative activities before the people. In this context she admirably underscores the following: “Schools must not only be the center of learning where the student learns more information and knowledge, but must be a center of integral formation of men and women who know how to think, who can make new scientific discoveries, who are creative in the Arts, Fine Arts, Music, Theater and Culture in general.”

Our last report for the year is with the most significant contribution from Phan Dung of Vietnam. He tells about the valuable work he has been doing in his program “Creativity Methodologies” that he teaches at the Center for Scientific and Technical Creativity (CSTC) in Vietnam and other places throughout the world since 1977—and we have lots to learn from him.

I want to thank each of the above contributors for their willingness to share with each of us what it is that they have been doing in the area of creativity. For many of them expressing themselves in English has not been a simple matter. For all those who experienced this difficulty, and to all the others I want to express my admiration and appreciation for all that they submitted.

I also want to thank Diane Kessenich, President of the Foundation for Concepts in Education, Inc., for making this report possible. Her dedication and support for work on creativity and for distributing information on creativity is most admirable. Her recognition of the value of this work and for seeing it published through the effort of Winslow Press is much appreciated.

To K.T. Conner, Chairwoman of the Board of the Creative Education Foundation (including CPSI) and to the American Creativity Association, I am most indebted for their support of this effort.

To Brett Clark, Creative Director of Winslow Press, I want to express my appreciation for all he has done in supervising this work through production. And, to Maurice Kessler and Rachel Gordon of Winslow Press, I am indebted for their devoted hard work as they participated in bringing this report to light.

And, once again, it is with great pleasure that I invite all readers to turn to what Creativity’s Global Correspondents have to say in 1999.

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New York, N.Y.
April, 1999
Argentina

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Awards
1998 Entrepreneur of the Year

Interests
Business, Creativity, Innovation, Organizations.

Publications


Creativity in Argentina: Business Organizations & Psychology

(With the assistance of Lic. Sebastian Plut and Lic. Juan Llanos)

The aim of this paper is to report on some of the creativity-related activities that have been conducted in the past years in Argentina, specifically in two different work fields: business organizations and psychology.

1. CREATIVITY AND BUSINESS ORGANIZATIONS

1.1. The Jornadas de Innovacion Empresaria (Conference on Management Innovation)

This three-day conference, which includes a variety of workshops and other activities, has been held continuously since 1991 in different locations around the country. The following are some of its major features:

1. Its participants are young people from all over the country, and every year it is held at a different Argentine city (Argentina has a 1,079,000-sq.-mi. territory and approximately 36 million inhabitants).

2. As opposed to many events where knowledge is “transmitted,” in this conference-workshop, the knowledge of creativity and innovation is “applied” to management.

3. The conference stands out among other similar events thanks to its unique characteristics. During the three days, participants actively work on the concrete application of innovative ideas to organizations by solving cases, doing creativity development exercises, listening to talks, and participating in workshops and varied activities such as the talent show.

4. The number of participants has grown steadily from 200 in the 1991 conference to 500 in the 1998 conference. Considering the fact that it practically goes unpromoted, we can consider it a remarkable success.

5. Three are the main objectives of this conference: updating, training, and motivating. Because it is sometimes difficult for the people in the provinces to have access to new books, trends and ideas on management and creativity-related issues, continuous updating of theory and concepts on creativity and innovation is one of its key objectives.

Training is the other face of the coin. It is the possibility of applying what is being learned. And it is through training that we intend to “learn how to unlearn” the old and deep-set ways of addressing problems that prevent us from using new approaches to solving new problems.

Motivation is the fuel of this process. Creativity cannot be set in motion without seductive aims, goals, and opportunities or at least without the concrete need to change part of the environment in which we operate. Our minds may conceive many ideas, but if we do not create spaces for them to develop, they will not be translated into useful and operational applications.
6. Eight years after the first conference, the Jornadas de Innovacion are already a classic event. Many young enthusiasts from all over the country look forward to the time when they will “meet again” with people who are eager to gain experience, get trained, and work hard for three full-days in the many activities conducted during the conference. It is really hard to describe the wonderful atmosphere of the group discussions, presentations, workshops and games...

7. The Jornadas de Innovacion Empresarial were created by Eduardo Kastika and Fernando Moser (his first student organizer). Eduardo Kastika is currently the conference’s academic director. The organization is in fact a co-organization. Every year, a group of young people is selected in the host province to coordinate operations.

1.2. Creativity in graduate and undergraduate university programs.

Since 1987, the course Creativity is an integral part of various graduate and undergraduate business-related programs.

The following is a sample outline of the topics touched upon in different university programs:

**Unit 1. Training in creative approaches as applied to businesses and organizations**

- Developing fluidity: spaces for fluidity development within organizations. Fluidity results as value within organizations. Fluidity-centered attitude.
- Developing Flexibility: Flexibility as a mode of thinking within organizations. How to think flexibly. Flexible thought and its relationship with organizational structure.
- Developing originality: Originality and its risks. The “new” in context. How to apply originality every day in organizations.
- The Goal orientation: the “hidden” goal of creativity. The importance of defining a goal creatively. When creativity “clicks in our mind.”

**Unit 2. The mindmapping technique as used in organizations**

- Group training in mindmapping and perceptual maps.
- How to flexibilize perception through mindmapping. How to use the technique in groups.
- How to use mindmapping to increase the number of approaches used to explore issues in organizations.
- How to generate new ideas with perceptual maps.
- Operational aspects of mindmapping: When to use it. Why use it. Results you can obtain. How to apply them. Example applications. Recommendations for optimum results. Use in conjunction with other techniques.

**Unit 3. Using analogies and metaphors in organizations**

- The application of the logic of discovery in organizations.
- The use of metaphors and analogies as a simplified way of applying synectic methods.
- Types of analogies and their application.
- Lateral thinking and analogies.
Operational aspects of analogies: when to use it. Why use it. Results you can obtain. How to apply them. Example applications. Recommendations for optimum results. Use in conjunction with other techniques.

**Unit 4. Creativity from the point of view of thinking profiles**
- Definition of thinking profile.
- Ned Herrmann’s work.
- Thinking profiles as applied to creative problem-solving.
- The evolution of species. Brain evolution.
- The right-left hemisphere model.
- The notion of dominance in relation to thinking profiles.
- Applying each profile to creative problem solving.
- The organization as a space for cross-disciplinary problem-solving.

**Unit 5. Creativity, groups and team work**
- People, groups and teams in creative work.
- The ‘all ideas are welcome’ attitude.
- Pro-active recommendations for creativity.
- Different types of criticism.
- Cross-fertilization as applied to creativity.
- Quantity goal setting.
- The bottom line of creativity.

**Unit 6. Integrating the creative problem-solving process into organizations**
- New brainstorming developments. Combining divergence and convergence in different stages.
- Using checklists to analyze problem defining and opportunity seeking.
- Creativity as applied to goal setting. Framing the context. Redefining problems. Searching for ideas. Laying out action plans.
- The importance of convergence in creativity and project development. Selecting and using criteria. Incorporating convergence as a complement to divergence.

**Unit 7. Lateral thinking and its techniques**
- Conceptualizing the dominant idea.
- Acknowledging chance as a productive stage.
- The mind as a self-organizing system.
- Concepts and features of vertical and lateral thinking.
- The PMI technique.
- The word “PO” as a technique.
- The Seven Hats for Thinking and its effects on creative work.
- The Six Hats for Action and its effects on creative work.
- Inversion-based techniques.
- Random stimuli as lateral thinking.

**Unit 8. Combinatory techniques**
- Developing the notion of bissociation.
- The stimuli combinatory matrix.
- Defining bissociation and inventiveness.
• Generating ideas by combining ideas.
• Combinatory matrices.
• The forced relationship of concepts technique.
• The morphological analysis method.

Unit 9. From ideas to results
• Generating ideas and turning them into new business.
• Starting new businesses through creativity techniques.
• “Selling” ideas and their results.
• Differences between creative process and creative product. Its impact on organizations and on the development of new businesses and products.
• The creative attitude and its relationship with risk, goal orientation, entrepreneurship, originality and organization.

Unit 10. Creativity and organizational structure
• Creativity and the organization as a space for cross-disciplinary problem-solving.
• Heterogeneous teams to generate ideas.
• Exchanging ideas among areas.
• Organizational structure models to detect opportunities and sources of applicable ideas.
• Creativity-prone organizational forms for creativity development in organizations. From R&D to every day activities.

Unit 11. Creativity and organizational culture
• Characteristics of creativity-centered cultures.
• Kingdom cultures and structures. Network cultures and structures.
• Blocks at the strategic and top management level.
• Management blocks to creativity. Leaders vs. Traditional managers.
• Cultural blocks in the rest of the organization. Cultures and subcultures.

Unit 12. Management and creativity
• The fundamentals of management and strategy for creativity in the organization as a whole operating in a turbulent context.
• Searching and exploring new opportunities and ideas based on the strategic positioning of the organization as a whole.
• The business strategy taking into account the organization-context dynamics, cooperative and competitive advantages, and the changes in the industrial and service sectors.
• Creativity and dynamic positioning.
• Creativity and innovation as applied to portfolio development.

Unit 13. Adopting a prospective attitude and building scenarios through creativity
• Prospective techniques and their close link with creativity. Inspiration. Intuition. Applying creativity to envisage future contexts and desirable scenarios.
• Learning to think the future as scenario to be designed and as opportunities to be created, and not as the inevitable continuation of past events.
• How to formulate innovative strategies, programs, action plans knowing that the organization is to be prepared to “created market rules” rather than follow them.
• High-quality response techniques for future scenarios increasingly different from past and present ones.
• Training to work towards accomplishing the imagined scenarios, and not just towards foreseeing that they will occur.

Unit 14. Technological innovation, creative intent and business re-definition
• Creative intent and innovative management.
• Creativity and innovation in the notions of vision and mission.
• Value migration and new businesses.
• Innovative actions.
• Creativity and innovation-related values and beliefs.

Unit 15. Creativity and organizational efficiency: an seeming paradox to be explored.
• How to plan creativity and innovation. Incorporating the businessperson’s and the organization’s thinking. The premises of applied creative thinking.
• How to be profitable through creativity. Organizing innovatively for best results.
• Creative problem-solving as applied to cost reduction. Case studies. Strategies for innovative differentiation.
• The globalization and internationalization of business and its effects on innovative possibilities in Argentina.
• Quality and creativity: two basic aspects of an organization’s culture.

2. CREATIVITY AND PSYCHOLOGY

2.1 Psychoanalysis in Argentina. Its relevance.
Psychoanalysis has been the hegemonic orientation of Argentine psychology since the 1940s. This is mainly due to the influence of the School of Psychology of the University of Buenos Aires, which has graduated approximately 5,000 students.

In the 1990s, the Argentine professional community has also embraced other approaches such as cognitive psychology, systemic psychology, the psychology of form, neurolinguistic programming, and neuropsychology. Despite the broad range of topics addressed by Argentine psychological theorists, there are very few developments in the specific field of creativity.

Some Argentine authors, however, have produced various works on psychology. The following are some of them:
• Pichon Riviere. A pioneer of psychiatric practice, he conducted significant psychosocial studies and wrote the book The Creative Process, in which he explores the issue of elaborating repressive anxieties.
• José Begler. Renowned for his work on behavior from the psychological perspective, and for his work on institutional psychology and psycho-hygiene.
• Angel Garma. A pioneer of psychotherapy in Argentina and a prolific author, he has been commended for his works on dreams.
• Mary Langer. She has worked extensively on the relationship between psychotherapy and Marxism.
• David Liberman. His major contributions are in the field of communication process and psychotherapy.
Although they have not written specifically on creativity, their conception of health—
typical of the time when they wrote—is connected with notions such as plasticity as op-posed to rigidity and stereotype.

2.2. Creativity and Psychodrama

Fidel Moccio, a physician and psychiatrist, began to work on child psychotherapy in the
province of Buenos Aires in the 1960s, and incorporated such expressive media as
drawing, painting, theater, modeling. In the 1980s, he founded the first Private School
of Creativity, whose purpose was to further the development of the creativity of the in-
dividual, and focused on training for creativity and its useful factors, including some
psychotherapeutic ones. Beatriz Amabile was his collaborator. Fidel Moccio’s approach
relates to the therapeutical value of training for creativity. He began studying how ex-
pressive media allow the individual to express his creative, emotional possibilities. This
led him to explore the origin of creative ideas and to review a broad array of works
ranging from psychotherapy to biology.

But the main line of investigation in Moccio was inspired by Moreno—a major repre-
sentative of psychodrama who became popular in Argentina in the ’60s. Three other
Argentines later created a psychodrama group: Carlos Martinez Bouquet, Eduardo Pav-
lovsky y Fidel Moccio. This group was very important because it pioneered the devel-
opment of psychodrama in Latinamerica.

The first private school of Creativity in Argentina began with three month long pro-
grams and a process based on perception and corporal work. Then the program was ex-
tended to a two-year course. This school worked until the early ’90s. The instability
situation of Argentina—according to Moccio—was the main reason for the interruption
of this school. But it was really an important step in Creativity in Argentina.
Australia

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The Situation Before 1985

Australia is one of the most socially, politically and culturally egalitarian of nations. In my book “Exceptionally Gifted Children” (1993) I described the social ethos of the nation, particularly as it was manifested in the 25 years from the early 1960s through to the mid-1980s, and particularly as it affected the field of education. Combined with the traditional Australian concern for the “underdog,” and the desire to “equal upwards” by assisting children disadvantaged by intellectual, physical or social handicaps, there was a strong impulse to “level down” those who were seen as unfairly endowed with potential beyond the average, by the advancement of children who were intellectually or academically gifted.

Very little research was undertaken, in Australia, on the education and psychology of the gifted, and there was even a considerable reluctance, among academics and teachers, to access or harness research from overseas. Consequently, Australian teachers’ perceptions of gifted and talented students were built not on the findings of research but on social mythology. It was generally assumed that intellectually gifted students came from middle-class families within the dominant culture. Almost 30 per cent of Australian children attend private, fee-paying schools; it was quite common, therefore, for principals of state schools to assume that they had no gifted or talented children in their schools. Such provisions as did exist tended to be weekend programs run by the volunteer Associations for Gifted and Talented Children in a number of states, and a small number of teachers with an interest in gifted education who attempted to differentiate the curriculum for the gifted and highly able students in their classes.

The Current Situation

The last fifteen years have seen a very significant shift of attitude towards the needs of academically gifted students in Australian schools. Several factors underpin this shift: changes of government in several states which have led to the development of formal (and often highly effective) gifted education policies; the increasing social and political influence of the state Associations; the inclusion of gifted education subjects or courses in the undergraduate and graduate degree programs of education faculties in several Australian universities; and decisions by the Departments of Education in several states to establish and fund programs of teacher inservice to assist teachers to identify and respond to their academically gifted students. Teachers in general have become more aware of the smorgasbord of programs and provisions which can be for gifted learners, and the international research which documents the effectiveness of various interventions.

It must be acknowledged that the majority of gifted and talented students are still educated in mixed-ability classrooms with little or no differentiation of the curriculum to accommodate their areas of strength. However, several of Australia's eight states and territories have developed sound and effective programs for academically gifted students, and where those students do remain in the heterogeneous classroom, the curriculum is more likely to be adapted to their needs. Many of the newer programs have been
strongly influenced by the research of international scholars such as Kulik and Kulik (1997 for an overview of their work), Benbow and Stanley (for example, 1983, 1996) and Rogers (1991) and utilize ability or achievement grouping, and acceleration. A few of these programs are described below.

New South Wales, Australia's most populous state, has developed a strong gifted education focus. More than 130 full-time self-contained classes for academically gifted students (Opportunity Classes) have been established in government primary schools across the state, and several private schools now also offer special classes. Nineteen Selective High Schools offer full-time grouping to academically gifted students from 7th–12th grade. Selective High Schools and Opportunity Classes allow gifted children to work, with students who share their abilities and interests, on a fast-paced, intellectually challenging curriculum. Students are selected for these programs on the basis of a range of objective (ability and achievement testing) and subjective (teacher and parent nomination) criteria.

The Gifted Education Unit in the Department of School Education of Victoria coordinates acceleration programs in 40 high schools in which special classes of highly gifted students telescope Grade 7 and Grade 8 into one year, and thus complete the six years of high school in five. A wide range of excellent enrichment programs has been developed over the last five years. More than 8000 gifted students have been accelerated (early entrance to school, grade advancement or single-subject acceleration) in New South Wales and Victoria since 1992.

The State Education Department of South Australia has six SHIP (Students of High Intellectual Potential) primary schools and three SHIP high schools which provide a special focus on developing programs for gifted and able students. The Gifted and Talented Children's Association of South Australia, established in 1978, runs an excellent range of weekend enrichment programs.

Australia is a strongly multicultural society, and teachers’ support for the use of objective assessment for program placement has been strengthened by the observation that when IQ and achievement testing are utilized as elements of the selection process for special programs, a much wider racial and socio-economic mix of students is acquired than when the task of identifying gifted students is undertaken through teacher nomination alone.

**My Own Research**

One of my principal research interests is the socio-affective development of intellectually gifted children, and the effect of ability grouping and acceleration on motivation, self-esteem, friendship choice and other socio-affective variables.

Australia’s powerful and militant teacher industrial unions have, for many years, opposed the ability grouping of gifted students on the grounds that placement with other students as able as, or abler than, themselves would result in seriously depressed self-esteem. In a longitudinal study of more than 2000 gifted students in Selective High Schools, in which I conducted repeated measures assessments of shifts in academic, social, home/family and general self-esteem, my results contradicted this assertion. Selective High School students scored higher on all aspects of self-esteem, at all times during the study, than did the comparison group of students in comprehensive (mixed-ability)
high schools. Furthermore, the downward shift in academic self-esteem which appeared in the Selective High School students was mirrored by a similar downward shift in the comprehensive students, except that the academic self esteem of the Selective High Students remained above the mean for their age-group. A decline in academic self-esteem, which appeared in both student groups, may be a natural outcome of the transfer, in early adolescence, from being in the most senior grade of elementary school, to being one of the younger students in secondary school.

I have been interested, for many years, in the cognitive and affective development of very highly gifted children. Since 1983 I have been conducting a longitudinal, nationwide research study of Australian children of IQ 160+ (see, for example, Gross, 1992, 1993, 1994, 1998). Children scoring at this level appear in the population at a ratio of fewer than one in 10,000. The population of Australia is only 18 million and statistically one would expect to find fewer than 200 such children in Australian elementary schools. Despite this, my study contains 53 children—more than 25% of the underlying population.

One of the most striking findings was the inappropriateness, for these extremely gifted students, of the mixed-ability classroom. More than 90% of the children who have been retained in the regular classroom are working three or more years below their levels of tested achievement in at least one subject area, while more than 50% of them are working five or more years below. The majority of these young people have experienced very great difficulty in establishing positive social relationships with their classmates. The strongly negative perceptions which they develop both of their own social skills and of their image in the eyes of other children are reflected in extremely low self-esteem (Gross, 1993).

Eleven of the students, however, have experienced radical acceleration—a series of carefully spaced and monitored gradeskips which result in them graduating from high school three or more years earlier than their age-peers. In every case this intervention has been a striking success. The students have been able to work and socialize with other children who share or can at least empathize with, their interests, their delight in intellectual enquiry, and their ways of viewing the world. They have been able to enjoy the social pleasures of childhood while, at the same time, experiencing the intellectual satisfaction of challenging academic work. Six of the students have already entered university, aged between 13 and 16, and have experienced excellent academic and social adjustment (see, for example, Gross, 1994, 1998).

GERRIC

The Gifted Education Research, Resource and Information Centre (GERRIC) of which I am Director, within the University of New South Wales, offers postgraduate courses in gifted education, runs five residential and non-residential enrichment programs for gifted children and adolescents during school vacations, offers an assessment and counseling service, runs courses for parents of gifted children, and publishes a range of books, audiotapes and other teacher resources.

Since 1991 more than 500 teachers from across Australia, New Zealand and Hong Kong have trained in gifted education through GERRIC’s postgraduate Certificate of Gifted Education, and more than 7000 gifted and talented students have attended our vacation programs.
Detailed information of GERRIC’s programs and services can be obtained from our website at http://arts.unsw.edu.au/gerric.

References


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Creativity in Bolivia

Before dealing with the subject of creativity in Bolivia, I consider it important to make a small introduction to present to the readers some characteristic features of my country that for many are completely unknown.

Bolivia is a land-locked country with an approximate population of 7,500,000 inhabitants; geographically is situated in the center of South America, and it is divided in three regions with different climates and topographies. The high land region where there is few vegetation generally has a cold climate, a height of 4,000 meters above sea level; the region of the valleys with a height of 2,500 meters above sea level and an annual average temperature of 20°C; and lastly the eastern region with a tropical climate and an average height above sea level of 400 meters. On the other hand in each of these regions the economical condition of its inhabitants is characterized by having a very high poverty index.

As to the population structure social classes can be distinguished with well marked differences among them, as the white race composed of European immigrants descendants; we can name, as an example, the large Croatian colony, on the other extreme would be the aborigines who live isolated in many small colonies with their own customs; on the other hand is the reddish-copper race more known as indigenous largely descendant of Quechuas, Aimaras and Guaranies with well rooted and enriched traditions; from the mixture of these races with the white race come the half-breeds, and lastly the reddish-copper with half-breeds known as Cholos.

Each of the elements mentioned above have a lot of influence on the population to be more creative than others.

If we consider creativity as the art of having the faculty to be able to use the means and limitations that we possess to use them in the best possible manner to achieve a greater benefit of each one of us, the poverty situation that we mentioned before, where the limitations surpass the means, together with a lack of adequate technology make it that the people have to be forcefully creative to survive and comply with its objectives. For instance the subject of education in areas so remote in the country where the didactic material does not arrive to facilitate the teaching to the children of the schools, the teachers conceive to be creative using home materials, from stones to waste material of the most simple imaginable.

In the artesian field the villagers prepare a series of handmade engravings in stone or wood, that they sell as regional souvenirs or amulets of the place for good luck to tourists that arrive to visit them.

On the other hand, as to the influence of the religious festivities, the people assist massively to the same to ask for help to the occasional Saint to solve their needs, this makes that many salesmen develop their creativity manufacturing objects that will give them economical security, business travels, culmination in their studies, etc., generally these objects come in company of some story that is divulged and that makes that people has to necessarily buy for their wish to be accomplished.

In the urban centers in the places of supply where there is agglomeration of people and since there is a lack of work places many people from the rural areas turn to the cities to
offer their services and among them there are the people that offer their services as bur-
den lifters carrying generally over their backs heavy loads, many of them using their
creativity, manufactured special small cars with old wood and rollers and irons that fa-
cilitates sliding of the load, making that work lighter.

Among other situations it is possible to observe how the peasants manufactured ingen-
iously some sandals worn by peasants using the leftovers that remain from old wheels
of cars at prices completely at the reach of then and of long service life.

In the management ambit I personally consider that there is not much creativity that can
be highlighted since the problems that present themselves are easily solved with a copy
of what is being done in other places and that from the view of those who do not know
such situation it looks as creative. As to the products the consumer generally thinks that
import goods are better than national products, by the other hand there is not much en-
couragement for research.

However, it is possible to highlight that in the transformation of the Bolivian State En-
terprises from public enterprises to private entities, a strategy was used with great crea-
tive imagination, that goes beyond a simple transfer of the state’s property to private
hands. In this case a very particular privatization system was employed that caused
much literary controversy but personally I consider that the so called Capitalization
Strategy has received more praises than rejects from the neutral sectors: this strategy of
Capitalization of the main State Enterprises, was based a little in the capitalization ex-
periences in other countries as in analyzes of the errors and accuracy of the same,
ingenuously it could attract capitals from abroad that in that moment had many options
in different countries and transform enterprises with deficits and poor services into
strong and competitive enterprises in the international scope.

The difference with simple privatization consists in that in this situation the enterprise
that belonged before to the State, the ownership passes wholly to private hands being
these either national or foreigner and the capital received for the transaction goes to in-
crease the treasurer’s chest of the Nation’s General Treasury. On the other hand in the
Capitalization, the Enterprise that was before wholly public, is first transformed into a
Mixed Anonymous Society and then a strategic partner at the international level is
looked for so that it will inject capital to the enterprise to form a new entity with more
capital and more solid for which purpose the management of the new enterprise was
given to the strategic partner.

In difference to privatization, the capitalized enterprises were in a situation of being
able to dispose funds immediately for the investment in new technologies and to enlarge
its services in a more efficient manner satisfying better the needs of the Bolivians.

In summary, creativity in Bolivia is the result of the needs.
Brazil

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Brazilian Creative Paths to the 21st Century

1. Dilemmas to be faced

Creativity has its Greek roots in the words *krinen* (crisis), and *kre* (to grow, to create). This interesting epistemology confirms the Greek wisdom that a state of confusion, disruption, destruction and turmoil can lead to a higher integration level, where originality and innovation are encountered.

Brazil has suffered several economic torments along its history. Thus, the present 1999 economic crisis is being seen as one more situation where creative problem solving is required from the entire nation.

Investment in human talent seems to be the best way to guarantee a better future for the country, and that is precisely the road being taken by Brazilians for creatively coping with present events. We will describe below some of the strategies chosen by Brazilians throughout the country indicating there is a large array of possibilities for applying creativity to solve the huge amount of Brazilian problems.

2. Social problem solving

Creativity seems to be the best way to face the serious social economic problems existing in the country. Community actions have been a definite answer proposed in this direction.

Community programs are increasing more and more in Brazil in the last three years. They are aimed to help children at risk, such as street children or those living in the slums, which are usually located in big capitals, such as Rio de Janeiro, São Paulo, Belo Horizonte and Porto Alegre.

These groups are investing in non-traditional ways to educate the children and trying to develop their creative talents through Arts, Music, Drama, circus skills, etc. It is expected that children will overcome their enormous social economic barriers by believing in their own creative strengths.

Other community programs are trying to increase children’s motivation to stay in the schools. The dropout rate at the elementary grade level reaches around 40% among the poor children. Although there is a federal law enforcing children’s school attendance this is seldom observed by disadvantaged parents.

The Brazilian media has recently been calling the attention to these valuable community efforts as a creative strategy proposed by some individuals or groups as a strategy to overcome poverty.

In Campinas, for instance, we are working with public institutions to locate mentors in the community to help poor children develop their creative talent or creative characteristics, which are usually not paid any attention to in the regular schools, such as dancing, singing, painting, composing, dramatizing, etc. We have involved in this project not only the children but also retired people aiming to work with mental health in two ways: old people have higher self-esteem when they perceive they are still worthy; at
the same time, poor children receive individual support from those who have more time to share with them than other adults.

In this sense, we are investing in creativity in two generations, simultaneously, and valuing the existing talents in the community involving them in a creative mental health program.

3. Business and administrative groups

Private and federal business and administrative groups are awakening, more and more to the power of creativity. This can be verified by the considerable number of Brazilians who have attended CPSI in the last eight years, coming sometimes to be the second largest national group, after the Americans.

A private group deserving merit is ILACE, which congregates people mainly from São Paulo state, and has annually participated at CPSI as well as offered continuous in-service programs utilizing creative problem solving techniques. Other institutions, such as FAAP (a private university at São Paulo) and SENAI (federal organization for Brazilian industry) have often sent their staff to CPSI programs to enhance their creative skills.

Most recently, Brazilians have started to participate at the Master on International Creativity offered in Santiago da Compostela (Spain) to acquire more comprehensive information and training on creativity.

Therefore, there is definitely an effort in the country to develop and apply creativity to different business and organization fields. We hope this movement will soon bring positive results impacting our economic and political issues.

4. Gifted education

Federal law stating the need to attend to children with special needs dates back to 1986. Gifted children, therefore, were included in this category and recognized as deserving special attention.

The impact of the socioeconomic situation on education is tragic. Even for regular children educational requirements are not enforced upon. Thus, gifted education was left to those groups which really believed in the importance of this idea to the point of organizing their own programs and associations.

The Brazilian Association for the Gifted (ABSD) was founded in the beginning of the 1980s. Since that time, other small state associations started to be organized, coming up to approximately 10, located in various Brazilian states. National conferences about the gifted are organized every two or three years, where all these groups have the opportunity to share their experiences and concerns. An important event was the International Conference on the Gifted, held in Brasilia last year, where Brazilian educators had the opportunity to demonstrate their progress in this area.

Most of the gifted programs offered by Brazilian associations are directed to poor children. Their emphasis has been more on non-traditional education, and their age level tend to encompass children and youngsters from 6 to 15 years old. Due to their characteristics we can classify them as programs for the creatively gifted. Very few of them, no more than two or three, are organized for the academically gifted.
As the regular schools do not have programs for the gifted in their traditional curriculum, all the activities are held after school, or during the weekends. With very few exceptions, such as the city of Brasilia (Federal District), public school teachers do not receive any information on identifying or programming for the gifted.

There is a pervasive attitude in the country indicating that regular education should always be prioritized. Thus, middle-class parents who usually have their children in private schools, also tend to afford extra school activities for them as a means to develop their various talents. Therefore, it is not expected or demanded from the public educational system to enforce federal law acknowledging gifted children’s educational needs.

In spite of all these unfavorable conditions, programs for the gifted are slowly increasing in the country. Although not necessarily labeled as “for the gifted,” they undoubtedly aim to identify and develop creative talent in different ways. Therefore, we can conclude that education for the creatively gifted is a reality in Brazil nowadays.

5. Research findings

Psychology and Education are the fields which have contributed definitely to research on creativity in Brazil. We decided to review studies carried on through theses and dissertations in the last three decades, under the assumption that they can give an important contribution to understanding Brazilian creativity. Graduate students choose their own themes to investigate, thus reflecting the country’s concern with different issues related to creativity.

Our review covered almost thirty years (1970–1999) and indicates the state of art on creativity knowledge in Brazil. We used as an information source Santos’s survey (1995) of Brazilian theses and dissertations, as well as our own review on the same topic (Wechsler, 1993, 1995) and additional recent graduate production under our supervision.

<table>
<thead>
<tr>
<th>Table 1. Brazilian theses and dissertations on creativity (1970–1999)</th>
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<tbody>
<tr>
<td><strong>Research characteristics</strong></td>
</tr>
<tr>
<td><strong>Orientation</strong></td>
</tr>
<tr>
<td>Basic = 11</td>
</tr>
<tr>
<td>Applied = 51</td>
</tr>
<tr>
<td>Total = 62</td>
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<tr>
<td></td>
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<td></td>
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<tr>
<td><strong>Objective</strong></td>
</tr>
<tr>
<td>Identification = 22</td>
</tr>
<tr>
<td>Observation = 18</td>
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<tr>
<td>Programming = 11</td>
</tr>
<tr>
<td>Understanding = 11</td>
</tr>
<tr>
<td><strong>Environment</strong></td>
</tr>
<tr>
<td>School = 57</td>
</tr>
<tr>
<td>Office = 2</td>
</tr>
<tr>
<td>Home = 0</td>
</tr>
<tr>
<td>Hospital = 1</td>
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<tr>
<td>University = 2</td>
</tr>
</tbody>
</table>
As it can be observed from Table 1, most of the research carried out on creativity in Brazil is applied, having regular students from elementary schools as subjects and dealing with methodological issues such as how to identify and observe creativity. Schools are the environments most looked into, with very little attention to places such as offices, homes, hospitals, universities, etc. Exceptional students, such as the gifted or the physically handicapped, are seldom studied, thus indicating a big gap in which researchers should focus their attention in order to best understand Brazilian talents.

There is definitely a need to study creativity through a large age span, rather than limiting research only to 7–12 year interval. Although Brazilian education at this level is defined as a priority by the government, much information would be gained if more adolescents, adults and old people could be included in these studies.

It is expected that a considerable amount of research will appear in Business and Administration as more individuals from these areas become interested in the importance of creativity to their work.

6. Conclusions

Brazilian interest and scientific knowledge on creativity is increasing everyday. We hope all this movement will help the country overcome its frequent economic crises and their serious consequences upon our population.

Education has an important role to play in this creative journey to the 21st century. Community programs are developing throughout the country, opening various opportunities for the creatively gifted. We can conclude that Brazil has a bright future if all of its creative talents are finally identified and valued.

References


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Where Are We Teaching Creativity in Canada?

Finding how a culture learns about creativity, and therefore how it perpetuates that aspect in the younger generations, is difficult. Television, with its global sweep of news and music, driven by American values, is not a good source for finding out what people are learning. We may be able to gather some information about the current political or economic affairs around the globe by watching TV, but how the people are learning how to modify their lives and their culture through the introduction of creative ideas and innovations is not a high priority for most television crews. The World Wide Web, you say, is the way to search for new ideas and how they are being introduced, but this path is also distorted. The Web is a techno-culture that spans the economically developed parts of every country and links the world in an exciting way, but it leaps over the traditional boundaries and ignores the ethnic and cultural variables of the people leading normal lives in the multitude of urban and rural settings around the world. The Web has its own language, values and methods and tells us little about how the average person in, say Canada, is learning about the creative process. In pondering the question; “How do we teach and learn about creativity?” I tried to understand what we do and why it is that we have fallen into that particular model. This paper will explore this area and attempt to outline the broad structure of creativity training in Canada. Further, I will present a model of leadership which may explain how creativity training enters our organizations.

I started my investigation with a visit to the local library where I could find all the catalogues from all the universities and colleges across the country. I am somewhat familiar with this environment, (having taught in it for 28 years), and it was no surprise when I could find very little evidence that creativity is taught in a formal fashion in our post secondary institutes. Starting with our universities and their regular, full-time programs, I was able to find only a very few campuses which showed courses in creativity of any sort. York University has an undergraduate course in the Psychology Department (because of the strong lobbying of Dr. Kusnysyn), and another course in Creative Writing in the English Department. At one of our largest universities, I scanned 118 Psychology courses, 152 English courses, and 188 Commerce courses and found not one single subject with creativity in the course title, or appearing to teach creativity as the main objective. All of our universities have the traditional classes in Perception, and Neuropsychology where, no doubt, the subject of creativity would surface. And I recognize that I have no way of knowing what any individual professor does in his classroom with regards to tests and assignments, or how she might model and promote creative thinking through the dialogues in her seminars. I can only say that the formal structures in our universities do not appear to be the places where creativity is overtly taught.

What about our colleges? Canada has an extensive system of colleges which are designed to prepare young people for the job markets. Many of these places are relatively new and pride themselves on offering practical subjects. They suggest to the public that they are places for the Applied Arts, as opposed to the theoretical, or more abstract work, done in the universities. Surely the colleges would have courses in creativity. The search here was not much more rewarding. Algonquin College had one Psychology course called Creative Process and several colleges had creative writing classes, some through their Media Studies Departments. I was unable to find any college which taught
Creative and Innovation in a Business or Commerce Department. Again the same note of caution applies. We cannot assume that because it does not appear in the calendar that it does not appear in the classroom. The significant lack of courses in published catalogues does, however, tell us something about the mind set of the people at these institutions who are preparing these courses and promoting programs.

If creativity training is not found in our formal halls of learning, is it getting in through the backdoor? Yes, to some extent. If one examines the listings of the Continuing Education catalogues of these same colleges and universities, the picture is slightly brighter. There are offerings, usually 30 hour night school classes, or weekend retreats, which explicitly deal with learning the creative process or creativity tools and techniques. These classes may be found under various headings such as Arts, Business, Personal Growth, or General Interest. The majority of these courses would not be accredited, so the results could not be applied to any degree or diploma, and just because they are listed does not mean that the attendance is high enough for them to be offered very often. This sector of our post secondary system is on a cost recovery basis and will only run classes if the income justifies the expenses. These classes, when they do run, may be interesting and well intentioned, but there are often no quality control and no demand for rigorous scholarship on courses taught in this stream.

So the search goes on. Maybe I would find creativity classes in the public schools. My exploration was not thorough here as our school systems are extremely complex and decentralized. Controlled by each of the 10 provincial governments, then administered through locally elected school boards, our school curricula vary greatly across this country. I have some knowledge that certain boards do include critical and creative thinking as part of their programs and there is some pressure from several Ministries of Education to beef up this component. Until very recently these classes were only offered to those in the gifted or enriched programs since those students were thought to be able to, ‘make time in their day’ to do the ‘extra’ study. Now more and more teachers are recognizing the need to provide all students with the knowledge and skills in processing information creatively. It would take a major study to fairly assess the depth to which the Canadian school systems have ventured into this field, but my impressions are that with recent budget cuts, and a clamour to ‘get back to basics’ the fight to teach creativity is not going well.

If not in the education systems then perhaps creativity training will be more easily found in the private sector. The last few years have seen a steady growth in the development of training companies offering a wide range of workshops and seminars to the public. These are mostly aimed at the corporate, white collar worker and government employees. The calls for ‘continuous learning’ and ‘skills up-grading’ are very prevalent in our workplaces. Managers are putting significant resources toward employee development. In spite of the mobility of the young workforce and the pressure (or fear) to keep all options open, the corporations are once again putting time and effort into training. Most companies have done their ‘downsizing’ and are now shifting away from the idea that people are an expense, or cost that must be limited, to the idea that people are an asset and should be cultivated. Hence the appearance of the many private sector businesses pushing development workshops of all types. Whatever the latest buzz word is, (or better yet, if you can create one), then that is the topic on the training brochure landing on the manager’s desk.
The companies that offer these seminars fall into two broad categories. The first are the large organizations which use mass marketing techniques and sell generic products. These companies show up at the business trade fairs, have shiny, multicolored literature that shouts very loudly. They hold their one, two or three day sessions in big central hotels and charge high prices. In this group are workshops in Creative Thinking or Problem Solving, often featuring a high profile author such as Edward deBono, live or off the satellite. Since these presentations are of the ‘one-size-fits-all’ variety, the learning is generally hard to transfer to the workplace and frequently these sessions prove to be nothing better than an interesting ‘perk’ for the employee.

The second type of training company is the small business, operated around one or two key figures, and keeping a much closer connection to their client base. These entrepreneurial training companies have multiplied in recent years as large corporations have downsized. Many middle managers with strong communication skills found themselves without a steady income and their careers interrupted in midstream. This resulted in a pool of capable men and women who turned to training for a new start. These small businesses could begin reasonably cheaply. The principals could approach their old contacts and slowly build a client base from companies that generally found the services to be cost effective. The consultant replaced the need to keep a training department on salary full time, and these entrepreneurs were quite willing to ‘tailor’ a program to fit the specific needs of the business. It is in this sector that the workshops and seminars on creativity and innovation are thriving. It is through this mechanism that many Canadians are learning about the creative process.

We can now move to the second part of our inquiry, which is to consider the structure of organizations, and particularly the style of leadership, which brings creativity training into a company. The model I will use has been developed by Patricia Pitcher, a professor of Leadership at Ecole des Hautes Etudes Commerciales in Montreal. Her book; *Artists, Craftsmen and Technocrats*, published by Jossey-Bass is a brilliant piece of research into leadership styles and the power struggles which ensue among them. The following structure and quotations are from her work.

Pitcher describes three styles of leadership and differentiates them through their *Feeling, Seeing, Thinking, and Acting* modalities. She devised these styles, and how they are explained, after clustering the adjectives used to describe real leaders. In my outline of the styles I have put in a parenthesis some of the adjectives she uses in the Ideal Type clusters.

The first type is *The Artist*. Pitcher labels him as “...one who forces us, often reluctantly, to change our ways of seeing. His vision stems not from some conscious desire to be rebellious, but from his character.” She goes on to say that the Artist will, “...seem intuitive, imaginative, unpredictable, volatile, emotional; some may believe he lives in a dream world.”

**The Ideal Artist Style:**

- **Feeling:**— Emotional, (exciting, volatile)
- **Seeing:**— Visionary, (inspiring, people oriented)
- **Thinking:**— Imaginative, (intuitive, open minded)
- **Acting:**— Entrepreneurial, (bold, daring, unpredictable)
“If the Artist’s visions are ‘bridges thrown toward an unseen shore,’ the Craftsman is the guy who builds the bridges.” The Ideal Craftsman is all about the, .”..constant, slow, accumulation of knowledge and skill.” It is through a Craftsman that ideas are, .”..transformed, perfected, refined, concretized, shaped, sculpted by experience.” Craft, rooted in practice and the apprenticeship model, ”..teaches simultaneous doing and thinking.” “It is conceptual, as well as practical.” Craftsmen make good mentors.

**The Ideal Craftsman Style**

**Feeling**—Stable, (well balanced, honest, straightforward)

**Seeing**—Realistic, (sensible, dedicated)

**Thinking**—Wise, (thoughtful, controlled, knowledgeable)

**Acting**—Responsible, (conventional, polite, amiable, helpful)

If these first two styles sound fairly good, the Technocrat does not come off so well in Pitcher’s work. The Technocrat is described as; ”..one for whom the technical sides of an issue take precedence over the social and human consequences.” Robert Reich called these people “living machines.” What counts for them are; ”..the facts, the rules, the right way of doing things.” The Technocrats will; ”..brook no interference with their plans” and, ”..their chief defense mechanism is intellectualization.” These people can trace their roots to F.W. Taylor for whom the world could be measured and listed as facts and therefore manipulated in an emotionally neutral manner.

**The Ideal Technocrat Style**

**Feeling**—Serious, (intense, stiff, distant)

**Seeing**—Detailed Oriented, (insightful, fastidious)

**Thinking**—Meticulous, (analytical, cerebral, brilliant)

**Acting**—Methodical, (uncompromising, energetic, determined)

Let us suppose, for the moment, that creativity training and the practicing of the tools and techniques used in creative thinking, can enter an organization either through the formal system, the front door, or through the informal system, the back door, (sometimes called the skunk works). We can now recognize that the way, and the degree, to which creativity training will enter a corporate culture will depend on the leadership in that culture. If the leader is an Artist Type, the permission to have training either in-house or through attending an outside function is almost assumed. There will likely be a plentiful library of resources on creativity for the employees, and the senior managers will regularly model the behavior of divergence before convergence, deferring judgment, and provocations in the thinking stages. There will be no trouble getting creative thinking here. The problem may be in implementing the selected ideas.

If the leadership is of the Craftsman Type, his tendency will be to encourage the Artist to do creativity training through the informal system, (the skunk works), and he will, officially at least, ‘hold the course.’ The Craftsman will want to see steady, continuous improvements in products and processes. He will question well, and listen well, but will be slow to ‘jump on the band wagon.’

Both the Artist and the Craftsman are seen as humane and open-minded, but the former is more likely to be compulsive and move on a hunch, while the latter will want more serious discussion first. Both, however, will recognize the importance of bringing creativity training to their employees.
On the other hand, the Technocrat will be even harder to get any creative behavior past. He will be interested in control, variances, and sticking to the plans. The Technocrat will frustrate both the Artist and the Craftsman and if a skunk works does develop to attempt to bring in some creative ideas it will be closer to a revolutionary cell than a basement laboratory. The feelings between the Technocrats and the Artist or Craftsman will be such that much of the creative thinking will go unsaid. The survival strategy, with a Technocrat as your top person, is to bite your tongue.

Artists and Craftsman types are friendly to the learning of creative process and the techniques, while the Technocrat type is not. Creativity training, as a deliberate attempt to teach the process, and the tools and techniques needed to allow individuals and groups to bring forward new and relevant ideas, is no longer a side line subject. I feel strongly that it should be elevated to a prominent position in the formal educational institutions as well as getting wide acceptance in the training plans of the corporate world. The first step on a macro level is to recognize the serious lapse in this area of education and training. On a micro level we will need to understand the styles of the leader in the particular organization where the creativity training is desired, and employ an appropriate strategy to introduce creativity training.

Note: John Sedgwick is the president of the Canadian Creativity Network (CCN). This is a trans-Canada network of educators, trainer, and consultants who work with organizations in the development of their capacity to be creative and innovative in the workplace. The CCN can be reached at:www.in-ed-tech.com/ccn or by contacting the author at sedgwick@vaxxine.com.
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Consultant to Individuals, Organizations, Businesses and Educational Institutions

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Saskatoon YWCA Woman of the Year for Contributions to Business and the Professions.

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Gifted learner education, leadership, futures, creativity, children’s literature, MBTI and KAI, change and transition, archetypal psychology, Dabrowski’s theory of positive disintegration, organizational learning, dialogue, large-scale change processes, mental models and the new sciences, social justice.

Publications
Instructional materials for gifted learners, K–8, including novel studies, language arts units and interdisciplinary units.

Snowy Days, Moonshine and Magic Pebbles, a kit of picture books with supporting reference and instructional materials, co-authored with Shirley East.

Imaging the Future, (Editor) a resource for teaching futures, K–12, published by the Future Corporation, Government of Saskatchewan.
The Saskatchewan Context

Saskatchewan, one of the three “prairie provinces” in Canada, is a land of diversity and contradictions. With a land mass approaching the size of the state of Texas, it is home to a mere one million people. Forty percent of the population reside in two centers, Regina and Saskatoon. Sixty per cent of the students attend schools in urban centers; however, sixty percent of the schools are located in rural communities. The central and southeastern sections of the province contain rich farmlands. The southwest is comprised of coulees and rolling grasslands, even sand dunes, made home by ranchers, farmers, and those involved in the oil industry. The “north” (which comprises half of the land mass of the province) is covered with bush and forest, with an abundance of freshwater lakes, streams, and rivers. This large land area is home to three percent of the province’s population, 87% of whom are Aboriginal, descendants of the first peoples of the country. Mining, forestry, fishing, and trapping are the bases of the economy of the north.

Wanuskewin Heritage Site, on the outskirts of the city of Saskatoon, shows evidence of a civilization 12000 years old, predating the pyramids and Stonehenge by thousands of years. The First Nations, representing many linguistic groups, who inhabited this land long before the arrival of European explorers and settlers, were resourceful and vibrant peoples. They are presently working hard to preserve their languages and to maintain and renew their cultures. There have been significant efforts, notably by some First Nations, to explore giftedness and gifted learner education from a First Nations perspective. The creativity of our First Nations and Metis citizens is very much in evidence in the visual arts, film and drama, and music.

The European immigrants who settled the land in the last decades of the last century and the beginning decades of this century needed to be resourceful and innovative in order to survive and prosper. Out of the struggles to live in the harsh climate was born a tradition of co-operation and collaboration and the values and beliefs which made Saskatchewan the birthplace of universal healthcare. The more recent immigration of people from other continents has created a strong multi-cultural context for education in the province and has challenged us to define and examine intelligence, creativity, and giftedness in multi-cultural terms. It has challenged us to rethink identification tools and methods, where English, the language of many assessment instruments, is often a second or third language for a number of our students.

At the turn of the last century, 98% of the population of Saskatchewan was involved in agriculture. Those numbers have changed dramatically, as farms have grown in size, rural population has declined, rail lines have been abandoned, and small towns and villages have ceased to exist. Sparsity of population and extremes of climate continue to provide both challenges and opportunities for the citizens of the province. If “necessity is the mother of invention,” there has been a wealth of necessity to fuel invention and innovation in the province.

