IMPROVING EDUCATION AND PRACTICE:
ABSTRACTS PREPARED BY 2000-2001 VISITING PROFESSORS

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PREFACE

The Research Program in Social and Organizational Learning at The George Washington University hosts visiting professors for periods of several months or an academic year. In the 2000-2001 academic year the Research Program hosted fourteen visiting professors. Ten were part of the Junior Faculty Development Program, two were Fulbright scholars and two were part of the Regional Scholars Exchange Program. These programs are all funded by the U.S. Department of State's Bureau of Educational and Cultural Affairs. Each visiting professor is assigned a GW faculty member as a mentor or advisor.

Abstracts 1,2,6,7,8,9,10, and 11 were presented at the annual Faculty Research Forum of the Washington Consortium of Business Schools. The Forum was held at the University of the District of Columbia on April 21, 2001. The other abstracts were presented on other occasions. A theme of the abstracts seemed to be "improving education and practice."

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Redefining and Redescribing Business Process Reengineering

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In this paper I attempt to describe and to define business process reengineering (BPR) in a new way. I argue that the authors of reengineering, "the founding fathers," for all their insight lacked the tools and the concepts to describe and to define reengineering consistently. They looked at reengineering as a redesign of a business process that included some or even many adjustments to the organizational structure. Ideally, so it was implied, in a perfectly reengineered organization, the structure could be done away with completely. In fact, so the argument goes in this paper, reengineering is a simultaneous redesign of the process flow and of the process structure, that may, or may not, include the redesign of the organizational structure. In fact, a perfectly executed reengineering effort should make changes of the organizational structure unnecessary, assuming there is sufficient organizational flexibility and a perfect structure (which of course is an unreasonable assumption).

As a consequence of a one dimensional "process only" view of reengineering, the books on reengineering reduce to case studies or to examples offering no clear general guidelines or solutions. Likewise, the definitions of reengineering resort to descriptive statements -- "it is radical," "it is dramatic" -- or to statements asserting what reengineering is not -- "it is not piecemeal," "it is not one time only." In the early nineties, however, it was not possible to recognize the essential characteristics to describe and to define the new discipline. With a decade of research behind us, and with many case studies in hand, I attempt to create both a simple description and a consistent definition of BPR in the following way.

Reengineering is seen as a reconstruction of a part of a system undertaken to kick off a self-creating reconstruction of the whole. In a business organization, reengineering is done by choosing a process directly related to the satisfaction of the final user, the client. The part and the whole one is reorganizing include both the movement or the flow of work and the structure of that flow. Two methods are used, both to understand and to reengineer a process. In this work we look at process from two perspectives – as continuous flow, which we call simply “flow,” and as discrete flow, which we call process structure. This structure is not to be confused with organizational structure. It is a structure of events within a flow. Hence, we can look at a process as, first, a flow, like a river. In view of that analogy, reengineering is looking for and finding the best track, the best riverbed, or the best path for the river to follow. This is called process reengineering. The objective is to deliver the right amount of water with respect to both quality and quantity at the desired destination by following a particular route.

The second method for looking at a process is to see it as a sequence of events containing various subjects (persons, departments) taking part in the process by performing various activities including various objects. In this method, we say that reengineering is organizing for the optimal number of subjects and objects relating each to the other through an optimal number

of relations and doing that in an optimal sequence. This is called reengineering the process structure.

In this case, one reengineers by reducing the number of subjects and objects without necessarily reducing the number of relations between them. By collapsing the critical number of each subject's objects, we collapse the so-called support functions. The support activities, however, are not collapsed. They are absorbed within the core functions by increasingly multifunctional (smart) new subjects.

As an example, we could look at the increasing number of functions that are contained in the job of an academic. Academics now usually type their own papers using word processors and handle their own correspondence via email. A second example of multifunctional integration is on-line shopping. Sales clerks and show rooms are eliminated. Items go directly from the warehouse to the customer. As a third example, in the classical division of labor we may have had several people running a bus: the ticket salesman, the conductor, the maintenance people, plus a driver. In Europe, one even had stewards selling drinks and sandwiches. The new reengineered bus driver may sell souvenirs and tickets and drive the bus. However, increasingly the customer needs to assist. The customer becomes a member of the organization, by pre-counting the money and by performing other productive tasks. In an on-line banking arrangement it is difficult to separate the teller from the customer. In fact, reengineering includes seeing our coworkers as customers, whose output is our input and seeing the external customers as co-producers of a product or service. Schematically seen, reengineering reintegrates two sets of dichotomies -- the inner/ outer dichotomy and the means/ ends dichotomy.

This paper is an introduction to a manual on reengineering so it concludes with a working definition of reengineering:

"The client or customer centered redesign of the business process in order to rationalize the cost and to increase customer satisfaction on an on-going basis. It is done by identification and optimization of the value-adding processes undertaken concurrently with the rationalization and /or the reduction of control and support processes."

Teaching English for Business Majors in Uzbekistan

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I teach a course in Business English to students in Uzbekistan. As a professor of English as a Foreign Language (EFL), I was invited to teach a course at the Business Incubator at Samarkand State Institute of Foreign Languages. The main goal of the course is to provide students with communication skills in Business English.

My paper will discuss the methods used in the course as well as new ideas that have occurred to me during my experience in the USA. According to O.L. Taylor, "the traditional classroom methodologies used in language education are failing because they are focusing too much on language structure rather than on communicative competence." Indeed the methodology used in the past was preoccupied with teaching grammar and the structure of language