An Overview of Gifted Learner Education in Saskatchewan

Educators in Saskatchewan have a fifty-year history of providing for gifted learners. Saskatoon Public Schools have continuously operated a program of congregated classes
for gifted learners from Grades 5 through 8 since 1938. Following the screening of all Grade 4 students, a selection committee creates two classes, of 30 students each, at two sites in the city. Those students who accept the offer of placement complete their elementary years in a congregated setting. A waiting list is maintained; should openings occur, placement can be offered to newcomers to the city or to students who were not initially placed.

During the late 1970’s and the 1980’s, school divisions across the province established provisions and programs for gifted learners. The Department of Education released “The Education of Gifted Students: A Policy Statement” in 1981. The department hired a consultant for gifted learner education, established bursaries for teachers, and prepared a list of resources for gifted learners. It established an Educational Development Fund to provide resources for the development of gifted education programs and projects, technology infrastructure and projects, and learning resource centers. The department established a Reference Committee to provide advice regarding gifted learner education to the Minister of Education. It also created an Access Team within the Special Education Branch. A cadre of field-based professionals is available to offer teacher-to-teacher workshops or mentoring in special education. Information about the Access Team and its operation is available on the Department of Education website (http://www.sasked.gov.sk.ca).

The program in Saskatoon Public Schools expanded during the 1970’s and 1980’s beyond the congregated classes to provide enrichment to able students, Kindergarten through Grade 8, in all the elementary schools in the system, through the services of itinerant teachers and catalyst teachers. Advanced Programs for gifted learners were developed in two high schools, where students could avail themselves of a number of programming options, including: advanced placement, curriculum compacting and acceleration, interdisciplinary studies, independent studies, and advanced classes.

Saskatoon Catholic Schools launched an Extended Learnings Opportunities (ELO) program in 1980, beginning with one ELO teacher working in four schools with students in Grades 4 to 6. In 1981, a second ELO teacher was hired, and the program expanded to include students in Grades 7 and 8. As all schools became involved, additional teachers were hired. The ELO program operated as a pull-out program until 1985, when a catalyst teacher model was adopted. The catalyst teachers work with teacher librarians and classroom teachers and their students in their home schools, planning with home room teachers, modeling teaching strategies, engaging in team teaching, and finding mentors for students.

The ELO pull-out provision continues to be used with students in Grades 7 and 8 for mini-courses, enrichment modules, and mentorships. The gifted program has extended to all high schools in the Catholic system. By combining curriculum compacting with summer work, students may complete their high school program in less than the usual four years. They have opportunities for advanced placement, independent study, or advanced classes in a number of disciplines.

School systems in Regina have utilized a number of approaches and models to meet the need of gifted learners, including working with itinerant teachers, catalyst teachers, and teacher librarians to develop differentiated curriculum approaches, mini-courses, and enrichment programs. Programming for high school students includes opportunities for enrollment in the International Baccalaureate Program.
Smaller centers and rural school divisions have made provisions for gifted learners in a number of ways. While there were available resources, many divisions maintained consultants and catalyst teachers and offered pull-out programs with itinerant teachers. As well, teacher librarians, learning resource consultants, special education consultants, and resource room teachers provided services and programming. As funding has declined over the past decade, we have seen the loss of some thousand teaching positions in the province, with no appreciable decline in student population. In too many school divisions, extra staff hired to meet the needs of gifted learners became a luxury. Teacher librarians have seen their time reduced or eliminated. Central office personnel, including consultants and program coordinators, have been dramatically reduced in numbers. Programming for gifted learners has, for the most part, reverted to the classroom teacher, working within the policy framework and the curriculum of the province of Saskatchewan.

Core Curriculum, Creativity, and Gifted Education

In Canada, education is a provincial responsibility. In the early to mid-eighties, Saskatchewan embarked upon a major curriculum review and reform process which involved the parents and taxpayers of the province, all of the partners in education, and the two university faculties in Regina and Saskatoon. A vision for the future of education in the province was developed through a lengthy consultation process. The framework for a new Core Curriculum, which grew from that vision, has guided curriculum development and renewal for the past fifteen years.

Core Curriculum lays out the following: Required Areas of Study, Optional Areas of Study, the Common Essential Learnings, the Adaptive Dimension, Resource-Based Learning, Gender Equity, and Indian and Metis Perspectives and Content. Instructional strategies and processes which had been the domain of gifted learner education, too often “added on” to a student’s school program, became integrated into the components of Core Curriculum. The Common Essential Learnings, the Adaptive Dimension, and Resource-Based Learning are particularly relevant to the teachers of gifted students.

The Common Essential Learnings (CELS) are intended to be integrated across the curriculum, in every lesson, in every unit of study in every discipline, for every Kindergarten to Grade 12 student in the province. The Common Essential Learnings include the following literacies:

- Communication
- Numeracy
- Critical and Creative Thinking
- Personal and Social Values and Skills
- Technological Literacy
- Independent Learning

As you can see, it has been mandated in this province to teach critical and creative thinking, technological literacy, and independent learning, and to incorporate teachings related to personal and social values and skills. These have been given a place of value equal to communication and numeracy processes and skills in a child-centered, constructivist curriculum.
Foundation documents were developed for each of the Common Essential Learnings and for the other components of the curriculum. A program of professional development was created and delivered by teams of educators at the local level. Teachers are expected to incorporate the Common Essential Learnings in their planning and instruction. They are expected to utilize a variety of instructional resources, instructional strategies, and assessment tools.

An array of opportunities for the development of creativity and independent learning are provided through arts education, the practical and applied arts, and the learning technologies. Students can pursue options related to career interests and to the expression of creative abilities. Projects are undertaken with the support of the Learning Technologies Unit and other units of the Department of Education. A list of completed and current projects and personnel is maintained on the Department of Education website. (http://www.sasked.gov.sk.ca).

The Adaptive Dimension provides for the adaptation of units of instruction or entire courses of study. Teachers are expected to utilize the Adaptive Dimension of the curriculum to modify curriculum content, processes, products, and learning environments to meet the needs of all students, including the gifted. There are policy provisions for the development of Locally Developed Courses and Advanced Courses of study, to meet the needs of particular students or communities. Students receive appropriate credit for these courses; they can also access a Special Project Credit for self-designed course of study at any of the Grade 10–12 levels. Students can use a Course Challenge provision to receive credit without taking the course.

Curriculum development and implementation continues, in a number of stages. The Department of Education maintains a provincial Curriculum and Instruction Advisory Committee, with representation from the partners in education. Writing reference committees have overseen the development of foundation documents and the drafts of curriculum. Classroom teachers are very involved in every stage of the curriculum development process: writing, piloting, revising, implementing, and selecting resources. Curriculum documents are available in print form and on line at the Department of Education website.

To support the development and implementation of Core Curriculum, in 1986 the Department of Education established the Saskatchewan Professional Development Unit (SPDU), housed at the Saskatchewan Teachers’ Federation, the Saskatchewan Instructional Research Unit (SIDRU), housed at the University of Regina. The Units have worked with the Department of Education and the Saskatchewan Teachers’ Federation to develop instructional materials and workshops for teachers. These have included creativity and creative problem solving, simulations, questioning, co-operative learning, independent learning, and diversity in the classroom.

The Saskatchewan Teachers’ Federation maintains the Stewart Resource Centre, which circulates reference and instructional materials to borrowers throughout the province. It maintains a collection of materials related to creativity, creative problem solving, and gifted learner education. It also maintains a collection of online teaching materials and units of instruction which have been developed by teachers over the past decade to support the implementation of the provincial curriculum. These can be found on the STF website. (http://www.stf.sk.ca).
Creativity and Creative Problem Solving

Creativity and gifted education have long been linked in Saskatchewan. In the late 1970’s, teachers of the congregated classes for the gifted involved their students in the Future Problem Solving Program organized by Dr. Paul Torrance. The immediate successes experienced by the students fueled a need for further teacher in-service and for more opportunities for students, closer to home.

A group of teachers of the gifted organized a *regional Creative Problem Solving Institute, held in Saskatoon in August, 1983*. Sid Parnes, Bill Shephard, Dr. Morris Stein, and Dr. Donald Treffinger were among the resource people provided by the Creative Education Foundation. At that institute, Sid Parnes facilitated a problem solving session for the leadership team of the *Saskatchewan Council for the Education of Gifted Learners* (SCEGL). The team created a vision of a “center of excellence” in gifted education which guided efforts for a decade. Armed with the confidence growing out of the summer institute and the visioning session with Sid Parnes, SCEGL provided professional development for teachers throughout the province in gifted education, independent learning, creativity, and creative problem solving. Workshops were organized to bring world leaders to Saskatchewan to share their ideas and methods with local educators: Dr. Dorothy Sisk, Dr. Norah Maier, Dr. Donald Treffinger, Dr. Robert Sternberg, Dr. Linda Silverman, and Dr. Barbara Clark were but a few.

Teachers in Saskatoon organized a dozen future problem solving bowls for gifted students, moving from a competitive to a co-operative structure. In 1989 and 1990, with funding from a government agency, a team of teachers of the gifted planned a *Future Problem Solving Bowl* for the province. In May, 1990, 120 teachers and 500 students (Grades 5–12) from across the province gathered on the university campus in Saskatoon to use creative problem solving to grapple with challenges and opportunities relating to space colonization. Canadian and American scientists who acted as resource persons for the event included Dr. Marc Garneau, Canadian astronaut, and Dr. Bill Brooks, an astronaut candidate and a scientist with the University of Saskatchewan. Students and teachers from the Marc Garneau Institute in Toronto also participated in the Bowl. The event generated the knowledge, interest and confidence to establish a permanent *Space Science Centre* in Saskatoon, in co-operation with the *Canadian Space Agency*. The Centre provides opportunities for students and their teachers to engage in problem solving, simulations and experimentation related to space studies throughout the year.

The experiences and skills educators have gained with creative problem solving have put them in demand to facilitate problem solving and action planning for a variety of audiences in the province. Teams have facilitated problem solving for government agencies, school systems, educational organizations, church groups, volunteer and community agencies, businesses, health organizations, law firms, and provincial and national media groups. A team of educators used creative problem solving with *Saskatoon Police Services* and residents of the inner city to establish plans for an experimental, *community-based police station*.

Since 1995, the Saskatchewan Professional Development Unit and the Saskatchewan Teachers’ Federation have sponsored *Building a Community of Leadership*, a week long summer institute fostering creativity and teaching creative problem solving and its applications. Participants have come from education, healthcare, social services, parent
groups, volunteer organizations, and the police services. In 1997, a delegation of educators from India participated in the summer institute.

Post-Secondary Education in Saskatchewan

Post-secondary and adult education is provided by several institutions in the province:

- University of Saskatchewan (Saskatoon)
- University of Regina
- Saskatchewan Institute of Applied Arts and Sciences (four campuses: Regina, Saskatoon, Prince Albert, Moose Jaw)
- Saskatchewan Indian Federated College (education arm of the Federation of Saskatchewan Indian Nations)
- Gabriel Dumont Institute (education arm of the Metis Nation of Saskatchewan)
- Community Colleges (a network of sites across the province)

Teacher Education

Both universities in the province offer undergraduate and graduate teacher education programs and coursework in gifted learner education. Because of a variety of factors, including history, size, philosophy, and funding, programs in the two universities have developed in different directions.

Noteworthy are several unique programs. In keeping with the integrated arts education curriculum of the province, the Faculty of Education at the University of Regina has developed a unique program in teacher education which integrates the visual arts and performing arts. The University of Saskatchewan offers the Indian Teacher Education Program (ITEP) in Saskatoon. The Northern Teacher Education Program (NORTEP) is offered in La Ronge, in Northern Saskatchewan, in affiliation with the two universities, the Northern Lights School Division, and northern tribal councils.

The Saskatchewan Urban Native Teacher Education Program (SUNTEP), located in three cities, is operated by Gabriel Dumont Institute, in partnership with the two universities. The SUNTEP program incorporates a philosophical framework and instructional strategies which are congruent with Metis culture and perspectives. It is the goal of the program not only to prepare teachers, but also to preserve the languages and the unique culture of the Metis peoples, the descendants of First Nations peoples and European traders and settlers. It is consistent with an Aboriginal worldview to take a holistic view of giftedness and to appreciate and nurture multiple intelligences. The SUNTEP program develops processes and environments which nurture creativity and giftedness in Metis teachers and children.

Adult Education

Adult Basic Education Programs and Skills and Technologies Programs offered by agencies of Gabriel Dumont Institute provide educational opportunities for capable Metis adults who have not achieved or realized their potential through traditional, mainstream education programs and structures.
It is also noteworthy that among its many accomplishments, the Saskatchewan Indian Federated College can take pride in its well-recognized Bachelor of Fine Arts program for First Nations students.

**Commerce, Management, and Executive Programs**

*The College of Commerce* at the University of Saskatchewan provides both undergraduate and graduate programs in commerce, including accounting, computer science, business management, labor relations, and marketing. As well, through the office of the *Manager of Executive Programs*, the College offers a variety of management and executive development programs, including the *Effective Executive Program*, an annual two-week residential retreat. The College has also had opportunities to provide business programs in China and Central Asia. For more than a decade, creativity and innovation have been topics included in various management and executive programs.

This year, the College of Commerce is piloting a course on creativity and decision making for third year Commerce students. Two faculty members with different backgrounds have taken an integrated approach to creativity, creative problem solving, and ethical decision-making. Using case studies, role play, and relevant problems, the faculty members are inviting students to make applications of creativity and decision making to the world of commerce. While this is presently being offered as an elective course, there is potential to expand the offerings and make the study and application of creative thinking a requirement in the program.

**Research, Innovation and Economic Development**

The *University of Saskatchewan* is home to *Innovation Place*, a beehive of creativity, combining research, innovation, and economic development. Research and development partnerships with the University of Saskatchewan have resulted in the spin-off of some 60 high tech companies.

**Resource Directory**

Because this article cannot begin to do justice to the many initiatives in this province which support creativity and gifted education, I have included a short directory of individuals who are willing and able to provide more detail regarding the topics or projects mentioned in the article.

**Educators, Kindergarten to Grade 12**

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Interests
Individual Dynamics in the Learning Potentials of Gifted Individuals
Dynamic Assessments of Learning Potentials.

Publications


Learning, Development and Dynamic Assessment of Extraordinary Students

Preparing this text gave me an opportunity to notice the relatively large number of Canadian educational psychologists in our small research community who are investing their energies in efforts to understand the development of extraordinary individuals. These include: Françoys Gagné (Université du Québec à Montréal), Dan Keating (Ontario Institute for Studies in Education), Dona Matthews (Ontario Institute for Studies in Education), Marion Porath (University of British Columbia), Bruce Shore (McGill University), and Carolyn Yewchuk (University of Alberta).

Each has addressed this topic from a different perspective. Admittedly, few of us attend to the place of creativity in this process. Most of these researchers have focused on the cognitive and intellectual aspects of giftedness with eye toward classroom implications. I wish I could claim that the findings of this work have influenced classroom practices in powerful ways, but I cannot. As is often the case, there is a wide gap between theory or research, and practice.

My efforts to address this gap focus on the mysteries surrounding individual and ability-related differences in learning potential and their role in development. My curiosity has been heavily influenced by the work of Lev Vygotsky as he seemed to wonder about the same things. I've taken on a perspective of development and a means of assessing learning potential by “standing on his shoulders.” He suggested a “dynamic” assessment methodology which complements the retrospective view of development provided by static, standardized tests of intelligence. Static assessments provide a sense of development already completed by asking children to work without assistance. Clearly, research on giftedness has relied heavily on standardized tests to define itself.

In contrast, the purpose of Vygotsky’s (1978) dynamic assessment methodology is to assess a child's potential to benefit from support when undertaking tasks she or he is not able to complete alone, but is ready to learn to complete independently. In this way, Vygotsky took a prospective view on development. In addition to asking what a child has already learned (retrospective), he wondered what the child was ready to learn to do with help (prospective). The “distance” between the most difficult task completed alone and the most difficult task the child can learn to complete alone is the “zone of proximal development.”

Before reading Vygotsky’s work I had always been frustrated by the constraints of static testing procedures, particularly the limitations on the support I was allowed to offer, because I knew of no alternative methods of assessing learning potential. The ‘good teacher’ in me was gagged. My personal outrage was stifled until I discovered there were techniques which required the tester to assist the child and this assistance was expected to be unscripted, informal and responsive to the child’s needs. The nature and extent of the assistance and the child's response became the data. This information can play an essential role in educational planning as it is the process of coming to know that is monitored. As an educator and researcher, the zone of proximal development had an instant appeal for me and this is now where my research is situated.
My own work as well as that of others using this theoretical and methodological frame has shifted major pieces of my thinking about the relationships between teaching and learning; teachers and learners; and performance and potential. Rather than seeing teaching and learning as complementary but separate activities (teaching being what we do to children and learning being their response to our efforts), I now see them as indistinguishable. In a developmentally beneficial activity, both individuals teach and learn. Assessing the learning process means monitoring both the teacher and the learner.

What can a teacher learn about and from a learner? What can a learner learn about and from a teacher? The child's skill and the relationship are constantly changing as are the teacher's understanding of the student. Efforts to assess learning potential must attend to the process as well as to the student's performance at the conclusion of the activity. Generalizability of the findings is of less concern to me than the implications of the assessment data which can be used in educational planning by the individuals involved in it. This is substantially and significantly different from the pursuit of norm-referenced, generalizable metrics like IQ scores. Much of the research literature from within and beyond Canada has provided relatively superficial answers when comparing the ways these individuals learn to their agemates. This has been due to a heavy reliance on quantitative, comparative methodologies. The results of quantitative studies that have used static tests to classify participants as gifted or not use words like “more” and “faster” to report group differences in capacity and power. For example,

- They have a greater capacity for knowledge and they know more.
- They perceive, recall, store and process information more quickly.

Other studies have reported group differences in the qualities of what and how the children have learned (Shore & Kanevsky, 1993). These include findings like:

- Their knowledge is richer, more sophisticated.
- Their knowledge is organized differently for more efficient recall.
- They switch strategies more often and more easily.
- They make better plans to guide their learning.
- They manage their learning more effectively.

Although these group differences may have achieved statistical significance, the dangers of interpreting them as significant in classrooms are enormous. Stated simply, they contribute to the development of a stereotype and a sense that there are “average gifted students” out there.

Rather than searching for the “universal” characteristics of gifted children, I wonder how we might optimize development by optimizing the relationship between students, their peers and teachers. What are the key features of the people, interactions and activities? Which are true for all learners? for gifted learners? for a specific gifted child?

Dynamic assessments have the potential to address these questions directly. What is the role of learning in the development of extraordinary abilities? The genesis of outstanding potential is more than an inevitable, biologically-driven unfolding of stages and performances. There is richness in the diversity of perspectives the Canadian research community has taken on development. Some view it quantitatively, some qualitatively; some approach it clinically, some empirically; some with static and some with dynamic methods. Regardless which view we take, we share a curiosity with our colleagues outside Canada about the experiences that nurture outstanding potential.
References


China

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Publications
Many in various Chinese publications, also see text.
Since more than 20 years in our China the more or less works and enterprises especially at the large & medium sized organs, in order to strength to their vigor and the abilities of the competitions to make their own faced to the marketing and adapted on the developing of the commodity economy thus raising their economic efficiency. They’d been paying the most attention to superior interior managerial work with the development of the new products. Meanwhile, they’ve also created a part of methods for renewal on the management, so giving our enterprises to be creating a few new contents. Currently, author (myself) had been investigating and studying at the Shanghai Bao Steel, Dalian Petrochemical Corp., Shanghai 2nd Textile Machinery Works etc. Through the above investigation personally then thinking over from the several points of views at the renewed models of the enterprises management. Now to be elaborating as the following:

I. Since reforming and opening up in our China it’s been creating a lot of methods & models of enterprises management and impelled managerial level gradually raising, constantly renewal on the models in the field of the enterprise management. Just as briefing introduction as the following:

1) The Form of the Staffs & Workers’ Self-ruling

According to Anshan Iron & Steel Corp.’s regulation to form as a TWO, ONE, THREE measures, i.e., two means staffs & workers’ll be participating managerial work on the Top Departments and Top Leaders’ll be participating the laboring work on workshops at the basic level; One means to be reforming in respect of the technical & managerial from the beginning; Three means production workers, managerial members and technical members co-combined a organ to be solving problems main purpose be around the link in the production chain concrete as the debts of the Production, Business, Technique, Efficiency, Service etc. respectively to demand finding issues and pointing out cruxes thus it’ll be raising production efficiency, decreasing consume, overcoming technical qualitative criteria timely. Also it’ll be enforcement on the precise organs to developing training, to definite tasks, to make plan then to set verified items and implemented scheme. Presently, the above mentioned form’s been applying at the Shanghai Bao Steel.

2) Used “Pyramid Form” Method for Management

This pyramid Form Method was adopted by the Chemical & Medicineal Works of the North China Oil Field. Concrete enforcement with the measures as the follows: One Purpose—it means making people competing for the first level for more contributions at their own posts on the cause of the works. Two Civilized in Manner—it means making all the people help each other using ideological incentive form and material reward form at processing of the production. Three Basic Elements—it means combined with the science & technology, managerial method, people. Four Keeping Methods—it means surely keeping with the full element, full system, full procedure and full time. Five All Round Managerial Arrangements—it means making people pay the closed attention to the overall management, full members objective management, full members
safety first at the production, total qualitative control, overall economic accounting. Six Standardizations—it means making people according to the following six aspects to be working in the production such as, managerial ideological ahead of the scheduling, organized structure rationalization, sales planning on strategic decision making collectively, managerial information systematization, managerial methodic modernization, managerial processing democratization. Eight Great Systems—it means making people according to the following systems to be moving at the production as, ideological system, methodical system, organizing system, leading system, objective system, moving system, controlling system, guaranteed system.

3) The Form of the Objective Guaranteed Management

The Objective, it consists of strategic economics, technology and management. Moving processed, it consists of the information, marketing, its management with the processing form as four wheels making control from information and marketing at first then revolving control with feedback to keep in good state, then to set up market developing conscious, to select object market, to analyze goods required, to found sales net, to strengthen managerial departments, to complete responsibility for the contracting work to develop market with feedback and readjust the form. This form was adopted by the Xian Instrument Works.

4) The Form of the Objective System Control

Used six forms of modern managerial method such as, system engineering (SE), value engineering (VE), industry engineering (IE), management business object (MBO), management standardization system (MSS), management information system (MIS). Besides, objective system controlling processed management method. And processed system consists of the management business object system (MBOS), flexible analysis system (FAS), management control system (MCS), data processed system (DPS). Moreover controlling point system consists of the managerial standard, working standard, functional standard, modern managerial standard with reporting forms, diagram, account book for unit and others.

5) The Form of Single Unit Control With Multi-Functional Management

This form’s been created and applied by the Shenyang Public Bus General Company. The main aim is setting a pattern as, people—bus—people, to keep this form on cycling at a good state. Controlling standards: In basis of the working standard, technical standard, then divided into individual standard, common standard, grouped standard. An on the level to be divided into general standard, excellent standard, obvious standard, at last every body had to have their own standard. The training standards, it’s putting to use teaching, learning, drilling and working unified come up to the defined standards then through exam to be checking on post by the certificate of the inspection. Meanwhile, considering superior revolving functional debts to enforce separated grade, level to be management in motion from one machine to multi-machined, single line to multi-lined, universal to enhanced, and developing from junior to senior than fined controlling point kept feedback system, insisting completed ration with checking standard and methods.
6) The Form of the Marketing Sales Business Combination

At present, it consists of 12 main elements among these, the most important 7 points as the following:

1. To make sure the marketing plot for further superior marketing combination; to use A B C classifying method to be classified concerning products by manufacturer from the markets, then to put the class A market as a strategy for required scramble;
2. To develop adapted products, spreading and developing markets from the formerly only manufacturing 12 channels TV audio modulation then developing to be made wholly channels colored TV audio modulation;
3. To raise qualitative standard, depending on the reputation occupying market, completed quality wholly processing then controlling guarantee system;
4. To take the aim of the marketing requirements, raising marketing occupied ratio;
5. To strengthen sales service for users, to set up a promoted sales bridge, and selected as a batch of the excellent sales with co-service members then to form as a special team;
6. To search all kinds information, analyzing utilization timely, meanwhile, all-round collecting & analyzing information with strategic decision making to be solving problems timely;
7. To treasure fame as quality as life, lastingly insisting superior objective.

7) The Form of Creative Problem Solving

It can sum up for four cases of the 3 steps, 5 steps, 8 steps and 10 steps. Concrete as the following:

1. Finding out the objective of the problems;
2. Elaborating and analyzing the objective moving on each summary’s situation;
3. Finding out the resources of the problems one after another;
4. Imagining requirements to reach the aim;
5. Collecting concerned information and practical materials;
6. Finding out how to solve problems and using what’s methods for reaching the aim;
7. Solving method with defined comment;
8. Setting scheduling plan;
9. Following implemental tracking state;
10. Feedback with analyzing, studying and completing.
II. Under the form of modernized enterprises constantly at the creative renewing management, then emerging in a large numbers of creative renewed consciousness and concept. Thus, it’ll be leading the way toward the science and technology with scientific research on the enterprises management’s measures and methods, meanwhile, systematically superior management of modernization also creating the favorable factors concrete as the following aspects:

1) To be understanding the present modernized enterprises’s one of the most important combined structures, it combined with the science & technology also constantly strengthening vigor at the enterprises just as two big wheels uninterrupted revolving to forward developing economy. The two big wheels uninterrupted revolving to forward developing economy. The 13th Session of the CCCP Committee’s been pointing out “Modern Science and Modernized Management’s a decisive factor of raising economic efficiency, it makes our economy toward the new direction of the maturity of the principal part,” “The progressing on the science and technology and raising on the managerial level, it’ll be deciding our modernized building progression also it’s a great matter concerning vigorously developing our nation.” So, all the leaders of the enterprises’d be mastering modernized management as an increasing economic efficiency and vigorously developing our nation’s principal part and paying the closed attention to the every key link with the equally important as the modern science and technology;

2) To be setting the modernized enterprises management work at the promoted business and production on the basis of the cycling at a good state. Through uninterrupted reforming and created renewing on the enterprises management it’ll be further completing the enterprises’ business and production to keep on cycling at a better state. So, calling all the leaders of the enterprises must be taking charge of the managerial work as an effective measure to be promoted the business and production on the cycling at a good state also to become as all elements get in touch with intermediary or contact point conscientiously;

3) For the sake of obtaining creative value, it must complete the managerial work at first. Currently, strategic view point’s put forward the International Circle universally. The final aim of the enterprises’ business and production’ll be reflecting on the getting creative value, in case we need to reach this aim, it must arouse the people’s imaginative power, then to draw on collective wisdom and absorb all useful ideas at the business and production. But, the Creative Value’ll still depend on the function of the natural power, thus to form as the enterprises own toward the best way from extension to intension then to dig objective reality—potentialities with its potential value, finally it’ll constantly promote the wealth & profit to increase their value—to create new value;

4) To define the basis of the human of the managerial ideology, then the human being as a center for starting and setting points of the modernized enterprises’ management. For the human being at the productive forces be one of the most active elements, all the business and production in the enterprises must be realized by human. A vigor of enterprise, its main resource’ll be from the subjective activities and the subjective creativities of the workers & staff members at the enterprise. Thus it can be seen managerial ideology to be sure on the basis of the human being inn all prob-
ability, namely, the functions of the enterprises management in a great extent to be depending on the basis of the human resources;

5) To guarantee the managerial work as a systematization to be superior consideration, currently, at the modernized enterprises, especially at the large & medium sized would be applying some measures or methods, as the modernized management, but this doesn’t mean we can reach the above mentioned purpose. Modernized enterprises’ management with its characteristics of tendency, the management concrete content as, regardless of basic management, site management, professional management, and regardless of form mode, pattern, means (method). All these to be focusing as a question for full systematized superiority. The full superior enterprises management’s namely enterprises obtained the basis of the whole superiority. And requirements concerned enterprises must realize various elements with facilities and combinations.

The above mentioned five (5) modernized managements at the ideological concept with principle they’d been forming as the enterprises on the basis of the developing tendency.

III. Uninterrupted several months’ investigating and visiting, author has been discovering a lot of renewed experiences with its materials are about creative renewing modernized management of the experienced introduction at the Faculty of Management of the Shanghai Fudan University. As,

1) Exploring creativity’s technical method to be applying in the management, as a result of discovery, invented method creative skills studied and applied, not only on the science & technology obtaining better results and also gradually exploring and practical applying at the modernized management, such as, Bo Shan Cement Works’s been adopting “the Working Method for Standardization”: its quintessence rest with changing into applied for five (5) W skills as measures:

1. What’s doing now?
2. Whatever doing, how’s to do it at first?
3. When will it be done?
4. What’s the line to do it?
5. What’s the extent to do it?

The modernized creative skills popularly applied, its remain to be trained whole cadres making directors, managers with all workers & staff members (including, managerial working members), they’ll not be applying creative skills as soon as they’ve been understanding and mastering the skills.

2) To encourage mastering rather too complicated modernized managerial pattern from emerging in large numbers of the modernized managerial methods, a few of them need to be understanding but it’s a certain degree of difficulty for mastering and applying, also it can’t be accomplished overnight. Thus requesting must be possessed of a tenacious enthusiasm and endeavor to gain professional proficiency. In pursuance of the Faculty of the Management of the Shanghai Fudan University provided with the concerned material illustrating, at present, in the most enterprises’ situation developed as the following:
1. Universally full loading working method  Occupied 7.6% Only
2. Popularly model method  Occupied 5.89% Only
3. Grouped business working method  Occupied 4.82% Only

Owing to above methods of the management having a certain individuality with the degree of the difficulty so it’s popularly applying to need great effort mostly, then all these methods with forms surely to be completing and further improving in the future;

3) Enterprises run by collective ownership, they’re at studying or applying modernized management, it’d have a pressing sense. Pursuant to author (myself) had been studied and practised at the collective economy more than five years, it compared with the ownership by the whole people (state owned) at the level of the modernized management existing more gaps especially it’s shortage of the man power (including professional with technical power) and financial resources. All these will be urgent need raising, improving and expectantly to be solving soon. But the parts of the efficient and adapt for easy popular applying, they’d be giving effort to be studying and applying at an early date. Thus, it’ll be greatly advantageous to be developing the enterprises run by the collective ownership (collective economy). As to objective management, total quality control, overall economic accounting, value engineering, information collected, market predicting, ABC analytics, facilities synthetic control, all these’re widely used on the collective economy. According to investigating at the range of the advanced and modernized managerial methods of the enterprises, adopting created technique skills in respect of the application, currently the enterprises run by the large & medium sized collective ownership’s all equipment with methods created renewing at all round and completed situation far more less than the state owned. A part of the large sized enterprises run by collective ownership, at present, lack of the concrete guiding at the revolving system in motion regularly, thus the enterprises’d further depend on themselves own to take charge of the interior managerial work well for the sake of the adapting planning commodities with economic developing;

4) The enterprises modernized management must be considering from the objective reality, especially faced to the enterprising potential energy as, to reach the aim of the exploiting it must be improving and raising the management at first. Whenever using various modernized managerial methods it’d quite emphasize reverse thinking at the management, this form’s been using at our Second Auto Plant, it’s resulting in containing waste, to realize increasing output on production and saving expense on the management at that Plant, this from some meaning to say namely, i.e. ‘Creative New Value’ so this form of the management called ‘One Flow’ production form also called ‘Managerial Flow’ it promoted concerning members and members of the responsibility to go all out with realization on oneself completed by everyone. Owing to flow action closed on the business with production it’s revolving smoothly and duly to fix a breakdown, remove an obstacle keep in motion normally.

In brief, it’ll be quickly developing to the modernized management while on the forms and methods have been developing towards the multi-thinking, overall areas with the whole superior direction, meanwhile it still possesses to be equal to impressive on the educational pattern with the whole superior patterns. Some plants have been summing up the enterprises managerial functions divided into the eight parts concrete as: Information, Strategic Decision Making, Plan, Organization, Conduction, Coordination, Control, Encouragement. In respect of this on the currently modernized enterprise man-
agement also it’s been developing for the further more faster, some plants have been
developing creative education for management at the whole workers & staff members
all these can be seen indicatively, they’ll be beginning from the one side point con-
stantly spreading and improving enhanced the quality of the enterprises with their vigor
strengthened in future.

How to Catch the Inspiration
of Invention and Creation

People always want to know “How to make use of an incentive form to be obtaining an
Inspiration at the processing of the realization of the invention and creation,” it’s an im-
portant main subject to look over attentively at the people and to be exploring it for a
long term.

“Inspiration” also called Enlightenment our eminent outstanding scientist Qian Xue-
sheng, he’s been considering as Abstract (Logicality) thinking is linear, Imagining
(Sense Perception) thinking is Double thinking, but Inspiration (Enlightenment) think-
ing is Tri-thinking. That namely said the discovered Inspiration it will not be depending
on the abilities of the imagining and abstract thinking while they’re closely relationship
with the imagining and abstract thinking.

It’s the most important factor that people’s creative thinking come from Inspiration
which be highly centralized at the excited state as a consciousness activities, in such
case whenever the human cerebral cortex highly excited centralization it would appear
to cerebrate creative thinking. Surprisingly, the invented creators always occurred Inspi-
ration at the conscious or unconscious state, most of them be at the situation of the con-
stant exchanging their views or experiences. According to Nobel Prize of the Physiol-
ogy & Medical Prize winner Spenley to submit about “A Human being on the Breaking
Cerebrum” studying result of the concrete explaining as, An apparent conscious func-
tion at the left cerebral part and the subconscious at the right cerebral part, but a part of
scholars usually called the theory thinking to be mastering on the left cerebrum and
creative thinking to be mastering on the right Cerebrum. In pursuance of the “World
Science-Tech Translation News” reporting: Since recent several years, U.S. Chicago
University Cerebral Physiologist Lamby and U.S. California University Neurological
Physiologist Mathota, both of then had been acting on experimental through their own
experimentation. After experimenting, they considered, whenever treating a bit too
complicated problems, the cerebral two of the halved sphere all forwarded actively
then constantly maintained exchanging and communicating be affected with each
other. However, the Inspiration discovered it’s indeed existing on the activities of the
thinking of invention and creation, while it’s also experienced on the Inspiration to be at
a state on the repetitious, memorial, self-consciousness and in receiving the knowledge
for a long period within Dreaming, Casual thinking, Occasional observe and learn from
each other at an unripe plan, Sense perception on practice, Memorial attention as well
as Meditation etc. meanwhile all these’re multi-information through opening up, at a
moment enlightenment, there’re discovering a view about an originality. It can be seen
that Inspiration occurred would be appearing conscious to be going on the processing
of the subconscious which has been across multi-directions, multi-levels, multi-
functions with the mode of vertical type and the dialectical thinking combined with
the practical activities of the comprehensive analyzing and polishing repeatedly, thus
only got the result of the first step, because of its at a higher grade with complicated case, it must be processing concerned Theoretical thinking, professional knowledge, Method of the Philosophical theory all these effects to sum up with each other than the result will be gained.

If we want Creation, want to break through a present situation, it must have Inspiration. But it’s a question how to catch the “inspiration,” as we know from the history among discovered all kinds of the different points of the views such as, 1) The Theory of God Favored; 2) The theory of Objective Description; 3) The Theory of Grasping Talent; 4) The Theory of Unknown etc., it’s really called as opinions vary, no unanimous conclusion can be drawn. However, we can act in accordance with the ancient and modern, Chinese and foreign all the practices of the Inventors and Creators, Poets, Literators, Military Experts as well as Social Activists to be exploring and seeking then gaining objective truth.

I. Method for Multi-Thinking with the Ideas Straightening Out

There would be the views in our Chinese people’s mind Zhu Ge-liang was one of the Chinese ancient famous wise and top politicians with military experts. The reason why he would be bound to succeed, expected matters as god in that “He mostly interested in everything to be thinking ten times” adopted from “ZHU GELIANG” works. Mr. Guo Mo-ruo (our Chinese late Famous Writer) had said “Some poets started writing as soon as they got the poetic inspiration and hurriedly sitting at the side of the desk, to brandish their pens for writing and no time for putting correct their paper yet.” Whenever Mr. Lu Xun (our Chinese late Famous Great Writer) studied at writing full of zest, at that time some people called him there would be no use.

Edison had said “Talent Equals One Percent of the Inspiration Plus Ninety-Nine Percent of Perspiration,” thus mentioned practice and laboring at the first place then can be realized also pointed out talent come from diligence, as Inspiration, the more thinking the more mastering. Some people asked Newton: “How did you get great discovery,” he briefly answered: “Always Thinking Them.” Thus illustrated Inspiration come from more thinking. Owing to inspiration to be occurred as a blitz form, so people also adopted forms as, Cerebral Tempest, Intellect Incentive, Associate Inventive, Goading, Supernatural Being Methods etc. To be spreading Creative activities, all these impel people to be thinking mostly arousing inspiration and then occurring plot of the methods on the Invention & Creation.

II. Method for the Following Tracks with the Taking Note

Inspiration usually occurred at a time while it would disappear at a moment, so some people said, it’s hurriedly coming and hurriedly going, supposing bound to catch it. The first should be scheduling the Method for the Following Tracks with the Taking Note, the most inventors and creators had been always using pens with notebooks and mini-recorders to be following tracks. We could understand from Edison, Einstein, Nobel, Darwin as well as the present age Inventive Creators, all of them had been at a common ground characteristics—true accurately scientific observations and the following tracks with the taking note. Our Chinese Tang Dynasty famous poet Li He, whenever he’s been going out to meet harvest occasionally then taking note at once, to bring it returning and establishing file doing as usual as everyday. Our Chinese Song Dynasty Fa-
mous poet Mei Shenyu, he’d always been at eating, sleeping, outing in any cases to bring a pocket bag with his body to be prepared taking note as a result for everytime in purpose of the convenient for putting the collective information into a pocket bag. Our Chinese loyal cadre Jiao Yulu (Former late County Leader—Magistrate of the Lankao County at Henan Province, PRC) he also adopted the above method—to observe the granulated sand blown by the direction of the wind then to gain inspiration and to reform the granulated land. And as the Japanese greatest Electric Corporation—TOSHIBA’s Manager, he’s an enterpriser to be boldness making for whole enterprise of the TOSHIBA just as an outstanding doctor’s skill to bring the dying back to the life, meanwhile, he’d concluded the enterprise’s program of action for 100 Items of the Summaries.

Our Chinese outstanding eminent Meteorological Geographer Zhu Kezhen (Former Principal of the Zhejiang University) he’d never been interruptedly recording every changing at the great natural, while the most scholars, inventors, creators, they all had been used to diligent taking note and diligent thinking so far as to be adopted in card usually accumulated “As a Hill,” also a part of them had been awakened from the nightmare then hurriedly taking note about the inspiration by the notebook on the side table by the bed.

III. Method for Unintentional Enlightening Accidentally

Sometimes, the most scientists, inventors they’re on the discovery and inventive activities owing to previously having no intention and to meet with a special situation while caused Inspiration by them at last get succeeded. The Netherlands Biologist Livinghok, he’d been studied at the grinding optical glass, whenever working later or at space time also he’d used to be grinding the lens. Once he suddenly saw through concave and convex lens to be seeing, then discovered mini small things can be amplified several times, thus caused him to be interesting in this respect, at last he invented the Microscope meanwhile he became the first Discoverer on bacteria in the world and with the founder of the Microbiology. French Astronomer Leehill, when he came to nearby the equator of the Guiana’s Caryen Island of the South America, he’d discovered Astronomical pendulum at the every day and night within 24 hours would slow two and a half minutes. After regulating the pendulum’s length to be eliminated equation of time while he returned to Paris but discovered the time had been fast two and half minute. Thus an unintentional discovery to make him rendering a conclusion: The Earth is not Whole Circular. The other as, James Watt from the steam at the boiled water of the pot then invented Steam Engine. Telegram’s inventor Morse, pursuant to electric current to be accelerating motion’s theory, it’d been result in the applied Electric current for sending information as a creative imagining. Franmen discovered Penicillin also it had been as an Unintentional Enlightening Accidentally as an example. And U.S. scientist Franklin always said “My only recreation is reading books, I’ve never been spending time at the pub, drinking, gambling or any other worse game, while I’ve been being industrious to our cause in accordance with the necessary, not mind taking all the trouble,” it’d been making him from a printing worker risked his life to be opening up the riddle of thunder and electricity, at last he’d become a great master of the Electrician.
IV. Method for Shelving Enlightenment

Sometimes, people just had been thinking about the invention and creation for a part of the problems in the memory, owing to uneasy catching the Inspiration at once in such case it might as well take the issues for time out and preshelving a time then the first changing circumstances then adopted measures as, to look over a part of the concerned reference books or relevant materials, attending recreational and sport activities, constant in a moment, because of something to bring out a trend of the thinking, to form as a pressing the discovery of the Inspiration. It’s too much for the above mentioned such kind of the examples, the typical one be the Arcmeter, he’d discovered the specific gravity of the substance at the bathroom. The most inventors and creators they’d form as a hobby or habit at the creative activities. The cerebral main function should be as thinking activities regularly, its active force concerned with people’s vigor, because of thinking activities be as an expense, so it can’t be using at an unrestricted situation for a long time, otherwise it can be down to an intelligence of no avail. It must be transferring with its time for excitement and with its center. The Method for Shelving Enlightenment had always a made inspiration to be catched at the period of the taking rest later.

The French Lumeiyal brother invented “Moving Camera.” One day at 1894, Louis Lumeiyal, Orchest Lumeiyal’s younger brother felt uncomfortable at his body then to lay down on the bed for rest, but constant thinking at the silent mid-night then he thought out a machinery for motion as presupposition concrete to meet with the action on the processing of the Stop- Motion - Stop - Motion, finally he’d succeeded in 1895, after one year’s effort his enlightenment come from outside in accordance with the co-thinking of the sewing machine.

V. Method for Dreaming on Self-Evident Accidently

As the proverb says, “The more thinking at the day, the more dreaming at the night.” Most scientists and literators seem to be discovering the dream its enlightening from one side of the Inspiration, the modern times our Chinese great writer Mr. Mao Dun said his literary works form of the thinking, most of them come from his dreaming case as having only a drop asleep while not quite as well. The German Chemist Caacula’s Benzene Ring (Benzene Molecule, its structure of the Ring form) come from his study-ing at the time none day with night on the peculiar dreaming. Whenever people dropped asleep later, the inspiration would set up a transition period between wake and sleep, according to the theory of the physiology. Dream be as a people at the daytime to suffer various imagining information and its foundation would be processing as a practical experienced impression. After sleeping “Transition time period” the new regroup to be discovered in the area, thus with the help of the dream, it can be obtaining the Inspiration from the areas of the science-tech, culture & arts, creation & invention etc. while the inspiration of the dreaming case occurred it must as well have the condition, concrete as, imagining original inventory, degree of the thinking nervous. A part of the scientists worked at the laboratory so the dream just as well occurred at that place. As the U. S. Chemist Physicist Dolton, Physicist Roseph, Modern Experimentalist Ding Shao-zhong etc., and the British Professor Hakinson had been consulting 69 mathematicians after consulting it’d occupied 40% solving problems at the dreaming. So this kind of the phenomena “Evident Intelligence from the Dream” it’s called “Method for the West
VI. Method for Conditional Reflecting

Since the Russian (Former: USSR) Physiologist Babulof studying the method of the Conditional Reflecting, it’s opening up a new way for the people studying senior nerve activities. Through conditional incentive to cause the reflecting, probably it’s also an incentive of the habits and characteristics to become a causing factor of the Inspiration. Our ancient China had a famous poet Li Bai, his creative ability after his drinking be second to none at that time, so Du Fu Poet at that time jokingly said “Li Bai’s litre of wine equals a hundred poems.” Our ancient China Northern Song Dynasty Scientist Shen Tian, after his away from his official post, he’d spent three years for drawing the map of our whole country at the Fa Yun Chan Temple. Inventive King Edison be very fond of creation, eventually he’d been still thinking creative matters in that he’d been discharged from once to three times from his posts. Our Chinese ancient famous author Ou Yang-xiu from his writing “Returning Land Record” had said “I’ve been writing usually at the three places (on the horse back, on the pillow, by toilet) yet,” also recorded at “the Zhu Guang-qing’s Works.” The most artists all of them had been talking about their own experienced on the cause of the forming Inspiration, such as,

1) Italy Dramatist Alfena, he’d been thinking of the inspiration come from the Music;
2) Germany Poet Moler, he’d been thinking of the inspiration come from the smell of the mashed apple;
3) French Physicist Pierre Currie had been thinking of the inspiration come from the forest;
4) Also the many scientists and literators, they’d been talking about the incentive creation and to meet with success and even a part of them thought of the Inspiration come from the hubbub or on the Basin;
5) Austrian Great Musician John Strauss had been creating 462 musics, among these, one of the created famous musics—Blue Danube—created from its own music Inspiration also come from all of a sudden at a graceful environment then to meet with the great success on Musical Circle of the global.

VII. Alexdot’s Three Points of the Original View

Ancient Greek Philosopher Alexdot with his colleagues had been studying and practicing for several years then submitted “Alexdot’s Three Points of the Original View” i.e. Induction, Deduction, Conceptive. Concrete described as the following:

1) Inductive Method—The main aspect must be mastering a great deal of materials then by inference under given conditions, situations, occasions to exert an Inspiration and combined with the application of the creative skills then to realize the invention and creation, this method had been widely adopted and used by the Japanese people. For example, when Japanese people be studying the earthquake, especially studying the relations between the underground water with the earthquake, and the underground mini-shock with the earthquake as well as the earth’s crust with the earthquake then inductive analysis got required Inspiration. So Japanese
people’ll not be blind to be engaged in any scientific researches unless they’ve obtained the inductive materials or gained experiences through practice;

2) Deductive Method—Firstly establishing a “Supposing,” then to be investigating situational really and then remastered the materials from the investigated processing, meanwhile for further seeking concerned materials and then analyzing the argument thus occurring Inspiration. The most European and American people’ll be widely adopting this method. For example, Scientist Wheagner, he’d considered the mainland of South America and the mainland of Africa since the jointing part of the rock and the plants both were all the same as one form, so he’d been submitting the argument of the mainland drifting, at last this theory be accepted universally through forming the theory of the plate structure;

3) Conceptive Method—It’s different from the above two methods, this method be at the preparation later to meet with the occasion and time riped then spreading from the dialectics. Hagle’s grouped members will be collecting the most succeeded parts. Creativity’s imagining and suggesting all these kinds of arousing will be at the methods to be incentive on the Inspiration basically.

The above mentioned methods except for “Suggested Method,” it’s a form through dropping a hint to form as a method for dispatching Inspiration at a enlightening potential conscious. Besides, the method for “Qi Gong superficial clarification,” it’s through “Superficial Clarifying” to become aware of eliminating all the distracting thought, the purpose of clarifying spirit and collecting all the energies of a lifetime to be at a highly creative thinking state then awaiting for an explosive Inspiration coming.
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Educational Development Magister, Designer Architect
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Publications
Manizales, Universidad Nacional de Colombia, p. 68.

1998 Gonzalez, C.A. Indicatories creativos. Manizales, Universidad Nacional de Co-
lombia, p. 108

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Nacional de Colombia, Editorial Manigraf, p. 130
Creativity, Educative Challenge in Colombia

Recently the Science, Education and Development Mission, to which were convened the national academics figures more distinctive of the country, proposed the challenge of Creativity in the Education, as groundwork for the integral development of Colombia at the edge of opportunity. Creativity in this sense was stated as recourse, strategy and alternative of greater value for the educative and national development, and of course as a study and investigation subject.

In Colombia interest in the development of Creativity begins in the 70’s decade, with remote studies about education and development, proposed by different educational instances, among them the Pedagogica University and Nacional de Colombia University. It is materialized in the 80’s decade by some private institutions like the Institute “Alberto Merani” for the fomentation of Intelligence, jurisdiction in Colombia’s Capital and in the efforts done in this aspect at a national level by the “Servicio Nacional de Aprendizaje, SENA” (National Learning Service), attracted by the declarations of the Ministry of Intelligence of Venezuela.

In this decade is recognized the Creative movement in the universitarian world, disseminated by the actions of the World Wide Foundation for Creativity in Buffalo, orientated to the solution of problems and the use of creative techniques like A.F. Osborn’s Brainstorming and W. Gordon’s Sinectica. It could considerate in Colombia, the Professor A. Galeano as one of the promoters in this field; the Javeriana University and the Nacional University, impellers of the study and diffusion of knowledge in Creativity as the first center, that for his leadership in the incursion to the study of creativity and formation in continuos education through the Psychology Faculty, with seminars and often encounters in the area, surpassing the Psc. Graciela Aldana de Conde as impeller of the Creative Movement in Colombia. The U. Nacional, by its side, from its principal jurisdiction with the creation of a multidisciplinary academic group in the area and in Manizales, by means of the effort of a group of Professors in Creativity, that achieved the official incorporation in the universitarian curriculum, the Expression and Creativity professorship, initiated by the professors D. Arias, C. Gonzalez, C. Montoya and C. Pacheco, from there it is spread a laborious universitarian business in a regional and national level with many new teachers and Investigators.

In the 80’s decade, The Escuela de Administracion Publica ESAP (Public Administration School), develops a thematic nucleus oriented to the Creativity in the Problematic and Solution, led by F. Corvacho; Dr. J. Pineda from the EAFIT University, proposes the articulation of Creativity’s study with the organization and the planing, diffusion that is done in diverse. Education and Administration magazines. Professor J. Parra, from the U. Javeriana, develops Creativity in basic education from the humanistic perspective, and to the light of the inventor’s creation process. Dr. Monica Lenz, from the city of Medellin, constitutes the national ambassador in the creative speech, and incorporates it together with the Dr. Aldana to the Corporate Ambient. In this decade the Asociacion Colombiana de Universidades ASCUN (Colombian Association of Universities), integrating the different advances of the Colombian universities, develops The Permanent Seminar in Creativity, which begins in 1983 and ends in 1984, with the par-
The 90’s decade is marked by the investigative action, academic and the publications; the Nacional University in Santa Fe de Bogota, grants the titular position to professor G. Garcia in Creativity, professor C. Vasco realizes theoretical constructions from the cognitive perspective; G. Rey develops the subject from the vision of Human Development; the Nacional University elaborates the art’s state in Creativity with the investigation “Alternativas de Desarrollo del Pensamiento Creador” (Alternatives of Development of the Creator Thought); I publish the book “Indicadores Creativos” (Creative Indicators); A. Schnarch applies the creative development in the productive field. G. aldana de Conde presents the creative development from the theory of the archetypes applied to the human and corporate development; C. Jimenez enters in the Creativity and The Games field; S. Florian projects it to strategies in infantile education.

In the university program, for a few years now, the Nacional University’s jurisdiction in Manizales, states three high intensity professorships for pre-grade formation in Engineering, Architecture and Business Administration and two specialized professorships in Creative Development of Products and Creative Conduct, in which I participate as a founder and promoter.

The Medellin University proposes the opening of the Faculty of New Architecture in Creativity. The Politecnico Institute Jaime Isaza from Medellin, develops a professional program in Computing and System’s Engineering with a basis in Creativity’s Studies. Manizales University and Catolica University in the same city, incorporate professorships for the first semester and grade seminars. Javeriana University, develops permanent courses of continuous education in Creativity for Professionals and realizes different events of national and international congregation in the area. Likewise other universities in the country do the same. The Narino University opens the Mastery in Pedagogic of the Creativity; the Antioquia University develops the specialization in Reflexive and Creative Thought, in agreement with PRYCREA and the Havana Education’s Ministry. In the Investigative field, besides by academic production of the universities named above, it’s distinguished by the production of the Centro Internacional de Educacion y Desarrollo Humano CINDE, (Education and Human development International Center), with home in Medellin, which develops in collaboration with National and Departmental Universities: UPN, UNISURCO, UMZ, Masteries in Education and Human Development, that contemplates Creativity as a fundamental dimension of investigation and formation. There it amplifies the investigative panorama with a twentieth of investigations in the cognitive field, affective, communicative, educative, artistic, etc., oriented to creativity’s development in actors and scenarios of the education. Recently, the Nacional de Colombia University, opens the strategic national program of fomentation to the Creative Action, led from Manizales by the Creative Action subprogram PROCREA. We will try to offer ample national recourse in creativity through the projects: PORVENIR. Induction, qualification and educational generation’s relief; IJO. Incentive to young creators Talents; VICREA. Constitution of the Virtual Professorship in Creativity; and CREACOL. Integration of Creativity’s Actors and scenarios.

The national and international events are developed in first instance, under the ASCUN’s auspice, with the National Seminar of Creativity in 1984, at the international level. Javeriana University, promotes the First International Congress of Creativity.
afterwards it makes apparition in the educative panorama, successive events, among
them, the Colombian participation in the first Creativity’s World Wide Congress 1993
in the UNED of Madrid, the National Congress of Creativity 1994 in Cali, promoted by
the Architects Colombian Society. The International Seminar of Creativity, University
and Enterprise’s 1997 in Bogota promoted by the Piloto de Colombia University, the
International Seminar in Techniques and Abilities of Intelligence and Creativity, pro-
moted by the Javeriana University in 1998, International Conference in Creativity and
the First National Encounter of Creativity’s Investigators in the Nacional University in

At National and International Level we participate in the International Network of Total
applied Creativity RICA in Santiago of Compostela, the International Network of Creat-
ivity in Barcelona, the network COLLAB in Florencia, the Latin-American Network of
Creativity in Venezuela, the National Network of Actives Pedagogy’s in Manizales and
the National Network of Complex Thought REDCOM in SantaFe de Bogota.

At the present time the author has undertaken a task of interinstitutional and interdisci-
plinary integration with the local universities: U. Nacional, U. of Caldas, U. of Maniza-
les, U. Autonoma, U. Catolica and universities from the international context that wish
to incorporate, to board the investigation in: Creativity, Ambient and the Classroom, as
pedagogic and didactic alternatives for the construction of a new academic scenario
with a base in an alternative pedagogic model of integral classroom, that tries to induce
the practice of teaching-learning in the heart of the university and the inclusion of the
creativity as a permanent purpose.

The Creativity in the educative processes is matter of great importance. It constitutes in
the faculty of the possible, the edifying and the resolution, and makes possible the vi-
sion of the frontiers of knowledge, seeding and harvest in the different disciplinarians
areas. Creativity can be boarded as a proper subject with theoretical-practical character
in the school and the university, or as content and generalized living experiences in
each one of the subjects of the academic program in an intentional way.

The incorporation of Creativity in education, seeks to fortify the individual develop-
ment through his being and the encounter with his others, the construction of the
knowledge and the ways to do it, using the subjective dialogue, the communicative ac-
tion, the metacognitive reflection and ambient support. The modernization of the or-
ganizations and institutions in a creative knowledge is urgent. With the purpose to offer
the resources for the change and the social transformation, qualifying the scenarios and
the social actors, in a formative dimension, ethical and academic, enriched by the bag-
gage of creative cultural legacy. Creativity constitutes itself in a true “snowball” effect
that with its generator dynamic of ideas and developments. I will propitiate new alterna-
tives for the accomplishment of new and better possibilities, rather the creativity in the
creativity’s development, with benefits every time of greater pertinence, relevance and
impact.

In this sense, it is necessary to tie creativity with the ambient condition in the school
and the educator and student’s daily living experiences, also with pedagogic conception
of the learning process; although that depending from the pedagogic perspective, so
then you look at it, the creativity will have greater or lesser possibility of exercise. A
classroom concept, mediated by a psychosocial ambient, valued by the motivation, the
communication and the autonomy; didactic founded in process of interaction, auto-
structuring and knowledge construction; and physic that attends the functional, the technical and the semiotic, with flexible and multitemporal vision of encounters of spirit, in which it’s able the argumentation, the confrontation of the knowledge and the expression of the culture, it will be a extolled space where it forges and transmutes the imagination in the plastic creation in search for human development. It’s necessary propose that the ambient are constructed, are inherent to the classroom, in fact exist, they make part of their essence, they are an inversion of the culture; in a conscious or unconscious way it has taken a part by the rise or by the shoal: it’s the conscience the one that takes them counts, it’s the intention the one that transforms the, it’s the significanton the one that elevates them and it’s the teacher’s dedication the one that materializes them.

Notes

4. CORVACHO, Francisco. Problematica y Solucionica. ESAP. Bogota 1986
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Publications


Please ask for our German Publication List.
Designing Events—Creative Ways to Run Information and Learning Events

In Global Correspondents 98 we wrote about German trends concerning creativity and innovation. We think there hasn’t changed a lot since our last report.

This time we want to inform you about a very special focus of creativity—the creativity of designing events. Our network organization WUP WILL AND PARTNERS is working in the field of organization and human resource development. We do consulting, training and workshops, We train trainers. One of our main questions is how to run trainings, events, kick-off meetings etc. so that participants get a maximum of knowledge, empowerment, activity, know-how transfer and fun? In other words: How to develop real creative and creativity improving event designs.

To create a discussion platform and skill developing workshops we run a special event on “Designing Events” every year. In September 1998 the second event took place at the lake of Starnberg near Munich/Germany. Forty experts and seventy participants worked and discussed in a colorful and lively workshop atmosphere. Some of the topics from the agenda were: working with large groups, outdoor training, learning by games, theater methods in training, start and finishing designs, activation and movement, visualization, new media, etc.

The whole event was put on stage with a mixture of different elements:

• various sorts of learning places: the park, the lakeside, the large country house;
• change from plenary sessions to small workshop groups with various subjects;
• diversity of inputs and experiences: presentations, demonstrations, workshops;
• music, theater and show as accompanying elements.

The participants—freelance consultants and HRD managers from industry and administration enjoyed this kind of “Open Space” a lot and, as they told us, they got many ideas, stimuli and techniques for their practice.

Next dates: For those of you who are interested in our event: the next two events will take place in Tutzing/Lake of Starnberg (near Munich/Bavaria) April 99, 19 to 22, and June 2000, 26 to 29.

Contribution: If you are working in the field of designing events and if you have an idea what you could contribute, please let us know. We are interested in inputs, experiences and ideas from other countries and work backgrounds.

Information: If you want more information about WUP WILL AND PARTNERS, “Designing Events” and our articles about creativity and innovation, please send us an e-mail, fax or letter.
Germany

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Giftedness and gifted education; measuring and stimulating creativity.
Research (including cross-cultural) on the Test for Creative Thinking Drawing Production (TCT-DP)

Publications


Report from Germany

It is a remarkable event of the year 1998 that the federal Ministry for Education and Research has picked up the topic of “creativity” and released an official statement which shall be rendered or cited in the following (translations by me). It starts with remarks about trends and changes in our time, like globalisation, digitalisation, migration, demographic change, explosion of knowledge, technologies of information and communication and stresses the increasing speed and complexity of changes. Special requirements for coping with the future is openness of structures which will lead to qualitative changes in many areas, to structural reformation, whose results will often lie crosswise to current patterns of thinking, provisions and responsibilities. These perspectives of future require, from those responsible politically as well as from every single individual, new or strengthened attitudes and competencies: ability of and readiness for “crosswise” or lateral thinking, connecting the currently un-connected, new original solutions, configurating the socially heterogeneous, fantasy and positive power of shaping. The question of realizing an adequate education becomes obvious, an education aiming at various key competencies in a society highly in need of innovation, one of which is creativity. “Who wants innovation tomorrow, must set switches today and rouse and nurture the creative potentials in people. Learning in/for changes needs right- and left-brain learning.”

Still Germany does not have such an educational initiative of government(s) and economy, like Singapore for example, which is suited to prepare the up-growing generation for the creative demands of the 21st century. The educational system from school to university is still focused on the development of cognitive potential, that is knowledge and convergent thinking.

The promotion of creativity is no singular or partial process of qualification; it is aiming at the development of the whole personality, it is not a single discipline or located in a single discipline. It needs a complex network of subjects and the accentuation of schedules and organization; it requires that in each subject or area the teachers use all the potentials for developing creativity and innovation. It is aiming at the development of all senses, is a holistic process which at the same time stresses the acquisition of basic attitudes, capabilities and behavioral patterns like task commitment, persistence, concentration, perseverance, ability of communication and co-operation in the sense of emotional intelligence, discovery and stabilization of interests, development and up-keeping of curiosity for the new and unexpected.

“Systematic nurturing of creativity is not just a new fashion, which adds a new variable to well known key-qualifications like lifelong learning or teamability. On the contrary: Systematic nurturing of creativity, which in method and content is connected to traditional, cognitively oriented instruction in a fruitful way, is the conceptional frame, in which many of those known key-qualifications become meaningfully connected and indispensably supplemented.”

What is necessary is an adequate transfer of these insights into teacher training, since the success of schooling is substantially dependent on motivation and competencies of teachers. Innovative openness and professionalism must become supported, improved and expanded by modified pre- and inservice-training.
“The Ministry for Education and Research is willing to contribute its part in bringing forward this process of connecting systematic nurturing of creativity with achievement-oriented cognitive learning.” So far the official statement.

Though the responsibility for the schools is with the governments of the different states of the republic the ministry consequently has organized and sponsored two pilot seminars for teachers and people from management and business. One still open question is if after the elections from September last year the new government will set similar priorities and keep or even expand the activities in this direction.

The statement refers to a special initiative in the small German alternative school movement, where in contrast to the public school the idea of systematic furtherance of creativity has been set into practice. This initiative is presented in the following.

The BIP Creativity Center at Leipzig

After several years of research and after the German unification Prof. Dr. Gerlinde Mehlhorn and Prof. Dr. Hans-Georg Mehlhorn from Leipzig established the BIP Creativity Center (Hermann-Löns-Str. 12, 04454 Leipzig-Holzhausen, Germany). Meanwhile there are three main areas of work: teacher training program, Creativity Schools, and Creativity Primary School; all three will be described very shortly in the following. For more and detailed information you may look at the web site: www.uni-leipzig.de/kreativ, from which part of this information has been taken.

Together with more than 50 Leipzig scientists and artists a highly evolved teacher training program designed for pre-school institutions and primary schools was developed. Since 1992, this program has provided for a framework of basic and advanced training courses from teacher to creativity pedagogue. The first course (basic course) has been structured as a two-year part time course with 560 hours educational training. The second course was implemented as a 1/1.5-year full-time course with 1800/2700 hours educational training (advanced course). Until today, both courses have been presented at various centers around the country and have so far been visited and successfully completed by more than 1000 graduates.

The Creativity Center founded its first Creativity School in 1992. Since then, its graduates established additional creativity institutions at various levels (from nurseries to independent and government schools, colleges, and leisure facilities) under the management or with support from the Leipzig Creativity Center.

All Creativity Schools offer a unique Creativity Development Program for children from age 4 on (complex-program for extensive talent and creativity development). This program is directed towards the development of all senses and promotes specialized development-areas; this early development is seen as an absolute necessity for the optimal growth of the human brain. Human beings are no longer capable of achieving top performances without the early development his/her potential, even if the development starts in primary school age. This in fact applies to all technical and scientific areas, and not only to music and dance. At the same time, the development of the right brain hemisphere is promoted.

The Creativity School offers the following 2-hourly subjects twice per week (pre-school 30 minutes, primary school 45 minutes), in small groups, through specifically trained creativity pedagogues:
• Painting and Drawing
• Movement and dance
• Theater-game and Play
• Elementary musician education and rhythmic
• Creative language use and writing
• Computer science
• Chess
• Foreign language development

In addition, the Creativity Schools offer special courses for older children, teenagers and adults in many technical and artistic directions (from painting courses to piano lessons and computer courses). More Creativity Schools applying this concept, though currently in different development stages, can be found in several other places, mainly in the eastern part of the country.

In 1997, the founders of this concept at the BIP Creativity Center GmbH (Manager Prof. Dr. Sc. Gerlinde Mehlhorn) opened the first BIP creativity Primary School (Mehlhorn-School). One year later, the second school of its kind opened its doors in Chemnitz. Selected principles and objectives of the Creativity Primary school are:

• Continuous development of talent and creativity potentials in all children
• Long term preparation of future occupation and creative inventor, scientist, entrepreneur, and manager
• Instructions conforming to the regional syllabus of the country
• Incorporation of talent development into the integrated program, supplemented by three foreign language courses, currently comprising two lectures Arabic, one French, and one English per week (1 language obligatory, two optionally) in Leipzig and Chemnitz
• Basic courses in instrumental guitar, flute, and keypad training for all children for interest development
• School as service institution
• Integration of school and hoard
• Maximum of twenty students per class
• Two teachers per class with scheduled differentiation in performance oriented development of the children
• No class cancellations
• No homework: all work is completed during school hours under supervision of teachers
• Satchel remains in school throughout the week
• Relaxed and informal atmosphere in the afternoon and evenings
• Marks are given in performance oriented subjects from grade 1

More schools are planned, one of them being the first Creativity High School. In addition to above activities, the first Creativity Nursery is being developed in Leipzig, with first admissions scheduled for September 1999. During school holidays, especially
summer and autumn holidays, the BIP Creativity Center holds Creativity Camps with groups of 25 children and 3 specifically trained creativity pedagogues at Schloss Uebi-gau Inn.

The BIP Creativity Center today situated at the Creativity Primary School Leipzig, is home to a pedagogic-psychological support and information center dealing with problems around the selection of courses, of the right school, and specializes in problems with highly gifted children.

**News about the TCT-DP**

The “Test for Creative Thinking-Drawing Production (TCT-DP)” (published by Swets & Zeitlinger, Netherlands; [www.swets.nl](http://www.swets.nl)), developed by Klaus K. Urban and Hans G. Jellen, is in good use all over the world furthermore. For example, one larger, very interesting project is run by Prof. Dr. June Maker and her team at the University of Arizona, Tucson. One main aim of the project DISCOVER is to find special or high gifts and talents among young children from different ethnic and cultural minority groups.
India

**Global Correspondent: M. K. Raina, Ph.D.**

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**Awards**
For his work on creativity and the gifted and talented, Prof. Raina received the first award given by the World Council for Gifted and Talented at the 11th World Council Conference in Hong Kong, in August, 1995.

**Publications**
Write the author for specific interest. Too many publications to include in list here.
News from India

A. The 5th Asia Pacific Conference on giftedness was held in New Delhi during September 1–5, 1998. The Conference focused on “Beyond the Classroom: A Global Perspective on Giftedness.” The Conference was attended by around 200 delegates including 54 foreign delegates. The Conference consisted of 58 papers given in plenary sessions, parallel sessions, or panel discussions, and the meetings of the Asia-Pacific Federation of the World Council for Gifted Children. The opening plenary paper entitled “A Rising Tide Lifts All Ships: Applying Gifted Education Know-How to the Development of High Potential in All Students” was delivered by Joseph Renzulli. The other plenary presentations were made by Eddie Braggett (Australia), Sally Reis (US), Wu-Tien Wu (Taiwan), Maria McCann (Australia), Utami Munandar (Indonesia) and Usha Khire (India). Papers in the parallel sessions were presented by delegates from the host country of India, and from Australia, Bangladesh, Hong-Kong, Mainland China, Singapore, South Africa, Sweden, Taiwan, Thailand, Yugoslavia, and USA. The parallel sessions included over 50 papers.

B. Indira Gandhi National Center for Arts, New Delhi, organized a presentation by M.K. Raina on “The Torrance Phenomenon: Extended Creative Search for Lord Visvakarma” in November 1998. The presentation was chaired by a distinguished Indian scholar, Dr. M. Vardarajan, former Secretary of Culture, Government of India.

C. The book on Career Development of Creative Girls authored by Asha Bhatnagar and Sushma Gulati was published in 1998 (Vikas Publishing House New Delhi, India). The book is an outcome of a research study conducted in the Department of Educational Psychology and Foundations of Education, National Council of Educational Research and Training (NCERT) funded by the Educational Research and Innovation Committee (ERIC) of NCERT, New Delhi, India.

The study provides an insight into the career development of creative adolescent girls at the school leaving stage before they enter the world of work. Woven in a conceptual framework in the context of life career development perspective, the study adopts primarily a qualitative approach. Case study method has been used to gain a global and in-depth understanding of different career related characteristics and behaviors of creative girls in their own contexts. The findings support the rationale for the differential nature of the creative behavior and maturity of high creatives compared to their less creative counterparts. The study also revealed that the factors which were instrumental in encouraging creativity amongst high creative girls also tended to contribute to their higher level of career maturity, perhaps indicating an interface between the two.

The book has theoretical as well as practical value. It provides an important fillip to research and theory in the areas of both career development and creativity in the Indian context. Practically, it draws out implications for counseling psychologists and practitioners to devise fruitful strategies and interventions to nurture the creative promise of such individuals and prepare them for appropriate future careers. The book can also be useful to researchers and all those interested in promoting the careers and lives of creative individuals.
The Divine Creativity:
The Mythical Paradigm and Lord Visvakarma*

To some it may seem disingenuous and essentially primitive, yet one notices increasingly many endorsing the belief that theories of creativity derive from cultures’ creation myths (Sinclair, 1971). Various cultures and traditions have brought into focus varying images, myths, metaphors and notions of creativeness and the processes underlying it. For instance, the religious tradition of India associates creativity with spiritual realization and the creative process is considered to be spiritual, synthetic, and conforming. It is a means of suggesting or recreating a vision, however fleeting, of a divine truth; and regards art as a means of experiencing a state of bliss akin to the state of ananda or jivan mukti (release in life.) The image of dancing Siva, Nataraja, is the supreme symbol of all aspects of life as much as dance itself which represents the synthesis of all aspects of creative activity (Vatsyayan, 1968). The Chinese view of cosmic creation has been described as “an ongoing progress—a developing, an unfolding” (Sinclair, 1971, p.83). In contrast, Judaic and Greek views of cosmic creation involve “an abrupt production of the universe—by an uncreated being who brings order to the formless void” (Sinclair, 1971, p.84). Further support to the creation myth-creativity belief is offered by Ben-Amos (1986, p.60): “In some African cultures—the artist at work is viewed as enacting or recreating the origin myth.” The Dogon weaver, who draws threads from the spindles of a loom, is symbolically identified with Nommo, a primordial being, who wove together four elements to make the universe. Thus, “the cosmogony,” writes Eliade (1963, p.32), “is the explanatory model for every creative situation; whatever man does is in some way a repetition of the pre-eminent ‘deed,’ the archetypal gesture of the Creator God, the Creation of the World.” In summary, concludes Lubart (1990, p.43), the hypothesis that modern views of creativity stem from cultural creation myths seems plausible and deserve further research. However, unfortunately not many in the field of creativity take such myths, metaphors, parables, legends, stories, political rhetoric and poetic afflatus, tales, (verbal and written), images, similes or philosophical speculations which vehicle concepts, and are also goal-and context-sensitive, abundantly used in various texts, very seriously and generously. One would be greatly mistaken in judging them as naive or euphemism for primitivism, even though some from other cultures may find themselves at a loss in comprehending the terms, concepts and allusions which characterize other cultures.

Elsewhere, in the perspective of cross-cultural creativity research, I (Raina, in press) have pleaded for fostering appreciation of other cultures, building relations among people, generating a self reflecting consciousness, acquiring emphatic sensitivity to other cultures which requires immersing oneself in that culture’s world view in order to observe in oneself the effect of such an immersion. To understand myths and metaphors underlying creativity in various religions and cultures one should be armed with perseverance, and approach them with respect and acute sensitivity. Moreover, one should rid oneself of preconceived ideas and be prepared to receive, with an open and constructive mind, the messages of another, a very different world.

Since antiquity, in both Eastern and Western traditions, religion has inspired, funded or influenced the vast majority of great arts. Traditionally, art and religion has been

* Lord Visvakarma’s name is variously spelled and different names given to him in the literature.
closely associated in all cultures; indeed Coomaraswamy (1956, p.62) has categorically declared: “Art is religion, religion is art, not related, but the same.” Certainly, the intertwined histories of art and religion make one wonder if the well-springs of creativity and spirituality can really be distinct. Various considerations support the thesis that religion and art, even if not interchangeable, are inseparable (Coleman, 1996). In various religions, particularly in non-Western settings, gods of originality are worshipped and creative individuals are praised. For example, creative architectural geniuses among West African Hausa are admired and emulated by builders (Saad, 1985). In the Benin culture, the deity, Olokun, god of inspiration and idealism, is revered (Ben-Amos, 1986). Hindu religion provides a comprehensive though complex explanation for the existence of a god of creativity that forms the subject for explanation in this paper.

Hindu religion, though one of the oldest among those surviving from furthermost antiquity, not only retains its freshness to this day, but gains a new impulse as its beliefs and myths concur with contemporary discoveries and scientific theories resting upon them; a most complex religion, with its three hundred thousand gods and goddesses, and yet simple in its monistic approach to the supreme essence of divinity; a religion one would be tempted to term ‘childish,’ after a superficial glance at its mythology, but which nevertheless is, in its deeper approach to the problems of knowledge, of ethics and of cosmogony, the very expression of wisdom (Vitsaxis, 1977). Hinduism has constantly proclaimed ancient truth to the world from the depths of the centuries, through complex myths and symbols which to a great extent form its essence. “It fascinates men of our time who discover with every passing day truths, hidden within its symbols, that are confirmed with modern science and ideas which contemporary thoughts is merely beginning to comprehend, as in the radiance of some future dawn” (Vitsaxis, 1977, p.11). They contain as much as one’s mind or soul is able to absorb; small or big, yet always important. “The deep underlying symbolism, important though it may be, and the profound mystical philosophy, however satisfying it may seem to the intellectual, are only secondary manifestations of a mythopoeic tradition unique in the world for its richness and continuity” (Basham 1977, p.10). More than mythology, Hindu mythology is a living religion.

The religion of the Hindus, strictly speaking is monotheism. They worship God—the Supreme Being or the ‘First Cause’—in unity and express their conceptions of the Divine Being and his attributes in the most awful and sublime terms. God, thus adored, is called Brahma: the One Eternal Mind; the self existing incomprehensible Spirit. The Supreme Being is in its quintessence in a state of both absolute serenity and calm as well as overflowing creative activity. It is birth and death; light and darkness. Everything is the maya of that Unique Being ‘the illusion maker’ of which we ourselves are infinitesimal parts, cosubstantial with it, as are all created beings, as the rays of the sun are cosubstantial with the Sun itself. The will of God, that the world should exist and continue, is personified; and his creative and preservative powers appear in Brahma and Vishnu, Siva is the emblem of his destructive energy; not, however, of absolute annihilation, but rather of reproduction in another form. In mythology, therefore, this triad represents the almighty powers of creation, preservation and destruction. Creativity for Thakazhi Sivasankara Pillai (in Raina, 1993)—the high priest of creativity that is marked with authenticity—is the process of continuity—of Brahma, Vishnu and Maheshwara (Siva), working in tandem of creating, maintaining and destroying to create. Interestingly, of Brahma, the deity’s creative energy, less appears to have been said
and sung, than comparatively of the other coequal members of the triad. The act of creation is past; the creative power of the deity has no immediate interference in the continuance or cessation of material existence, or in the other words with the preservation or destruction of the universe (Moor, 1968, p.5). But that is a different story.

The Hindus hold that the Supreme Being can only be conceived in the abstract by the intellectually or spiritually gifted, and the masses, for their worship, require deities with forms and sentiments; and for their benefit certain aspects of this Supreme Being are personified into deities. Practically, every aspect of life has been deified and the pantheon enriched by animism, ancestor worship and idol imagination (Thomas, n.d.). Idolatry is also permitted because of the essentially pantheistic nature of Advaita, the predominating school of Hindu philosophy. Hinduism also recognises that many people need a god they can feel close to, a god they can picture in their minds and worship. But each of them, for most Hindus, is simply one facet of the Supreme. Beyond these many gods there is really only the One.

According to Hindu tradition, all the arts and crafts are of divine origin, having being revealed and handed down to certain individuals by “the miraculous genius” (Zimmer, 1962, p.3) Lord Visvakarma—the creative archetypal power. The Primordial Creator and Supreme Patron of Arts, Crafts, Science and Creativity is Lord Visvakarma (Sharma, 1989). He is at once the Great Architect of the Universe, Spirit of the Creative Process, and a symbol of Total Centered Consciousness. He is also known as Visvakarmaya: Creative Power of the Whole Universe. The obvious meaning of the word Visvakarman is “all-maker” (visva means ‘all’ and karman means ‘maker’) Visvakarma the “All Creating” thought to be the Vulcan of the Greeks and Romans (Wilkins, 1882), appears as an independent Hindu deity as early as last book of Rig-Veda. Later in the Brahmans he is “expressly identified with the creator Prajapati” (Hastings, 1960, III, 606,b). As the highest of the gods, he is synonymous with Brahma of the Hindu trinity, said to have originated in the primeval waters, as the Golden Germ, the World Womb-Egg (Hiranyagarbha) containing all the other gods in the world. Like Brahma, Visvakarma, the Creator, is one of the many names which may be applied to almost any of the gods at the will of the worshipper. Wise and mighty in act, Visvakarma orders all things, and men desire the attainment of good in the world where “he, the One Being, dwells beyond the seven Rishis” (sages). He is the maker of the region Sutala, whereby his will, as in the greek Elysion, “neither mental nor bodily pains, nor fatigue, nor weariness, nor discomfiture, nor diseases afflict the inhabitance” (in Cox, 1870 p.166). In the two hymns in the Rig-Veda he is described as “the one all-seeing god, who, when producing heaven and earth, blows them forth (or shapes them) with his arms and wings; the father, generator, disposer, who knows all worlds, gives the gods their names, and is beyond the comprehension of mortals.” In the Mahabharata I.2592, consequent on the development made by the Hindus in the arts of civilization, Visvakarma is described as “the Lord of the arts, executor of the thousand handicrafts, the carpenter of the gods, the fashioner of all ornaments, the most eminent of artisans on whose craft men subsist and whom, as a great and immortal god, they continually worship.” He revealed the fourth Upaveda (class of writings subordinate to the Vedas) in various treatises on sixty-four mechanical arts, for the improvement of such as exercise them; and he is inspector of all manual labors and mechanical arts. His name is of some celebrity in mythological legends. Visvakarma, the Maker of All, is said to have built the homes of Brahma and Yama, the underwater palace of Varuna, the celestial Chariot, Pushpaka,
and the first claypot or \textit{kalasa} which was used to collect the \textit{amrit}, the ambrosia that emerged at the time of the churning of the ocean. In Visvakarma’s name, a number of manuals on architecture and sculpture, such as the \textit{Visvakarma prakasha}, have been written and compiled from memory by succeeding generation of artists. The Chandella inscription of Dhangadeva found at Khajuraho records the construction of a Siva temple which was built by the architect Chhichchha who was “as versatile as Visvakarma” in knowledge. Even in the historical inscriptions the reference to Visvakarma building the temples of Khajuraho resounds in metaphors similar to that of the Shivpurana, though it must be remembered that the association of artists with Visvakarma, the divine architect was popular at that time (Punja, 1992 p. 133).

In the contemporary pantheon of Hinduism, Brahma as Lord Visvakarma who was initially worshipped on the same level as the other two of the triad, evolved in the course of centuries into a somewhat unilateral and, therefore, lesser god and for all practical purposes stands on a somewhat lower level than the two other members of the triad, and his worshippers have become steadily fewer in number. The goddess Saraswati, also said to possess creative power of imagination and invention is generally regarded throughout India as his Shakti or female counterpart. Images of Brahma are placed in the temples of other gods but he has not many temples, or rites, exclusively dedicated to him.

Considered to be the son of the Vasuprabhasa and his wife, Yogasiddha, according to one tradition, Visvakarma had five faces, ten hands and from each of the face he begot a son. Like their father, each of the sons was extraordinarily talented and versatile in all fields and because of their stature, they were also awarded the title of Maharishi (great sage or saint) (Sharma, 1989). Each of the five sons gave rise to a major artistic lineage, and theoretically any artist can trace his mythical descent to one of them. The five sons of Visvakarma are claimed to have been the first blacksmith, the first carpenter, the first founder, the first mason, the first goldsmith, variously and the succeeding generation of the craftsmen are supposed to be their progeny. Roberts (1909, p.11) quotes a passage from the Vedas:

\begin{quote}
Manu was a blacksmith and author of the Rig Veda. Maya was a carpenter and author of Yajur Veda. Twashtak was a brass caster and author of Sama Veda. Shilpi was a mason-architect and author of the Atharvana Veda. And Vishvagna was a goldsmith and author of the Pranava Veda.
\end{quote}

Visvakarma represents an active creative power, and for this reason he is often depicted in red—the color red being related to creative force, passion and activity in ancient texts. According to another tradition as Shukla (1957, p. 184) explains : “He has four heads in reference to the four quarters of his yajna or sacrifice, is full of \textit{Kamana} or desire and creation: ‘I shall be many’ (sodkamayat aha bahusya prajayeyam)” declared the god of creativity. Analysis of some myths around Panchabrahma (Visvakarma) describing his various creative powers and traits is available in Singh (1968).

No images of this god are now made, but since all Visvakarma artisans have ritualized their tools, each artisan worship them and one day in the year is specially set apart for this purpose, “Visvakarma becomes the symbol of Hindu creativity and his anniversary the regeneration of a lost glory” (Kumar, 1988, p.207). The carpenter bows down to his hammer, saw, etc.; the student to his books; the bricklayer to his trowel; the peasant to
his plough; the potter his wheel; the blacksmith his hammer and bellows; and the weaver his shuttle; the clerk his pen. Soldiers and warlike tribes worship their weapons.

The Indian craftsman, as Mulk Raj Anand (1957) has noticed, was well versed in the subtleties of the higher religion of philosophy, and believing in a Supreme God brought his faith in a philosophically defined Divinity and his inheritance of myth to bear upon the sacred task of rendering explicit the implications of the Cosmic Life. In order to sustain his vocation on the secure foundations of religion and to give it an exalted place in the scheme of Hindu social life, he traced his descent of his caste from Visvakarma. The Visvakarmas who may be called Silpa Brahmans or Visvabrahmans are “the reflected forms of Visvakarman” (Gnanananda, 1981, p.10). They repeat in the world the works of their great mythological ancestor. Every artist or poet has a share in the divine artistic power and intuition (Pratibha), and is himself a human representative of the Divine Architect (Visvakarma), the creator (Brahma, Prajapati) (Baumer, 1985). The same contention is reflected in Rabindranath Tagore (1988, p.30) who quotes the Upanishad: “This deity who is manifesting himself in the activities of the universe always dwells in the heart of man as the supreme soul. Those who realize him through the immediate perception of the heart attain immortality.” In the Visvakarma ideology, Lord Visvakarman is an image of the cosmos composed of a male and female constituent part. The Visvakarma craftsman, being His worldly counterpart, is thus also an image of the cosmos. Subsequent to this idea, the crafts are seen as a transcendent act of destruction and creation similar to that process of the heavenly Visvakarman” (Brouwer, 1995, p.33). Maduro (1976) who did, with psychoanalytic expertise and anthropological perspective, a penetrating study of the nature and genesis of creativity in the painters of Nathdwara, in Rajasthan, India, through the use of life histories, dreams, projective tests and other sources of psychological data, found that at his best, the artist identifies with and internalizes the psychic functions and values associated with the personality of Lord Visvakarma, his mythical ancestor from whom artistic unity, diversity and creative energy are derived. “During the ritual of artistic creation, the artist says he feels the living presence of the god, and he experiences himself in his work as if he were an instrument of divine communication between the archetypal forces at work in him and the needs and values of his collectivity. He accepts the mythical paradigm in which the ancestor god first taught the artists how to plan and create. This acceptance lends certainty and psychological coherence to his everyday life and work by explaining the origins of what is known to exist. Man does now what the gods did originally. Artists create now as they were taught to in primordial, sacred time” (Maduro, 1976, p.74). Almost similar findings were obtained in the study (Brouwer, 1991, 1995) restricted to those groups of artisans in Karnataka state in India who present themselves to the outside world as the Visvakarma caste. This is reflected in the process which underlies creativity among the Visvakarmas, the artisans. The process of creativity for those artisans moves between the two poles of integration and disintegration. The stage of transformation of substance shows an interaction accompanied by the sound of the hammer (dammaru), thus activating the cyclical rhythm of the cosmos. The Visvakarma artisan, who has the knowledge of the intrinsic coherence of the universe, realizes this. Because of his knowledge, he himself has to be identified with the cosmos. In the rituals connected with the sacrifice, the Visvakarma artisan is seen as repeating the sacrifice of his mythological ancestor, Visvakarma. He himself is the Vishvakarma of the universe that is his workshop, while Visvakarma is invoked in the kulasas (ornamental water-vessel; jar; pitcher; vase) used in the rituals. In the workshop, the cosmic drama of integration and disintegration takes
place, and at its center stands the Visvakarma as sacrificer and ritualist. The Visvakarma becomes the universe himself. In the world view of the Visvakarmas, the two poles of cosmic life are Kali (goddess shakti) and Siva. The result of the drama is a product which is a symbolic representation of the world (Brouwer, 1995, pp. 173–173). During a phase of the creative process, the Nathdwara artists remove themselves symbolically from the normal world by burning incense to Visvakarma, praying for inspiration from his patron (Ishta Deva), and assumes a posture conducive to the reception of ideas and impulses from within.

The Lord’s assertion: ‘I shall be many,’ we understand, is of great psychic significance to the creative artists of Nathdwara, who have cited to Maduro folk versions of this passage. The implications are profound and refer to the multifaceted nature of Visvakarma as an important living self symbol of the creative unconscious mind. The god’s words imply that in oneness and unity there is yet endless diversity, duality, nuances, and artistic variation. Rabindranath Tagore (1988, p.31) has expressed it more philosophically:

> He is Visvakarma; that is, in a multiplicity of forms and forces lies his outward manifestation in nature; but his inner manifestation in our soul is that which exists in unity. Our pursuit of truth in the domain of nature therefore is through analysis and the gradual methods of science, but our apprehension of truth in our soul is immediate and through direct intuition. We cannot attain the supreme soul by successive additions of knowledge acquired bit by bit even through all eternity, because he is one, he is not made up of parts; we can only know him as heart of our hearts and soul of our soul; we can only know him in the love and joy we feel when we give up our self and stand before him face to face.

Artists have generally talked at length about the significance of Visvakarma. We are told the more creative a painter is, the more he says he feels ordained to live out personally the myth of Visvakarma. Further, “Indian folk culture provides Visvakarma, a positive ego ideal which “captures” a projection of the father archetype and is then introjected (or, in a sense, reintrojected). This introjection corresponds to the ritual identification with the creative power of the deity and provides one of the many culturally patterned (activated) intrapsychic complexes through which the creative instinct may be filtered” (p.137). Mulk Raj Anand (1957, p.94–95) whose understanding of Indian arts is deep and insightful has made a perceptive observation:

> Like most other myths consciously invented to make abstruse philosophical theories interesting and easily intelligible to those for whom, as I have constantly said, it is much easier to love than to know, this myth has very far-reaching consequences. The Indian craftsmen, whether the most sophisticated priest-artists or simple manual workers, were enabled by this picturesque story to comprehend that since the Supreme God in the form of Visvakarma, the artist-craftsman of heaven, was the founder of the arts and bequeathed His knowledge to His first five human artisan-sons (the ancestors of all succeeding craftsmen). Divine skill had been preserved intact in their families and cast through the laws of heredity. And the fact that the Supreme God was generally understood not only to be the first practitioner of the crafts, but also the ideal practitioner, the ideal crafts-
man, crystallizing Absolute Beauty, Absolute Rhythm, Absolute Proportion in Himself and in His work, supplied the artisans a model to live up to, and raised the pursuit of their art above the eccentricity of particular individual and limited ideas of beauty to an acknowledged universal ideal of perfection which is philosophically and aesthetically one of the broadest and the most comprehensive view of order that the human mind in all countries and among all nations has been able to evolve and formulate when strained to its utmost resources. With all the simplicity of his faith the Indian artisan sought thus, through the Divine Visvakarma, to gain, if he could, one little glimpse of the inmost essence of all things, he strove to suggest some vaguest hints of Reality, so that he himself and yearning humanity might in some small way be helped to overcome the obstacles presented by their finitude in the way of the realization of the Infinite.

In another context, I (Raina, 1996) have pleaded that within the amazing diversity and cultural pluralism that characterizes our contemporary societies, where Visvakarma manifests himself in various activity in a multiplicity of forms and forces, it becomes imperative to adopt a perspective which frees us from remaining chained to a single station point and help erase the boundaries rather than to stress them. This has definite implications for the consciousness we may adopt as creativity researchers to explore cultural and sub-cultural perspectives which underlie myths and metaphors as they relate to theories of creativity. That will make our pilgrimage in search of Lord Visvakarma really meaningful and rewarding.

References


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Enhancing Creativity:  
The Malaysian Perspective

Introduction

The increase in activities and research in creativity since the 1960’s in the United States and elsewhere can be said to have some impact on the growth of interest and activities in creativity in Malaysia. Both the government and the private sectors have begun to realize the importance of enhancing creative thinking among their employees in order to be able to solve the ever changing problems facing their organizations and country. The present economic crises facing countries in East Asia calls for creative and innovative solutions as the problems are not similar to those problems faced by these countries before. Among the major initiatives undertaken are to step up creativity awareness and creativity enhancement programs for employees and also to infuse creative thinking skills in schools.

Creativity Programs In Organizations

The government has introduced various incentives for human development. Among them is the Human Resource Development (HRD) fund set up using contributions from the employees themselves. This is seen as an innovative approach to develop skills relevant to enhance performance among employees. Using this fund, many organizations have been able to embark on programs like the creativity enhancing programs. Among the creativity programs that are presently conducted are ‘Understanding and Acquiring Creativity Skills,’ ‘Creating a creativity enhancing climate at the workplace’ and the ‘Creative Problem-solving’ Programs. So far many teachers, government education officers, magistrates and legal officers have benefited from this program. In the private sector, medical staffs, managers, supervisors and factory line operators, have been trained in these programs.

Creativity Initiatives In Schools

Since the early 1980’s there has been a growing interest in incorporating thinking skills in the Malaysian classroom. The Integrated Primary School Curriculum and the Integrated Secondary School Curriculum can be said to be one of the first deliberate interventions in education initiated by the Ministry of Education to incorporate elements of thinking skills in the classroom where student-centered teaching is preferred. The teachers’ role was merely to facilitate learning. This approach is based mostly on the discovery learning approach where students are given ample opportunities to seek knowledge and use them to problem-solve in the classrooms as well as in their personal lives.

Attempts were also made to train teachers in the teacher training colleges and to provide them with the necessary knowledge and skills to implement this curriculum. In-house and In-service training programs were held to further pass on information and skills relating to the discovery approach to learning. However, due to the high student-teacher ratio, high emphasis on examination and lack of commitment among the vari-
ous parties involved in checking on its implementation and evaluation, this approach
did not entirely meet the desired objectives.

The late 1980’s saw the introduction of computers in Malaysian schools. Computers
were used in various ways in the education sector. Teachers began to use them for their
administrative work. Later software writing competitions were held to increase the in-
volution of students in the use of computers. Some competitions also emphasized the
creation of software that can be used in enhancing content-area learning. However,
there was also software that emphasized creative presentation of material with graphics
which were aimed at enhancing learning. However, these efforts did not advance at the
pace they should have.

In 1996, the Government provided a major impetus to the growth of Information Tech-
nology by introducing the Multimedia Super Corridor (MSC). The MSC is a multi-
billion ringgit project aimed at launching Malaysia into the era of Information Technol-
yogy and Multimedia and subsequently achieve Vision 2020 which is to become a de-
veloped nation by the year 2020. There are seven flagships guiding its implementation.
These are Electronic Government, Multi-purpose Card, Telemedicine, R & D Cluster,
Worldwide Manufacturing Webs, Borderless Marketing and Smart Schools.

The Smart Schools flagship is aimed at providing an environment which incorporates
both information technology as well as creative and critical thinking. The integrated
curriculum is at present reviewed in order to incorporate these two new components.
The main aim is to produce a creative and innovative citizenry adept with the new tech-
nologies and able to access and apply information. The government sees this as crucial
to change Malaysia from an industrial economy to a knowledge-based one.

The Smart Schools flagship has five goals. First, to provide intellectual, physical, emo-
tional and spiritual development to all individuals, and secondly, to provide opportuni-
ties to develop his or her own special strengths and abilities. Thirdly, to produce a
thinking workforce that is technologically literate. The fourth goal is to democratize
education so that each child has equal access to learning and lastly, to increase the par-
ticipation of all stakeholders such as parents, the community and the private sector, in
providing education (Ministry of Education, 1997).

The Smart Schools appears to be a major intervention in the educational environment to
produce a creative and innovative citizenry. This has called for the incorporation of in-
formation technology as well as creative and critical thinking elements in the teaching
and learning process. The curriculum of the teacher training colleges has also been re-
vised to include elements of creative and critical thinking and information technology.
This is seen as a serious and concerted effort by the government to produce a thinking
society highly relevant for a future which is full of challenges and uncertainties.

The Smart School program also involves providing the necessary environment to the
students to seek information relevant to their purpose. The Internet is seen as a valuable
tool to do this effectively. All Smart Schools will ultimately be able to surf the net and
students will be able to communicate not only with students of other Smart Schools in
Malaysia but also collaborate with students in other countries to share experiences and
work on common projects. Many workshops have been conducted for teachers on how
to use the Web, e-mail and other facilities offered via Internet in the teaching and learn-
ing process. Some Masters and Doctoral level research are being undertaken to find out
ways on how to incorporate the Internet in the teaching and learning in the classroom as well as on how it can be used to enhance the creative and critical thinking among the students.

Other initiatives aimed at enhancing thinking and providing ability-appropriate instruc-
tions and experience include the formal recognition of high ability students or the gifted in the classroom. Previously, these students were left to fend for themselves with the argument that since they are very able students they will not need any help! Realizing the need to cater for the gifted, the Ministry of Education decided to introduce the Grade-Skipping program whereby children in Year Three (U.S. Grade 3) sit for an evaluation examination to assess their intelligence and thinking skills as well as on content areas. The high performers in this examination skip Year Four and are placed in Year Five. Preliminary investigations and reports by the Ministry have shown that these accelerated students have fared quite well insofar as academic achievement was concerned. But no mention was made as to the emotional and social impact this program had on these students. It is felt that grade skipping at Year Three may not be a good idea. This is because the Primary School Curriculum was designed in such a way that the Year Four marks the beginning of a second phase in the primary school education where other basic skills of the 3R are taught. By skipping Year Four, the students may be deprived of formally learning these skills. The effect may become more and more apparent as they go further up the academic ladder. On the positive side, this program is seen as a step in the right direction to cater for the academically and intellectually gifted.

Apart from this, there are no programs in the Malaysian educational system to cater specifically for the creatively gifted. It is hoped that further recommendations to the Ministry of Education will place greater emphasis on this.

Another area which is fast developing is research in creativity in institutions of higher learning. In the University of Malaya, a premier university in Malaysia, for example, there is an average of at least five Masters level research on creativity per year. Among the areas that have been well researched are creative process, personality and products. The subjects most commonly studied were Form Four (U.S. Grade 10) students, although studies have also been carried out on primary school students as well as adults especially school teachers and principals. The instruments most commonly used to assess creative process was the Torrance Tests of Creative Thinking (Torrance, 1974) while measures of creative personality were provided by subtests in Khatena-Torrance Creative Perception Inventory (KTCPI) (Khatena & Torrance, 1976).

Findings on creativity in Malaysia have been published both locally and overseas. These have provided valuable insights into the nature of creativity and the various factors influencing creativity among Malaysians. Studies on the Creative Perceptions of Malaysian students have shown the Malaysian students’ perception of themselves as creative based on their past experiences (as measured by a sub-test in KTCPI – Something About Myself, SAM) is significantly higher than American, Indian and Hungarian students (Palaniappan, 1996). They also appear to have significantly higher levels of Self-strength and Intellectuality than the American, Indian and Hungarian samples. On the second sub-scale What Kind of Person Are You? (WKOPAY) in KTCPI, the American sample obtained significantly higher level of creative perception, indicating
the Americans have a significantly higher tendency to perceive themselves as creative based on their creative personality characteristics than the Malaysians.

There are also studies that have investigated how creativity and intelligence relate to academic achievement (Palaniappan, 1994) and how creative perception (as measured by KTCPI) relates to academic achievement (Palaniappan, 1998). In both studies intelligence thresholds were found to exist that delineates the positive correlation from the negative. These studies have indicated the importance of looking into the level of intelligence of students first before any interventions are initiated to enhance their creativity.

There are many useful findings in the Masters research studies that have contributed to a better understanding of Malaysian creativity and have provided the basis for creativity interventions. Gan (1998) in her study found Malaysian female undergraduate students have significantly lower verbal originality (as measured by Sounds and Images as well as Onomatopoeia and Images) than their American counterparts. She also found that Malaysian students perceive themselves significantly more creative based on their past creative performances (as measured by SAM) than their American counterparts. However these Malaysian students obtained significantly lower scores on creative perception based on their creative personality characteristics (as measured by WKOPAY) than their Americans counterparts.

Kaliappan’s (1998) study on the relationship between past experiences and creative perception threw some light on this important relationship. He found significant relationships between certain childhood experiences, experiences from parental influence, leadership experiences, leisure activities and ambition, on the one hand, and creativity (as measured by SAM and WKOPAY) on the other. These studies have given valuable information necessary for efforts and intervention initiatives to enhance creativity.

**Conclusion**

There are many initiatives currently being carried out to enhance creativity among students as well as those who form part of the Malaysian workforce on whom the nation depends to spearhead the country to achieve Vision 2020 which is to become a developed nation by the year 2020. The Smart Schools project is seen as a major initiative towards achieving this objective. To support these initiatives and help formulate future interventions to enhance creativity among the citizenry, research undertaken at universities have been carried out at an increasing rate. There is a growing need for research to investigate factors that enhance creative and critical thinking among students and how educational policies, curriculum and teacher-training programs can be changed to achieve these objectives. It is hoped that with the growing awareness, research and interventions currently being carried out, Malaysia may be able to achieve its Vision 2020 sooner.

**References**


Nepal

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Seeing Nepal

Looking back I can’t really remember how I got to the airport that day. It seemed like the days had merged together between the time I sent applications to the study abroad program and the time I stepped foot on the first plane of many on the way to Nepal. Soon, I found myself in the clouds, day dreaming of what Nepal would be like. I had seen the usual pictures from the Internet and guide books, yet still, visions swarmed through my head almost as fast as the plane I was traveling on. I could never have guessed what was to greet me when I landed in Nepal, thirty-something hours later. We gathered our luggage, were hastily introduced to the program coordinators, and were whisked off to our program house. The scenes that we passed on the half-hour ride from the airport to the program house were nothing like the daydreams. Instead of mountains, rivers, and prayer flags, there were streets crowded with people, trash, smog, cars driving seemingly without any rules, and temples adjacent to convenient stores. I stared out the window with my mouth wide open and tried to take in the information that was visually and aurally presented to me. This was impossible. I arrived at the program house dazed and exhausted from travel. It was a only a brief respite though, within two hours we had prayed for a good school year, eaten our first meal of daal bhat, and started language classes. The whirlwind that was my first twelve hours in Nepal continued more or less non-stop until I left for home.

About a month into the program (four and a half months in total), having learned a basic and slightly conversational version of Nepali, I felt better prepared to think more intellectually, and perhaps critically, about the surrounding environment. I was puzzled at the lack of creative innovation. All around me there were people, and they all appeared to be doing the same things. Most striking were the street vendors, twenty stalls in a row and all apparently selling the same things. Even tourist and expedition shops, with travels and tours for tourists, sold the same packages with only slight variation.

Even more puzzling was the issue of art creation. Having been on a few tours of Kathmandu and the surrounding areas, we had been introduced to a variety of artisans, yet all of these appeared to be creating out of tradition and caste system responsibility rather then from creative drive. A striking example came from the countryside that bordered the tourist city of Pokara. There, a group of us were studying the musician castes. Overwhelmingly the sentiment was one of cast responsibility, they were making music because it gave them money, and that was essential for not only food, but also survival.

The final lasting question of Nepali creativity came during my home stay in the Kathmandu valley. On a sunny Saturday I was in the cornfields near the house when it struck me that I had once learned to make corn husk dolls. Having no string with which to make the dolls I had to improvise a little with my every purposeful duct tape. After creating two dolls for my host brothers children I then started on a house creation from bamboo and sticks. After watching the creation of the dolls and later the beginnings of the home, my host brother turned to me and asked why I was wasting so much tape. Confused, I looked again at the house I was building and realized that I had used a fair amount of tape in its creation. Uncertain whether he didn’t like the house or thought me foolish for such waste, I decided to stop for a while and placed the house on our roof. Later, in retrospect, I remember thinking that my brother, and my family, must not have appreciated the idea of creating for the sake of creating. It was here that I began to look...
more closely. I needed to see where Nepali creativity was manifested. This search still exists, only now am I beginning to brake through the surface of my initial thoughts of the culture as uncreative.

Learning to speak Nepali in four months was often a grueling task. Typically after waking, I walked forty minutes from my village to the program house where we initiated in four and a half-hours of language class, five days a week. The language was taught masterfully and it was only ten days before we could speak, somewhat oddly, in conversational Nepali. The language was a large part of acculturation that was essential to the program. In learning Nepali almost everybody we met was helpful. Most often this took the form of broken English-Nepali conversations, where English was substituted for the Nepali words and phrases we hadn’t learned yet. Throughout, there was a fair share of laughing and teasing from family and village members, especially when I misused the words for dog (kukur) and chicken (kukhurA) when talking about dinner.

One topic of conversation that seemed to come up again and again was that of America. I was often asked what it was like where I lived, what my family was like, what food was like, TV, and a variety of other subjects that centered on my American life. It appeared to me that there was strong feeling that all things American, and sometimes European, were great, often better. Comparing Nepali and American culture, I, when engaged in conversation with Nepali friends, found numerous incongruities between our cultures. When this occurred I felt at a loss. I often felt the need to justify my wealthy American existence in the face of Nepali life, often in the face of Nepali poverty. One evening at dinner I was goaded, having avoided money issues with my family, into a discussion about calling my parents in New York. My brothers wife asked me how much the phone call cost. Having learned that asking the price of something was a usual Nepali conversation piece, I uncomfortably answered her question. The phone call cost me about fifty dollars US, translated to Nepali rupees, this became the astronomical fee of three thousand rupees. My brother’s wife’s mouth hit the floor.

This situation played itself out many times. Jokingly my mother asked me if I would take my brothers little kids to America with me, so that they could grow up to be wealthy. Even though this was all in jest, I could sense the deeper issues that were at hand. There was a misconception that all Americans were wealthy and drove nice cars. While this is true for a segment of the population, I found it difficult to translate the caste and ethnicity issues that are prevalent in America, and then explain their intricacies to people that were stuck in a similar, yet more structured and overt caste system. There were many times when conversation became difficult as I was asked again and again to compare my two worlds. It is important to make clear that this wasn’t the sum total of all conversations, there were many playful interactions about sports, kids, games, and work, yet this was one issue that seemed to stand out for me.

I continued to live, adapt, and acquire strategies for survival, as well as creating new ones for my many failed attempts. Living, or more precisely existing, in a mind frame that let me see Nepal and be Nepali, took up the majority of my thought time, yet every now and then I was faced with the issue of discovering Nepali creative values and understanding. Having failed to find it in the tradition based art world I looked elsewhere. Coming to Nepal I knew that I wanted to study traditional methods of healing for my independent project. I have always felt compelled to follow the path of the healer, to learn what values healing has in other cultures, and to follow these paths to find a better
mode of healing that I could one day appropriate in American nontraditional healing. This path became joined with my search for creativity as I followed the most glorious river in the world into the remote village of Simigaon, in the Doloka region of Nepal.

A five-day trek led my group into this village. The trek was through some of the most beautiful country I will see in my life. The river we followed flowed with tremendous power, its water so cool to the touch. We ascended the climb into the village and after a short rest were once again given host families to live with. I stayed with a wonderful, warm, jovial, and caring family. Our home was located on small piece of terraced land. It was a one-room home, with small windows and a central fire, which was standard in home design. The family and myself slept around the fire, ate around the fire, and talked around the fire. It was in this village that I caught a glimpse of what I had been missing in Nepal’s creativity.

The most overt creative aspect of Simigaon was the resourcefulness of its residences. The village being a two-day trek from transportation, had to import, through the use of porters, all of the equipment, supplies, and non-farmed food stuffs from Doloka. Although this was possible, it was difficult and costly and most of the used objects were not so much bought as created. The resourcefulness of the land was primary to the village. Simigaon, being on a hill had no natural land to cultivate. It did what much of Nepal has done; it has terraced the land to create great steps in the mountainside. These leveled areas are used to grow the staple foods of Simigaon, corn, potato, millet, and wheat. Although this may not seem like an impressive innovation, when one thinks back on the generations that created the system the innovation becomes apparent. Without terraced land there would be very little food available to the villagers; what land there is, is used to its potential.

Next in the succession of ingenuity, the family fields are scattered over the entire area, not necessarily next to each other. The reason for this illuminates some creative resourceful thinking. After harvesting a bit of land, cows are used to eat the remains of the harvest and fertilize the ground with their excrement. If a wheat field is filled with cows and the families potato fields are adjacent, the cows are apt to eat the potato plants, instead of the remainder of the wheat. To avoid this, family fields are scattered so that all wheat fields are in one area, potato in another, and so on. This is a resourceful attempt at maximizing crop potentials, which allows one to use the cows for their potential as clean up and fertilization.

Seeing and using the tools created in the village was amazing. I was continually amazed at the quality of tool production in the village. One of the most interesting devices was something I called a “slapper.” The “slapper” was a long pole with a flat paddle attached to a bolt. The paddle moved in a circular fashion while attached to the pole. By raising holding on to the pole and raising your arms, the paddle could be slapped on the ground flat and smartly. When wheat is harvested the tops of the stalks are collected and in order to use them the seeds that are held within need to be separated from the top collection. The collected wheat was spread on the ground thinly then smacked with the “slapper,” separating the seeds with great efficiency. I fell in love with this device; I even spent an afternoon drawing the device in my journal. I also eagerly aided my host father in doing the separating work when the time came.

Following my goals, I spent my independent study time living in the village. I was intent on studying traditional healing and the effects of the new health post on the healers
of the village. I asked my family if they would mind me staying some extra time with them and to my happiness they replied with open arms. My mother told me that they would love for me to stay, that I was like a son for them, and that if I desired, I could marry a woman in the village and stay with them forever. I laughed and smiled at them. Although they knew that I wouldn’t be staying that long, they were expressing their warmth toward me, as well as a village sentiment of comradery. In Simigaon everyone helps one another with the tasks of life, be it family help, the lending of cows, or collecting wood.

Searching to witness traditional healing, I was unable to locate the healers of the village, but what I had ignored was the one under my nose. It turned out that my father was a healer, although quite the modest one. I remember waking up in the morning to the voice of my father praying over some incense with a non-family person sitting near him on the floor. At the time I thought nothing of this. It wasn’t until later that I connected his actions with those of the traditional healers.

Tangential, yet crucial to my understanding of Nepali healers was a village’s voice in response to the new Western science health post that was being outfitted for the village. What I found out through extensive conversations was that many people realized the worth of the new health post, especially for the village needs of emergency medicine and pill medicine. Yet, although they understood its worth for their village, they realized that there was a limit to the health post’s, and Western science’s, ability to heal, for they both would be useless in getting rid of the \textit{bhut}. The \textit{bhut} is the Nepali word for the spirit or form that can take residence in a body causing ill and sickness. One acquires the \textit{bhut} from being in auspicious areas, doing activities in auspicious times, or through magic, witchery and other means. The predominant sentiment in the village was that it took a traditional healer to rid one possessed by the \textit{bhut}.

Further realization and understanding brought me to interpret the \textit{bhut} in a way that brought to light the necessity for creativity in Nepali culture. When a healer comes to one stricken with the \textit{bhut} he takes the persons wrist in hand, moving closer to the person. While the smoke of the incense entices the \textit{bhut} from the body, the healer uses the power of breath to draw the \textit{bhut} out of the body. After learning that almost everybody in the village has had this done for them and those they love, I began to think up ways of interpreting this on a more personal and psychological level. I understood the necessity of the healer, in contrast to the necessity of a health post, as an issue of contact. In the health post, medicine and healing would be dispensed to the sick at a distance; there would be no close contact, no warmth or caring. In direct opposition to this was the action of the traditional healer. He is one that will hold on to you, to use his breath to heal you, to become part of your life in healing you. This contact is something that is essential to healing. While Western methods of emergency care are renowned and unquestioned, the illnesses that require continued care are those that rely upon the warmth of the healer for their application.

In this role the healer becomes a marginal member of society. Alone as a healer, yet part of many families; feared for his power, yet needed for it simultaneously, the healer exists on a level outside of the main stream. It is in this position that he works between two worlds: that of the spirit and human. He is marginal and must remain so if he is to continue in the care of those he heals. It is in this position that creative means of healing can be employed. Here the healer can use non-Western techniques, can sit with the pa-
tient, and care with interpersonal and intrapersonal contact, either simultaneously or one at a time. In essence, the healer is free to move fluidly through time and space to create and act in whichever manner necessary to heal.

Understanding this in the confines of my own consciousness, I reached my “Eureka” moment. In this understanding of healing I witnessed a form of creativity that is little understood or employed by Western science. Realizations flooded from this moment on. If I had failed to understand healing until then, especially the creative aspects of it, then there must be other areas where I had been previously unable to understand creativity. I can say now that my initial assumptions of a non-creative culture were incorrect. They were a part of my growing acculturation and I feel that it was essential that I not understand before I could come to see a Nepal of creativity.

Speaking directly to Western culture, there is much that healing in America can learn from the ways of traditional Nepali shamans. Many of these lessons are slowly being learned in the fields of alternative healing in America and Europe. Even though these ideas are permeating the solid barrier of Western science, they are a long way from reaching the ears of medical doctors trained in their science. Without close healing, without creative healing, the patient lacks a certain element of care. This is the element of creativity directed towards the individual. When the Nepali healer comes close and battles the bhut, he takes a step into ambiguity that most Western doctors would rather avoid. Combining the art of Western science with the creativity of healing I witnessed may prove to be a combination that will take medicine farther into the future, possibly a future of greater benefits.

Home now for about a year, my mind continually drifts back to Nepal. Often it drifts to the streams, and the mountains, the images of tourist books, but there are days where it drifts to the dirty city life, to the poverty and hardships. Yet more often than not, I think about the nature of creativity. Before going I believe I felt that creative expression was universal. Growing now with new understanding, I believe that notion to be part of my Western upbringing, which teaches the greatness of “our ways.” Though there is great greatness in those ways, they can always be improved, encompassing more interpersonal modalities of healing and close creativity. It is important to realize that they are “our ways” and not “the right ways.”

I am always hearing about things in Nepal I missed. I found out the other day that there is a fair amount of Nepali poetry, something I had overlooked when I was lost in the notions that there was no artistic creativity in Nepal. I figure that there are many things that I missed or mistook for something else. Nepal was the most intense experience, intense from the moment I stepped off the plane to the day I stepped back on the plane. With all that I may have missed in my four and a half months there, I took an important understanding of cultural relativity. If I try to sum it all up I get lost in the greatness, the hardness, the tears, and the smiles. In summation, I find I have very little to say that wouldn’t be stream of consciousness. Nepal was, is, and will be, just like everything. It is only a matter of the individual eyes with which one sees that Nepal becomes personal.
The Netherlands

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Art Education in the Netherlands

Like the rest of the North Atlantic world, The Netherlands are developing into a “knowledge society” in which the fast retrieval and formatting of information is much more important than developing any reflective attitude towards knowledge. The economic value of knowledge becomes far more important than the cultural or individual value of it. For the next millennium this will completely change the relation between the educational system and its relation to the labor market. As a deliverance system to the labor market the educational system will become demand driven and train and deliver young people who are employable in terms of flexibility.

Students are trained to find their way independently with some support of peer groups, a coach or a tutor. According to those in favor “independent learning” is good for the learning individual but also for the economy and democracy within a knowledge society. The main mission of the teacher is to support a social cohesive attitude among the students. This will create civil awareness among students and prepare the new school-leaver on a further process of lifelong learning.

Basic education in the Netherlands consists of 2 years pre-primary, 6 years of primary and 2 years of (lower) secondary education. Thereafter, the student enters the so-called ‘study house’ which has been introduced in the Netherlands since the 1st of August 1998. The study house is a metaphor but also stands for the latest approach to secondary education since the introduction of Mammoth policy law. The introduction of the study house changed not only the way the student is expected to learn (or rather ‘study’) but also the way the teacher is expected to teach.

The study house is an invention or innovation constructed by process managers in education. The excessive growth and administration of an increasing number of organizational levels within the educational system required more and more process managers at nodal points in the organization. Process managers are employed by an organization to lend some direct problem solving by means of re-organizing and image-building. In problem solving process managers avoid to discuss matters of contents. As system builders they stick to the analysis of weaknesses in organizational structure. The process manager organizes and administrates in a virtual way, using just a few key-words in his limited vocabulary. Key-words like performance, efficiency, output, impact and quality. In this context quality refers to achieving independent and (inter)active learning.¹

First of all the student is expected to ‘learn to learn.’ Teaching is no longer a ‘central activity.’ Independent learning (studying) by the students is stimulated and supported. With the help of a computer and supported by the teacher, the student is retrieving the information needed for his independent learning process. In this way education gets tailor-made for each individual student involved. Learning activities focus on developing problem-solving skills among students. Along the road of independent learning and learning by doing the students are supposed to capture and construct the contents and the principles of the discipline they are studying. Know-how craftsmanship and professional knowledge are considered to be side products of independent learning.

However, this cannot be done without the help of a ‘significant other.’ The ‘significant other’ may be represented by the teacher(s) or by persons within the home environment:
parents, affiliates, friends to the family. The relation between the student and the ‘sig-
nificant other’ has at least three different functions. (1) it offers the students inspiration
and opportunities for identification, (2) it supports efforts to self study and research, and
(3) it stimulates to argue and to study together.

In its role of ‘significant other’ the teacher is no longer there to teach by means of
straightforward lecturing or classroom demonstrations. The teacher’s new role is to ful-
fill its pedagogic mission by taking up the role of coach or tutor and lining up the newly
acquired knowledge and skills to the wider societal context. He is the person the student
has to contact as soon as he or she needs any support or assistance.

This new approach to learning seems to fit children from the intellectual social envi-
nvironments better than children coming from less privileged environments. It seems that
children raised within an intellectual home environment are better prepared and stimu-
lated to independent learning than their less privileged fellow students. The home envi-
nvironment is supportive to developing the learning competence among young children
and adolescents. Independent learning, learning to learn and learning by doing are
pedagogic principles socially rewarded within an intellectual home environment.\footnote{Learning to learn is a cultural capacity which will only be captured and sustained with the support of the parental ‘cultural capital’ in the home environment of the students and the ‘hidden curriculum’ within the ‘school environment.’}

This has its consequences for the chances a school learner has in succeeding to apply
for attractive positions in his further academic career (to attend higher education) or his
professional career on the labor market. In former days vital for ones future career was
the traditional division of labor between man and women and the professional position
and the income of the parents. This had its definite impact on the unequal access to
education and culture, to the labor market, and to health (care) services. Nowadays, it is
the ‘cultural capital’ provided in the home environment which is of importance in
developing one's career.

The Study House as metaphor

What then is going to be the position of ‘Cultural and Artistic Education’ (CVK) in this
schedule? In the current policy plans ‘cultural and artistic education’ will be offered in
three different forms to develop the expressive and physical skills of the students (arts,
media education, and physical education).

The introduction of the model of the ‘study house’ in secondary education in Autumn
1998 had a lot of consequences. First of all the physical structure of the schools had to
be changed. Computer and reading rooms had to be created. Secondly it completely
changed the role of the educator. Teachers are more and more perceived as coaches and
resource persons. And finally the actors involved had to get used to the notion of ‘study
house’ as a metaphor with thorough consequences for the curriculum. In implementing
this educational strategy the ‘study house’ counts for different ‘rooms’ in the house.

The ‘study house’ counts four rooms to be ‘inhabited’ by the students. Each ‘room’ is
perceived as a ‘knowledge center.’ The first room is equipped with the purpose to facili-
tate the students in learning about subjects dealing with ‘Nature and Technology’ (i.e.
science education: mainly mathematics and physics). The second room—closely related
to the first—facilitates the student with all the educational assets to learn about ‘Nature
and Health’ (like biology, chemistry, medicine and environmental studies). The third room is dealing with ‘Culture and Society’ (national and foreign languages, history and geography, language and culture studies). While the fourth room offers all needed to know about ‘Economy and Society’ (economy, political sciences).

Cultural and Artistic Education (CVK)

The ‘study house’ construction to secondary education also has its consequences for Cultural and Artistic Education (CVK). Let us start with pointing out that a distinction is made between three different components or profiles of Cultural and Artistic Education. The first component (CVK 1) is mandatory for every student and deals with general interest issues in the arts including cultural activities like visiting exhibitions and performances and obtaining basic knowledge about arts and culture. The main aim of this component is to provide the students with a more profound insight into the wider cultural and societal context of the arts. This part of training program pays attention to the position, the function and the possibilities of the various art disciplines and specific art forms.

The second profile (CVK 2) is referred to as ‘Culture and society,’ offering programs in training students in a more practical way in visual arts, music, dance and drama. Although this second training profile or learning route is still not preparing the student for any practical follow-up education in the arts at tertiary level it provides the student with a general orientation on (1) the theory on the arts, (2) techniques, and (3) practical training.

The third profile (CVK 3) is optional to the student. It offers a practical orientation and preparation to those students who feel attracted to enter a professional art education career at tertiary level. In fact, it offers a deepening of knowledge and skills offered by profile two (CVK 2). Those students who wish to prepare themselves for the practical and professional higher educational level of arts education have to opt for this ‘free choice’ component in their educational package.

The implications of this policy for secondary level education in the Netherlands are tremendous. Each school is considered to be able to offer qualified teachers in all art disciplines. This implies that art education is going to be taken as a fully qualified subject in the final exams of the secondary education. Students are confronted with the various disciplines in the arts during their secondary education in an attractive and structured way. However, this will raise the need for fully qualified arts’ teachers in secondary education as well as a budget which will allow students and arts’ teachers to fully implement this policy to actively visit exhibitions, performances, art manifestations, museums, concerts, festivals and workshops or invite artists to come over to the school to offer practical workshops.

Critical remarks

Although this way of teaching the arts to young people and adolescents seems very attractive and in line with current social and technological developments some critical remarks need to be made. Referring to CVK 1— the mandatory classes presenting a general introduction to arts and culture— it has been stipulated that a major part of the curriculum focuses on ‘literary education’ and the promotion of reading habits among
Dutch youth. In practice this will leave limited time (about 50% of the available time) to other art disciplines.

Another threat is formed by the cost implications. The costs to be made to implement CVK 1 are limited in nature. But the costs involved for CVK 2 and 3 are high. The Ministry of Education offers the alternative strategy to replace CVK 2—which focuses on the linkage between ‘Culture and society’—by the more general subject of Philosophy. Because ‘teaching’ Philosophy may be done by teachers who are already employed by the school it will be much cheaper to implement CVK 2 by teaching Philosophy than by employing art teachers to provide for practical workshops in dance and/or drama.

There is a chance that CVK 3—the practical preparation of secondary school students to professional higher art education—will only be implemented by a limited number of specific schools (art colleges) in the big Dutch towns like Rotterdam, Amsterdam and The Hague in direct collaboration with the professional art schools at tertiary level. For some students this will definitely limit the access to Art Education at tertiary level.

Notes

1. The department responsible for stimulating and supporting the introduction and implementation of the Study House is the *Procesmanagement Voortgezet Onderwijs* (PMVO).

2. These pedagogic principles were already well known within the context of the traditional innovative educational systems like Montessori, Dalton or Anthroposophic education.
Poland

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Publications
Report on creativity activities in Poland in 1998

This report is an extension and continuation of the 1998 report. It is therefore advisable to consult the first report in order to follow the last year’s creativity happenings in Poland. Creativity studies in Poland are currently conducted in the Jagiellonian University of Kraków, the Adam Mickiewicz University of Poznań, the Warsaw University, the Nicolaus Copernicus University of Toruń, the University of Gdańsk, and the Academy of Catholic Theology in Warsaw. Some of these studies are both basic and applied, although the applied creativity projects are mostly carried out outside the academia (e.g., business and education). Therefore, the report will be divided into two parts, referring to the research and applied projects.

I. Research projects

1. In the Jagiellonian University of Kraków, there are two researchers involved in creativity studies: Professor Edward Nêcka and Dr. Aleksandra Tokarz.


Dr. Aleksandra Tokarz is an Adjunct Professor of Psychology in the Institute of Psychology. Her major scientific interests turn around the motivational aspects of creativity. Last year, she has been continuing her study of motivational systems of professional researchers. Junior and senior faculty members of various departments were investigated, and their task was to define the frequency, emotional value, and the stimulating or inhibiting character of these events for their motivation to do research work. The preliminary results allow to conclude that potentially productive scientists are mostly intrinsically motivated and more sensitive to the collative variables (e.g., novelty), as compared to the less productive scientists (abstract included).

2. In the Nicolaus Copernicus University of Toruń Professor Wieslawa Limont has published a book entitled The analysis of mechanisms of creative imagery, Toruń, 1998. In this monograph the author described a research project which was carried out in order to investigate some training methods that could help students develop their creative imagery. This field study lasted one year and consisted of techniques of visualization, metaphorical thinking, self-identification and other stimulation procedures. The author proved that students taking part in this project obtained better results in creative thinking tests than students from the control group.

3. In the University of Gdañsk, Professor Alina Kolañczyk continued to carry out the research project devoted to intuition. She has constructed the self-report questionnaire
with which intuitive versus rationalistic preferences are assessed. According to Kolańczyk, these preferences are rooted in the modes of attentional functioning. Intuitive people’s attention is “extensive” (or diffused), whereas rationalistic people use their attention more in the “intensive” (focused) way. This theory has obtained some empirical evidence, and although Kolańczyk’s studies refer to creativity only in the indirect way, they became quite popular in the country. Last year professor Kolańczyk published a book entitled *I feel, I think, I am: Consciousness and mental processes from a cognitive point of view*, Gdańsk, 1998. In this book, she introduced a theory of two systems of regulation of behavior. The direct system of regulation allows one to respond to external stimuli without imagery and conceptual knowledge. The indirect system of regulation is based on intervening cognitive process. The author discusses some implication of this taxonomy for the psychology of reasoning and intuition.

II. Applied projects

1. **Polish Children’s Fund**

Polish Children’s Fund, directed by Dr. Ryszard Rakowski, is a non-profit, non-government institution whose aim is to help children in need. Apart from funding medical equipment for handicapped children, the Fund takes care of the gifted children and youth throughout the country. Last year, winter and summer schools for gifted children have been organized. During these schools, participants had an opportunity to listen to lectures given by prominent scientists and intellectuals. They also participated in numerous workshops in chemistry, biology, astronomy and other disciplines. An important aspect of summer school pertained to creative thinking workshop, provided by Magdelana Groborz and Zofia Wodniecka from the Jagiellonian University of Cracow.

2. **Polish Institute of Creativity**

Polish Institute of Creativity, organized by Ms. Magorzata Pawlisz, is the non-profit, non-government organization, which has been newly established to unite prominent scientists from different fields who care for creativity, its development and stimulation. The Institute is a kind of “virtual” organization, also defined as an interdisciplinary think-tank. Last year the Institute organized a series of workshop in creativity for teachers.

3. **Carpe diem**

“Carpe diem” is a monthly “journal for creative people,” as the cover inscription says. Each issue refers to a chosen topic, which provides a common ground for articles and other contributions provided by psychologists, educators, and creative professionals. For instance, a special issue is devoted to intrinsic motivation, another one to creativity training, etc. Painstaking editing and good graphics make this journal really attractive for general readership.

Appendix

Edward Nêcka, *Creativity and attention*
Abstract

Two experiments are reported, in which participants were given a battery of creativity tests and a computerized task of selective attention. In the first experiment (N=44) people scoring high on Urban and Jellen’s test of divergent thinking obtained worse results in the attention task than people scoring low on this test, particularly in the difficult versions of the selective attention task. It also appeared that intrinsic motivation, assessed with a self-report questionnaire, correlated negatively with speed of selective attention, particularly in the dual task conditions. In the second experiment (N=57) participants were given slightly modified versions of both the divergent thinking tests and the attention task. The findings showing decreased performance of intrinsically motivated people in the dual task condition have been replicated. It also appeared that participants with high fluency scores obtained low selectivity results, but only in the dual task condition. The results of both experiments suggest that creativity may be associated with impaired functioning of the filter of attention. Possible ways of interpretation of these findings from the point of view of the cognitive mechanics of the creative process are discussed.
Portugal

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Publications

1996 Morias, M.F. *Inteligencia e treino cognitivo: Um desafio aos educadores*. Braga, SHO.


Predicting Creative Achievement from a Cognitive Approach

Creativity is one of the most complex concepts in psychology. The diversity of its definitions as well as the questions about normal/abnormal distribution in population or about globality/specificness in different achievement domains, are some examples of that complexity. Recently, we can observe some attempts to study this concept as an integrated whole (e.g. Amabile, 1983; Csikszentmihalyi, 1988; Sternberg & Lubart, 1995). Those attempts seems to follow the metaphor of Isaksen (1987) presenting creativity as a diamond whose value is only captured when it is looked at in its entirety. However, we always can ask if there isn't the risk of the diamond's brightness to blind the observer. Particularly when we don't know what a diamond is made of. Perhaps these integrating approaches about creativity (more descriptive than explanatory, in our opinion) have to be followed along with specific and deeper attempts to understand better each facet of being creative. Perhaps a more detailed analysis of the diamond will steal some mystery (not magnificence) of its brightness. Mystery which can be poetic but not scientifically useful.

In our Ph.D. dissertation, we decided to study the cognitive dimension of creativity. We wanted to analyze the presence of some specific cognitive processes in creative achievement. Two other options were available: considering two different domains of creative performance and using creative products as the external criterion of creativity's evaluation. The moderate correlation values between creative domains (Sternberg & Lubart, 1995) and the frequent confusion between predictors and criteria (Brown, 1989) seems to justify these options.

The sample consisted of university students of Fine Arts and Literature (N=166). The evaluation instruments used were tests of divergent and convergent thinking (already studied in Portuguese populations), as well as two tests constructed in our work to measure problem-finding and insight problem-solving. Both these tests presented adequate statistical values. To measure creative achievement, two relatively structured tasks were defined (production of a text and of a poster). These tasks were analyzed by experts who are familiar with the respective creative domains, and the inter-judges agreement was ensured (it was used as the criterion “subjective perception of creativity”—see Amabile, 1983). The different analyses we have conducted led to a restrictive number of predictors of creative achievement, as well as to a conjugation of variables which significantly differentiate extreme performances. In the case of the regression analyses, the academic course was the most relevant predictor (variance explained between 7% and 46%), also the tests of divergent thinking and of problem-finding had (small) specific contributions (between 2% and 3%). However, the results presented differences depending on the creative domain. The highest variance explained was in the production of posters (51% vs. 10%) and the divergent thinking was the only predictor in this case. Problem-finding only had a specific contribution in the production of texts. Concerning the discrimination of extreme performances, the identified variables referred to the figurative reasoning and divergent thinking tests, as well as to insight and problem-finding. This conjugation seems to correspond to a dimension of combining remote information and of cognitive restructuring.
Differences were not observed between the two creative domains in these analyses. This study seems to confirm the difficulty in identifying cognitive predictors of creative achievement. However, it can suggest some influences of very different cognitive variables (knowledge, divergent thinking, creative processes) taking different contents of creative production. Attention should also be given to the cognitive variables that discriminate extreme groups. Its similarity in terms of distinct domains, points towards a nuclear cognitive dimension responsible for high levels of (mundane) creativity. In fact, if we take both analyses together, we can question the normal distribution of creative performance in the (normal) population: cognitive predictors of creative achievement variance aren’t the same variables that differentiate extreme performances. This question is then discussed in our work in terms of eventual different roles that divergent thinking and insight skills can play in the creative production.

More research about relationships between cognitive processes and creativity should be conducted. Specific research about extreme creative performances should also be conducted and compared with studies that assume creativity as a continuum. What if both kinds of analyses don’t show the same information? What if the question of abnormality of distribution isn't exclusive of the Big creativity? We’ll wait for these challenges with curiosity.

References


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Publications

A Typical Profile of the Creative Teacher in Higher Education: An Investigation at The Lisbon Polytechnic

During the year of 1998, an interesting investigation occurred, aimed at elaborating a sort of “typical profile” of a teacher in higher education, at the polytechnic level (an education system, aimed at undergraduate, professional-oriented higher education).

Through a series of interviews, made to 26 lecturers of the Lisbon Polytechnic Institute (LPI), selected as examples of creative teaching, it was possible to build a sort of standard portrait of the creative teacher. These teachers belong to seven Schools (faculties) of the LPI, representing almost one thousand lecturers and twelve thousand students of engineering, media studies, business, dance, music, theater, cinema, and teacher training. To select these teachers, each Students’ Association was approached, in order to draw up a list of lecturers considered creative as teachers, about which it was possible to obtain a consensus among the students. No definition of creativity or creative teaching was provided nor a specific number of lecturers was demanded, and it is interesting to stress that none of the groups that were approached, in order to provide a list, made any question about the meaning of creative teaching, or the number of lecturers required. After the interviews, one class of each interviewee was observed, and registered any events, acts or interactions which could fit into the scope of the investigation.

Although in some of the Schools the proportion was higher than the average, in each one of them about 7% of the lecturers were selected as examples of creative teaching, thus giving a total of 62 out of 912 possible cases.

From the content of the interviews and observations, it was possible to draw up the following description of typical creative teachers, at the polytechnic level:

Creative teachers are “workaholic” people, with a teaching experience of more than ten years, unique and different from each other in such a way that it is difficult to find patterns, but in the fact that all love what they do, and all of them love their students.

They do not recognize themselves as creative, but just as professionals who try to improve, and tend to attribute that assessment to external factors (e.g., nature of the subject matter taught, reputation as a professional outside the educational environment), or to the kind of relationship that they maintain with their students. They tend to see themselves as “good teachers” and “actors on stage,” or as “negotiators” with their students, frequently available outside class, flexible as to students deviant behaviors (e.g., late arrivals), close (friendly) and distant (not a ‘comrade’) at the same time; knowing their names participating in their initiatives and standing up for them when needed. Popular among students and respected (and probably envied) by their peers, they sometimes fear that being too nice can also be a bad thing for the students, preventing them from giving appropriate feedback, or to fail later, when they will not have the extra support that they get from these teachers.

They prefer not to go into too much of a detailed preparation of their classes, leaving something to be construed with the students, in a sort of “risky class adventure,” so that it may become a surprise to themselves, as well as to their students. They hardly repeat a class, exercise, or semester exactly the same way.
Good professionals in their related fields, they often carry out both activities (work and teaching) simultaneously, especially in the arts, accountancy and engineering fields, as this gives them the possibility of becoming experts in making analogies between academic and real life. Preferring to demystify science in its application real-life problems, emphasizing communication instead of content, and alerting the students to everything that surrounds them, creating a climate favorable to the sharing of experiences.

Some of them may be more “task-oriented,” corresponding to the “actor on stage,” or “seducer” type, especially when the majority of the audience belongs to the opposite sex; others may be more “relationship-oriented,” corresponding to the “supportive” or “facilitator” approach, aimed at establishing close relationships and providing social support.

As to their ideal of perfection, they feel they are at an equilibrium with their students, and that they must change as the students change, and all they wish is to have more time for themselves and for their students, and take less time to know them well.

And last, but not the least, they tend to be subject-matter experts, with a constant worry with self-actualization.”

As definitions of creative teaching provided by them, some were chosen as examples.

The task-oriented teacher is seen

“(…) to be half way to being a good teacher”
“(…) a communicator first
“(…) someone who leaves his or her mark”
“(…) a seducer, who ‘inflames,’ ‘infects,’ turns the students into subject matter ‘addicts’
“(…) is the one who is able to catch the cultural evolution of the students, to feel the communities’ objectives in education, to invent the future and see what kind of knowledge will be necessary then.”
“(…) is the teacher who creates something new with the students”

Or the “facilitator” type of teacher:
“(…) teaching creatively is something that comes from a humility of creating the practice out of one's own evaluation, with a reference that does not have to be perfect (the teacher may not be a role model), that must not try to impose itself”
“(…) is someone who lives between light and darkness; that has an idea but not the image of that idea.”
“(…) a teacher who tries to understand if what each student brings out from school has to do with his or her wishes.
“(…) is to be ethic (relationship), before being aesthetic (task)”
“(…) is to be able to discover what the student has to say; what he or she is able to do; how is his or her expressiveness reveals itself”

Finally, to these teachers, the typical uncreative teacher seems to be: “Just someone who delivers the subject matter always the same way, not taking the students’ reactions into consideration; who leads them to concentrate in facts and concepts, instead of ques-
tioning themselves and the subject matter.” This kind of teacher is “(...) a predictable person.”

Together with the interviews, questionnaire data were collected, of a sample of more than eight hundred students and two hundred teachers of the IPL, and the analysis of the results provided clear evidence that the teachers who were selected as examples of creative teaching, didn't differ from students, as to their conceptions of creativity in teaching, neither from their peers, as to effectiveness. Even though these teachers represented a small group, compared to the whole population of teachers of the IPL (n=912), the differences were significant enough to support the finding that creative teachers tend to have a better role clarification than their less creative colleagues, and that they succeed in balancing both factors (creativity and effectiveness) in a more effective way than their colleagues do. In fact, orientation towards creativity and effectiveness, among faculty, seemed to be of an exclusive nature, that is, when one pursued an orientation to creative teaching, one did that at the expense of effectiveness, and vice versa.

These findings may bring important contributions to the understanding of the ways that students and faculty see the role of a teacher in higher education, and to evaluate the importance of creativity in teaching, within the specificity of the polytechnic system of higher education.
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Publications
1983  Stoica, A. Creativity in pupils and ways to assess and develop it. Bucuresti, Editura Didactica si Pedagogica.
Creativity and Giftedness in Romania

Let’s have a look back…

During 1945–1990, research on creativity has been the most privileged field in Romania as compared with the other fields of psychology and education. Especially in ’80, when study in psychology and sociology was politically prohibited, creativity remained almost the single opened window for research. The explanation consists in the paranoia of the Romanian biggest and single leader: he was dreaming to prove that the communist regime is the best one in the World, and some kind of “mass creativity” could help him in gaining that goal—technical creativity, for example, which could provide him a nation of workers-inventors.

Benefiting from this climate, many theoretical and applied research have been carried out by academics in universities, and also by scholars working in the network of the research institutes spread around the country (mainly belonging to the Romanian Academy, or to the Romanian Ministry of Education). Additionally, these research centers developed a strategy for training in creativity of several kinds of students: young researchers, teachers, employees, students in school/higher education. As results, one can count: books in pedagogy and psychology of creativity, Ph.D. theses in the field, special courses taught in universities, national and local seminars and conferences. Perhaps, the most relevant outcome was the Romanian gold generation in creativity, with outstanding researchers and authors, focusing on the facets of creativity being studied in USA and Western Europe at that time. Their achievements represented a mixture of: a) adapting and disseminating in Romania foreign theory and research, b) their own and/or duplicate research; c) applied research and programs, ending in guidebooks for stimulating and/or developing creativity.

A renewed, stronger and different movement in giftedness

On the contrary, the giftedness field was almost unknown in the country before ’90. The communist society, focused on inducing human value uniformity, was rejecting any initiative to meet special needs of the ablest people. For further information, please see the image of the creativity research and education in communist Romania (sketched by Ana Constantin, and published in the ACA’S Foreign Correspondents Report 1997, pp. 18–19). Concern and progress made in this peculiar field, giftedness, after 1989, determined us to devote special attention to it in this annual report.

In communist education, a formal framework for the education of talented pupils existed, however. Mention should be made of music schools, sport high schools and special classes for mathematics-physics, chemistry-biology, and computer sciences. There was also a network of academic and artistic competitions, going all the way from gymnasium to the university, culminating in international Olympic competitions. The highest-gifted students were receiving offered special courses, to get an intensive training for such competitions. But one could notice a marked tendency towards the huge dimensions and propaganda-oriented actions. That approach drastically diminished psychological and educational approach of excellence. No research was made in the field of giftedness. Certainly, the communist period represents a sad age for this topic, in a country where research on gifted ability started, and had some promising accomplishments, between the two world wars (for example, there were developed:
ments, between the two world wars (for example, there were developed: suggestions for individualizing education based on the pupils’ IQ, even in 1915; a method for group selection of the 11 year old gifted children; research and practice in performance selection and vocational guidance; some patterns for measuring and evaluating special aptitudes, perhaps as a pioneering step).

A new educational policy and systematic research on giftedness re-started after 1989, aiming at the “accelerated and careful recuperation of lost time.” The following facts can support our opinion: courses on giftedness offered by the University of Iasi; research conducted in pH programs; research in identifying gifted individuals, carried out by scholars in the research Institute of Educational Sciences, Bucharest; founding the first national professional association for psychological and social assistance for the gifted children and youth—RO-Talent (in Iasi, 1991); establishing contacts with international societies and organizations in the field of study of excellence.

Continued to train in creative problem solving different students, in all kind of training stages: for employees in organizations, for public servants, for teachers.

In 1998…

Except the new and promising area of giftedness, just mentioned, the creativity research and theory as a movement hasn’t find again its way, lost a decade away. We assume that, perhaps, Romanian people and scholars have never needed more creativity than nowadays, but, on the contrary, people have never showed lower interest in academic creativity. It is a confused and difficult era for Romanians. Still, some tendencies, which could reveal themselves as potential renewed trends, are in progress: research, theory, both of them expressed in published books, papers and Ph.D. theses; changes in higher education curricula; training programs and others.

RESEARCH has been developed by teams working in universities or in research institutes, or by individual researchers, as happened with the two new Ph.D. in psychology, who approached creativity topics. To illustrate creativity research, readers could have a look at the following summaries:

A Strategy of Teacher Training and Counseling, in Curriculum Planning for Able Students (a five years research ended in 1998, led by Dr. Carmen Cretu)

The research goal was to improve the ability of working with able students in the frame of Romanian system of education. The Romanian Council of Scientific Research supported it in Universities (CNCSU).

Objectives:

a) Doing a preliminary diagnosis of the teacher’s level of knowledge and practice in the field of giftedness.

b) Writing a guidebook for teaching able students (IV volumes, as follows):

<table>
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<th>I-</th>
<th>“Guiding ablest teachers for ablest students.” Basis of gifted identification and nurturing in school.</th>
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<tr>
<td>II-</td>
<td>Projects of education for primary school (6–10 years old).</td>
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<td>III-</td>
<td>Projects of education for gymnasium (11–14 years old).</td>
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<td>IV-</td>
<td>Projects of education for high schools (15–18 years old).</td>
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c) Testing these methodological guide and projects in a sample of Romanian schools and high schools.

d) Designing the curriculum of an *International Summer Academy* in the field of giftedness.

**Steps of the research:**

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<th>STEP</th>
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<tr>
<td>I</td>
<td>1995</td>
<td>Survey on Romanian teachers’ training and practices in the gifted and talented education</td>
<td>Report on survey</td>
</tr>
<tr>
<td>II</td>
<td>1996</td>
<td>Edit the methodological guide</td>
<td>Methodological guide (vol. I): “Guiding ablest teachers for ablest students”</td>
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</table>
| III  | 1997 | Teachers’ training (Experimental teacher sample selected from primary school). Level: postgraduate | 1. Graduation: Certificates of competence in education for able students.  
| VI   | 2000 | Summer academy. Attendants: 50 teachers. Courses and seminars conducted by university professors and by researchers. Experimental workshops with the contribution of teachers who graduated the teachers training. | Certificates of participation at the Summer Academy. Certificates of teacher trainer in the field of education for gifted (at a specific curricular area). Report of research on training of trainers. |

**Religious and creative attitudes. Comparative study: Romania-Belgium.**

Authors: Dr. Mihaela Roco, Assoc. Prof. at the University of Bucharest, Romania & Dr. J. M. Jaspard, professor, Director of the Center of Psychology of Religion, U.C.L., Belgium.

The empirical research has been carried in Romania and in Belgium, *aiming* at iden-
tifying common features in high creative persons belonging to two close religions: orthodox and catholic. The sample involved 135 high creative people in physics, medicine, history, and philosophy. The main findings of the inquiry are as follows: 1) The religious values are placed on the first or second place in the hierarchies of personal values; 2) The intrinsic religious is dominant; 3) The most of the subjects think that the religious belief enhanced their scientific creation. 4) Almost all of them show high creative attitudes, such as openness to new, capacity to defend one’s idea, moral and spiritual values, nonconformity, and independence in thinking and action.

The stages of moral and religious thinking in over-gifted teenagers.
Authors: Dr. Mihaela Roco, Assoc. Prof. at the University of Bucharest, Romania. Aims of the investigation: 1) Identifying the developmental stages of moral and religious judgment at different ages (10–55 years); 2) Focusing on moral and religious judgment in over-gifted teenagers, in order to sketch their peculiarities; 3) Identifying a presumed concordance between the two types of judgments. Subjects were subsampled in five groups: a) Over-gifted teenagers age 13 to 18, highly rewarded at international Olympics of physics and mathematics; b) children aging 10 to 12 years; c) teenagers with no actualized creativity, 13–18 years old; d) adults aging 20 to 66 (teachers); e) high creative persons, 20–59 years old. Findings: 1. Confirmation of the theory of Oser and Gmunder about the universality of the stages of the development of religious judgment of persons of orthodox religion. 2. The development of moral and religious judgments is precocious in over-gifted teenagers. 3. There are concordances between moral judgment and religious judgment.

Creative Group and its Impact on the Personality of Group Members is the title of the Ph.D. thesis in psychology written by Mariana Caluschi, a researcher at The Romanian Academy, the Branch of Iasi. After an in-depth empirical research on the topic, during eight years, Mariana Caluschi found that her creative training groups produced changes in motivational pattern: self-actualization and self-accomplishment are higher, and anxiety and compensation are lower. Creative barriers and blockages have also been reduced under the effect of creative group; intrinsic motivation has been enhanced.

The Education of Gifted Children is also a Ph.D. thesis in education, which has been just carried to an end by Liana Stanescu, a fellow at the research Institute of Educational Sciences in Bucharest. The two main issues of her research project consisted of the identification and methodology of teaching to gifted children. Empirical research has been made both in primary and secondary schools.

Two empirical studies on the creative person have been published by Ana Stoica-Constantin and her co-authors, Ticu Constantin and, respectively, Tatiana Dorofte: one of them is focused on the cognitive factor, and the other one is focused on the case study as a research tool.

An abstract of the second study follows. It is about the Case study in Researching High-Achievement Personality. A Methodological Design. The study intends to contribute to both methodological and theoretical issues involved in the research of the high-achievement personality. First, the most appropriate tools of the longitudinal investigation are introduced: semi-structured interview, analysis of the biographical mi-
cro-units, analysis of the causal-matrix of the significant events, interpretation of the
cause-diagram, “the cyclic test of the time,” differential interpretation of the identified
factors. Two case studies, one of an inventor and one of a painter, are presented in the
second part of the study, to illustrate practical examples of this kind of research, and to
demonstrate how the findings can be used. Finally, methodological and theoretical
conclusions are put forward.

In progress is being a research project on able children, conducted by a team of fel-
lows working at the research Institute of Educational Sciences, Bucharest. Team leader:
Dr. Mihai Jigau, researcher and Head of Department.

Finally, we have to mention two current research programs in giftedness: a) Compara-
tive Study in Early Identification, Romania-Spain (“Huerta del Rey” Center, conduc-
tor Dr. Yolanda Benito); and b) Reform of Curriculum in Romania: Gifted Students
Issues (conductor Dr. Carmen Cretu).

Theory

Global Success Model (GSM)

Author: Dr. Carmen Cretu, Assoc. Prof. at the University of Iasi (The GSM was

The concept of “global success”
The global success, the key concept of our theoretical model, is made up from a holistic
perspective, not only as a multitude of forms of one's success (e.g. in learning, profes-
sion, social life, relationship), forms which are obtained by internal and external cata-
lysts and their turning into a socially used talent, but also by linking each form of suc-
tess to all the others and interacting among themselves. The result is to be analyzed on
several axiologic levels: of social expression personal image, someone else's image of
that person, the value of immediate satisfaction and in a longer time of specific and
global virtual abilities. We think that global success having much more than social con-
notations of success, as a sociological construct. In our view, global success is the ex-
pression of ontological climax on individual-human scale; it is what the human person-
ality has as the most valuable at a certain moment of one’s ontogenetic route.

Rationale for “global success”
By its pedagogic finalities, this model pleads for an integrative conception of educa-
tional assistance of giftedness. Also, it intends to set for a global evaluation of the indi-
vidual excellence of whatever level, on the above average register. The global evalua-
tion is not placed in an antagonistic relation with the assessment in terms of small se-
quences of individual performance, nor is it a sum obtained by simple addition of the
successes achieved at different tests. We feel that the rigor, accuracy and objectivity
specific to the evaluation of the rather limited segments of giftedness way of manifesta-
tion are very important but they are not enough. Any way, we have to agree that in to-
day’s researching, it is a big prevalence of sequential evaluation over the global evalua-
tion of a person's success, even in only one field of performance. The global evaluation
of success, although not very precise, tells us more about one’s probabilities of evolu-
tion, risks, problems, necessities and potentials. The giftedness can be analyzed only to
a certain point on the data provided by sequential evaluation and their quantitative and
qualitative correlation. Moreover, the stress should be made on prospective research, on
axiological analyses meant to underline for instance the degree of concordance of indi-
individual achievements, possibilities and aspirations with the socially recognized values at some particular moment, or with the foretelling of the evolution of the values in a certain geographic area and for a particular time period.

*Model approach*

In describing the concept of global success, we have adopted *the fuzzy systems*. Any way, the programming for able children represents a fuzzy environment, therefore asking for a special logic of tolerance, for the inexact, vague, ambivalent. The source of imprecision in measuring excellence is the absence of boundaries abruptly defined between average, able, very able, virtual able, talented, virtual talented.

The high ability should be evaluated for each person, passing through all the phases of ontogenetic development, in a dynamic and multidetermined context. Therefore, it is uncertain, in order to make up pertinent projects of education.

The anticipation process, lacking all the dates of the system whose trajectory is to be find out, leads to the make up of a multitude of trajectories arranged in a fan-like shape. The final state is a fuzzy system in the space of states, the degree of affiliation indicating the possibility of reaching the objective. The leader in the educational planning works with such determinations.

*Main features of global success*

From such perspective, the global success can be characterized as: *a. multi-determined; b. multi-dimensional; c. multi-level; d. individualized; e. multi-functional.* By operating these characteristics we can build up the theoretic base of a holistic evaluation frame of the high ability.

*Books*


The book is the first one in the new collection, “Talentum,” opened by the above-mentioned publishing house. Its coordinator, Carmen Cretu, oriented it to giftedness and creativity and intends to promote both Romanian and foreign authors.

The book includes topics such as: curriculum (philosophy of differentiated education, the concept of giftedness, theory of differentiated curriculum, curriculum design and evaluation); management of differentiated and individualized curriculum; teachers training; counseling for able students’ parents and teachers; politics of education for able students; NGO’ advocacy for the gifted.

In 1998 Ama Stoica-Constantin made known the *KAI* (Kirton Adaption Innovation Inventory) in Romania. As the validator in Romania of this instrument, she published an in-depth presentation of KAI, relating it to the issue of resolving conflict (see it in the book *Psychosociology of Conflict Resolution*, edited by Ama Stoica-Constantin and Adrian Neculau).

*Creativity In Higher Education Curricula*

- **Creativity courses** are taught in most of the universities, stressing its psychological, educational or philosophical perspective.
Some fellows use to involve the creativity perspective their courses, as Ama Stoica-Constantin does both in defining and resolving conflicts, and in educational psychology.

...And Miscellaneous Training Programs

Professionals also offered training courses in creative problem solving (CPS) in creativity, in 1998, to different students (employees in organizations, public servants, and teachers), placed on different stages of training. A special note for the involvement of Mariana Caluschi, who continued to monitor, in 1998, one of her older groups, composed by school principals; she also founded a new one, getting together some teachers in a private school.

RO-Talent Association in Iasi held several activities for gifted children and youth, in 1998:

- a) Summer Campus “Us for You,” addressed to gifted youth economically deprived.
- b) National Winter Campus RO-Talent, addressed to adolescents with very high ability in academic areas.
- c) “RO-Talent School,” the first edition organized as enrichment educational program.
- d) Counseling for gifted adolescents.
- e) Network of debates in high schools: “Gifted and their special needs.”

Gianina Masari and Mihaela Grigore, two young RO-Talent members who graduated the Faculty of Psychology and Educational Sciences in Iasi, coordinated these programs.

Conferences To Come

The University of Iasi, Faculty of Psychology and Educational Sciences will host a National Seminar on Studies of Excellence, Next October.

Main topics: policy of education for able children and youth; curriculum differentiated and individualized; teachers training and counseling.
Russia

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Awards
1998 Outstanding Educator Service Award, NY State Assoc. for Comprehensive Ed.
1998 Colleague Creative Education Foundation

Interests
Writing and Editing for Journals in Creativity; Giftedness, Learning Disabilities;
Work with Parents; International Consulting with Educational,
Governmental and Industrial Institutions.

Publications
1998 Callisto, T.A. & Slosson, S. W. Observational analysis. East Aurora, NY: Slos-
son Education Publication, Inc.
1991 Callisto, T.A. Parents make the difference. Buffalo, NY. United Educational
Services, Inc.
Program, Inc.
My Visit to Russia

It was March 1994. Spring had not yet arrived in Western New York. Alexey Tcheremenykh, Vice Mayor of Korolev, Russia, had invited Ginny Simmons from West Virginia and me to Korolev to in-service administrators and teachers.

Ginny and I had spent much time preparing for this important task. Little did I know, as I boarded the plane that upon return, I would be saying, “Surely, I learned more than I taught.”

The Russians were interested to learn from us how we go about nurturing creativity and meeting the needs of gifted children. They stated that they did “little or nothing” about these.

While we did share with them the theories and practices we in U.S.A. use, I was compelled to point out to them their “educational philosophy about creativity, talented and gifted children” and its impact on programs and practices operative in their schools. They believe that schools must nurture students in the performing and expressive arts. This is translated into classes for all in music, art, dance, folklore, creative writing, drama, physical education. From these areas emerge the most talented, who are encouraged to continue to grow.

If you ask a Russian teacher or administrator what the basic skills are, they would reply: Reading, Writing, Arithmetic/Science, Music, Art and Physical Education. The performing/expressive arts are basic.

If ever there is a tight budget, there is no consideration to eliminate Art or Music or Physical Education...a real commitment to “A sound mind in a sound body.” Music and dance are an integral part of the daily curriculum. Not, an “extra.”

“Talent” in art or music or Math or etc. is acknowledged and nurtured. Expectations are high. Expertise and proficiency are rewarded with opportunity to practice, learn more and to grow. Parents, teachers and students value creativity and its expression through the arts as part of Russian heritage. Each subsequent visit to Russia continued to confirm this. It became apparent that their approach to nurturing creativity has three stages. For example, a young student pianist performed his own composition for us. But, first, he played a classic piece. Then an improvisation or variation on that piece. Then he played his own composition. First the discipline of the art, then the creative expression. The teacher was proud of her pupil who had gone through this progression. Mastery followed by creativity.

Anatoly, the Minister of Culture provided many opportunities for cultural experiences where we saw the creative valued. He arranged for us to attend the opera, the Bolshoi Ballet, the Voices of Russia Performance, Folk Music Concerts, the famous Moscow Puppet Show, Student Music and Dance Group performances. In addition, he arranged for us to go backstage to meet the performers. General Admission price to most of these events costs approximately 10,000 Rubels, about $3.00 US. This reasonable price gave access to these wonderful cultural events to a large number of average people. On one occasion we were treated to a private performance of The Presidential Orchestra.
The Russian educators continue to seek ways to identify and meet the needs of gifted and talented children. They realize the importance to articulate this. We continue to indicate to them how they are already doing much of that which they seek; as mentioned above.

The younger Russians are eager to exchange ideas with Americans and others so that they might learn. They are impressed with the program development found in American schools. They have been cut off from the Western World for so long and so they are eager to learn what we are all about. In that process we learn from them.

We have participated in joint curriculum development (U.S. & Russian teachers working together). We jointly sponsored an Intelligence Conference in Korolev with American, Russian and British attendees. We explored basics, learning styles, gifted, creative problem solving, assessment, curriculum development, leadership skills etc. The transition from Communism to Democracy requires flexibility and creativity. It is a time for creative solutions to old and many new problems and goals.

When the Russians were introduced to the Osborne-Parnes CPS Model they embraced it with enthusiasm. They realized the steps contained in CPS are useful for business, industry, the classroom, government and personal application.

We provided teachers (with publishers permission) with CPS materials developed in the United States for adoption, adaptation, deployment in their classrooms.

We shared with Psychologists, assessment information and selected readings. They were eager to learn what had been developed in the western world.

Conclusion

Much is happening in the Russian Federation to value and nurture Creativity. They continue to explore and seek out more information. There is much we can learn from each other.
Russia

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International Consultant in Education

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Awards
Mayor’s Office Award for Excellence in Education
Governor’s Office Award for Outstanding Educator in Region
Honorary Citizenship for State of West Virginia
and Several Cities in the United States

Interests
Gifted Education, Psychology, Government,
Space Industry, Sports (esp. soccer).

Publications
Numerous Educational Publications in Russian Journals
A Comparison of Russian and American Educational Systems

The first visit to the United States from Kaliningrad, Russia was in March, 1992. Our group included teachers, students, principals, counselors, mayor office representatives and cosmonauts, a total of 45 Russians. Before our group was allowed to leave for the United States, we each needed a VISA and a letter of permission from the KGB.

In March of 1992, as the Vice Mayor Kaliningrad, I was the official leader of the delegation as we left Moscow for the United States. Only one of our entire delegation, a cosmonaut, had ever been to America before. Everything that we knew about America was from books that we had read, Russian newspapers and television. Russian students had read extensively from authors such as Jack London, James Fenimore Cooper, Ernest Hemingway and other such authors.

America was a big secret for us and we really had no idea what the country looked like except the White House, Empire State Building and Statue of Liberty. We really thought of America as made of cities with these things in each city. So actually, we knew nothing about the United States. You can imagine the conversation at Sheremetyevo Airport as we met and prepared for this awesome journey.

Our destination in the United States was the State of West Virginia. Our stay in West Virginia was to be two weeks long. We stayed in homes with our new West Virginia families. The first thing that surprised us was the size of the homes. All of us were part of the Russian generation that only knew apartment living that came into being as a major project of the Communist regime. The size and makeup of the America family home and living conditions were not a part of the propaganda that was officially given to us by our government. After all, we were one of the first community groups that ever came to America from Russia, therefore this type of information was a surprise. Each day we discovered a new part of American life that we never dreamed existed, grocery stores, golf courses, cinemas, car sales, malls, hospitals and on and on.

Our visit to West Virginia included visiting schools, hospitals, mayor offices, state government offices, industry and many more. During our two weeks in West Virginia of the United States, our opinion of America as a country changed extremely. We understood that we did not know this country at all.

This visit to America had such an impact upon me personally, that my life was changed totally. During this visit, I met my future American business partner (soon to be my partner and best friend) who talked to us about gifted education and what gifted education means. This was my first meeting to hear someone talk about gifted in such a professional manner and I started to understand that gifted was a serious means of education and had a structured theoretical and functional basis. As an educational leader in Russia, I had never heard or thought of “gifted education.” Even during my time at the Pedagogical University, the discipline of gifted education was never presented or discussed. Our specialized schools had some elements of this type of education, but still could not be called “gifted education.”

The most impressive impact upon me professionally during my visit was that part which dealt with the educational sphere. First, I had to understand that America did not have a
national curriculum such as Russia has. This meant that when I was in West Virginia, I only could talk about the West Virginia educational system. I understood that other states in the United States had similar systems, but each state acts independently. I wanted to discover parts of the American educational system that I could combine with our Russian education system. The parts that impressed me most about the American system were:

1) The structure of the management of the educational system. The West Virginia management system is probably three times less than the Russian local system but it is much more effective. I saw a smaller administrative system operating more efficiently than my own system. The structure in WV provides an individual school independence, yet each school is protected financially and by legislation. This allows the individual school to develop a very substantial technical base which includes technical hardware and networking which includes computers and computerized testing. This technical base plus the financial support provides a larger choice of curriculum subjects that can be used by teachers, administrators and students. This broad based course allowance insures classes for the students with disabilities and giftedness to have access to a variety of curriculum offerings in any local school. This logical structure of support from government, funding and the technical arena is why America is able to create my next biggest surprise;

2) The division of elementary, middle and high schools. In my opinion this is only a perspective for the Russian educational system to adopt this division model. This model is possible only in those countries where the educational system is a partner with government in making economical decisions. In Russia, education is controlled by the government and is seen as a division that is allotted money on the whim of those who control the money. This can be compared to a small child who is given an allowance each week by his parents. The educational system is not a partner helping to make the financial decisions, the money distributed to the educational system is determined by those government officials outside the system. The riches available to the American educational system allow them to divide schools according to children’s learning and educational needs.

I know that American educators will be surprised when they read that other people from other countries think that the American educational system is rich. However, I have now met with national educational leaders in Washington, D.C. Government officials, leaders in gifted education, members of congress, business leaders, state legislative officials, state educational leaders, governors and many others. My impressions have been confirmed again and again. The American educational system is one of the richest in the world and consequently can spend time and money on structures and models.

3) The third area that I wish to discuss, was the area of kindergartens and this was really a surprise to me. In Russia, when a woman has a child, the government will pay her half of her salary to stay home and nurture the child for three years. However, our kindergartens begin caring and teaching children at the age of 18 months. The kindergarten system is a separate system from regular school grades 1–11, but it is still controlled by the superintendent of schools. Kindergartens are separate buildings with a separate school principal. National curriculum is developed and implemented for children and classes in kindergarten.
The main philosophy of a kindergarten curriculum is to prepare students for elementary school. This preparation is not only academic, but it includes physical and behavioral development. Please remember that in Russia, academic curriculum includes music, visual arts, dance as basic. These areas that promote an individual’s creativity are not “add-ons” in Russia. They are basic academic areas. These curriculum goals and tasks provide the opportunity for each child to develop in a holistic educational environment.

Each kindergarten in Russia has a dentist, a doctor, and facilities for speech therapy. Some kindergartens include a massage therapist, swimming pool and instructor, saunas, inhalation and music therapy and researched practices in alternative medicine.

The Russian educational system believes in putting resources into this “front loading” of teaching children during their appropriate levels of maturation. Again, I was very surprised to find little education before the age of five years in America. I think that in the area of early childhood education, we have valuable information that we can share with American educators.

4) The final area that I must address is that of Summer Schools. Please remember that even during the communist time, summer schools were offered in Russia. However, these camps were often sports focused or they were working camps such as those on the farms. I was very excited to find in America such summer schools as the Governor’s Honors Academy or Governor’s School for the Arts. The academic and/or arts focus really is a good way to provide challenging activities for students who are at the top of achieving or performing. This form of education is not developed in Russia and very few educators even know of its existence.

After attending every Governor’s Schools in West Virginia since 1992, I am really impressed with the high quality of teachers and students. These schools provide an excellent opportunity for students to learn at a higher level than ever possible in their everyday school. Many of the teachers are university professors or are high school teachers who have the highest academic standards and knowledge. This idea of special schools was something that I wanted to take back to Russia.

In Korolev, School #19, was established as a middle school that was modeled after the Governor’s School concept. Faculties hired for the school were interviewed and only high level teachers were employed. Students had to demonstrate top achievement with a very developed material base to be admitted. (It is important to note here, that in spite of the American viewpoint that Russia always tested students for entry into specialized schools, this was the first school in Korolev that required high test scores.) Please remember, that in Russia, even with School #19, we still maintained the arts as part of our basic curriculum. Students still analyzed music from the great classical composers, they still read the great poets, they still participated in theater and the other areas of the arts. The art’s area is basic to the curriculum. Students who excelled in the arts, also attended the Korolev School for the Arts.

A lot of educators spend a lot of time thinking, working and planning about how they can change the educational system. I believe that it is very difficult to create something that is brand new and it is impossible to create this just by looking at what we know and what we did. To really create the best system, we must step outside our knowledge box.
and look at other systems and listen to other ideas. By taking what is best from Russia and what is best from America, we can then create what is best for our children, our future.
Russia

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State Coordinator of Governor’s Schools and Gifted Education

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Awards
Elected to Represent the southeastern United States
on the National Research Center for Gifted and Talented;
National President for the National Conference on Governor’s School;
Kent State University Graduate Student Research/Scholarship Award;
Governor’s Highway Safety Award;
Honorary Citizen of the City of Kaliningrad, Russia

Interests
International Training, Policy Development for Gifted Education, Gifted and Learning
Disabled, Gifted and Behavior Disordered, Governor’s Schools

Publications
1990 Simmons, V.G. Building your own railroad tracks. West Virginia Department of
Education, Charleston, WV.
1991 Simmons, V.G. Selected teaching models integrated with West Virginia’s aca-
demic model for gifted education. West Virginia Department of Education, Charleston, WV
1998 Simmons, V.G. Curriculum comparison on an international level. West Virginia
Department of Education, Charleston, WV.
(In process, Simmons, V.G. Time and achievement for gifted: Use of pre-post tests.)
Gifted Education:
The Key To The Iron Curtain

A very wise person once said that if you visit another country for a week, you come back and write a book about it; if you visit for a month, you come home and write a magazine article; but, if you visit for several months you come home and don’t write anything because you realize how much you don’t know. That is why I submit this article with fear and trepidation. I am writing about our experiences with the vast and unknown Russian Federation. I love this country of contradictions and I love her people who are strong, friendly and have never lost their Russian soul. This one is for Alexey, Olga and Nadia—they truly represent the new Russians.

As I left the State Department of Education in Charleston, I grabbed several books that we had just published that compared the West Virginia gifted education model to specific curriculum models. I drove to Parkersburg for “one more” of those trips where I rush in, give a quick spiel about gifted education to visitors, and then rush out—this time it would be Russians.

Several months before, my friend Nikki Wenger called and asked me to talk to a group of Russians. Nikki was a top ten finalist for the NASA teacher in space contest. After the Challenger disaster, Nikki had stayed active with NASA and had somehow met Russians from the mission control city of Kaliningrad. Kaliningrad, in the Moscow Region, had been a secret city and in the spring of 1992, we still couldn’t find it on a map. Nikki arranged for a small group of people from Parkersburg, WV to travel to Russia and in exchange some groups of Russians were opening the “curtain” and making a maiden trip to the United States, mainly Parkersburg. This small, city to city exchange opened the iron curtain for about 60 Russians. Most of the Russians were teachers and very interested in gifted education because “under communism they could not have special programs for gifted children.”

I began my talk with, “West Virginia is a very poor state.” The response was surprise and a few giggles. The visitors from Russia couldn’t imagine any place with such opulence as being considered “poor.” Several of the Russians had visited the local Kroger store the day before. They were certain that it was just built and stocked for propaganda reasons. As I continued disseminating my information about gifted education in West Virginia, I was impressed with the sincere interest and attention to detail that was coming from these Russian guests. Even though they stated that gifted education was new to them, their questions reflected their research and study of the subject.

As I was offering American information concerning gifted education, I was also learning and changing. After all, like my U.S.A. peers, I grew up under the propaganda of the “cold war.” I had preconceived notions about the Russians. Only in the last two years had I truly learned that Russia and the Soviet Union were not interchangeable words. I often tell people that my greatest surprise was to discover how really beautiful the Russian women are. Unlike the heavy, toothless babushka portrayed in the media, most of my Russian friends are slim, well kept and gorgeous. Also, during this short session, I found that not only were my eyes being opened but my heart was also showing some movement. I wanted to see more of them so I agreed to meet them at the Capitol on their visit to Charleston in two days.
The one and half hour drive back to Charleston gave me time to think. I really wanted these educators to see gifted education in progress and the best place to offer a view of an intensive, residential gifted program that practices many of the models and theories of gifted education was to have them come to our West Virginia Governor’s Honors Academy. The Academy is offered to 165 of the top achieving, rising seniors in West Virginia. Even though the competitively selected site rotates to the institutions of higher education in the state, the present site was at West Virginia University. The faculty members for the Academy are carefully selected based upon their course design, their proven ability at teaching top level students and their level of achievement and intelligence. The Academy would be a great place for Russians to learn, first hand, about gifted education.

Because the Academy is so competitive, assurances needed to be made to the people of West Virginia that their tax dollars were not being used to fund students from another country to attend. Fortunately, Governor’s Honors Academy (GHA) has a nonprofit foundation that is supported by several state businesses, primarily Ashland Oil. The first call was made to the Chairman of the GHA Foundation to secure funding for one Russian educator and two Russian students. Agreed. After arrangements were made with the Governor and State Superintendent of Schools, a press conference was held on the day that the Russians came to Charleston. Dr. Henry Marockie, State Superintendent of Schools offered Mr. Alexey Tcheremnykh, Vice Mayor of Korolev the three places at the 1992 Governor’s Honors Academy.

And so it began.

Many people have written about life-changing experiences and just as many have theories about how this happens. I happen to be of the group that believes that you are in a constant state of preparing yourself for a bigger and better next adventure. Your life changing experience may have come to you many times, but you had not filled your bucket of experiences to the point that you understood that a new bucket was needed. Whatever, the reason, my relationship with Russia is truly the life changing experience. If all of the stars had to align for this remarkable event, then they did.

That summer, a female and male student (Dmitri was later a graduate of WV University) attended the Governor’s Honors Academy and the educator was Mr. Alexey Tcheremnykh, the Vice Mayor. Mr. Tcheremnykh had been a biology teacher, a Vice-Principal, Principal and then appointed by Mr. Yeltsin as Vice-Mayor over education, sports, culture and international relations. It was at this point that I realized in Russia, the Mayor’s office controls most everything including the educational system.

Mr. Tcheremnykh spent about half of his time at the Governor’s School, the other half we traveled the state and he met many of the business, government and civic leaders. He was an excellent speaker and even though his English was limited, he also knew how to say exactly the right things at the right times. It was easy to see why he had moved “up the ladder” so quickly in Russia. He was bright, quick, had a great sense of humor and always placed himself in a learning position.

Governor’s Honors Academy ended in July and partnerships progressed quickly. In October, the Governor of West Virginia called 100 selected people together for a one day conference to discuss relationships with Russia. In November a Russian delegation addressed our State Board of Education and in January 1993, twenty-four West Virginians
left for their first official trip to Kaliningrad (now Korolev), Russia. We left with an official letter to be delivered to the Kremlin to invite the Presidential Orchestra of the Russian Federation (Yeltsin’s Official Orchestra) to conduct their first tour outside of the former Soviet Union and to honor West Virginia with this program.

The trip placed us on cognitive overload. Of course we visited Red Square, Lenin’s Tomb, the ballet, cathedrals, the circus, the puppet show and the Czar’s bell and cannon in the Kremlin. But we also had ice cream and champagne on the 21st floor of the Hotel Russia (over looking the snowy Red Square with the Christmas Tree decorated by Americans). We were allowed to visit and tour the Grand Kremlin Palace and have a private concert by The Presidential Orchestra of the Russian Federation. And we left the IPK (our hotel in Kaliningrad) at 3:00 am so that we could walk through the birch trees and make “angels” in the newly fallen snow. One of our group said it the best when she stated, “I feel like the Russians that I have met are closer friends to me than many people that I have known for a lifetime.”

Fortunately, the 24 participants of that first group were not only enthusiastic but also knowledgeable. By February, a new Russia & West Virginia: A Partnership for Exchange Foundation, Inc. had been established in the State of West Virginia. The Foundation appointed Russian and West Virginia directors who focus upon establishing partnerships in the areas of business, education, culture and community. Since this simple beginning more than 200 exchanges, promoted by the Foundation, have changed the lives of thousands of people.

What Has Happened Specifically for Gifted Education?

Of course, this article cannot begin to discuss all the “spin-offs” and fingers that have reached into the pedagogical crevices of educational circles in Russia and in America. Each week I am reawakened to this fact of cultural networking. Last week, I received a call from the Washington, D.C. area from a mother of one of the Governor’s Honors Academy students who had traveled to Russia with me in 1994. The young man is now at West Point and they have remained in constant contact with Andre, a young Russian who had come to West Virginia to attend the Honors Academy. They were just concerned about Andre and his family and the current crisis in Russia. What a surprise, I absolutely had no idea that this friendship had thrived across the miles.

This article cannot address all of the wonderful relationships that have developed, but we can inspire the reader by telling about a few specific projects. Our projects are successful because of the involvement and concern of people. The Russia & West Virginia Foundation is not an endowed Foundation and the money that flows through the Foundation is earmarked for specific, exciting programs. Anyone reading this article can achieve the same goals. Money is not a resource and should not be viewed as a resource. The real resources for cultural exchanges are people and more importantly the heart and soul of committed people. Through such a commitment, the Russia and West Virginia Foundation highlights the following educational exchanges/programs for readers to use as models.

**West Virginia Governor’s Schools**—As stated before, the Governor’s Honors Academy was actually the beginning of our educational exchanges. Each year, at least one Russian teacher and a group of Russian students (about 15) are selected by the Russian
partners to attend the West Virginia Governor’s Honors Academy (GHA) and the West Virginia Governor’s School for the Arts (GSARTS). The Russian students enrolling in GHA have to meet the same high achieving, high performing qualifications as the West Virginia students, and the Russian students enrolling in GSARTS have to be top performers in dance, theater, vocal music, instrumental music or visual arts.

The students are invited to come to West Virginia a week earlier than the beginning of the Governor’s Schools (GS) and they stay a week after the ending of Governor’s Schools. These two weeks are spent with families (usually of GS students) and learning about small town USA. To find the families, letters are sent to all selected GS students and told of the dates that housing is needed. The families then send back their interest forms and describe what type of experience they can provide for the Russian student. A match is then made and the Russian student now has an American family and an American home.

A Governor’s School is an intensive, residential, challenging experience for students who are Sophomores or Juniors in high schools. An institution of higher education is selected for the site and students must be in attendance 24 hours a day for the entire duration of the School. Each Russian student is assigned a West Virginia roommate who has exhibited an interest in Russia.

At GHA students participate in two classes a day (two half-hours in length), a college preparation class, a group discussion class, recreation (forced fun), and evening activities. The Russian students take a class called “American Culture and English Language” and selected another interesting class from math/science/technology or humanities or fine arts.

The Russian teacher at GHA teaches a class on Russian Culture and Russian Language and then participates in the American Culture and English Language class with the Russian students. The Russian delegation also spends one evening entertaining the rest of the Academy with song, dance or Russian information.

The Russians join their West Virginia GHA friends in trips to Pittsburgh, Cincinnati, Columbus, local places of interest, the mountains or streams and always an overnight trip to Washington, D.C. Similar experiences and schedules happen at the Governor’s School for the Arts. During this time, the exchange of knowledge, culture and intimacies cannot be measured.

Not only have personal lives been changed because of this exchange, but also each year, students from the West Virginia Governor’s Schools can apply to participate in a cultural tour to Russia. Usually about 20 students are selected for this exchange. Presently, as with the Russian students, the West Virginia students pay their own way. This cost is a minimum, but also allows for a different cultural experience each day and travel within the Moscow Region and St. Petersburg. During the first four years of the exchanges, the West Virginia Department of Education received a USIA grant for these students. However, the category of “short term exchanges” was eliminated by Congress and now students must cover their own cost.

The West Virginia students spend part of their time in a Russian home. Extensive orientation programs are held before the delegation goes to Russia and therefore they do not worry about committing an international faux pas. All delegates going to Russia understand that gifts are part of a long tradition, which toasts (even for non drinkers) are ex-
pected and that all food is tasted. They read and study about Russia before they even board the plane and a few Russian words are learned so that the host families understand that Americans are trying to bridge this international gap. For many, it is the beginning of that realization that says, “We are not the center of the universe.”

Since the beginning of these Governor’s Schools exchanges, more than 240 Russian and West Virginia students have discovered a new, sometimes rocky, pathway of life in the international lane. These exchanges have led to other exchanges of students, educators, cultural groups and business people. Each successful exchange builds on the one before it and promotes the successive one.

**Educator Training**—Students and a few teachers were going back and forth because of the Governor’s Schools, but our Russian friends were asking for more. “Tell us about counselors, tell us about psychologists, what new theories do you teach, how much schooling in pedagogy do teachers in America have, how much do you get paid, how many students do you have, do you have enough paper and pencils?” The questions were and are endless.

As a director of the Russia & West Virginia Foundation and State Coordinator for Gifted Education, I wanted one of the best U. S. consultants in gifted education to accompany me to Russia. I needed someone who would talk in everyday terms, who understood gifted in such depth that he could take a concept to the “bottom line” and explain it from that level and I needed someone who had a great sense of humor that could flow with the flexibility of international training. Dr. Theodore Callisto was my choice.

We prepared. Did we ever prepare? At the State Department of Education, I prepared manuals for distribution in the areas of: 1) *Developing Governor’s Schools*, 2) *The Education Structure in West Virginia*, 3) *School Boards of Education in America*, 4) *The Testing of Intelligence*, 5) *Gifted Education and Creativity*, 6) *Theoretical Models for Gifted Education*, 7) *The Pedagogy of Gifted Education*, and 8) *A Book of Activities for the Gifted Classroom*. We had eight days of training and 20 books for 20 people at a time (Alexey told us that we would have no more than 12 at a time, but . . .). Some of the pages of the book were even in Russian. Needless to say, as we boarded the airline, we paid extra for our baggage.

Our first session, in a small room, we had more than 40 people. Each session grew in size and many people were like “groupies.” They followed us to each new school site and each new presentation. The Russian teachers were eager, open and ready to learn. Don’t mistakenly think that they weren’t well trained and understood teaching. Teaching is a science in Russia. These teachers are so good because they are so willing to learn and so open to new ideas.

Regretfully (said with tongue in cheek), I listened to Dr. Callisto about the agenda for presentations. We started each session with the question, “What is it you would like for us to talk about during this session?” Without answering their questions, we wrote them on the chalkboard. After filling up a chalkboard, we would pass out the written materials (20 books from WV Department of Education), tell them to take the books home and just spend the time trying to meet their needs by answering the questions that they had proposed. That is what they wanted, that is what they asked for. Our prepared presentations were just not appropriate at this time.
Later, in many of the office and classrooms, we found the complete training documents translated into Russia.

What would we tell someone about training in another country and another language? First and most important, LISTEN to your audience. Second, be prepared to take your ideas and concepts to the lowest common denominator. The best example of this is trying to explain that the Board of Education creates policy. Now try to explain the idea of a Board of Education. You are talking about people who are not educators, making the final decisions about education. My only solution was to go back to the idea of “a government by the people.”

Intelligence Conversion Conference—When you work with another country, your biggest surprise is that you learn more about yourself. I have been in education for 35+ years. I have several Masters’ degrees and a doctorate. I have taught at all levels including teaching teachers about teaching. But, I have done all my study, teaching and working in the United States. When I started talking education seriously with my Russian peers, I found that they thought and asked questions outside my paradigm of education. I had to think differently about our educational system and how and why it functions as it does.

One of my biggest lessons learned was that indeed we do educate our children for our society. We know that when a child graduates from high school in the United States that she will change jobs approximately seven times before she retires. Therefore, in our teaching process we must assure that students have the skills to change jobs, to venture into a new area. We cannot provide a narrow, in-depth study of one area of one discipline.

In Russia, students are also educated for their society. Under communism, an individual was expected to intensively study one area of one discipline. When this person entered the job market, a job was waiting for them and they would remain in that job for the rest of their working days.

After the fall of communism, Russia’s societal expectations changed.

The job market changed, students’ attitudes changed. They began to understand that many jobs awaited them, not just the ones in their own city that employed their parents. Russia’s schools had to change to be more like the American schools that prepared students for a variety of occupations. To assist, The Russia and West Virginia Foundation organized, The Intelligence Conversion Conference in Korolev (then Kaliningrad) Russia. The purpose of this conference was to stimulate Russian educators into focus as they educated and developed the intelligence of their population. Because Korolev is the home of Mission Control and the major space city of Russia, the name of the conference actually came from the space term,

“Technology Conversion” meaning converting the technology of outer space into the technology for earth consumption.

The original focus of the conference was directed toward gifted education, however, after several visits to American schools, the Russians requested that education for the disabled also be included. Educators from throughout the United States and eleven other countries attended this major conference. Major speakers discussed issues of education and especially special education for the disabled and gifted. Small group workshops in-
cluded teachers and administrators explaining the “how to” of gifted education. Because of this conference, several classes for gifted students were added to the schools in Russia.

The most remarkable result from this conference really dealt with a young girl at the Korolev School for the Blind. Three educators from the West Virginia School for the Blind held workshops at the Russian School. One of the educators, Paula, spoke about parent involvement and the positive success of early interventions. After Paula’s presentation a mother approached and said, “Can you help my daughter?” Her daughter, Yelena, had a brain tumor that had been declared inoperable by the Russian doctors.

Paula’s soft heart broke.

She brought the information back to our headquarters and shared it with Dr. John MacCallum, a speaker for the Conference and director of the Foundation. After reviewing the x-rays and medical information, Dr. MacCallum felt like something could be done. He also is in possession of a big, soft heart.

Dr. MacCallum returned to West Virginia, contacted a specialist and a willing hospital. The Foundation arranged for the mother and daughter to come to West Virginia and arranged for all their maintenance. The surgery was successful. Yelena won everyone’s hearts. The State Board of Education voted for her to attend the West Virginia School for the Blind and she did so for three years.

Because of new immigration laws, she could not remain in West Virginia for her last year in high school. She is completing that year in Russia and we hope to arrange for her to return to the United States for her higher education degree.

A million personal stories could be shared about Yelena. If you ever wonder about the continued goodness of the human heart, just become involved with another country and watch your own countrymen come to the rescue.

For the sake of brevity, I will only share the one story of Yelena and her mother living at the Ronald McDonald House during her surgery and therapy. I was visiting and was very impressed with the care that was shown to all the visitors at this house. While I was there, an elderly gentleman in a station wagon pulled up to the backdoor. His wagon was filled with groceries. “This is for the young Russian girl and her mom. I read about them in the paper and just figured that they may need some food.” We still don’t know who the man was, what paper it was that he read and why he wanted to open his heart and pocket book.

Later three of our directors were given the key to the city of Korolev because of our concern for children and especially for the care given to Yelena. The best part of the ceremony went beyond the top dignitaries, the press, and the crowd. The best part of the ceremony was the presentation by a live Yelena, her grateful mom, dad and young brother.

**The Russia School in America**—Actually, in Korolev, there really is a school named, The Russia School. And, The Russia School was actually picked up and moved to West Virginia State College for one semester. Therefore it is called The Russia School in America (RSA).
Governor’s Honors Academy had been held at West Virginia State College and Dr. Charlotte Giles was the Dean. She was a very organized and thorough Dean and ran GHA efficiently and effectively. She also had a deep sense of understanding about the Russian students. When approached by the Russian principal about the possibility of establishing RSA, the natural thought was to house it at WV State College. The College is close to Charleston, capital of West Virginia, had dorm and classroom facilities, and was willing to work with this unique approach to education.

The Russian students and teachers followed a normal schedule for classes and instruction. The Foundation and WV State College added classes in English as a Second Language, American Culture, Computers and Physical Education. Experience trips were scheduled as students visited glass blowing factories, the Capitol, Government leaders and many schools. Students also spent weekends and a week after the school with American families.

The RSA was one of our most successful projects. The costs were covered by The Russia School and numerous in-kind donations by the American people. West Virginia State College awaits their return and we await the stabilization of the Russian economy.

**Curriculum Comparison**—You never know what new connection will appear as you work with other countries. As mentioned before, the RSA visited several schools and students and teachers had home visits. One of the areas of West Virginia that was visited was rural Wayne County on the West Virginia and Kentucky border. The visit was coordinated by a School to Work team from the West Virginia Department of Education and the students were able to visit Wayne County High School. It was just a great day and after that the educators in Wayne County wanted to keep Russian students for a weekend. The fingers of involvement grew and teachers at Ft. Gay Elementary School kept two of the students and caught the “Russian bug.” They were hooked and wanted more.

Ft. Gay worked with the State Department, incorporated technology and Russia into their School to Work project and “in a blink of an eye,” we were going to Russia with 10 teachers, the principal and a friend who was working in Senator Rockefeller’s Office in Washington, D.C.

The teachers from Ft. Gay were a mixture of seasoned travelers to several who had never left their husbands or been on an airplane. They were risk-takers and wanted to learn more about their chosen trade of teaching. Their assignment was to compare the Russian National Curriculum to the West Virginia State Curriculum.

They worked, they studied, they produced a document of curriculum comparison through the third grade. It is an excellent piece of beginning work and only those of us who were there will understand the difficulty of communicating on such a technological level. But, they did it and the have presented their finished product at the State Leaders of Learning Conference and at national conferences.

**What Next**—Our first student, Dmitri is now working for a Fortune 500 company based in Pittsburgh. Sergey is working on a masters degree at the University of North Carolina Charlotte and Vitaly is ready to graduate from Fairmont State College and is hoping to be accepted into graduate school. We have other Russian students moving through our colleges and we have West Virginia students studying in Russia. We are applying for grants to establish web pages, host educators, have artists’ exchanges, etc. We are plan-
ning a trip to Turkey in August 1999 for the International Conference of the World Council of Gifted and Talented Children. We are also planning a musicians’ cruise in Russia in August and in November another trip for Governor’s Schools students. If someone would call me today, I could place Russians in any of the 55 counties of West Virginia and 16 other states. People who have shared the Russian experience with us want it to continue and want to pass it on to their friends.

IT ALL BEGAN BECAUSE OF A PEOPLE-TO-PEOPLE EXCHANGE AND RUSSIAN EDUCATORS’ INTEREST IN GIFTED EDUCATION.

Come and let us share our Russia with you.
South Africa

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Creativity Training in the New South Africa

Business and Industry:

I cannot think of any of the top 100 companies in South Africa that are not going through some form of transformation and reengineering. The South African Creativity Foundation and the Kobus Neethling Group have been involved in Creativity Training in these companies since the early nineties. Where the focus in the eighties seemed to have been on identifying and developing creativity skills, the new understanding is that skill training comes much later in the process.

It is generally acknowledged that fluency, flexibility, originality, elaboration, openness and many other “conventional” creativity skills remain fundamental but is also widely accepted that development of these skills within a disempowered workplace is virtually a waste of time and money. Very few organizations in South Africa have time or money to waste. It is therefore imperative that skills and techniques training fit into the bigger empowerment picture and not become little islands of personal indulgences.

The Changing Models In Business:

Productivity standards are designed which provide employee empowerment by developing and reinforcing a series of power modes. In brief:

Creating and monitoring genuine self-esteem:

- the power of responsibility versus the powerlessness of anger and negativity
- emotional maturity to deal with and grow from put downs, racism, sexism to a level of creative perspective.
- moving away from problem solving to possibility finding
- developing a climate compassion in the workplace
- identifying the factors which erode passion, energy and joy in the workplace
- developing programs to enhance self regulation, moral courage and interpersonal skills for success on the job
- identifying the values, vision, skills, incentives, resources and operational plans (in that order) necessary for meaningful change.

(This has become a part of the process that is of critical importance in implementing any creativity enhancement programs—there has got to be a business plan spelling out what value is being added. There is no money available for training that hangs in the air and that does not fit into the broader business strategy of the company.)
New Education for a New South Africa:

(I have the permission of Dr. Cas Olivier, the Chief Training Advisor with the Department of Labor and a leading expert regarding South Africa’s new model of education, to quote from his book *How to educate and train outcome-based* (Olivier, 1998).

South Africa instituted a new education and training dispensation, of which the South African Qualifications Authority, National Standard Bodies and Education and Training Quality/Assurers are the core drivers. To understand how to educate and train outcomes-based, we must therefore familiarize ourselves with concepts and terminology which came along with the re-engineering of the learning system and which include the language which I call “SAQA” Act. It is stated clearly that all education and training should be outcomes-based education and training system and it is primarily aimed at building the country into an international role-player through enhancement of a culture of lifelong learning.

The success of the outcomes-based learning system will depend on developing and maintaining education and training standards. Throwing standards out of the window would be detrimental to the system as well as to the economic development of the country as a whole. It is therefore essential that those involved in teaching, training and human resources development should understand the ways in which traditional education and training approaches must be capitalized on, while at the same time the ability to learn in various situations is reinforced by building the capacity of learners with the aim to promote lifelong learning.

Developing human resources is the most important means that any country, business, or government department should capitalize on, not only to enhance economic growth but also to provide the much needed advancement of its people. Decisions on how much should be invested on education and training of people are always controversial boardroom issues, since the cost-benefit with conventional ways of education and training is not always that visible. With outcomes-based education and training, the learning achievements are more tangible and the results thereof can be validated against the needs of the real world, world of work and ways of earning an income. It is therefore imperative that decision-makers should take cognizance of the impact of education and training on development should the education and training adhere to the basic principles of the outcomes-based learning approach.

Outcomes-based education and training is meant to enable each learner to accomplish knowledge and skills as well as mastering processes necessary to accept the challenges and opportunities of the world of the future.

Outcomes-based learning signifies the approach whereby curriculum design, planning and offering of education and training, assessment and advancement of learners are based on the demonstration of outcomes. The word “outcome” implies the end-result of learning which can be submitted for assessment. An outcome always results in a product, service or decision.

*Outcomes-based* learning implies that learners must demonstrate the achievement of an outcome, as well as the processes which were followed.

Learners start to achieve an outcome once they begin to “construct” the outcome by means of employing interactive processes, when they:
• Prepare themselves for their alignment towards processes, ways of interacting with the problem and broader environment which include co-learners, methods, materials, time management, technology, and equipment that will be used when they perform tasks according to the above-mentioned planning in order to achieve the outcome. The outcome is not accomplished, however, until it is

• Concluded or completed. This entails evaluation, checking, verification, rectifying, commissioning and auditing of the outcome aiming towards submitting it for assessment.

• Interact with the problem or assignment, broader environment, peer group, clients and tutors; and

• Assess all of the above by means of self-assessment, peer group assessment, client assessment, and tutor assessment.

This implies that from the onset the curriculum design must be result and not content driven, and designed to support learners to develop in a holistic manner as they progress in achieving outcomes. The effect of this is that the learning process is aligned to achievements as they occur in real life situations.

The outcomes-based learning approach intends to focus equally on knowledge, skills, the process of learning, as well as on the final outcome/result/product. In this sense, the process of achieving outcomes during the learning process, can be directly related to the way outcomes are achieved in the world of work. When learners achieve outcomes, it proves that they did participate in their own development. Outcomes-based learning emphasizes learner-centered learning to its full extent with the emphasis on what has been conquered, and that the process to conquer the needed knowledge, skills, techniques and methods can be repeated another and new situations.

Outcomes are distinguished as end results of learning at a specific pitching level with a specific chunk size, drawing on whatever content, skills and processes are needed. Curricula are constituted by a range of comparable sized units/outcomes, at a specific level, rooted in various fields of knowledge. When learners learn they have to draw on a spread of interrelated fields of knowledge, skills and processes and equipment on various levels of complexity to achieve an outcome.

Creativity and Outcomes:

It has been acknowledged by the authorities that creativity should be a fundamental part of all the stages of the new model, from preparation to assessment. I have no doubt that once this learner-centered education is integrated into all school systems, the benefits to the children of South Africa will be enormous.

References

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Empowerment Solutions operates from Paarl, in the heart of the wine lands of the Western Cape, 65 km from Cape Town, and serves mainly in the agricultural and related sectors.

The company conducts workshops and training sessions covering a wide range of skills and topics and works with staff and laborers at the lowest levels of the organization as well as supervisors and management. Our main focus is our popular workshop: Personal Mastery as the Foundation for Teambuilding in Organizations.

These workshops explore teambuilding and change management by starting with self. For things to change, I have to change. Systems thinking.

Everybody wants to change, nobody wants to be changed.

Creating an awareness of how the world changes when we change. Reality is inside, not out there. Becoming aware of our paradigms, mental models and self-fulfilling prophecies.

The workshops explore the journey of teambuilding through facilitation and creative problem solving. Teambuilding as a journey. Creating common language, visions, values, goals & alignment. Stages of teambuilding, the value of storming, getting to truth and transparency. Attack the problem, not the person. Metaphors magic. Teach/learn from stories and metaphors. Facilitation and creative problem solving.

Know thyself. Who am I, What am I, I am not my attachments.

Creating an awareness of our possible limiting mentality and limiting thought processes.

Tapping our unlimited power instead of being our own enemy. Not being more and getting more, but releasing what we are not. Returning to our true nature.


Creative Problem Solving (CPS) techniques. The Osborn-Parnes CPS process. Participation. Trust. Safety, willingness to participate and empowerment.

There is no beaten path, each group is different; just trusting the process!

**Overview of a Project:**
The Unlimited Olive People’s Trust

**Background**

In 1997, the NewFarmers Development Company, together with three other partners, formed the Cape Olive Group and purchased the Sevillano Farming Trust, one of South
Africa’s oldest and most established olive enterprises. The trust was formed by the Costa family, who introduced olives to South African soil in 1925 and have been growing them on the foothills of the Drakenstein mountains ever since. In 1910, the father of the present head-of-the-family grafted a slip onto a wild South African olive and over time this tree produced the very first South African olives. As the business and family members’ skills in olive growing developed, the old trees gave way to new trees which were specially cloned to resist the disease and insect damage associated with olive growing. Breeding, care and attention dramatically reduced the need for spraying, which supported one of the goals that the Costa family pursued, namely enhancing and healing the already damaged environment. From February to July each year the 20 different varieties of olives on Cape Olive Farm, present their fruit for harvesting. Young trees produce small berries, while the older adult trees bear the much sought after big queen olives.

New Farmers Development Company and the other new shareholders, extended an invitation to the workers on the Cape Olive farm in October 1997, to purchase shares in the business. The 27 farm worker households on the farm contacted the Department of Land Affairs to apply for the Department’s Settlement Grant of R16 000 per household. This Settlement Grant is part of the Department of Land Affairs’ program of land reform to contribute to reconciliation, stability, growth and development in an equitable way.

DLA’s policy position on equity sharing projects is that the project must have proven financial viability. The fact that NewFarmers Development Company has invested in the farm and is the majority shareholder (64%), is also in line with the Department of Land Affairs’ policy to encourage third party investment in projects as a demonstration of good faith in its financial position. NewFarmers is currently also involved in a number of other equity sharing projects with the Department, some of which are already in the implementation phase.

The broad aim of the project is to give the farm workers on the Cape Olive farm a stake in the business and a chance to influence decision making on the farm. The project will also give the farm workers an opportunity to learn about:

- business,
- finance and management,
- assist them in shaping their own future.

Through an employee equity scheme, productivity is expected to increase, but it also contributes to broadening the ownership base in agriculture.

Profile of Unlimited Olive People’s Trust

Twenty-seven households applied for the Settlement Grant from the Department. Forty adults are involved and the applicants all live on the Cape Olive Farm. Currently 15 men and 12 women are employed as farm workers on the farm. The community decided to form the Unlimited Olive People’s Trust. None of the applicants have received any grants from the Government before and they all qualify for the Settlement grant in terms of the DLA’s policy.
Participation

Women’s participation:
There are 22 adult women participating in the project. Nine of these women are the heads of their households. Women have participated in all the training sessions that have been conducted with the farm community, to bring them to a point where they can make an informed decision on whether to invest their grants in the Cape Olive farm. One of the committee members, elected by the workers to represent them at negotiations, is also a woman.

The farm worker’s tenure is secure through current legislation that protects farm workers from unfair evictions.

Involvement of the community:
The community was previously not formally organized in a legal entity, and has just successfully formed a legal trust (March 1999). They elected a steering committee to represent them at negotiations with the owners and the Department of Land Affairs. The farm worker community have little or no background or education regarding business and legal entities. The Department appointed a facilitator, (Empowerment Solutions) to work with the community on difficult issues around share holding and business aspects and to assist with the compilation of the trust deed. The envisaged result of the facilitation process was to put the beneficiaries in a position to make an informed decision whether to invest their grants into this business. All 27 households decided to invest their grants through their employee trust; Unlimited Olive People’s Trust.

Training & facilitation
The facilitator also had to assist the community to develop certain life skills in order to become an empowered “employee” legal entity. The following aspects were inter alia addressed: Groups vs. Teams, values; truth and transparency, leadership, self-management, empowerment, emotional maturity, interdependence, highly empowered teams, win-win agreements, change management, feedback as the breakfast of champions, habits and comfort zones, creative problem solving (Osborn-Parnes), brainstorming, listening and communication skills.

The community has participated in all the workshops and training sessions and showed enthusiasm and interest. They have been involved throughout the process of drafting the trust deed as well as the compilation of the business plan.

Representation in Cape Olive Trust
Representation on the Board of Trustees is normally a function of the stake held by the different partners. However, in this project, the workers are guaranteed one position on the board of Trustees, which is beneficial to the workers.

All of the beneficiaries currently live on the Cape Olive farm. They will not obtain ownership of the land or the houses they occupy, but will have security of tenure for as long as they are employed on the farm. The workers’ tenure is protected by the Extension of Tenure Security Act and the Labor Relations Act.

The share holding is to a large extent predetermined, since it is a function of the initial capital outlay and relative contributions of the respective partners to the project. At this stage 27 households are in a process of taking up shares in the Cape Olive Holdings and Cape Olive Trust. The workers’ trust will have the opportunity to increase their share
holding over the years, subject to agreements with the other shareholders. NewFarmers Development Company indicated that they would be prepared to sell more of their shares in the future.

NewFarmers Development Company and the Chennells brothers’ trusts invested in this farm on the basis of this analysis, and offered equity based on the same analysis and price.

The employee trust is entitled to one director irrespective of its percentage share holding.

Present and Future Focus
of Training and Facilitation

The present focus of training and development is in managing the expectations of the workforce; better understanding business principles and financial statements; skills development.
Spain

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Growing Up Creative

Like the title of the lovely book of Theresa Amabile, a great investigator of creativity, it could be said about the matter of creativity in my country: Spain is growing up creative.

Now, I will show you a view over the university world where you will see the increasing importance of creativity in teaching and investigation. But, first, we have to look at history.

It all began thirty years ago, in Valencia with our dear Ricardo Marín, Professor of Education in Valencia and later, Professor and Emeritus at the Universidad Nacional de Educación a Distancia (UNED) in Madrid. Ricardo Marín has organized four symposia about creativity in Spain, at 1976, 1981, 1982 and 1993. People so relevant as J. Guilford or S. Parnes were invited at the first Congress. More than thousand people came to the ’93 Creativity World Congress. This Congress was a very important event in the history of creativity in my country.

Ricardo Marín is the main driver of the creativity work in Spain as much at the university context as outside, because many of their pupils have directed their work to the organizations as creative consultants; another important group has worked and investigated artistic creativity: J. Carlos Arañó in Sevilla and Manuel S. Mendez in Madrid, have created two important groups at the faculties of Fine Arts of these two cities, organizing courses, meetings, congresses and generating a big amount of investigation of artistic creativity producing many doctoral dissertations.

I think the role of Ricardo Marin is similar to that of Guilford in the USA during the fifties. Each one in each country has been the main leader of studies in creativity. Ricardo Marín formed his own school and the most palpable results are three important nuclei of work with a great volume of activity in teaching and investigation, located in Madrid, Barcelona and Santiago de Compostela and forming a triangle, named by Saturnino de la Torre “the geographical triangle of creativity” (S. de la Torre, 1996 Para investigar la creatividad).

The Madrid group was directed by himself, at the faculty of Education of Universidad Nacional de Educacion a Distancia, the Barcelona group is coordinated by Saturnino de la Torre, Professor of Education at Barcelona University, who is the author with the most publications about creativity in Spain and Latin America.

In Santiago de Compostela there is David de Prado, well known to all the correspondents; with his educational project Educrea and the Master Internacional de Creatividad Aplicada Total, he has created an international forum of interchange and learning in creativity, where students and teachers all have very much to learn. This Master’s program is having enormous effectiveness in germinating creativity in Spain, Portugal and Latin America.

A flexible group of investigators is growing in Santiago with interesting contributions like the thesis of the Master students and the doctoral dissertations presented in the Faculty of Education.

In the three vertexes of the triangle, subjects of creativity applied to education are to be found in the curricula of education university studies. I shall now talk about the other
centers that are extending the triangle and complete the landscape of creativity in Spanish universities.

In Madrid, as well as the UNED and the Faculty of Fine Arts in the Universidad Complutense, subjects of creativity are taught in the Facultad de Ciencias de la Informacion (studies in journalism, advertising...) and in the Faculty of Psychology of the Universidad Autónoma de Madrid, this is where I do my own work.

About the theme of creativity and curriculum in the school, we have subjects in Málaga, Faculty of Education and in the Schools of Teachers Training at the universities of Valencia and La Laguna in the Canary Islands.

We have very many contacts by e-mail and also personal contacts, organizing meetings, courses and scientific events. In this month, March '99, I have participated in a “Seminario sobre Creatividad en la Formación Profesional” in the University of La Laguna and in a “Curso de Creatividad Aplicada” in Sevilla.

My interest is to organize soon in Madrid, the first national meeting of university teachers and investigators. I hope to give you notice of this in the next issue of Global Correspondents.

Finally, I want to mention the solid bonds we have with our brothers in Latin America and Portugal. We have frequent meetings in the south of Portugal at the Eschola Superior de Arte, in Beja. This year we will meet in September, in “Criativa ’99.”

In April 1998 we had the congress “Creatividad y Sociedad” in La Habana organized by the Sociedad Cubana de Creatividad Científico-técnica. In October I visited the Univeridad Nacional of Colombia, in Manizales and I participated in the advising of projects in creativity. Simultaneously, the Conferencia Internacional en Creatividad, was held and attended with big success.

I expect that the persons who participated in the organization of these two congresses, very good friends, will be, from this year, the new correspondents of two countries so loved in America: Cuba and Colombia. So creativity will be more and more global each year!
Spain

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Teaching Mathematics with Help from Music, Writing, Etc.

It is not uncommon to find many children and teenagers who avoid, fear and even hate to study mathematics. The reasons for this are so many that discussing them is beyond the scope of this article. But I would like to point out two really important reasons for me: the methodologies used nowadays and the role the teacher is playing (he or she is the only owner of the truth). I talk about these reasons and no others because I believe the techniques I am reporting here are really different from the classical techniques in the methodology and in the fact that the teacher is a simple facilitator—a matter that the students discover by themselves.

The experience was thought of for fifteen-year-old students. They had to study “sequences” for the second time because they had failed the exam about that subject. With the experience of working with students who had failed maths, I could see that sequences were difficult for most of them when they should be quite natural because they live surrounded by a lot of different kinds of sequences.

The goals I wanted to achieve were two. In the first place I wanted them to rediscover by themselves, step by step, what a sequence is, what types of sequences exist, when a sequence has limits, what are sequences used for and that sequences are in everything around us—all this in a way that they should enjoy.

Secondly, I wanted them to learn that numbers (mathematics) are one of the several languages that humans have to express themselves—their experiences, ideas and concepts.

I pointed out to the students that people have various ways of expressing themselves and of communicating with each other. We can talk or write to each other. We can portray our ideas in a drawing, painting or sculpture. We can sing or play what we feel or have to say. We can use our bodies, as in expressive movements or of dance to get our ideas across to others. But there is still another way of communicating: numbers, mathematical laws, etc. that can express relationships and happenings that no other language can.

I structured the experience in five sessions of half an hour each and two sessions of an hour each. I think it is important to underscore the fact that the students had already heard about sequences in the classic way. I didn't want them to know we were going to study the same thing, I mean they didn't even know that I was a math teacher. Possibly, if they knew that, they would have had a bad attitude towards the experience.

The first session was dedicated to everyday sequences. I started talking with the students about the sequences they use daily but have never called sequences. We talked about sequences in the family—children, parents, grandparents, etc. They did their own genealogical tree and discovered that it finished with the first man. After that we worked with a sequence related to time: century, year, month, week, day, hour, etc. But in this case the sequence didn't stop, they could find smaller and smaller and bigger and bigger units to measure time.
The following four sessions were dedicated to discovering how sequences are used in every language. We began with writing because it was the easiest way for students to communicate. They realized that some letter sequences were words but others meant nothing. They found that a letter or even a word sequence can have no limit, as well.

The next session was about color. They loved working with this. It was easy for them to paint color sequences. As you could see we go up in difficulty step by step and we repeat the same concepts working with different tools.

The fourth session was dedicated to music. I brought a keyboard and we played our musical sequences. They enjoyed it because it didn't matter if they were good in music. I just wanted them to play something and then to explain to the rest of the group what kind of sequence it was. To get the students to express themselves only with their bodies was difficult in the beginning. Some of them were quite embarrassed. They hadn't done anything like this in class in their lives. But in the end they understood what I wanted. One of them began with a special position and the others continued doing what he or she thought will be the next position.

Finally, we arrived at mathematics. The students were not very happy to hear about this subject but things went better when they discovered that they can play like in the other sessions just using numbers instead of letters, colors, notes or gestures.

I believe the experience was great, I achieved my two goals and I think that at the end students didn't hate mathematics as much as at the beginning.

Another advantage, that I see, to this technique is that sequences can be studied by younger children without any problem.
Spain

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Creativity Methods; Creative Relaxation; Gifted Education; Education;
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Publications


Towards an Integral Concept of Creativity:
A New Paradigm of Human Being
as Total Expressive (Re)creator.

At the beginning of a new century, the psychological and pedagogical sciences are challenged with the construction and application of a new integrated view and understanding of the human being as a wholly structured and fully functioning person, organizing the different views, concepts, theories and pieces of research on creativity into a global and coherent picture or masterpiece of the operative human nature of the creative intelligence and personality.

I was worried with this transdescental aim in the last ten years. I intend to present a short, coherent and operative synthesis of my integrative reflection which represents my deep view of total applied expressive creativity. This integrated new paradigm is a cue, not only to understanding all human being as a total expressive creator, but also to delineate the integrated processes and methods, programs and organizations to develop a safe and equilibrated man and woman, a productive and expressive, ideational and emotional, multisensorial, perceptual and analogical, imitative-reproductor and transformator-innovator-inventor, human being, it means, a wholly structured and fully functioning creative person.

As a structural paradigm, it must be and function, at once, as fundational principles as processual means/methods and as a final aim of all human activity in all personal and processional sphere of education and training, of cultural, artistic and social development, of technological and economic progress if we don’t want that the learning, mass-media and productive organization disturb or destroy the essential creative nature of mankind. We need to proclaim the new century as the century of Total Expressive Creative human being, and moderate research and development thought, education and production relations, learning and work, communications and actions, culture and institution in accordance to this paradigm. We need to construct as total creative, innovative, inventive learning organizations, which attend the global aim of self-fulfillment and happiness.

In this total psycho-socio-techno creative paradigm we will try to include dialectically and synthetically the different author’s concepts and theories, necessarily parcial, into a coherent theoretical and practical whole structured paradigm, to which will be continuously added and integrated added new and original pieces of research and development. This paradigm must include, without exclusions, the valid concepts and practices of the psychoanalytical, gestalt, associative, cognitive-behaviorist, psycho-social, ecointeractionist, historio-biographical, humanistic and transpersonal theories of creativity, intelligence, genius, gifted and human being, inaugurating a new vision/mission of science, education, culture, arts, technology and economy, of professionals and organizations, which must be strongly oriented and dedicated toward a final aim: (“fully happy functioning human being”) and towards an impossible destiny: (the total expressive (re)creator person and professionals, culture and institutions).

We include this basic creative thinking processes and derived methods:

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a) The scientific-epistemologic one—to create a new understanding of aims, processes and of heuristic construction of scientific knowledge.

b) The psychosociological one, to delineate, apply and test the paradigm at different levels and areas affecting psychological and sociological human development and education.

c) The cultural and artistic one, to improve the ways of understanding developing a people’s multicultural integration and production of different forms of poetry, music, drama, sculpture and painting, dance and sports from the historical tradition and avant-garde re-construction to a new popular creative and expressive century.

d) The industrial technological, productive and economic one, to promote new ways of understanding and developing machines, products and economic transaction for a new global era, in harmony with nature and transcendental values of goodness and tooth, beauly and unity or integrity.

The new techonocreatic paradigm is aimed at having, in all instances of education and culture, a central and continuous purpose: to constantly develop and build the creative nature of each human being and professional (see chart 1 and 2):

- A free-fluid independent thinker and decision maker
- A problem sensibilize and effective resolutor
- An inquiring learner, transformer, innovator and inventor
- A visual and analogical imaginator
- A total literary, dramatic musical, symbolic-mathematical and spatial-artistic creator

These are the aims/means/methods of the MICAT program, Educrea project and products at the university of Santiago de Compostela ([www.usc.es/micat](http://www.usc.es/micat)).

We plan to develop an integrated concept of creativity; a new paradigm of human being as total expressive creator for a new creative century.
Chart 1: The basic creative processes and methods: total technocretic personal professional
Chart 2: The human being as an integrated total expressive (re) creator: the psychosociotechnocreatic paradigm
Bibliography


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Gifted Girls Move Ahead
In Britain

All over the world growing up is definitely different for girls and boys. The wider culture inevitably has an effect on how each sex is brought up. For example, in some Moslem societies morality is considered a more important gift than intelligence (especially for girls), whereas Western notions of high ability emphasize cognitive development. Indeed, in much of the world illiteracy among women is many times that of men, information from the wider world being selected for them through men.

In Britain, as elsewhere, gender attitudes are well established by the time children start school at the age of five, which can be seen in their play and responses to questions. These distinctions are stronger in children from the lower socio-economic levels. Additionally, studies have shown that even from nursery school, boys and girls are not treated identically and each learns to get approval in different ways, girls in careful good behavior and boys in adventurousness and curiosity. In general, girls ask fewer questions, engage in less disruptive behavior and lose confidence in their own abilities more easily. But from the beginning, girls perform better in national Standard Attainment Tests, particularly in English, and more boys are identified as requiring help due to learning or behavioral difficulties.

Boys and girls in Britain now follow a National Curriculum with a common course from five to 14 with the exception of physical education where girls have fewer team games and boys have less gymnastics and dance. There is a formal commitment to equal opportunities at all levels of education, which inspectors check for in classroom teaching. The curriculum, though, is still dominated by the dead white male syndrome. There is an overwhelmingly male focus on achievements, such as the strong dominance of male authors in English, or in history with its emphasis on politics, economics and international affairs, ignoring the experience of women. Even in technology, girls choose food technology while boys choose craft and design technology.

All children in this country of about 55 million people are given Standard Attainment Tests at regular intervals and 95% take the national examinations at about the ages of 16 (the General Certificate of School Education—GCSE), but only about the top 38% of the school population attempt any of the highly focused examinations at 18 (Advanced levels—A-Levels), success at which provides the possibility of university entrance. There are some differences in Scotland. The results of these uniform tests provide an excellent data base for judging, among other things, how our brightest girls are doing with so many cards stacked against them.

Exam Results

The picture which is emerging appears to be different from that in other countries. In every school subject at GCSE level, British girls are scoring higher than boys, and at A-level they are only marginally behind in physics. And even that gap is closing. An increasing proportion of girls are staying on at school and going into further and higher education; indeed, from 1992 more women than men entered university; a trend which is continuing. Physical education remains the only subject in the National Curriculum where girls regularly perform worse than boys. Girls-only schools produce consistently
higher overall grades than boys-only schools. Consequently, boys’ examination performances have become the subject of national concern. Everywhere there is talk of ‘girl power’ and ‘the future is female.’

In America, for comparison, according to Amy Nowell of the University of Chicago, within the top 10% of examination scores boys outnumber girls by 2:1 in mathematics and 5:1 in science. These were the results of a survey of six national surveys between 1965 and 1992.

Teachers and academics are struggling to understand what lies behind the new gender divide in school attainment. Some say that books don’t appeal to boys unless they are about sport, others that at long last girls’ genetic superiority is being revealed. One sour response is that the level of the exams is so low that it does not provide a challenge for the boys to rise to. In fact, surveys show that girls are becoming more confident, believing in their own abilities and many boys are now saying that girls are more intelligent than they are. However, although “gender is one of the key factors affecting educational performance, it always functions in relation to other social variables such as social class, ethnic origin and local context.” (Arnot, Gray, Rudduck, & Duveen, 1998, p.72).

High Achievers

A study of the academic performance of highly achieving children over their school careers found that even in elite schools there was resistance by boys to work (Power, Whitty, Edwards & Wigfall, 1998). As one boy put it “You were supposed to make it look easy and never get caught working.” Almost all the boys and girls interviewed said that boys could do as well as girls if they worked as hard. But it was difficult for the boys because their peer group roles obliged them to be rebellious and other boys might laugh at them if they behaved like “teacher’s pets,” which is by definition unmanly. Exhortations from on high have little effect; it is a matter of belief systems, and boys need to take control of the process of change themselves.

The changes are bringing some strain to highly achieving girls too. Early career planning has been found to be a cause of stress for some high flyers, which merely delays rather than resolves the conflict between family and work (Lucey & Walkerdine 1996). Working class girls too are feeling the effects of feminism in terms of equal opportunities, and are aiming higher than their mother's traditional feminine occupations, which can bring some relationship problems, particularly with boys who are striving to be macho lads.

It is possible that there are small tendencies in genetic make-up between the sexes which are emphasized by social pressures to produce much larger gender differences. But this social pressure seems to be more resisted by highly talented teenagers who are more likely than youngsters of average ability to reject gender categories, especially talented girls; a feature referred to as “androgynous traits” (Csikszentmihalyi, Rathunde & Whalen, 1993).

The Changes

It all began in the early 90s when more course work was introduced into the GCSE examinations, at which girls are supposedly better. By 1993 girls at 16 scored higher marks in these national examinations in mathematics and all science subjects. Some
education authorities were reporting that the gap in terms of 5 high grade subjects at GCSE had stretched to 15% in favor of girls. Schools have devised special programs for boys, to entice them back into learning.

These results also possibly reflect the change in the way different kinds of knowledge are valued in education. There has been a move away from teaching facts, which can be tested in short answers, at which boys excel, towards having pupils produce written portfolios, extended prose and research projects. This sort of learning requires high levels of sustained attention, and girls are significantly more attentive in class than boys. Girls may also have benefited from changes in teaching styles. Before these changes, they reacted less well to the old style of pace, pressure and competitiveness, wanting time to think and discuss understanding. Boys, however, were willing to sacrifice deep understanding for correct answers achieved at speed (Arnot, Gray, Rudduck, & Duveen, 1998).

There have also been changes outside school. Traditional routes into work have collapsed and about 70% of new jobs in the coming century are expected to be in areas traditionally dominated by women. While boys retain traditional notions of the male-headed family with mothers at home caring for the children, girls are now less attracted by a man as a meal ticket than having a career of their own. Possibly in an effort to reaffirm their masculine identity in the face of academic failure and poor job prospects, boys play at being ‘cool guys,’ taking pride at courting trouble and challenging authority.

Although there is a decline in science overall as pupils progress through the education system, it is more marked in the case of girls. Compelling more young people to study physics is not enough to close the gender gap. The uptake of sciences by girls at degree level is poor. However, at the high-powered Weitzman Institute summer school in Israel for scientifically gifted teenagers, although the Israeli participants are heavily boy dominated, the early 90s wave of Russian immigrants brought scientifically gifted youngsters in equal proportions of both sexes. Their Russian education and expectation had clearly played a part. (Freeman, 1996).

If bright girls are doing generally better at school than boys, what is their problem? Primarily, that although they may pass examinations better than boys up to their late-teens, they still far too often underachieve in post-school life. There is a great discrepancy between what girls achieve in school and from then on. It is important to know why it is so, in order to do something about it, and to right the balance of education for all.

References


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The Creativity Centre at Dean Clough

The new Creativity Centre at Dean Clough provides impartial and balanced consultancy, education and training in creativity and innovation. This independent center welcomes collaborative working with colleagues throughout the world in the interests of increasing our understanding of creativity (in its broadest sense) and enabling others to share that understanding. Our first year has been an exciting one. It included a visit by Professor Norman Socha of Canada. Our activities have included invited presentations and consultancy for regional and national bodies, including a government committee.

We have also hosted a series of events under our *Morris I. Stein Creativity Seminar Program*. This program, which honors Professor Stein’s contribution to creativity research, is designed to allow as wide a variety of contributors as possible to lead creativity seminars for as diverse an audience as possible. It has focused on the following themes this year:

- personal and urban renewal
- the therapeutic use of creativity
- the role of the arts in creativity

**Personal and urban renewal**

Our first seminar was led by Michael Wood who used the rebirth of Dean Clough Mills (once the largest carpet factory in the world, but now a thriving creative business and arts community) as a metaphor for his own life journey.

Another seminar featured community artist, Cath Walshaw, who uses practical creativity as a catalyst for urban regeneration projects as well as personal renewal for the participants. One way in which she operates involves using the reminiscences of elderly residents to create images portraying declining local areas as they were in their heyday. Artifacts and memorabilia are collected to form an exhibition which also includes fresh paintings and writing produced as a result of their recollections. This stimulates interest in renovation and restoration. An example is the Shipley Glen Project. This project culminated in the restoration of the Shipley Glen Tramway, which used to transport hordes of holiday makers to a local beauty spot near Bradford.

This tramway is located near a Victorian village, Saltaire, which was created by the visionary industrialist—Sir Titus Salt. Sir Titus built this model village for his factory workers. It comprised neat rows of quality stone houses, a large riverside park, a college, schools, a cottage hospital and a magnificent church. Public Houses (for consuming alcohol) were banned.

Along with the rest of the village, Salt’s textile factory (which included the largest weaving shed in the world) has been renovated. The village now attracts thousands of visitors. The restored factory buildings now house a David Hockney gallery, shops, high quality living accommodation and a restaurant. The restoration was inspired by the Dean Clough restoration.
Cath Walshaw is involved in the restoration of another of Yorkshire’s former great factories—Listers Mill—whose tall chimney dominates the Bradford skyline. This mill once produced high quality velvet. It is still largely derelict, but is slowly being transformed into a cultural center for the people of Bradford. This kind of urban renewal is evident all across the North of England. Having fallen into decline in post-industrial Britain, great Victorian buildings are being renovated and put to new exciting uses, including housing for the growing population of single adults.

The therapeutic use of creativity

Natalie Tharraleos reported on her research with artists and writers who had experienced significant trauma in their lives. Her investigations concerned the extent to which their trauma had influenced their creativity and how their creative work had helped them cope with the effects of traumatic experiences.

Natalie’s work has some similarities with the work of a Leeds Metropolitan University postgraduate student, Teresa Baddows. Teresa’s pilot work reveals that the famous children’s writers she is studying all experienced the loss of a parent or other close relative during their childhood. Of course this kind of finding is not new, but what is especially interesting about her research is that Teresa has noticed that these authors aim a significant proportion (if not all) of their writing at children who are the same age as they were when they experienced loss. Teresa’s hypothesis is that this is cathartic, because it is only after they have written for this age group that they move on to write for other age groups. Although still in its early stages, her investigation looks most interesting.

Other events at The Creativity Centre included a practical arts day led by three presenters who had each experienced some form of mental illness—manic depression for example. What they were all keen to stress was the therapeutic value of practical art. One of the presenters was a well-known local artist. Another described how painting had kept her out of hospitals for a whole year—for the first time.

We hope to have an international creativity conference in two to three years. We enjoy networking with colleagues throughout the world. Our website should be operational by the Summer. Please contact us.

The Creative Arts Partnership
in Education (CAPE UK)

Following the arts theme, I would like to highlight a UK creative arts project, CAPE UK. The project runs in Leeds and Manchester schools and is based on the CAPE project in Chicago. Essentially, it focuses on how artists in schools can help encourage creativity across the curriculum. The scheme has been running for two years. Here are examples from two schools of the kind of feedback CAPE is receiving:

City of Leeds High School, a multi-racial inner city school, has received an “excellent” for its cultural work and praise for its “impressive racial harmony” from the schools’ inspection service. The school’s head teacher, John Urwin, comments that motivating our students, raising their self esteem and expectations and giving them something they can feel good about is the base from which all learning comes.
If well-taught, this is what the arts can achieve; if badly taught, children can feel like failures. However, central to this school’s philosophy is valuing the culture of every student. The artists in this school work through drama and dance. They are lucky to have as their lead artist, Villmore James, founder of the internationally-renowned Phoenix Dance Company. The head teacher remarks:

“Black and white students were comfortable working together exploring issues of racism and white hostility, which is indicative of mutual respect. For the black students it was a chance to explore their own history and culture.”

This is something that certainly concerns many black students growing up in Britain. They want to learn their own history. In Manchester, CAPE is bringing excitement to a neglected area. Plant Hill High School serves an area with high levels of unemployment and deprivation. One of the CAPE’s first projects focused on the environment. Local writer/actor, Mark Catley, used this theme for a transition event with primary school partners. The project focused on literacy but included several different art forms. Here is just one student’s comment on the project:

“The artists treat us like individuals not like pupils. They talk to us like we’re one of the artists.”

Director of Studies, Janet Davis commented:

“Working with people other than teachers…opens up new worlds…And in what is predominantly a white community, meeting the artists could be the only time students meet with black professionals.”

(Acknowledgment: I am indebted to Pat Cochrane, Chief Executive of CAPE UK, for the above extracts).

Creativity Teaching and Research at Leeds Metropolitan University

At Leeds Metropolitan University, our creativity teaching and research program continues. Our undergraduate program currently includes modules on Creative Teaching and Learning and Creativity as Therapy. At Masters level, it involves the supervision of dissertations, as well as courses for company directors. And we have an on-going program of higher degrees by research. There are now two possible Ph.D. routes—the traditional research route (including by distance learning) and also a Ph.D. by submitted papers. This latter option involves submitting a coherent body of published work (normally comprising high quality research papers published in refereed journals), together with a synthesis which is produced during the period of Ph.D. registration.
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Creativity and Innovation  
Now Fashionable in the U.K.

Nineteen ninety eight was a year in which creativity and innovation became fashionable in the UK. During this time the terms became equated with a number of very different ideas. Examining these associations provides us with an interesting insight into how business and government think about these processes.

The increased popularity of creativity is, at least in some part, due to the change of government. Historically, people in the media and arts worlds have been closer to the Labor party than the Conservatives. The fact that this admiration was mutual was clearly reinforced early on in Tony Blair’s first term. Various, government organized, social events were held at which members of the media, music and design world were feted. The government also emphasized the importance of the ‘creative’ industries to Britain’s economic well being. This enthusiasm for all things creative was summed up in the tabloid phrase ‘Cool Britannia.’ This referred largely to the resurgence in British fashion, design and music. It seems clear from this that ‘Creative’ was equated with the creative arts.

At the same time as the ‘creatives’ were being wooed, another part of the government was working on Innovation. The Department for Trade and Industry (DTI) has supported innovation, as a concept, for a number of years. They established various regional centers designed to support and encourage the process within companies. The Dept. also sponsors annual lectures and research initiatives on the subject. The change of government brought this activity to the fore. Various whitepapers were produced, identifying innovation as critical to the success of the UK. However, the discussion on innovation was strongly focused on the new product development process, typically in the manufacturing sector. We therefore have a situation where creativity and innovation are associated within entirely different sectors of the economy.

Some organizations are working to bridge this gap, notably the Design Council. As its name suggests the Design Council exists to promote good design in all aspects of business. It therefore represents a meeting place for creative and innovative activities - based on current definitions for the terms. The council is also very interested in the role of creativity in education and the use of creativity in designing educational processes. The council has organized a number of meetings and presentations on the subject which will result in a set of recommendations, on creativity in education, later this year.

In addition to exploring innovation, the DTI established a group to explore how Knowledge Management should be supported in the UK, KM represents a very interesting development for innovation. The central idea is that organizations should manage their intellectual assets. Typically, this process is seen as having four key elements: generation, collation, dissemination and application. Due to KM’s technical heritage, most organizations have concentrated on using technology to support collating and disseminating, for example, ‘best practices’ via their intranets. However, the DTI in particular, and business in general, has gradually realized that it is not enough to manage intellectual assets, they must also be created. This provides a new context in which organizations can think about continuous innovation and knowledge creation. It also raises significant
questions about how large numbers of people might be trained in the basics of innovation.

The Centre for Creativity at the Cranfield School of Management, has been interested in the convergence of innovation and technology for sometime. From May to July 1998, the Centre established an on-line creativity ‘space’ for the tax professionals within one of the Big Five accounting firms. The purpose of the space was to help geographically separated staff engage in on-line brainstorming. Basic creativity training was provided across the network. The experiment was reasonably successful and may point to a way in which organizations could use technology to systematically create new knowledge.

Government and business interest in innovation is undoubtedly a welcome development. However, it remains to be seen whether creativity and innovation continue to be discussed in separate ways. If so, the UK risks missing important synergies.
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In press, “The Talent Profile as a curricular tool for academics, the arts and athletics.”
Profiling Creative Talent Development

Since the 1972 Federal Report (Marland), the U.S. government has defined a variety of abilities (intellectual, academic, leadership, visual/performing arts, and creative) for educational development. Yet, few programs identify and address creatively-able students. Since 1979, the EXPAND program has been an exception. Students in grade 3–12 are invited to participate in an enrichment program if achievements and anecdotal evidence put them in approximately the top 5–7 percentile of the population. An appeal process provides entrance to students who perform poorly on tests, but exhibit performance portfolios and behaviors in line with program expectations. The creative child often comes to the program through this appeal process.

The standard identification process for creative talents involves taking the SOI divergent thinking subtests, behavioral scales rated by five former teachers, a past accomplishment form, and a personality profile. However, unless the social skills of the creative student are also in an acceptable range, teachers have difficulty recognizing creative behaviors or ideas.

For example, recently a classroom teacher exclaimed “He can’t be creative. He just sits in the back and writes poetry all day.” This challenge to the procedures for identification of a young student for an enrichment program for creatively talented students was made with sincerity. Certainly this is an extreme example of the lack of understanding teachers may have with regard to creative thought. However, there are many other experiences these children can encounter that may leave negative impressions of the student.

In fact, it is due to these inherent difficulties that so few programs for the creative exist. Yet, teacher training can make a difference. Recognizing, understanding, and fostering creative potential in children would protect this natural resource. Another anecdote: A first year teacher of a third grade came up to me with a social studies essay in her hand. After attending my workshop that semester, she wanted me to read an essay from one of the students in the enrichment program. Her first impression was to mark it incorrect as it did not resemble anything that she expected. However, she remembered our discussion of metaphors and wondered if the student was capable of writing this essay as a metaphor to communicate similarities between two battles. He obviously was. With the innocence of a novice, the teacher said that had I not demonstrated it at the workshop, she would never have entertained that possibility in a child so young. The essay was extremely sophisticated and a rare example of metaphorical complexity. Yet, had this student received the initial grade, I suspect it would have been the end of his application to school essays.

It is stories such as these that enhance or plague the development of creative potential in schools. In addition, there are biases that consider creativity to be a characteristic solely of the arts, or the belief that creativity is a result of adult expertise. Although there are reasonable arguments to support the latter, I have not found any research that supports the notion that there is a lack of precursors (such as affective and cognitive characteristics of creative thought) in children. Biographical reports and anecdotal evidence support the assumption of inherent potentialities prior to creative achievements. In fact, there are rare instances of inventions or recognized artistic achievement attained by in-
dividuals under the age of 15. Below this unusual level, it would seem reasonable to postulate that the affective and cognitive characteristics cited in the literature on creative thought could be observable predispositions displayed in childhood.

The novice-expert literature typically employs adult populations—the earliest work is done with high school or college level students. Longitudinal studies tend often unsuccessfully to seek validity of a measurement instrument with creative production in later life. If you have conducted any studies on the validity of creative behaviors of children, please let me know.

To illustrate the power of anecdotal evidence in monitoring creative talent development, two Talent Profiles are presented below. To insure that anecdotal material is not lost, I developed and copyrighted a Talent Profile System. This is part of a pilot study of Talent Profiles in various talent fields. One of the purposes of these profiles is to provide a longitudinal record of students’ past achievements for use with present curriculum modifications. At the same time, it serves to highlight behaviors and other anecdotal evidence of significance in fields unfamiliar to the current teacher.

The outstanding achievements of a child entering third grade as recorded on her Descriptive Record include a report card comment by her first grade teacher “wonderful writer,” results of the SOI (Structure of Intellect—a divergent thinking test given to second graders) with three of the three subtests scoring in the gifted range, and an academic achievement of the 94th percentile on the Iowa test of mathematical problem solving. Although the second grade teacher did not observe or did not recognize creative behaviors, the test results and her writing behaviors observed in first grade begin a potential pattern of “sparks” to be watched and hopefully ignited.

The observations of a creative first grade teacher attuned to creative uniqueness provide a rich contrast to the usual entries: “assumed identities” i.e. for about 6 mos. He was a DeLorean car constantly modified with CD replacing 8-track, & multiple voices as he changed radio stations.” (Observation on playground) “When a classmate misspoke the word “gurgle” for a “gaggle” of geese, he explained that a gurgle is something that lives under your sink. His writing is fabulous. He can read & comprehend 8th grade reading material. His vocabulary, imagination, creativity, & sensitivity are extraordinary.”

The next teacher encountered by the second child profiled wanted him tested for ADHD (Attention Deficit and Hyperactivity Disorder) and thought he might need a special education classroom with a smaller teacher/student ratio. Some teachers have an inherent understanding of a creative individual. Other teachers need and request a map of the territory. They have no idea how to recognize let alone, develop creative potential (Responses from presentations on the Characteristics of Creative Thought at conferences throughout the U.S.; Melbourne and Sydney, Australia; and Zaragosa, Spain support the belief that this may be a global issue). The glut of educational resources claiming to teach creativity does not seem to rectify the situation in schools. Demonstrating creative problem solving techniques in classroom settings has helped to sensitize teachers to creative responses. However, there is more to creative thought than the various creative problem solving techniques available. Some teachers in various school systems across the nation are finding these Talent Profiles useful. But they can only be useful to the extent that they are comprehensive.
We are in the process of identifying a comprehensive Reference Set of observable behaviors (anecdotal evidence) or achievements. Knowing what to look for provides informal teacher training by increasing awareness of possibilities. As businesses, governments, and global leaders are focusing on the power of creative thought, education reflects these goals. Anyone interested in contributing or participating in this project is encouraged to contact the author. Materials can be made available for translation if you will share the data collected.
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Reggio, Art and Reflective Practice

The project I will describe is one of helping preschool children discover their world through the practice of art. This project is grounded in two theories. The first is research by Viktor Lowenfeld (1987) described in his book Creative and Mental Growth. Lowenfeld describes a means of determining the mental age of a preschool child by evaluating the complexity shown in the drawing of a figure. Children begin doing art by scribbling on a sheet of paper, and later, labeling their scribbles. The first representational attempts at approximately age four, known as the preschematic stage, begins with a circle with stick lines for legs extending downward from the circle. Gradually children are able to build their aesthetic by adding body, limbs, and eventually, finger, toes, and facial details. Lowenfeld was able to discover a child’s mental age by a systematic means of evaluating the complexity of the drawing.

Lowenfeld, during his studies, documented a project whereby he attempted to determine the mental age of a non-verbal Downe’s Syndrome child. The young lady had been institutionalized for many years unable to communicate in any way for lack of language. Lowenfeld tried many avenues of art, but until he gave the girl some soft, malleable clay, he got no response. Through the manipulation of clay, the girl began to represent the human figure. The breakthrough determined that even though there was a lack of verbal ability, the girl’s mental age could be determined through this art form.

The assumption for our project with preschool children is that they lack adequate verbal ability to communicate about their world at the rate they are making discoveries. Children draw what they are thinking about so that this becomes an avenue for discussion, leading to learning about new things and forming new questions. Children will organize their thinking through the creating of symbols during the art process. We, the adults, will be able to understand children’s thought processes through their art. We will be striving not only for understanding, but we will also challenge and provoke their thinking through art and through reflective practice as well.

The second theoretical basis for the project is that of Mezirow (1990) described in his book, Fostering Critical Reflection in Adulthood. We believe that the same principles can be utilized with children that Mezirow expounds: The practice of challenging conversations to promote the transformation of diverse life experience into a basis for lifelong learning.

Critical reflection for children means group conversations about important events or discoveries that will build vocabulary as well as build neural connections. We believe we will be able to delve more deeply into issues through the use of symbolic art. In the process, we will be challenging children to represent their experiences through varying art media: clay, watercolor, drawing, sculpture, and stories. Combining reflection and art into one process of knowing, we believe, will help us understand children’s thoughts and encourage them to delve more deeply through image and form. The opportunity to encourage children to think creatively, encouraging and supporting novel ideas as they practice is ever present.

In summary, the idea is to give young children a symbolic language that they can use right now to reflect upon positive experiences of discovery. We will also be delving more deeply through art into some of the subject matter that they are newly discovering.
The critical component of this project is the Child Development Laboratory Preschool program at the University of Tennessee, Knoxville. This program has been in the process of implementing the Reggio Emilia Approach to holistic schooling for preschoolers for one year. The teaching staff are ready to incorporate the art projects component as “expressive language” into their current curriculum. A general consensus by the staff of their lack of critical training in art is providing this opportunity for me as Art Consultant to implement the program. Besides modeling the teaching of art as described above to the teachers at the Lab School, there will be opportunities to reach many teaching interns, teaching aides, graduate students and parents. A comprehensive overview of the Reggio approach is written by Giordana Rabitti (1998) in An Integrated Art Approach in a Preschool and in Reflections on the Reggio Emilia Approach (1994) edited by Lilian G. Katz and Bernard Cesarone.
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During the 1997–1998 academic year: On sabbatical leave in Washington, D.C. to serve as educational policy assistant to Senator Jeff Bingaman (Democrat, New Mexico)

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Publications


Outsider Looking Inside Out; Lessons About Education from Capitol Hill

During the academic year of 1997–1998, I served as a Congressional Fellow on Capitol Hill. The fellowship, sponsored by the American Psychological Foundation, was designed to provide relevant expertise to Congressional offices, as well as to expose academic types to the legislative process. In fact, both of those goals were met. I finished the year feeling as if I’d made a far more powerful impact as a legislative assistant than I ever did or hoped to accomplish in academe.

I acquired a spot as an education LA (legislative assistant) in Senator Bingaman’s (D-NM) office. I noted while conducting my preliminary placement interviews that Senator Bingaman inspired great admiration on the part of virtually everyone I consulted. He was also known to be accessible and respectful of his staff. My colleagues in the Bingaman office were brilliant, highly educated, fun, and hard-working. The Legislative Director was a former Fellow, and it was reassuring to know that she’d understand what I could bring to the office and what I might gain from the experience.

Jeff Bingaman is considered to be an education senator, and his legislative agenda proved to be visible and very much in synch with my own beliefs and knowledge. The assignment I was given was the massive Higher Education Act reauthorization—with particular emphasis on the title that addressed the preparation of teachers. The permanent education staffer, provided continual support and guidance, and together we developed some interesting and controversial legislation based on the Senator’s priorities.

Here are some things I learned about education in the process:

• Legislators want to see teachers more well-versed in content
• Legislators want to see that the money invested in preparing teachers is not wasted due to attrition from first teaching jobs.
• Legislators want to see that teachers get sufficient fieldwork experience before taking on their first paid classroom experience.

The resulting legislation that Senator Bingaman and key colleagues proposed and that was written into the reauthorization is summarized here:

Incentives

Grants to teacher preparation programs working in partnership with a high-poverty school district and a school of arts and sciences can be used to raise performance standards, provide increased pre-service clinical experience, and increase requirements such as academic majors within the teacher preparation program. Over $30 million was provided for these grants in the Senate FY99 spending bill.

Grants will be provided to states to raise the quality of teaching by reforming teacher certification requirements, ensuring that teachers have adequate academic content knowledge, expanding alternative routes to certification, and improving the accountability of teacher preparation programs. Over $30 million for these grants was provided in the Senate Labor-HHS FY99 spending bill.
Roughly $200 million over 5 years in loan forgiveness will be provided in grants of up to $5000 for individuals who teach in a high-poverty area for 5 years and are teaching in a subject area in which they have an academic major or have otherwise demonstrated strong academic content knowledge.

**Report Cards and Parental Notification**

Four different report cards and information-sharing activities ensure that parents, prospective teachers, school districts, and policymakers will have more knowledge about teachers’ professional qualifications and the performance of teacher preparation programs than is currently available:

Report card on Teacher Preparation Programs: Within 18 months of enactment and annually thereafter, teacher preparation programs nationwide will report and publish widely information on the percentage of their graduates who pass initial state licensing tests, a comparison of this performance to the state average, and other information related to the quality of the program that is provided.

State Report Card on Teacher Preparation: Using uniform measures developed by the Department of Education, states will within 2 years report and publish widely their teacher certification criteria and the percentage of candidates who meet the qualifying score on initial certification tests, rank the performance of all programs according to pass rates, and identify low-performing programs.

National Report Card on Teacher Preparation: Information provided by the states will be compiled and published annually in a national report card on the quality of teacher preparation programs. This report will include a comparison of states’ efforts to improve teacher preparation and the national average on teacher tests used in a number of states. Programs that do not provide accurate and timely information to the states for this report can be fined $25,000 by the Secretary.

Parental Information: States and districts receiving these funds must have in place a program to notify parents of their right to know the professional qualifications of their child’s teachers and to provide this information to parents upon request and in a readily comprehensible form.

**Accountability Measures**

Teacher preparation programs that are not meeting state-developed performance criteria such as minimum pass rates on state licensing examinations will be identified publicly and will lose their state and federal funding if they do not improve:

Enhanced State Accountability Measures: States will develop and implement enhanced criteria and accountability measures for teaching preparation programs within 2 years, including identification of low-performing programs. The criteria may include a minimum pass rate. States are prohibited from lowering the qualifying scores for teacher preparation assessments after the date of enactment.

Potential Loss of Federal Funding: Programs identified as low-performing by the state who do not make sufficient improvement can, no earlier than 3 years from enactment, lose their eligibility for federal grants and loans if the state withdraws recognition of the
program. However, neither an individual student’s eligibility nor the eligibility of the institution within which the teacher preparation program is located would be affected.

Other Provisions

Fewer Teacher Without Strong Academic Backgrounds: Teacher preparation programs receiving grants under Title II must have at least an 80 percent pass rate on initial teacher certification tests or require an academic major or strong academic background for teaching candidates. These grants will be evaluated according to increased pass rates, increased retention of new teachers, and increased classes taught by teachers with academic majors and/or strong academic backgrounds. In addition, states receiving grants under this title will be encouraged to implement academic major requirements, and state grants will only be continued upon demonstration of increased percentages of core academic classes being taught by fully qualified teachers with academic majors and/or strong academic backgrounds, increased pass rates on state tests, and other criteria.

In the process of developing and promoting this legislation, I discovered that:

- the higher education community viewed requests for accountability from governmental sources as a massive intrusion, even when it was tied into federal funding;
- unions are beholden to the higher education members of their group;
- it’s great to work on a team with talented and committed people to accomplish agreed upon goals;
- there’s something to be said about being viewed as an “honorable enemy” by those who opposed the Bingaman education agenda, especially when there would be no permanent grudges.

The impact this legislation may have on the likelihood that a gifted child, particularly one attending a high poverty school, will receive an appropriately stimulating education far surpasses the impact of any article published in an academic journal! The fantasy of the biggest of canvases on which to paint my ideas was fulfilled. The great fortune came with a supportive and stimulating working environment, a leader with vision and deep knowledge in the field, and a personal need on my part to make a mark.
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Why U.S. Business Schools Avoid Innovation

Innovation has been credited with being the spark that makes companies great and the power that has changed our lives in the last century. Yet the topic is not central to courses in U.S. business schools, while it can be found frequently in engineering schools and academic environments around the world. We will briefly examine the possible causes for innovation’s exclusion from core business courses and three conditions that may bring innovation into the mainstream of business education.

Innovation can be defined as using creativity to add value. Creativity is going beyond the current boundaries of technology, social and political norms, practices, and knowledge. But if creativity does not add perceived value, then it is just a curiosity.

Creativity requires a mental process that is unfettered by past dogma and deductive reasoning, but it is not anti-scientific. It is a critical part of the scientific process because it generates hypotheses that are later tested with experimental data and deductive thinking. The unfettered nature of creative people makes them unpopular with institutions such as churches, businesses, and governments that attempt to control people with dogma, rules deductive analysis, and the control of information. Now we begin to see why business schools do not encourage creativity that leads to innovation. Most business schools have a heavy investment in teaching deductive analysis and related control mechanisms. But as knowledge becomes the driving force in companies, it breaks down functional areas, and hierarchical organizations because no one person at the top can keep track of the rapid growth of knowledge. U.S. business schools have yet to adapt to this flatter organizational structure. In brief, they have not made the paradigm shift from the science of matter to the science of knowledge.

The science of matter began 400 years ago with Copernicus opposing the Ptolemaic theory that the earth was in the center of the universe. Newton’s theories of motion, gravitation, and light as well as his invention of calculus demonstrated that modeling could provide powerful explanations of how systems of matter worked. Adam Smith, Karl Marx, and Sigmund Freud used concepts from physical models to describe how their systems functioned. This stream of thinking has created a material science organizational design that inhibits creativity and therefore innovation. Wheatley notes,

At the end of the twentieth century, our seventeenth-century organizations are crumbling. We have prided ourselves, in all these centuries since Newton and Descartes, on the triumphs of reason, on the absence of magic. Yet we, like the best magicians of old, have been hooked on prediction. For three centuries, we’ve been planning, predicting, and analyzing the world. We’ve held onto the intense belief in cause and effect. We’ve raised planning to the highest of priestcrafts and imbued numbers with absolute power. We look to numbers to describe our economic health, our productivity, and our physical well-being. We’ve developed graphs and charts and maps to take us into the future, revering them as ancient mariners did their chart books. Without them, we’d be lost, adrift among the dragons. We have been, after all, no more than sorcerers, the master magicians of the late twentieth century

(Wheatley, 1994; p.26).
We made organizations fit Newtonian mechanical models by putting responsibilities into functions and people into roles with boundaries and a secure sense of control (Wheatley, 1994; pp. 27–28). When we studied organizations, we thought we confirmed these models because we used research designs that assumed cause and effect relationships. We assumed also that these relationships move toward equilibrium, when, in fact, they move away from equilibrium as they learn and renew in response to an ever-changing environment. Stacey challenges the present organizational models by noting that stability, harmony, predictability, discipline, and consensus, which are central to most Western management practices, are all wrong. Instead of equilibrium, he argues, we need bounded instability, which is the framework in which nature innovates (Stacey, 1996).

Western business organizational designs can be raced to Western thought that is dominated by deductive reasoning. Eastern philosophies, in contrast, could greatly impact organizational designs. “In Buddhism reason is seen as limited, and the knowledge derived form it is transient and unreliable. Reason is therefore not considered a trustworthy source of knowledge of the absolute reality underlying a change. The Buddha taught that intuition, not reason, is the source of ultimate truth and wisdom. In Zen meditation, the discriminating conscious mind is quieted, and the intuitive mind is liberated (Vaughan, 1979, p 507). As businesses become global, will Eastern thinking influence organizational designs by demonstrating that rationality and reason are not the only sources of knowledge? Perhaps these new designs will become a new source of global competition. But will future business leaders be ready to include intuition in their organizational paradigms? Intuition is even rarer than innovation in the typical business school curriculum.

Innovation will play an important role in the curriculum of U.S. business schools when one or more of the following events takes place: First, when businesses demand that students be trained in innovation and creativity to prepare future leaders to participate in the new environment of heightened competition, the shift from material to knowledge economies, shorter product life cycles, diminished returns from present methods, and the recognition that management fashions-of-the-month are just not working; second, when a few business schools see innovation as a means for taking a leadership role in business education, thereby attracting students, company recruiters, and financial resources; and third, when global competition brings non-Western philosophies into organizational designs.

References


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A Global People’s Voice

George Wald, the Nobel prize winning physiologist, pointed out that until the generation of the A-Bomb, few people had ever thought that their own generation might be the last on earth. This thought, Wald claimed, is now the inheritance of every generation. It seems incumbent upon the people of the earth to play a role in making certain that the world of the future is one which results in a greater sense of possibility and growth for all, rather than the final chapter of the human odyssey.

A new century is opening with two major trends converging—globalism and the communications revolution. These trends offer possibilities for people to communicate globally about common concerns.

Kofi Annan, the Secretary General of the United Nations, has called for a Millennium People’s Assembly/Forum in the year 2000. This appears to be an opportunity for people around the world to make their voices a significant part of determining their future.

This opens up the following concerns:

- how can we best promote a significant voice for people in determining a better future?
- what major social and political factors promote and hinder the above objective?
- what aspects of new technologies and media might aid and inhibit the empowerment of people in the next century?

Promoting a People's Voice

We will consider two major factors in the fostering of people’s voices. The first is the institutions which affect them and which they impact. The second are the new media which are transforming the ways in which people can make their voices heard (e.g., the Internet).

In terms of institutions, there are many players on the world scene. These include governments, businesses, and civil society. Some have described these institutions which “support” society as being like a “three legged stool,” where the three legs of the stool are governments, businesses, and civil society. However, as globalization (in the form of world oriented market economy) is becoming increasingly business oriented, the stool is now becoming unbalanced.

The question then, is how to restore an appropriate balance in the future, where the people, represented by civil society, can increase their impact. A major component of civil society are non-governmental organizations (NGOs). A non-governmental organization (NGO) is any non-profit, voluntary citizens’ group which is organized on a local, national or international level.

The historical relationship of NGOs and the United Nations began with the birth of the United Nations in 1945. There has been a continuing push by NGOs for a greater voice within the UN. This has been evidenced by the powerful representation of NGOs at the many UN global conferences of the last decade, most notably at Rio de Janeiro (the Earth Summit/Environment Conference) and at Beijing (the Women’s Conference).
However the need for a partnership between the United Nations and NGOs has become more in evidence as national interests have come more to the fore, and the voice of the United Nations has been less in evidence. In addition the UN has suffered financially from a holding back of dues by its primary funder, the United States. This is therefore an opportunity for a partnership of mutual interest in enhancing both the voice of the UN and the voice of NGOs simultaneously.

Assets provided by NGOs include:
- Local accountability
- Independent assessment of issues and problems
- Expertise and advice
- Important constituencies
- Provision and dissemination of information
- Awareness-raising

Assets provided by UN include:
- A recognized world governmental body
- A potential international forum and implementation vehicle for the “voices of the world”
- However—the objective is a “better world”—rather than a more well-funded UN—and the UN needs prodding and support to remind it that its mission is to help foster this “better world.”

In addition, there are other institutions which can be utilized to foster people’s voices. These include universities, media capabilities, educational forums, etc.

**Social and Political Factors**

As has been noted the main social/political factor at the close of our century is the force of globalism. However, the main problem revolves around the focus of this globalism. Are we attempting to maximize individual profit or are we attempting to maximize the well-being of the inhabitants of the globe. Some argue that these are one and the same, but the rising disparity in wealth between the “haves” and the “have-nots” argues against this interpretation.

The differing ways in which how we see the world can affect how we determine to act is provided by the following rather intriguing ethical exercise (we encourage the reader to try it by themselves or with others):

[For purposes of this thought exercise, assume for a moment that you accept the principle of reincarnation]: (In addition, note that ninety percent of all births now are in the poorer regions of the world.) If you knew that when you died you would immediately be reincarnated as the next baby born in the world, how—if at all—would your attitudes about foreign aid, international politics, and birth control change?

Indeed, recent events make us all to aware of how ethnic and national belief structures cause us to hold very personal viewpoints which can lead to devastating consequences. This is especially true when the modalities of warfare have raised the stakes alarmingly.
An additional problem is provided by the calling for democracy as the solution. The question immediately arises, whose version of democracy. The problems of representation can be observed in the UN General Assembly, where each nation has a vote. However China with one vote represents 1.2 billion people, the US with one vote represents 267 million people, and Liechtenstein with one vote represents 32 thousand people. If the NGOs add their voice, how should the NGOs be represented? Who would choose the issue to be discussed? Who would choose how the issue is framed?

New Media/New Technologies Impact on Developing a Global People’s Voice

Television has probably done more to create a global culture than any other technology in history. However, television has been a broadcast medium, providing information, education, and entertainment to a relatively passive audience. Some have argued that television has not lived up to its potential promise—in fact Newton Minow once referred to television as a “vast wasteland.” However, television is only part of a continuing transforming media landscape, and it is contributing to a common global culture.

At the current time, the most powerful new media is the Internet. This is a media which, because of its global reach, is also adding to transforming our global culture. However, it also offers a potential medium specially suited to help foster a “global voice.” It opens up the possibility of everyone becoming a publisher, a reader, a writer, an artist, etc.

However, the Internet is also prone to the potential problems of the Information Explosion. This problem is increasingly recognized as a hallmark of our current civilization. We are surrounded by messages from television, junk mail, newspapers, radio, and soon, endless quantities of e-mail.

If people are to start to converse about issues, what will happen when thousands of people are concerned with hundreds of issues, and everyone is attempting to influence everyone else with email and all are being pressured to respond. Soon the time and social constraints will make this an impossible situation.

So we will have to develop structures which can become intermediaries to allow the voices of the people to become effective rather than a tower of Babel with no one able to hear others.

So we now come back to our initial question. How can we best promote a significant voice for people in determining their future?

We will have to involve societal actors who have access to pivotal capabilities. These include educational institutions (e.g. universities, schools). Specifically we should be making access of these institutions capabilities. These include hardware capabilities (computers and video teleconferencing), human capabilities (expert faculty and involved students), and media capabilities (public access TV, etc).

These facilities should be used to engage the people—i.e. the Public through Town Hall Meetings, seminars, and other modalities which will allow the people’s voice to be exercised towards creating new concepts for a new future.

This is a job for all citizens and for all of societies institutions.
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Introduction

I would like to begin by thanking Moe Stein and Diane Kessenich for the opportunity to participate, or perhaps, to contricipate, in this work. I would also like to say that I appreciate the personal efforts and the resources they have expended in providing this connection and service to creativity professionals around the globe. One of the values of Global Correspondents is that it gives contributors the opportunity to share with others their current investigations or to tell of work or topics that they find exciting. I shall choose the latter option, for one of the major areas of focus for me in recent times has been on the phenomenon of insight. My feeling is that, in order to be more innovative in our thinking, it is important to occasionally focus on the nature of the creative experience, especially when such an experience results in substantial breakthrough. And when one does that, whether it is an instance of invention or discovery, it quickly becomes clear that the moment of illumination is an experience of insight.

The Nature of Insight

Like ‘creativity,’ ‘insight’ has been defined in a number of ways. There is, however, considerable agreement as to the phenomenon of insight per se. Insight occurs suddenly, and it involves a new conceptualization of a situation such that new understanding results. There is a strong intuitive sense that either a solution has been found or that the problem has been so restructured that an answer appears to be imminent. This is the “Eureka!” moment, and it is often accompanied by a noticeable change in psychological and physiological state. Insight has been the object of considerable study and research. With the work of the Gestalt psychologists in the early 20th century, the concept of insight emerged. Modern researchers are continuing the investigation, and certain findings that reinforce the Gestaltists are coming forth. They lead to five interrelated pathways to the moment of insight.

Completing a Schema/Filling in a Gap

To begin, we need to define ‘problem.’ A widely accepted, and fairly simple, definition is that a problem is the gap between a current state and a goal state. This definition will help us to understand the first of the pathways to insight. Otto Selz, working in Germany during the 1910’s and 1920’s, developed one of the first theories of insight in problem solving. He suggested that when problem solvers find themselves in situations in which a solution is not obvious, they will attempt to fill in the gap that represents the problem. They will attempt to build a structure (an invention) or devise a problem solving method (a strategy) that will meet the requirements and constraints of the problem situation. The challenge is to develop a mental model, or what current psychological theory calls a ‘schema,’ that brings the problem solver from the current state to the goal state in a coherent fashion. One might think of the solution to the classic 9-Dot puzzle as an example of completing a schema, and, remembering what it felt like to solve that problem, recognize that it was an experience of insight. Selz noted that the completion of a schema does not provide just a specific solution to a specific problem, but often involves the development of a method that may be utilized in similar problem situations.
Reorganizing Visual Information

A lot of the research of the Gestalt psychologists had to do with perception, which brings us to a second avenue that can lead to insight. Wolfgang Kohler proposed that insight could occur if a problem solver reorganizes the visual information of the problem. Said differently, the problem solver must (literally) see the problem differently. This, of course, is what happens when we look at a Rubin vase (the graphic that looks like a vase or looks like two facial profiles depending on how we perceive it). We must reverse the figure-ground relationships in order to see either the vase or the facial profiles. Likewise, with the Old Woman-Young Woman illusion, we must literally adjust our eyes to see either woman. What Kohler wanted to suggest was that if we recombine our perceptions of the data in a problem situation, we might be able to alter our mental image. In doing so, we enhance the probability of gaining insight.

Redefining or Reformulating a Problem Situation

Related to visual reorganizing, but perhaps even more powerful as an approach to insight, is restructuring the concepts involved in a problem situation. Karl Duncker held the view that solutions to problems are more forthcoming when the problems themselves are formulated better. The suggestion here is that a problem solver should consciously work at framing or defining a problem in many different ways. This may also involve challenging current perspectives, constraints, and concepts. By manipulating these initial problem elements we increase the probability of gaining a new perspective on the problem. Likewise, reformulating a problem with a focus on the function to be fulfilled, i.e., the “real purpose” of our problem solving, can be provocative. The mental shift involved can promote rich, creative solutions. The contemporary methodology known by such titles as function analysis, value management or value engineering mirrors this last suggestion.

Removing Mental Blocks

Duncker obviously believed he was onto something with his suggestion to redefine problems. But that itself provoked more thinking on his part. If reformulating a problem can lead to insight, why don't more people take advantage of this route to solutions? The answer that he derived was that people often provide their own cognitive limits. Their potential for insight is reduced because of mental blocks. And how do these mental blocks form? People rely inappropriately on past experience. But one might ask, doesn't experience provide a basis for knowledge and the foundation for expertise? It clearly seems to be desirable. Why would Duncker be concerned about relying on experience? His concern had to do with the psychological phenomenon of fixation. Fixation involves an uncritical reliance on experience and can take a couple of forms. One form is to maintain an inappropriate interpretation of a problem situation. The other is to adhere to an ineffective approach to solving the problem. People tend to rely on what has worked in the past. A. S. Luchins, working in the 1940’s, reinforced this finding with his so-called Einstellung problems. An einstellung is a mental problem solving set. Luchins would give subjects a series of problems. The problems were moderately challenging, yet solvable; in fact, there was an underlying formula for solving them. Subjects, consciously or unconsciously, tended to learn and utilize this formula. The interesting finding was that subjects continued to use the formula even in those cases in which a simpler and more direct approach to solving the problem was available. Their
previous success limited their search for more elegant solutions. Thus in our search for creative answers, one of the best steps we can take is to challenge the current conceptualization of the problem and even the methods that have previously shown themselves to be successful.

**Finding a Problem Analog**

This brings us to the fifth pathway to insight: the use of analogical thinking to achieve breakthroughs. Max Wertheimer, writing in 1945, expressed his findings that insight is often derived by gaining an understanding of the structure of one situation and applying it in another situation. Examples that demonstrate the power of analogy abound. Darwin, Bohr and Einstein all made use of analogy. Many inventions came about as a result of analogical thinking on the part of their inventor. These include: the telephone, the cotton gin, the electrical relay, the methods for underwater tunnel excavations, the movable type in Gutenberg's printing press, pneumatic tires, and velcro. Analogy draws a comparative relationship between two phenomena or areas of life. This comparison may take many forms, but substantial creativity usually results, not from a connection between the surface similarities of two phenomena, but from insights based on structural similarity. When looking for a creative solution to a problem, a helpful tactic is to consider how a natural process, another person, a different kind of professional, or even an animal might view the problem. Consider the abstract structure of that answer and then translate it into a potential solution for the problem at hand.

**Summary**

Over time, some of the research of the early Gestaltists has come under criticism, but my current investigations indicate that contemporary researchers using modern methodologies are rediscovering and supporting the avenues to insight outlined above. These five pathways may not themselves provide an exhaustive list. But, in the search for innovative solutions, we now have five major avenues to travel down: completing a schema, reorganizing visual information, reformulating the problem, removing mental blocks and developing a problem analog.
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Culture and Creativity

The Co-Creativity Institute evolved out of a focus on cross-functional team creativity. This has resulted in a research focus on deliberate creativity more than “natural” creativity, looking for ways to help people perform more creatively, regardless of any particular level of natural ability. It has also led us beyond the focus on individual creativity and invention, since the problems these teams solve involve more knowledge than any one team member knows. Because we generally work with teams in problem areas we do not understand, we have dealt with a wide variety of technologies, which has better allowed us to distinguish between rules of thumb in a particular knowledge domain and more universal facilitative methods.

It has also led us beyond improving communication through understanding and appreciation of differences in styles of learning and cognition, to an understanding of deliberate creativity as the deliberate guidance of a team’s thinking through a sequence of styles. We have long felt that the culture created in the team, however temporary, is a critical factor in its ability to discover ideas.

Since most teams we assist include members from diverse cultures, we have been also been required to understand more about cultural differences in cognition, perception, and communication. We have found most helpful the constructs developed by Geert Hofstede for categorizing the values and thinking of different cultures.

Some people tend to be far more focused on the good of the individual while others focus on the good of some collective such as family, tribe, or country. Some cultures are far more uncomfortable with uncertainty. Some are more accepting of hierarchy and authority. Some cultures make much stronger divisions between the work and roles of women and men. Some tend to look farther into the future in their decisions.

Intriguingly, many of creativity's most successful facilitation techniques can be seen as temporary culture shifts. Brainstorming involves a deliberate reduction in power distance and increase in acceptance of uncertainty. Of course, in order to work, it gives lots of authority to the facilitator and reassures the team members that all ideas will be judged to a high degree of certainty before they are implemented. In other words, the technique both uses and overcomes a cultural pattern that is typical of the culture dominant in American business fifty years ago when brainstorming flourished.

A possible implication is that facilitation may be like eyeglasses, not very useful to people who need a different prescription. Someone raised in a culture that has low power distance and low avoidance of uncertainty might find brainstorming very enjoyable, but unlikely to produce ideas they haven't already considered.

So, a theoretical question. Is creativity currently defined as the set of corrections most useful to the dominant American culture? Would it be helpful to define it subjectively, as the set of corrections most useful to any particular culture? Or is there a problem solving ideal state or pattern of states, and creativity is defined for each culture as moving from the dominant cultural value to the optimum problem solving value?

We were able to explore this concept during the year in conversations with administrators and managers in China who found value in the idea of creativity being specific to the culture. They saw the need for designing deliberate creativity both to compensate
for the cultural style and to take advantage of cultural values and mythology. When we described the processes of creative design and creative leadership in the context of Chinese culture, they seemed to see a strong fit to their experience. On the other hand, standard facilitation techniques such as the Nine-Dot puzzle and the Blind Men and the Elephant seemed quite effective.

Our next step is to find collaborators in various countries who wish to explore this concept further. We would like to discuss what value might result from seeing creativity training and facilitation not as a fixed set of techniques but as a spectrum of methods from which a culturally specific palette can be developed. With culturally grounded individuals we hope to develop collections of stories and techniques which they can use to be more effective in accelerating team creativity in their country.

Of course, the global corporation case is even more interesting. Most large organizations have teams whose members come from a variety of cultural backgrounds. To be effective they need to perceive and appreciate cultural differences. They need a temporary culture that they can all move to which is comfortable enough and supports the kinds of sharing and flexibility required for effective creativity and problem solving.

As with most areas of knowledge, the more new stuff you learn, the more areas of ignorance become open and obvious to you. Success in this area of knowledge requires a lot of collaborating and co-creating among people dedicated to deliberate creativity who are sensitive to cultural differences beyond vocabulary, gestures, and dietary preferences. We look forward to networking and co-creating with others listed in this report and reading this report.
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Inter-Professional Team Creative Projects
at Illinois Institute of Technology

While many creativity researchers focus on individual creators working alone within their domains of knowledge, one of the most effective applications of deliberate creativity has been the assembling of creative teams whose members represent different academic disciplines, business functions, and organizational levels. Over the last thirty years I have seen many dedicated individuals from fields such as Value Engineering, frustrated in their attempts to bring more training in methods of deliberate team creativity to universities, especially engineering schools. Now, a growing number of engineering schools have made creative team projects (single discipline and/or multi-discipline) a defining aspect of their educational programs. Starting in the year 2000, accreditation for American engineering programs will require that all engineering graduates have “an ability to function on multi-disciplinary teams.”

In a recent Board of Trustees retreat, it was a delight to hear CEO’s and other business leaders talking about their desire to hire people with better skills in creativity, teamwork, communication and collaboration. It was great to hear professors and administrators discuss the various approaches that are being followed and possible alternatives for delivering these skills in our students. Illinois Institute of Technology is making a commitment to be a world leader in an approach it calls “InterProfessional” education.

The Illinois Institute of Technology, formed in 1940 from the merger of institutions established in the 1890’s, has a long history of engineering education. In 1994 a National Commission of advisors was formed under the leadership of Motorola’s CEO Bob Galvin, to propose a distinguishing strategic direction for the institution. They noted the number of engineering programs that had made great progress in graduating engineers able to work in teams, sometimes teams that spanned several engineering disciplines. Noting also that IIT has schools in several other professions: Design, Business, Law, and Psychology, they proposed that IIT go beyond inter-disciplinary education to inter-professional education, in which students learn to collaborate with people from these other professions, as well as other engineering disciplines. They made this an integral part of a university wide strategy of graduating students who were InterProfessional, Interconnected (through Internet and other technologies), and International (global in perspective).

The initial engine of this strategy was a requirement for all undergraduates to participate in two “InterProfessional” projects before they are awarded their bachelor’s degree. These single semester projects involve teams of undergraduate students as team leaders or profession experts. All of these projects are “real world” and most have sponsors who help guide the teams and are willing to put many of their ideas into practice. Project teams have worked on a broad variety of projects from signaling units for garage door openers to establishing an Internet Web presence in Bosnia for journalists and lawyers. While initial projects have varied in the degree to which they are teamed, creative, complexity, multi-discipline and multi-professional, IIT has been working hard to make these projects more InterProfessional and more successful.

Various approaches have been tried for upgrading the ability of faculty and students to operate IPRO’s. Training in creativity, teamwork, cultural differences, and conflict
resolution have been provided for faculty and students both at the beginning and in the midst of projects. Last year a grant was awarded by the National Science Foundation to develop a more effective and facilitative infrastructure and to increase faculty competence in areas related to InterProfessional team creativity. A faculty team has been formed, representing all the undergraduate degree programs, to develop ideas for improving the ease of operations of the program, including ways to more flexibly schedule the projects and better fit the talents of the students to the projects. As the Board of Trustees and the full institution have been discussing ways to broaden the strategy to other parts of the university, the very term “InterProfessional” has been found to have varying meanings for different parts of the institution, including:

1) InterProfessional Academic Research: the interaction of diverse discipline experts (faculty and academic graduate students) to synergistically discover new knowledge and test it against reality.

2) Multi-Professional Programs: graduating individuals who can be InterProfessional by their breadth of knowledge in diverse disciplines. This would include our standard joint degree programs such as JD/MBA and MBA/BS Engineering as well as our specialty programs awarding an MS Power Marketing (combining electrical power engineering and financial markets) and MS Environmental Management (combining MBA courses and Environmental Engineering). Even the MBA program itself is at its base a multi-discipline/multi-profession program.

3) Team Player: graduating students who can BE PART OF the collaborative application of various areas of professional knowledge to specific design situations, developing skills by working in teams of faculty, undergraduates, sponsors, and professionally oriented graduate students.

4) Team Leadership: graduating students (especially at the master’s level) with specific skills and knowledge to provide leadership to InterProfessional teams, through courses and even a minor in Team Leadership.

There are two critical paradoxes Illinois Institute of Technology faces with the InterProfessional strategy:

1) While preparing our graduates to be InterProfessional requires knowledge and experiences that are not currently in the curriculum, we cannot sacrifice the indiscipline preparation of our graduates. Where new engineers used to spend many years in specialized departments, able to turn to colleagues and bosses for technical advice, today our graduates are soon placed on teams in which no one else knows their specialty. Our graduates must be more competent, in order to represent their discipline, while clearly understanding the limits to their competence, knowing when to check with professionally qualified colleagues.

2) We may never reach the point when the majority of IIT professors take an InterProfessional perspective, and that is OK. Becoming a professor requires intense solitary focus within a single discipline to develop objective truths. Successful design and management require a broad perspective, drawn from many conflicting disciplines, to develop designs and plans which best meet the conflicting subjective desires of many different stakeholders. Fortunately, it is possible for an organization to develop which produces InterProfessional graduates although the majority of professors are single discipline.
Creativity in an InterProfessional context has many ramifications. A project can require creativity that is abstract or concrete, creativity that is simple or complex, creativity that is adaptive or innovative. The greatest creative stretch for many is to listen to the ideas and perspectives of others who come from completely different realities, whether different in discipline or different in culture.

The students who complete an IPRO are enthusiastic about the experience and their learnings about creativity and teamwork. As a faculty member of the Business School, which has no undergraduate program, I am an outsider to the IPRO process. As a consultant who has been leading such teams all of my professional life and who has concentrated his research on team creativity, I have been involved as a training resource and am one of the principal investigators on the NSF grant. My MBA course in Cross Functional Team Leadership is one of the resources for training engineering graduate students in the skills they need to help lead these teams effectively, and more and more MBA students who have completed the class have volunteered to participate in these projects.

It is still an open issue whether the university will fund more resources for researching the effectiveness of various facilitation approaches, but IITR is becoming more and more a university whose graduates know how to apply these proven techniques of creativity in a team context. And with so many of those graduates going home to different countries around the world, we should soon be hearing reports of their endeavors and successes.
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Creativity Based Information Resources: Bibliographic Resources for the Field of Creativity

Introduction

Creativity Based Information Resources (CBIR) is an annotated bibliographic database containing references to scholarly literature about creativity. It is housed and maintained at the Center for Studies in Creativity (Buffalo State College). It can be searched via the Internet or by contacting the Center and requesting a literature search. Below is an overview the history behind it, describe its current state, and discuss future directions for CBIR and creativity literature in general.

Each record in CBIR contains the complete bibliographic information about a work and a brief descriptive annotation about it. These records are also indexed using an in-house controlled vocabulary system. Interested individuals can search for literature relating to their interests in creativity for an annotated bibliography of relevant materials.

CBIR is regularly updated with new materials. Important sources of newly published materials include the Journal of Creative Behavior, the Creativity Research Journal, and Creativity and Innovation Management. It also contains bibliographic information on all of the books found in the Creative Studies Library which is part of the E.H. Butler Library at Buffalo State College.

As the CBIR Manager, I ensure that CBIR continues to grow. I work with Creative Studies graduate students to write new records and assist people searching the database. I am also responsible for maintaining the system so that it functions properly and ensuring that the files remain secure.

History of CBIR

The origins of CBIR can be traced back to the 1983 mission of the Interdisciplinary Center for Creative Studies (ICCS, now known as the Center for Studies in Creativity). Part of this mission was to deliberately identify bibliographic materials related to Creative Studies and to design a system for easy access to this information. It was decided to build an annotated, indexed literature database.

Over the years, three individuals have managed CBIR and have contributed to its growth and success. J. Michael Fox was the first person to manage CBIR from 1986 to 1989. He was helped secure initial grant funding and identified hardware and software needs. He also developed the controlled vocabulary (Fox, 1987) which is still used today. Fox and other graduate assistants wrote the first annotations for CBIR. The Center faculty also consulted the librarians at Butler Library and the faculty from the School of Information and Library Studies (State University of New York at Buffalo) during the development of CBIR.

Kenneth J. Lauer then managed CBIR from 1989 to 1995. During that time, Creative Studies graduate students began to annotate materials for CBIR as part of their regular coursework. Part of Lauer’s responsibilities included visiting classes and giving instruction on how to annotate and index new materials. Students completed annotation forms
that were turned in at the end of the semester. Many volunteers (myself included) would then input them into CBIR. During this time, Ken also received materials from Marc Tassoul from the Delft School of Technology on organizational innovation and from Dr. Ruth Noller, Distinguished Service Professor of Creative Studies, on mentoring. Dr. Mark Runco also sent us a complementary subscription of the *Creativity Research Journal*. Ken performed most of the CBIR searches. By 1994, CBIR had grown to 5,000 entries (Lauer, & Puccio, 1994).

When I took over the management of CBIR in 1995, I continued visiting classes and offering instruction to students. I also performed most of the CBIR searches, which were now being requested more frequently. Graduate students continued to write annotations, and they also began to enter them directly onto the computer. The editors of the *Journal of Creative Behavior* and *Creativity and Innovation Management* provided complementary subscriptions for CBIR. I also worked directly with Glenn Wilson, a Creative Studies Master's student who conducted a bibliographic study of the Creative Studies Library (Wilson, 1996) to ensure that this bibliographic material would be searchable by CBIR. I also developed plans to put CBIR onto the Internet (Dutcher, 1997) and worked closely with a programmer to develop the search engine and supporting web pages. Additional web pages were later developed allowing users to submit annotated materials for CBIR via the Internet.

Several Creative Studies graduate students completed Master's Projects relating to creativity literature. These students worked with a faculty member and myself or Mr. Lauer to identify and annotate materials on specific themes for inclusion into CBIR. These themes contained literature on: Center faculty publications (Timko, 1996); creativity assessment (Horton, 1993); education (Cochran-Sonnen, 1998; Kopaz, 1997; Salem, 1993); interdisciplinary views of creative problem solving (Hillis, 1996); Kirton Adaptation-Innovation theory and measure (Drake, 1997); and task contingencies related to creative problem solving (Baldwin, 1998).

**Current State of CBIR**

Providing access to creativity literature is still an important part of the Center for Studies in Creativity’s mission. As of March 1999, there were 10,921 annotated bibliographic records in CBIR. Approximately 50% of the records in CBIR are annotated from journal articles; 22% are from chapters in edited collections and conference reports; 14% are from dissertations or theses; 10% are from books; 2% are from technical reports; and 2% are from other types of materials (see figure 1). This included bibliographic information from Creative Studies Library and from the three creativity journals. Since CBIR went onto the Internet, we have conducted on average between two to three hundred searches per month. During the Fall 1998 semester, Creative Studies students annotated approximately 250 new publications for CBIR. By the end of the Spring semester, another 350 will be added into the system.
As CBIR manager, I work closely with college librarians to explore ways to publish materials onto an electronic reserve system through the library's home page on the Internet for Creative Studies distance education students. This system is designed to complement the existing system of putting library materials ‘on reserve’ for students at the college. Copyright issues have been addressed and computer network protocols have also been implemented this semester to support this project. The Center is the first academic unit at the college to get such materials available for our distance education students.

**Future Directions of CBIR**

Much time and energy has been devoted to developing and maintaining CBIR. How do we know if it is meaningful? How do we evaluate it? While we continue to get positive feedback from users, we need additional indicators to evaluate CBIR.

Smith (1995) identified seven criteria that librarians should consider when they evaluate the quality and suitability of a particular source. These criteria are: (1) format; (2) scope; (3) relation to similar works; (4) authority; (5) treatment (accuracy, objectivity, and style); (6) arrangement (indexing); and (7) cost. CBIR rates well against most of these indicators. While it is only available electronically, CBIR can be accessed via the Internet or through the Center. The scope of CBIR is clearly defined, and this helps us decide which works are included in the system. New records are edited for constancy and checked to ensure that the indexing is consistent. As for its relation to other electronic databases or print indexes, we are unaware of any similar comprehensive resource dedicated to creativity literature. A CBIR user study is being developed to find...
out who uses our materials and why (Dutcher, 1998). This information will validate the usefulness of CBIR and guide future developmental initiatives.

In March, 1999, I searched the Internet for the acronym CBIR using MetaCrawler (http://www.go2net.com/search.html). MetaCrawler is an Internet meta-search engine that searches several search engines consecutively, including Lycos, Infoseek, WebCrawler, Excite, AltaVista, Thunderstone, The Mining Co., Looksmart, and Yahoo. This search identified CBIR in 33 web pages. Eight of these pages were CBIR index and other pages found on the CBIR web site, and web pages from the Center for Studies in Creativity's web site that related to our CBIR. The other 25 web sites where the acronym CBIR was picked up included: a bank, a stock brokerage service, an image retrieval system, and an online digital video library. None of these actually identified our database. Thus if someone didn't know about CBIR, they might have a difficult time locating it.

What librarians do under these circumstances is to examine critical reviews of newly published titles and guides to reference sources to identify new materials for their collections. While the reviews of print sources are more comprehensive than non-print sources, several journals are presenting reviews of electronic materials. Guides to reference sources contain the title and publication information of a resource, an annotation, and other information. These guides include both print and electronic materials. I have not found many critical reviews of resources on creativity, and I have not found much in various reference guides. Dedicated efforts need to be made to make editors and publishers aware of CBIR and other creativity resources. One way to do this is to write articles and reviews for the journals and newsletters you receive. I plan to do this and encourage others to do likewise. Only then will these materials be included into the guides, and people will realize that scholarly resources about creativity are available.

I encourage you to use CBIR and ask you to share your observations. Search the database and examine the results. Did you find appropriate materials? Do you know of specific references that we should include? Did you experience any problems or have any questions? Let me know. Feel free to contact me or to use the CBIR input forms found on the web site. Your observations about the CBIR are very important to us. Only with your feedback can we further develop CBIR to meet your needs.

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Overview of the Reports

In the domain of creativity an analysis of published journal articles to determine trends and themes has been largely neglected. Little effort has been expended to examine yearly works to the degree necessary for the productive and orderly development of the field. Practitioners in the field as well as other researchers are often not aware of the work completed. This results in repetitive research attempts, which do not move the field forward. To address the important challenge of synthesizing the literature, three students at the Center for Studies in Creativity, State University College at Buffalo, completed a Master’s project to examine the contents of three well-respected creativity journals for the calendar year 1998. Bowman (in preparation); Donaldson (in preparation); and Ezrin (in preparation) examined themes in *The Journal of Creative Behavior*, *Creativity Research Journal*, and *Creativity and Innovation Management*, respectively. They used qualitative analysis, individually and collectively, to examine current journal themes. The authors used the Feist and Runco category schema (1993) which was created to analyze trends and themes over 25 years of the *Journal of Creative Behavior*. The authors adopted or modified Feist and Runco’s organizing model as needed for each journal. The three reports which follow describe the findings of each author from their respective journals. A conclusion noting overall themes and implications follows the individual reports.
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Themes in the 1998 Issues of the *Journal of Creative Behavior*: 
A Report from the Center for Studies in Creativity, 
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The focus of this discussion is to report the themes found during an analysis of 16 articles in issues of the 1998 *Journal of Creative Behavior (JCB)*. The analysis was done to increase awareness in the field of creativity of the work that has currently been done in order to prevent repetitive research and to promote development in the emerging discipline of creativity. This analysis was also a part of a collaborative Master’s Project at Buffalo State College in New York that compared the trends and themes of three recognized journals in the field of creativity. (Bowman, in preparation; Donaldson, in preparation; Ezrin, in preparation)

*The Journal of Creative Behavior* is a 32-year-old publication whose primary mission is to offer current information in creativity, innovation and problem solving with an interdisciplinary approach. It is a refereed journal that is open to both established and new authors. *JCB* has a worldwide distribution and is recognized in the field for its wide variety of articles (*JCB*, 1998).

In order to obtain these themes, I adapted the framework that Feist & Runco (1993) used to analyze twenty-five years of the *JCB* literature. The use of this framework also allowed for some interesting comparisons between their work and the current analysis. There were five domains across which data from the articles were collected: Structural Characteristics, Patterns of Authorship, Research Methods, Populations, and Issues in Title and Focus. Although looking at one year of any journal provides only a snapshot of the literature in the field of creativity, there are some interesting themes in this data set.

**Structural Characteristics**

Under the domain of Structural Characteristics there were 5 categories: number of articles (16); total number of pages for articles (263 or 16.4375 per article); total number of references (505 or 31.5625 per article); recent references 1993 to 1998 (177); classic references 1973 and prior (83). Of the 505 references 35% were recent references and 16% of them were classic references. It appears that during this particular year authors focused on current findings in the field of creativity.

**Authorship Patterns**

The domain of Authorship Patterns had 6 categories: number of authors per article (1.4375 for a total of 23 authors); number of female authors (4); number of male authors (18); number of female first authors (0); number of male first authors (2); and number of authors of undetermined gender (1). It was interesting to note that 13 articles had single authors and only 3 articles had multiple authors. The male authors outnumbered the female by approximately 5 to 1. This is an increase in the male to female ratio compared to Feist and Runco (1993) who found that the number of female authors had generally increased until a plateau was reached in the 1980’s, with the males only outnum-
bering females roughly 2 to 1. Whether or not this is a longer-term trend or a one-time result may be an issue for further study. Some questions that may need to be asked are: “What are the numbers of female authors in the field that are pursuing publication?” and “How many female researchers are currently active in the field?”

Methods

Under the domain of Methods there were two broad categories: empirical and non-empirical methods. These were further broken down into subcategories. Empirical methods (10) contained sub-categories of laboratory (0); questionnaire (5); interview (2); field (3); longitudinal (0); archival (3); meta-analytic (0); quantitative (6) and qualitative (3) analysis and use of computer technology (1), multi-method (3). I adapted the Feist and Runco (1993), Donaldson (in preparation), Ezrin (in preparation), framework to identify what methods were brought together under the category of multi-method. Therefore, the various methods used in multi-method studies were included in the analysis above. Quantitative analysis outnumbers qualitative analysis 3 to 1, indicating a dominance of the use of accepted empirical methods. Non-empirical methods (6) included the sub-categories of descriptive/review (5); prescriptive (3); technique description (1); and theoretical (1). In 1993 Runco and Feist noted that empirical articles were outnumbered by non-empirical articles by 3 to 1. During the 1998 year this trend was not evident; empirical methods outnumbered non-empirical methods by 5 to 1.

Populations Studied

The domain of Populations Studied used 12 categories: under 6 years of age (0); grades 1 through 5 (1); grades 6 through 8 (4); Grades 9 through 12 (0); university students (0); adults, general population (0); artists (0); scientists and engineers (0); business people (0); creative occupations, for example, inventors (3); adult educators (2); and other adults (0).

Several similar themes were noted between the 1998 journal analysis and Feist and Runco’s 1993 study. Specifically, school age children were the most commonly studied population. However, there was also one difference. Their study noted that the children were elementary students. The 1998 students were primarily of the junior-high grade levels. At that point the population similarities diverge. Whereas Feist and Runco (1993) found that university students were the next most common population studied, the 1998 journal focused more on adult educators and those adults in occupations commonly thought of as creative, such as inventors.

Issues in Title and Focus

Within the domain of Issues in Title and Focus, 33 possible categories were used as a framework. This is an adaptation from Feist and Runco’s (1993) study with 31 categories, I had two new categories arise that had not been dealt with previously. These two new categories were the creative process and chaos (1) and computer technology (2). The remaining 31 categories were ranked as follows: motivational drive/source or origin of creativity (8); creative behavior (8); education and teaching, training, and testing of students (5); personality characteristics of creative people (3); enhancement of creativity (3); social and environmental influences on creativity (3); creative potential (3); brainstorming (2); science, role of creativity in scientific thinking/problem solving (2);
art/artistic creativity or artistic thinking in problem solving (2); leadership, relationship with creativity (2); problem solving and incubation (1); synthetic/convergent and divergent thinking (1); image/visualization/dreams (1); gifted high IQ high creativity child/adult (1); test construction, taking, measurements, and issues of creativity research (1); creativity in business (employees) (1); deals with gender differences (1); cross-cultural differences (1); creative product (1); intuition (0); relationship between IQ and creativity (0); developmental process over time child/adult (0); humor (0); intuition, nature and role in creativity (0); emotion, role of it in creativity (0); therapeutic techniques in creativity (0); mental health and creativity (0); freewill/will control in creativity (0); neurobiological (0); and psychic/futuristic, ESP (0). In the 1998 analysis an article could be used in more than one category. This breakdown better indicated the diversity in some of the articles. An example of articles being used in more than one category would be one that proffered a new theory, however that theory also focused on using visualization. To leave either of these out seemed to diminish the richness of the theme. After analysis these categories were ranked based on the number of times they were used. It is interesting to note that although brainstorming in Donaldson (in preparation), Ezrin (in preparation) and Feist and Runco’s (1993) analysis was one of the least common topics, it was in the top 8 in the 1998 JCB journal. Feist and Runco (1993) also noted that enhancement, education and teaching, training and testing of students, and personality characteristics were ranked in the 5 most common topics. This trend appears to have remained stable since the initial analysis. Some issues received no hits at all and some of these issues were the same as those noted by Feist and Runco (1993) such as emotion, free will, intuition, and humor.

The one hit in technology in creativity is intriguing. It would appear that computers are no longer being relegated to just calculating the information gathered during empirical studies. Now they are being used in the creative process itself. Two examples that were found were computer use in brainstorming on the Internet and also in the development of a Torrance Test of Creative Talent that could be taken on the computer rather than as a paper and pencil test. Both of these examples are indications of the growing impact of technology in all aspects of the field. Another new and unique topic that appeared was the application of chaos theory in creative problem solving. As the field continues to progress, the focus on both of these trends may be expected to grow.

Many of the trends discussed in this article and in the combined analysis of the three journals in the Buffalo State College Master’s project could open up some interesting debates as to the direction and focus of the literature in the field of creativity. There are also some fascinating opportunities for further research and study of the literature in the field as discussed previously. With the differences that have been observed between Runco and Feist’s (1993) report and the 1998 Journal of Creative Behavior report, a number of questions can be raised that would be worthy of research. It would appear that Stein’s admonition to read the literature still remains a challenge (Isaksen, et. al., 1993) as the field of creativity continues to move forward towards becoming a discipline.

References


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The purpose of this report is to increase awareness of current themes in published articles on creativity. This author examined twenty-four articles in three issues of the 1998 publications of the Creativity Research Journal (CRJ). The fourth issue was not included in this study because data were collected before the issue was published.

The Creativity Research Journal publishes scholarly research using a full range of approaches to the study of creativity. Interdisciplinary research, and research within specific domains such as art and science are also published. The target audience includes behavioral, clinical, cognitive, developmental, and educational psychologists, and all who are interested in the study of creativity (Lawrence Erlbaum Associates, Homepage, Online, 1999).

Data for this report were collected across five domains: Structural Characteristics, Authorship Patterns, Research Methods, Populations, and Issues in Titles and Foci. This framework was adapted from the design used by Feist & Runco (1993), Bowman (in preparation), Donaldson (in preparation), Ezrin (in preparation).

Structural Characteristics contained the number of articles per issue, length of an article, and total number of references per article. Furthermore, references were sorted by dates, recent (5 years old or less) or classic (25 years or older).

Authorship Patterns were subdivided: total number of authors, total number of female authors, total number of male authors, number of female and male first authors, and the number of authors where gender was not determined.

Research methods consisted of two categories: empirical studies describing those that have explicit or implicit method sections, and non empirical studies describing those that do not report original empirical data. Each of these two categories was subdivided. Empirical studies were classified in eleven different ways: archival; field studies; interviews; laboratory methods; questionnaires; creativity tests only; longitudinal; multi method; meta-analytic; quantitative analysis; or qualitative analysis. Non-empirical studies were subdivided into four categories: descriptive/review; prescriptive; technique; or theoretical.

The fourth category Populations, examined the nature of populations studied in the empirical articles.

Finally, Issues in Titles and Foci were determined by sorting articles according to their explicit title or main focus. A total of 31 foci topics were selected by Feist and Runco in their 1993 study (i.e., education, creativity enhancement, divergent thinking). Sixteen of the 31 categories were pertinent to this study and four new topics were added. The following data describe themes that serve the useful purpose of showing what is currently being studied and the direction of movement in the field of creativity.
Structural Characteristics

Structural Characteristics in CRJ for 1998 showed an average of 8 articles per issue, with an average length of 11 pages. There were 1,324 references for twenty-four articles. Two articles with references of 256 and 279 were diagnosed as outliers and removed from the analysis because their strong influence on the data might give a misleading picture. The remaining sample of 22 articles had a total of 789 references, with 130 classic references (25 years or older), and 227 recent references (5 years old or less). The average amount of references per article was 35.86 of which 5.90 were counted as classic, and 10.31 as recent. Thus over half of the CRJ references in 1998 occurred between the years of 1973 and 1993.

Authorship Patterns

Authorship Patterns revealed that of the 37 authors, 14 were female and 22 male. The gender of one author was not determined. Eighteen articles were single-authored. In the six multiple-authored articles, four were male first authors, and two were female first authors. Male authorship was predominant across the three issues, thus giving rise to questions such as “Are there fewer women authors seeking publication?” “Are there fewer women active in the field of creativity?”

Research Methods

The number of empirical studies (13) and non-empirical studies (11) were well balanced. Of the 13 empirical studies, 10 utilized quantitative measures and 3 used qualitative. The most common method of empirical research was the questionnaire (6), followed by laboratory methods (4), and studies using multi methods (4). The number of studies using archival data was two, and the least used method of research was the meta-analytic approach (1), and the interview (1). Of the non-empirical studies, nine were classified as descriptive/review, five as prescriptive, and one as theoretical. There were no articles classified as describing a new technique. Some interesting factors in research of methods appear to be the balance of empirical and non empirical studies and the 3:10 ratio of qualitative to quantitative researching methods.

Populations Studied

University students (7) were the most commonly studied populations in empirical research, followed by adults who did not fit the general population (4). In this category, adult subjects were fiction writers (1), inventors (1), authors (1), and U.S. Army Officers (1). Two studies used subjects from the general adult population. The least studied population in 1998 was adults whose primary profession was art (1). There were fourteen separately identified populations in the 13 empirical studies; one study used both adult authors and adults from the general population as subjects. Of note in this section is the continued trend of using university students as subjects.

Issues in Titles and Foci

To correctly identify the foci of articles I added four categories: interdisciplinarity, creative process, computer technology, creative process and chaos theory. Each article was coded, based on the content of its title and identification of its main focus, there-
fore, an article may be rated twice. I rated the data in this domain as follows: interdisciplinarity (9); art/artists (8); problem solving (4); enhancement in creativity (4); convergent/synthetic/divergent thinking (3); creative process (2); testing/measurement (2); and creative product (2). The topics of brainstorming, computer technology, creative behavior, creative process and chaos theory, creativity in business, education, emotion, leadership, mental health, motivation, neurobiological, and social/environment influences on creativity were each the focus of one study. Special issues are always an influence on such genres as topics and foci and 1998 was no exception. Volume 11, Issue 1 focused solely on interdisciplinarity and the psychology of art and creativity. The articles in this special issue looked at the advantages of incorporating scientific and humanistic traditions in the study of the arts and artists. Also noteworthy overall was the wide variety of topics. Twenty different topics were studied in 24 articles. This breadth would seem to be a characteristic of the 1998 set.

In summary, in 1998 articles published in the Creativity Research Journal averaged 35.86 references, and 11 pages in length. Male authors out-numbered female authors 22 to 14, and eighteen of the 24 articles were single-authored. Empirical (13) and non empirical (11) research methods were well balanced. The population most studied was university students, and the two top rated themes were interdisciplinarity study, and art/artists.

The data in this study provided a basis for examining themes of published articles on creativity. The benefits of acquiring this information are many. First, it informs researchers of what work has been completed and may prevent them from “reinventing the wheel.” Second, it sheds light on the direction the field of creativity is advancing. Finally, it presents a step toward a better understanding of basic constructs in the discipline of creativity.

References


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Themes in the 1998 Issues of the
Journal of Creativity and Innovation Management:
A Report from the Center for Studies in Creativity,
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Creativity and Innovation Management (CIM) is based on a vision. The editors of this seven-year old European journal with a global approach wish to provide a forum for sharing and extending the understanding of creativity and innovation management. They also envision an international community of practitioners and academics joining together through the pages of their journal to test practical experiences against an emerging body of theory and to provide academic theorists with a practitioner-based audience. Thus, in their view previously untapped sources and resources can be given a voice and an opportunity to balance one another (Creativity and Innovation Management, 1998).

This report too is based on a vision—a vision of an international community whose members are connected and attuned to one another, moving forward toward a common goal: the development of the discipline of creativity. It is through the reading and analysis of work already published that practitioners, academics, researchers, and students of creativity can see where we have been, where we are and where we might need or want to be headed. (Isaksen, Murdock, Firestien & Treffinger, 1993).

What follows is a glimpse of themes for the year 1998 in the journal of Creativity and Innovation Management.

Feist and Runco’s 1993 category schema, designed for The Journal of Creative Behavior, served as the starting point for my analysis. I employed the five general domains found in Feist and Runco (1993), Bowman (in preparation) and Donaldson (in preparation) namely, Structural Characteristics, Authorship Patterns, Methods, Populations, and Issues in Title and Focus.

Since this journal has a business/management thrust, I made a number of modifications for a clearer and more accurate picture of the data. In the domain of Issues in Title and Focus I added three categories to Business/Management: (a) Organizational Learning; (b) Creativity/Innovation Models; and (c) Creativity/Innovation Methods/Theories. To accommodate new themes, I added two categories: Computer Technology, and Creative Process and Chaos Theory. These provided more breadth in describing the 1998 CIM content. To identify the themes descriptively and accurately, instead of making one or two selections, I made three or four choices when necessary. I now had both the breadth and depth I needed to complete an accurate and descriptive analysis.

Of special interest are the unique contents of the December issue of CIM. This Special Innovation Issue emphasized one long article “Proven Methods for Innovation Management.” Six short commentaries followed. These were counted as individual articles, although their type and focus were all related. Because there were fewer references in these commentaries it reduced the average number of references. In the Methods domain, the Descriptive Review category was increased by 6 as was the category of Business/Management: Creativity/Innovation Methods/Theories in the Issues in Title and Focus domain. Special issues are always an influence and this was not an exception.
Structural Characteristics

Under Structural Characteristics, I individually tallied the number of articles, their length and their number of references. The total number of articles for the four quarterly journals in the calendar year 1998 was 26. This averaged to 6.5 articles per issue (not including book reviews) of 7.42 pages each. The average number of references was 16.88 per article, composed in part of 6.81 recent (written within the last five years) and 1.69 classic (written 25 years ago or more) references. This comparison of recent to classic references was at 4:1 which demonstrates the extent to which researchers and practitioners read and were influenced by the recent and classic creativity literature.

Authorship Patterns

Authorship Patterns refers to the number of authors and their gender. The articles were authored by a total of 34 people: 26 male, 7 female, and one undetermined. In other words, each article had 1.31 authors and was nearly four times more likely to be written by a male than a female. Twenty-one articles were single-authored compared to two double-authored, one triple-authored and one quadruple-authored article. Single-authorship was therefore prevalent at a ratio of roughly 5:1. The predominance of male authors and single-authorship are factors of interest. Such information might be productively examined over more issues of the journal to determine broader trends.

Methods

Methods refers to two broad categories, non-empirical and empirical, further broken down into sub-categories. In examining Methods used, the most noticeable difference occurred between the number of non-empirical and empirical studies. In the former there were 23 and in the latter 3. Therefore, non-empirical articles outnumbered empirical by more than 7 to one. In the empirical articles, the category of Multimethod was used twice and Questionnaires was used once. Further breaking down the category of Multimethod (a departure from Feist and Runco’s schema) created a finer description. Interviews were used twice and Questionnaires and Longitudinal studies were each used once. In analyzing this one year of CIM, non-empirical articles most described a phenomenon or reviewed the literature (17) or prescribed some method or topic (16) rather than describing a new technique (3) or theorizing (2). In a journal of such a practical bent, it is not surprising that there were fewer non-empirical articles that put forth a theory explaining or interpreting a set of phenomena. The paucity of articles describing new techniques, however, was less expected.

Populations Studied

Populations Studied refers to groups of people studied in empirical articles only. Three empirical studies appeared in 1998, and their populations were Business People, white collar, management (2) and Other, academics (1).

Issues in Title and Focus

Issues in Title and Focus refers to sorting the articles as to their main theme or focus. From the 26 articles in 1998, the five most prevalent topic themes (out of a possible 37) were ranked. They were Business/Management: Organizational Learning (12); Busi-
ness/Management: Methods and Theories (12); Enhancement of Creativity (12); Business/Management: Models (7); and Leadership (6). Interestingly, there were only seven other topics explored in all 26 articles. These were: Creative Product (4); Motivation/Source/Origins (3); Creative Process and Computer Technology (3); Social/Environmental Influences (2); Problem Solving/Incubation (1); Cross-Cultural Differences (1); and Creative Process and Chaos Theory (1). To look at it another way, this indicates that the focus of 26 articles was Business/Management, and of 12 articles the focus was Enhancement of Creativity.

Of further interest were the new categories under Issues in Title and Focus. The emerging category of Computer Technology (noted 3 times) described the impact of computer technology in Creative Problem Solving, new product development, and cross-organizational sharing of information - information systems (IS) and information technology (IT). The category of Creative Process and Chaos Theory demonstrated the links between the lessons of chaos theory and the evolution of the adaptive organization. We might expect to see future articles on these topics in this journal or elsewhere.

Conclusion

One piece of historical perspective is completed by this report; one part of Stein’s admonition to read the literature is presented; one segment of my vision is realized in concluding this study. The development of the discipline of creativity through an international community connected and attuned to one another has been moved forward one more step by this research and its dissemination in this global book. In sharing and extending our understanding of creativity through the balance of sources and resources, theory and practice, historical, present, future and cultural perspectives, we can propel the field of creativity forward.

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CONCLUSION:
Overall Themes and Implications Across Journals
by Linda C. Bowman, Judith E. Donaldson & Sondra T. Ezrin

In summarizing and analyzing the findings of the three journal reviews, we found a number of themes and implications that intrigued us. Similarities and differences became apparent across the three journals. In looking at the first domain of Structural Characteristics, a similarity that stood out across all three journals was the emphasis on the use of current literature references. Current literature (1993–1998) made up 34% of the total references whereas classic literature (1973–prior) only made up 15% of the total references. The remainder fell in between 1993 and 1973. A difference amongst the three journals was in number of references. A larger number of references (789) were used in the Creative Research Journal (CRJ) as compared to 505 in The Journal of Creative Behavior (JCB), and 439 in Creativity and Innovation Management (CIM).

The second domain of Authorship Patterns produced similarities across the three journals in that there were a large number of male authors (66) as opposed to the fewer number of female authors (25). The percentages were 70% male and 27% female. Of the three journals, however, CRJ had a more even ratio of male to female authorship at approximately 4 to 3.

The third domain, Methods, presented some interesting similarities in empirical research among two of the journals. Both JCB and CRJ focused on quantitative methods for their empirical research. These were primarily multi-method studies often using questionnaires as one of the methods. Because the Creativity and Innovation Management journal does not have empirical research as one of its primary foci, it is not surprising that empirical methods were not as important. All three journals had studies under the category of non-empirical research. Descriptive review and prescriptive approaches were the methods of choice for all three journals. Another method of interest was the relatively new approach of using computer technology. This was present in both JCB and CRJ. Under the domain of Populations Studied all three journals used disparate populations for their empirical studies. The JCB articles focused primarily on school children; CRJ articles focused on university students; and CIM used both business people and other adults.

Our final domain, Issues in Title and Focus also provided some interesting themes. The most common theme found was the focus on the Enhancement of Creativity. It stood among the top five categories in all three journals. Other interesting categories of issues shared by the three journals were Problem-Solving and Incubation; Creativity in Business; Social/environmental Influences of Creativity; Motivational Drive, Source or Origin of Creativity; Leadership and Its Relationship with Creativity; Creative Product; Creative Behavior; Creative Process and Chaos; and Computer Technology. Some categories were interesting primarily because none of the journals addressed these issues. The absence of The Relationship Between Intelligence (IQ) and Creativity stands out as this had been such a focus of research in the past. Another category that was selected only once was Cross-Cultural Differences and Creativity. In an age of global interdependence it was interesting that this category generated little attention in 1998. Finally, the category of Humor did not appear in any of the research. This generated quite an attitude of surprise among Bowman, Donaldson and Ezrin as we found that humor was the one element that kept this project and these authors going at midnight!
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Creativity In Venezuela

Introduction

Venezuela is a country of 21,177,000 inhabitants where children and young people occupy a large percentage of the population, with a great exodus of people from the country to the city and, in spite of the socio-economic crisis that exists in the country, interest for creativity in recent decades has been increasing especially in the areas of Art, Education, Music, Science, Literature, Dance, Theater and Research at our Universities.

We as adults must be constantly innovators and agents of change. We need to stimulate more and more the creative capacity of the child, since the future will demand much of the creative capacity of today’s children. To be creative implies giving oneself permission to be different from others, to accept being as one is, to be less critical more positive with others and with oneself, to be open to new experiences and to have the courage for freedom with the object of stimulating full realization as an individual which begins in the family, continues in school and crystallizes in society.

The tendency of contemporary Psychology, thanks to the contributions of the theories of learning, psycho-analytic, gestalt, ecological, systemic and humanistic, is placing more and more emphasis on the positive aspects, on optimism, self-esteem, and the potential creative development of the human being (Feldman, 1992).

For Ruth Lerner de Almea (1982) “The function of Education at all levels is to develop Creativity, it will be facilitated during creative administration, directed towards the formation of teams, where the “I” figure is overcome by the “We” conception. She also points out in the “Gran Mariscal de Ayacucho” Foundation Scholarship Program, the importance of the Theater Festivals, the CENAMEC Scientific Olympics among other creative actions. The Scholarship Program did not only develop successfully, but it gave rise to the detecting of young people with special talent who completed their studies, achieving levels of excellence. Programs of Cultural stimulation in the development of the creative activity of the child. (Feldman, 1986).

Several decades ago we began with groups of students from the School Psychology Department of the Central University of Venezuela to study children who attended a public school under my supervision. This work is the report of a series of cultural stimulation activities that have been carried out at a public school of the Caracas Metropolitan area.

In the planning as well as the execution of the mentioned activities, an interdisciplinary team made up of the Directive, Teaching and Administrative personnel of the school, the personnel integrating the Orientation Service, parents and representatives as well as the student body in general participated.

In the passing of the years that we have been in public schools, we have been gradually observing and studying the students as well as their family and social group in which they develop. Low school performance has been and is still the most frequent reference motive to our Orientation Service.

Upon beginning to study the referred to students, we became aware that a great part of them were pedagogically delayed, had learning difficulties and family imbalance very frequently.
Another important aspect, that we detected was the lack of knowledge that the students had about the community’s resources with respect to cultural and recreative activities that exist in the metropolitan area.

This is a characteristic of children coming from a medium with cultural deprivation or social disadvantage, according to Feldman M. and Feldman N. (1976). To this extent also we could observe that they lacked knowledge of our human values.

The children who attended the special class, because they had some specific learning difficulty were those who had less knowledge of the cultural and sporting resources, many of them never left their neighborhood.

We decided to carry out some activity where their creative capacity and their integral development were stimulated.

Our concern to know our students through Art arose because we consider it one of the best media to know creativity at any age.

We began with an exposition of drawing whose theme was “So is my city” in which all the school’s students participated. The best drawings were exhibited on the bulletin boards and each child had his drawing in the exposition, in his grades file or on the bulletin board. The experience was very interesting. The parents and all of us who worked on the activity were very pleased with the results obtained.

The following year after the death of Don Romulo Gallegos, an illustrious Venezuelan writer, we prepared a brief biography, each teacher made a comment on one of his works and the biography with his group of students. In each classroom, excerpts of the chosen book were read. Afterwards, the students made drawings referring to the theme. The drawings were beautiful, being an excellent sample of the great creative potential that our children possess which with the proper stimulation, flourishes, is expressed and is developed, in spite of the fact that many of these children come from culturally deprived surroundings. The drawings were exhibited at the exposition called “Gallegos’ Venezuela drawn by children.” All the participants of the educative community enjoyed this event.

Later, the next year we set out to perform a research project at the same public school, with respect to the knowledge that the students had about the cultural and recreational places existing in the metropolitan zone about the use of their free time, their interests and the attitude that they had towards the information about Museums, Expositions, Parks, Concerts and Theaters. The participation of the parents and teachers was very important in the activities that we had planned.

One of the objectives of this work was to detect the children with special talent in order to orient them and stimulate their creative development. Another objective was to point out the need to prepare a program of activities at the schools which would stimulate the interests of our children and young people which, at the same time would help achieve a greater intellectual creative emotional unravelment in these children.

The results obtained in the surveys applied to the students of the fifth and sixth grades indicated that they did not make proper use of their free time. They spent the greater part of their time to watching TV, to listen to the radio. Among the first places, there is the reading of comic books of juvenile characters, erotic and romantic readings; fol-
allowed by those of terror, comic books about animals and humans, super-heroes, adventures, fantastic readings and science fiction.

The second part of the work refers to the program of activities performed with the students in order to stimulate their interests towards cultural and sporting aspects.

For the informative part, the students were divided into two groups:

1. The students from the first to the fourth grade were given a list with the addresses of various places: Museums and Children’s Parks where their parents could take them during the week-ends and they were shown a period of 15 days to visit them. In this way, we could evaluate the collaboration of the parents in this type of activities. Afterwards, the children made a drawing with reference to the places visited and these works were exhibited at the Exposition of Drawings that is held annually at the school.

2. The students of the fifth and sixth grades received the information in a different form. When we became aware that only 23% of the children knew the Museum of Fine Arts, we organized a visit to this Museum. We had previously taken the painter Armando Reveron as a theme of study. The children of these grades were given a summary of the biography read by the teachers and the parents. We went to classrooms and we discussed with them the life and work of this great painter. We also showed them reproductions of the most famous works of Reveron. We later organized the visit to the Museum of Fine Arts, where they observed the various works of art that were exhibited. They saw a film about Armando Reveron and they saw his works exhibited.

The following day, the children drew at school what they captured about the life and work of Armando Reveron.

There were many drawings of marinas, nudes, Reveron with the dolls, the Reveron Castle and all the works were exhibited at the exposition of drawings that we organized this year.

The parents received information about the cultural and sporting places where they could take their children. They were sufficiently cooperative in the program that we carried out.

The following year we took as a study theme the life and work of the great Latin American poet, Pablo Neruda. We again made a brief biography which was read by the students and commented on by their teachers. We reproduced a series of his poems that were read in each grade and each child had a copy of that which corresponded to his grade. In this way we incorporated stimulation to the literary, the children interpreted through the drawings what they had captured from the poems read. This was interesting and stimulated the interest of some children for the reading of poetry.

The reading of poetry to the children of primary education has been left aside. Very seldom do our children today recite poems. I think it is important to again increase this activity for the value it has from a literary point of view, as well as for the spiritual enrichment. These drawings were exhibited at an exposition held at the Institute of Art of the Central University of Venezuela. The students were happy to see their drawings on exhibit. They came accompanied by their teachers in University buses. This was a very
emotional day for many of them, since very few of them knew the University City, and some had not had the opportunity to leave their neighborhood.

For the inauguration of this exposition of children’s drawings inspired by the poems of Pablo Neruda, the Department of School Psychology invited the professors and students of the School of Psychology and the public in general to a Round Table about Children’s Drawing.

The stimulation of the creative activity on stories and poetry should be followed up in schools since it is a very effective medium for the development of language in the child.

Upon finishing the planned visits, each teacher commented with his students about the important deeds they had seen and learned at the place visited. Later, the students made drawings and compositions based on the experience they had. The students did their homework with pleasure and the communication between them and their teachers improved. We sent an opinion survey to the parents with respect to the Cultural Stimulation Program; there were 218 representatives, 100% of the parents responded.

Goals reached by Means of the Cultural Stimulation Programs

- Motivation increase in the cultural, sporting and recreational activities, at the student level as well as among the teachers and representatives.
- We stimulated the creative skill of our students.
- We detected the children who had special talents for the Arts and Literature.
- Some of the students who had skills for Drawing later collaborated with the Orientation Service in the reproduction of exercises for children with learning difficulties of the special classroom.
- In the group there were also students who had literary interest and skills; some who wrote poems were incorporated into the commission for writing the O’Higgins Informative.
- In some cases it was the children who later motivated their parents and brothers to go to the Museums and recreational places that they visited.
- The students and their families acquired knowledge of the community’s resources.
- Greater communication was established between the students, teachers and parents. There were parents who took neighbors’ children on the programmed visits.
- Some teachers were so motivated with the places they visited, that they later took their own children and relatives.

Upon finishing the planned activities, we asked the students to give us their opinion on the program carried out. I will quote some of these, which have been transcribed textually:

“This is what you are doing, I believe you must do this always in all grades.”

M.S., 6th. “A.”
“My opinion is splendid for you perhaps it seemed perfect to me and I learned many things. I think you should repeat it so that the others can enjoy this splendid idea also.”

V.G., 6th. “A.”

“I think it is good because one can use his spare time in something, and it is also good for one part because of the culture, one is culturized and learns more things and knows places that sometimes one never has the opportunity to go to, and in this way, one has the opportunity to orient oneself in certain things. I think you should continue doing it for those who come next year.”

F.D.C., 6th. “A.”

Creative Projects

The creative projects that we have in Venezuela are various; I will mention some of them:

The Venezuelan Children’s Symphonic

Constitutes together with the Children’s National Symphonic in the Central Organ of a National System conformed by 102 Juvenile and 55 Infantile Orchestras, integrants of the Social Project that groups together 110,000 young people and children coming from different social strata particularly popular and marginal sectors. The Infancy Integral Defense Program in which Musical Education tends to be the instrument to awaken in the young person and the child the creative vocation and develop by means of Orchestral and Systematic Chorus Practice social community solidarity development. UNESCO grants the Children’s Orchestras of Venezuela the International Music Award. The Organization of American States is promoting at present, the constitution of the Children’s Orchestra System of the Americas, based on the Venezuelan Project. In 1995, UNESCO named Maestro Jose Antonio Abreu, Director of the Juvenile and Infantile Orchestras System of Venezuela as Special Delegate of the Organization for the development of the World System of Juvenile and Infantile Orchestras and Choruses.

The Venezuelan National Infantile Symphonic has given a series of concerts at the National and International level. In each one of the places visited, they have received a warm, meritorious recognition. To hear them play is a delight that invokes a sense of joy and happiness. In every place in our homeland, this organization has planted infantile and juvenile orchestras that awaken long and warm applauses where they are presented.

The Venezuelan Magic Window Foundation

Multimedia Infantile Literature Cultural project. This is a non-profit private entity, dedicated to the rescue, production and broadcasting of literature for the girl, the boy and the family in a context of total culture. It acts as a non-formal education process directed to stimulate Creativity. It is a multimedia communicational recreational-cultural system which is development in several projects produced and issued simultaneously in 1985. These are: Audiovisual 140 (60” Micros for TV, 8 30m. Programs, records and video cassettes. Publications: The Magic Window Magazine, 46 numbers with regular editions, international specials, posters and other documents, Internationalization (with
Italy, France, Israel and the Arab countries), Regionalization (Programs with regional Athenaeums, Recreation (more than Recreational Meetings at the national level).

At present, the Macro Project “Latin American Integration,” which implies a drawing near of the children of Latin America and their families with the values implicit in a lasting Latin American Integration centered in its people is in progress. The general theme of the materials which are produced, will be associated to the title of the series “America is one singular Entity,” as well as to the slogan “To know us better in order to love us more.”

The Magic Window Project was created by Prof. Ligia De Lima de Bianchi, educator and writer in collaboration with a multi-disciplinary team. Professor Bianchi continues being the Executive Director of the beautiful LVM Project which through the communication media especially Television and the magazines that it publishes has been projected to the Venezuelan community of various places in the country, with the hope that the children of the other countries of America can also enjoy its programming.

The Caracas Athenaeum and its School Project

The Caracas Athenaeum since its creation is the leading institution of cultural transformations in our country. It has multiple projects under the direction of Mrs. Maria Teresa Castillo, its President.

One of these is the School Project which arises as a result of the initiative of the Director of the Caracas Athenaeum, Mrs. Carmen Ramia. Its objective is to allow a large number of children and young people to participate in the activities that are developed at the Cultural Complex. Each year, the Caracas Athenaeum becomes a great classroom where all the educative centers, public and private, can attend it and initiate their first approach between school children and young people and Culture in order to awaken in them this creative manifestation that many do not know. It reinforces the work of the teacher in the classroom by permitting students to express and strengthen what they learned in contact with Art, giving them the opportunity of a possible creator to flourish in each one of them. This is the fundamental objective of the School Project of the Direction of School Projects of the Caracas Athenaeum.

The School Project develops its informative work through the following programs: Forums, Theater (Infantile and Juvenile), Music (Didactic Concerts), Oral Narration, Dance, Guided Visits, Talks, Circles and Forums. The Athenaeum goes to the school and the Ateneo-La Vega Vacational Plan. One of its recent projections is the Program of Formation of Communitary Recreators; this is an initiative of the Communitary Centers Network of the Caracas Athenaeum to share with all persons interested in working with children from a recreative perspective in the communities. (Romero, Valentin, A,I).

Museums

In Venezuela we have different Museums. In Caracas as well as in the interior of the Republic, each one of them is an important manifestation. In this work I will make mention six of them: The Museum of Fine Arts, the “Sofia Imber” Museum of Contemporary Art, the Armando Reveron Museum, The Museum of Sciences, the Children’s Museum and The Jacobo Borges Museum.
Our Museums have a common denominator—to stimulate the creativity of children, young people and adults who attend the expositions, courses and workshops and to project Culture and Science in the community. In the programming of each one of the mentioned Museums, there are guided tours in the Exposition Hall. Each Museum has its specific program.

**Museum of Fine Arts**

This museum poses workshop activities that offer the opportunity of expressing by various media, with plastic, literature, body movement, the experiences lived and the knowledge acquired during the tour of the Museum. The Museum of Fine Arts offers workshops for children, young people and teachers where themes of the activities related to the objectives of the formal education program are treated: history, visual appreciation techniques updated in the knowledge of various artistic manifestations and in the pedagogical techniques of art education.

**“Sofia Imber” Museum of Contemporary Art (MACCSI)**

With the creation of MACCSI in the year 1978, its Founding Director, Sofia Imber, a workshop unit is established to work with children with the objective of creating a space of creativity and artistic expression where they are given the opportunity to freely express their impressions of the exposition visited by them though drawings. The activity that the Museum performs with the schools that constitute the didactic projection of the MACCSI, is very important.

At present, they are working with Project “We are Neighbors.” They take a close-by school, the same class will come once a month during the school year. They prepare summaries of the biographies of great artists such as Chagall, Miro, Picasso, etc., according to the artist whose works are exhibited at the exposition with the object of commenting on them with the children and young people who attend the workshop. For the adult public, the Unit’s activities give an opportunity of making them aware of the creative capacities for expressing oneself through drawings, wood carving, etchings, ceramics and sculpture. There is a workshop for parents and children. Conferences and talks are dictated with the artists. Performances and dramatizations are presented. The Museum coordinates the Exposition: “The Tokyo – Japan children paint like this,” an annual competition sponsored by PENTEL in which all the Colleges in Venezuela participate and from which some 250 classify for the Venezuelan exposition.

**The Museum of Sciences**

In addition to guided tours, this museum offers Workshops, Conferences, Seminars and talks in its special programming. For adults they have organized a weekly conference, the Program is called “Snacks with Science”—an appointment to lunch with the Scientists.

Classroom Pedagogical Project: At the Museum of Sciences is a great opportunity for educators and students to not only discover and value the Hydrographic bed of the Orinoco. This is one of the most important rivers in the world and the most important in Venezuela. Hopefully this project can also fulfill its pedagogic objective by working on very interesting classroom projects associated with the great “Orinoco” exposition. The work can be presented in the form of monography, posters, games, dances, audiovisu-
als, stories, videos. The Museum has created prizes for the Colleges and the students who participate. This project represents a stimulus to the creative potential of our young people towards the sciences.

**The Children’s Museum of Caracas**

Created in 1982, Alicia Pietri de Caldera being the Founding Director and President of the Children’s Museum Foundation. “The Children’s Museum is an open door to the universe of Natural Science, Culture, Technology Art, and present Society,” a place where the child feels free and active, giving stimulation to his curiosity and creative capacity. The Museum presently has more than 400 exhibitions grouped in four areas so that the child is motivated by the technological advances and takes interest in a participative way and with a searching attitude to view the progresses of Science, Physics, Biology, Ecology, Communication. It also has the Space Area, referring to the knowledge of Venezuela, its resources its customs and traditions. The children generally come accompanied by their parents or in group visits organized for students and their teachers. This Museum awakens the interest, motivation and the creativity of the children that visit it. It not only occupies an important place in the country but it has also received recognition internationally, it being an example that other countries wish to develop experiences similar to these and have requested advise from the Museum’s personnel. (Logreira Linaren, W.1992).

**The Armando Reveron Museum**

Located in Macuto, Vargas State, a short distance from Caracas it carries out Teaching Workshops directed to offer tools that permit teachers and professors to optimize classroom activities for the better achievement of their programmatic objectives, develop creativity and sensitivity in the students.

**Eventual Workshops:** Include the Sunday Creativity workshops. These activities have the object to provide the infantile and juvenile population of Vargas State with the techniques related to various areas of artistic creativity. These workshops are short term. In addition, they have Permanent Workshops designed so that their objectives are achieved in the medium term and are directed to the infantile and juvenile population in order to stimulate the development of their plastic activities, visual sensitivity, psychomotoric development and creativity. Within the Project “The Museum goes to School,” they are at present developing a sub-project entitled: “Pre-School Children know Reveron” through which the children will have the opportunity to know the life and work of Armando Reveron by means of stories, games, theatrical works, songs and puppets. They also have vocational workshops.

**The Jacobo Borges Museum**

Created in 1995, its Founding Director is Adriana Meneses Imber, who points out that this Museum has become not only a cultural alternative, but also an Institution generator of change directed to the improvement of the quality of life of the inhabitants. In collaboration with the Board of Directors of the Museum, they decided that the Museum should be a space destined to the participation of the community, in the creative processes with permanent formation programs and artistic education workshops.
One of the characteristics of this Museum is that the Workshops users must develop a capacity to innovate and adapt himself with answers to the world in the era of globalization at the gates of the new Millenium where the solutions must be quick, dynamic, concrete and "effective." (Meneses, A., 1997).

Meetings, Associations and Networks: Venezuela, during this decade, has been a country of International and National Meetings on Creativity.

International Creativity Meeting '90: Was held from the 25th to the 29th of September of 1990 in Valencia, Venezuela, an event in which valuable professionals who are dedicated to the study of Creativity at the National and International level participated. The works presented were very interesting and of great advantage to the numerous attending public.

International Creativity Meeting '96: In the framework of the World Decade for Cultural Development 1997-1998 declared by UNESCO, International Meeting '96 was held in the City of Caracas, during the month of September, the days 24 to 26 of 1996, being the continuation of the Creativity '90 Meetings sponsored by the Area of Studies of the University of Carabobo in Valencia, Venezuela, and Creativity '93, organized by the National University of Education at a Distance in Madrid.

The International Creativity Meeting '96, was sponsored by UNESCO, the Latin American Parliament, the Ministry of Education, the Latin American University and a group of Universities and Private National Educative Institutions.

Illustrious personalities, national as well as international, who are renowned figures in the area of Creativity related to Education, Science and Technology, Art and Culture, Organizational Development and Every Day Life attended. Creativity Meetings '90 and '96 saw Mercedes Di Vora as President and Coordinator, Dr.David Vivas, in collaboration with a group of representative professionals from various Universities and Institutions in the country.

Funda Creatividad—Venezuela

The International Foundation for the development of Creativity, created in 1990, has as its principal objective to promote the study and application, at the worldwide level of all the areas of the human being: Humanities, Arts, Science, Technology and Everyday Life. At present it is directed by Dr. Mercedes Di Vora as President, Dr.David Vivas as general Director and Dr.Saturnino de la Torre, Director for Spain. AVECRED - Venezuela.

The Venezuelan Association for Creativity, founded in 1994, proposes for itself the promotion, research and disclosure of Creativity in Venezuela and, in the short and medium terms to associate the interested in the theme at the national level. Its Director is Dr.Omar Gardie.

The International Creativity Network (RIC)

From the meeting held at Margarita Island (Venezuela) from the first to the fourth of January of 1997, the International Creativity Network (RIC) was born. It has the purpose of putting in contact all those Spanish and Portuguese speaking persons mainly who are interested in the subject of Creativity, whether it be in Research formation or
creation, as well as to facilitate the development of innovative and creative professionals in the production workshops, as well as in services, to stimulate their Research and disclosure (Saturnino de la Torre, Vivas, D., 1998).

**Interamerican Creativity Network RLC**

Is born in 1997, with the intention of the persons working Creativity in Latin America to be in contact. It promotes the holding of joint events and activities facilitated by its members. One of its driving members is Hugo Meyer Agostini, who has been giving Creativity courses in Venezuela.

**“Research Nucleus In Creativity,” Dr. David Vivas**

Created in November of 1996, it groups together Teachers and Post-Graduate Researchers with the object of supporting, through Research, the application of Creativity and its incorporation into the Curriculum at the service of the community. The initial areas of Research of this nucleus are: Organizational Creativity and Culture, Creativity in Science and Technology, Constructivism and Creativity in the Arts. Its headquarters is the “J M Siso Martinez” Pedagogical Institute of the Libertador Experimental Pedagogical University (UPEL).

The majority of Universities at the national level are performing Research in the Creativity Area as a Graduation Thesis at the Licentiate Master's and Doctorate Levels. So also in the School of Psychology of the Central University of Venezuela, Research predominates in the Areas of: Creativity and Behavior Modification, Creativity, Language and Infantile Literature, Stimulation of the Creative Activity in Children and Adolescents, Creativity, Methodology and Behavior of Teachers, Early Experiences, Family School in the development of Creativity.

**Creativity Contests**

At present, there exists in the country a series of contests and prizes in different areas in order to stimulate, recognize and give value to creative persons.

What our children, from public as well as from private schools, need is the medium and the stimulation necessary to awaken in them their creative potential.

The evaluation of this creative man will demand changes in the educative process. School must not only be a center of learning where the student learns more formation and knowledge, but must be a center of integral formation of men and women who know how to think, who can make new scientific discoveries, who are creative in the Arts Fine Arts, Music, Theater and Culture in general.

At present, there exist in the country a series of Institutions, Foundations and Organizations of a scientific and cultural nature which are carrying out a didactic projection function towards the community, a sample of the creative potential of our people, whose resources, properly and timely utilized, could help lead to a better quality of life for all of us.
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Interests
Many in physics. Currently, many publications in creativity training and education, especially Triz, in all its aspects.
On the Basic Program “Creativity Methodologies for Problem Solving and Decision Making”
Being Taught by the CSTC (Center For Scientific and Technical Creativity) in Vietnam

I. INTRODUCTION

There are many programs designed for teaching creativity methodologies in the world. These programs differ in many ways, for example, in their theoretical rationale, in their creativity tools (in the widest meaning) to be taught, in the type of participants for whom they are intended.

On purpose to share ideas and work with the colleagues working in the field, in this paper I will report about the basic program “Creativity Methodologies” (it will be called “the basic CM program” for short) that has been taught by me and the Center for Scientific and Technical Creativity (CSTC) in Vietnam and abroad since 1977. Our other programs will be presented in the future papers when opportunities allow.

II. SOME MAIN TRAITS OF THE BASIC CM PROGRAM

1. The basic CM program was designed for preparing users of creativity methodologies, not creativity teachers or researchers.

2. Among the potential users, up to now we have concentrated our efforts on high school graduates or more highly trained people in the workforce.

3. To maximize benefits which participants in particular and society in general can get, we teach creativity not for the sake of creativity but for the sake of problem to be fully solved. Because “the end of fishing is not angling but catching” and I want to add “and the caught fish should be consumed by the appropriate subjects and the environment is not polluted afterwards.”

4. High school graduates or more highly trained people, I would like to make an emphasis on the following point: irrespective of age, career and position can be entitled to enroll in our basic CM program. The reason for this is as follows:

Our present educational and training system mainly prepares specialists. As a result of that, these specialists having such a narrow thinking may successfully solve their specialized problems but may not know how to think to solve other problems. Human being’s life is an assembly of problems to be solved and decisions to be made. His/her life will be happy when problems in general (not only specialized ones) can be solved well. This point, also brings about benefits to companies, organizations and society. Please, imagine how workers can work well in the workplace when their heads are occupied with other problems (for example, family problems) they do not know how to solve. Besides such a narrow thinking cannot respond to the contemporary challenges faced by us, for example, fast change, increasing complexity, diversity and competition.

Therefore, our program should be composed of knowledge, methods and thinking skills that are applicable to all or almost all areas of reality. In this connection, we think, TRIZ (the Russian acronym for Theory of Inventive Problem Solving) and its sources
relying on the most generalized scientific and technical knowledge can fully deserve attention. So we took TRIZ and its sources as the core of the basic CM program.

5. But we also suppose that to cope with a variety of problem situations that may occur in daily life and work of participants, creativity methodologies included in our program need to be varied. Except for TRIZ, we also teach other creativity methods. These methods had been selected with the following criteria: a) there is scientific rationale that underlies them; b) they have a wide area of application; c) they have, indeed, a strong effect on problem solving thinking process.

The selected methods had been integrated in our program logically, that is, they did not become a separate patch.

6. We strive to structure our program so that it takes participants through simple issues to more complicated ones and every part of the program is a logical successor of previous ones.

7. Our program has the purpose to prepare creativity methodology users on a daily basis. We believe that participants will actually apply creativity methodologies in all aspects of their lives only when the program can induce inside participants the needed emotions promoting them to do that. So our program involved many examples, stories, cases, graphic depictions, cartoons and exercises that may inspire such emotions.

8. Our program also took Vietnam’s cultural traditions and present socio-economic features into account for Vietnamese participants, facilitating their understanding and use of creativity methodologies.

9. I began to take an interest in creative thinking in the early 1960s and had myself validate my thinking and gave feedback on my problem solutions and decisions everywhere I could in my life. In 1973 I graduated from the first Soviet Institute of Inventive Creativity as one of its first students. After that I have to solve many problems concerning science, technology, organising, managing, teaching, communication and behaviour. Thus, the basic CM program also includes my own experiences, ideas and scientific research on the subject.

10. Our program has been revised from time to time in light of the participants’ comments and suggestions.

Below, I will outline the current version of the 60-hour basic C program.

III. THE PROGRAM’S CONTENT

Our basic CM program consists of seven chapters.

In Chapter 1 “Introduction” we provide participants with definitions and explain implications of the basic concepts, such as creativity, area of application, problem, creative thinking, innovation, full innovation, relationship between creativity and development, discovery, invention (in wide and legal meanings), patent information in order to create preparatorily the needed common language and framework of the course. Then we outline the program’s subject, objectives and benefits. We also provide a brief review of the historical development of creatology in general and creativity methodologies in particular.
Chapter 2 “The Natural Method of Problem Solving” presents the content of the trial and error method, its advantages and disadvantages. The emphasis is on its fundamental disadvantage: the trial and error method has no mechanism for directing the solver’s thinking towards the solution and it cannot respond to contemporary challenges. We also show that there are two sides of creativity: subjective one (psychology of the human being) and objective one (developmental laws of reality). Those people who manage this subjective side along the objective side can achieve a high efficiency and effectiveness in problem solving and decision making process. That is, the objective developmental laws can serve the directing mechanism.

Chapter 3 “Some Basic Knowledge” preparing participants for understanding and using creativity methodologies is organized into three parts.

The first part is designed to help participants understand and, to some extent cope with the psychological elements inherent in their thinking process: needs, emotions, memory, language, symbols, visual thinking, association, intuition, imagination, psychological inertia and so on.

The second part of Chapter 3 centers on systems thinking and related issues. Concepts such as system, systemness, systems change spreading effect, systems intrinsic resources, systems space, systems non-linear cause and effect relations, systems inertia are stressed. The systems approach is consistently used in all other our programs.

The last part of Chapter 3 focuses on dialectics—the philosophic foundation of all our programs. Dialectics, in our view, is the science of the most common laws of natural, social and mental development. Dialectical logic reflects the logic of development, therefore the logic of creativity. In fact, to solve a problem is to resolve contradictions on win-win basis to turn the given system into a new unity of two eliminating each other’s contrary sides, (that is, into a new level of development). Please, see also APPENDIX.

In short, our programs aim at constructing such a kind of creative thinking which is systems thinking in form and dialectical in content.

Some other basic knowledge derived from cybernetics, information theory and other generalized sources are introduced to participants later in the following chapters where needs for that appear.

Our program can be decoded as “Scientific - Technical - Knowledge - Based Creativity Methodologies for Problem Solving and Decision Making.”

Chapters 4, 5, 6 contain creativity methodologies which are structured in an order such as that found in chemistry: chemical elements, chemical compounds (results of various combinations of chemical elements) and chemical theory (where chemistry is organized into the whole logical system of knowledge).

Concretely, Chapter 4 “Forty Basic Creativity Principles” presents the elementary techniques and how to use them with help from the Matrix of Principles and the Reduced Process of Problem Solving. When these principles are organized into appropriate combinations they will create creativity methods which are very useful for definite classes of problems. In TRIZ there are many methods such as these, for example, 76 Standard Rules, 11 Transformers.
Chapter 5 “Methods of Activating Creative Thinking” provides participants with a broad overview of familiar ways to western readers methods such as Brainstorming, Morphological Analysis, Synectics. In our view, for example, Morphological Analysis is the combination of some of 40 principles that are structured in the following sequence: Fragmentation - Local Quality - Local Quality again - Joining - Removal.

Chapter 6 deals with TRIZ as the theory and ARIZ (the Russian acronym for Algorithm of Inventive Problem Solving) as the Full Process of Problem Solving. We introduce the conceptualization of TRIZ by exploring creativity levels, eight laws of systems development, the lifeline of systems... All of them serve as the immediate basis of TRIZ. We also demonstrate how to use ARIZ.

ARIZ built on the base of TRIZ is a logical, directed and planned program composed of many steps which aim at rationally organizing the process of problem solving and decision making. ARIZ is an algorithm for human beings so ARIZ’s steps were constructed not only on the basis of objective laws of systems development, but psychological elements were also taken into account. TRIZ is a large theory with a great number of creativity tools so we have been forced to put other TRIZ’s components into the intermediate and advanced CM programs.

The last chapter—Chapter 7 “Summary and Visions” provides a review of the whole program to help participants avoid “not to see the wood for the trees” and gives visions on related issues in the field.

Appendix

There are several types of contradictions in the problem solving process. Among them, physical contradiction (please, do not associate “physical” only with physics, it is simply the name) lies at the heart of the problem. The physical contradiction is usually presented as follows: one of the elements in the given system must have this side (in the widest meaning) to meet this demand and another contradictory side to meet the other demand, while these sides eliminate each other.

In fact, to solve a problem is to resolve physical contradiction, i.e. to make a unity of two mutually contradictory sides.

The following is some examples illustrating the above saying.

Example 1 (derived from engineering): Imagine the stage when people used only straight wires to connect electric devices. There was the requirement: make up a kind of cord appropriately connecting the telephone with the handset.

If the cord is short we get the advantage of compactness but do not get convenience when using the telephone. If the cord is long we get convenience when handling the telephone but lose compactness.

The physical contradiction is: the cord must be short for compactness and long for convenience. In this problems two eliminating each other sides are “short” and “long.” Eventually, the straight cord was replaced by spiral cord which overcame the given physical contradiction. In the other words, spiral cord established the unity of two mutually contradictory sides “short” and “long.” It is the short-long -win-win solution, not a compromise one. The spiral cord in comparison with the straight cord has simultaneously both newness and usefulness so we have also creativity here.
At this point, I would like to turn your attention to the everyday language people used to use in thinking: instead of calling it the cord which creates the unity of the contradictory sides “short” and “long” they call it the spiral cord that disguises the unity. In addition, the usual either-or logic (either “short” or “long”) does not help much in resolving contradictions.

In general, in TRIZ there is the means that help the solver to reveal and to eliminate revealed contradictions. In the above mentioned example, the principles Dynamism and Spheroidality were used.

Example 2 (derived from business): There was a man who loved animals very much. Whenever he got some money, he brought home to raise birds, cats, dogs, bears, elephants and so on. One day, he wanted to become a professional businessman in trade of animals but he did not want to leave his animals those he himself fed and trained.

The answer was to let these animals for rent. That means selling them for a while and then getting them back, and over and over again. In his case, the renting established the unity of two contradictory sides: “selling” and “not selling.” The principles used in this example were Uninterrupted Useful Effect and Periodic Action.

Example 3 (derived from manufacture): Candy company X set up the aim of changing no candy price to keep customers’ belief, though the material’s prices were increasing in the market. The physical contradiction came out of this: a candy should be small (decreasing in weight) to compensate for the increase in the material’s prices and big (the same size and form like before) to keep customers. The candy company X solved the problem by manufacturing the kind of candies with many slits on their surfaces. The deeper slits are, the lighter candies are while they are still in the same size and form.

The principles to resolve the physical contradiction “small” - “big” were Dynamism and Moving To A New Dimension.

In this example, I do not want to discuss the ethical implications that may arise. I will ouch on the relationship between creativity and ethic in a separate paper.

Now, for you my dear colleagues, there is Example 4 (derived from handling people). Please, analyse the following situation taken from the book “How to win friends and influence people” by Dale Carnegie, p. 205, in the edition published 1991 by Cedar to find the physical contradiction. I can say in advance that the used principles are Before-hand Cushioning, Preliminary Counteraction, Counterweight and Self-Service.

“CHARLES SCHWAB was passing through one of his steel mills one day at noon when he came across some of his employees smoking. Immediately above their head was a sign that said “No Smoking.” Did Schwab point to the sign and say, “Can’t you read?.” Oh, no not Schwab. He walked over to the men, handed each one a cigar, and said, “I appreciate it, boys, if you will smoke these on the outside.” They knew that he knew that they had broken a rule—and they admired him because he said nothing about it and gave them a little present and made them feel important. Couldn’t keep from loving a man like that, could you?.”

For Further Reading
For detailed information on some of the points presented in this paper, please consult the following articles, books and journals in English and Russian. Concerning the other materials in Vietnamese, please contact the CSTC.
**In English**


Phan Dung (1996) Creativity Methodologies (the summary of the course) for English speaking participants.


**In Russian**

Books


Altshuller, G.S. (1979) *Tvortrestvo Kak Totrnaia Nauka*, Sovietskoe Radio, Moskva (If I am not mistaken, this book was translated into English and published by Publishing House Gordon and Breach in the USA).


Journals
Journal TRIZ from 1990 on.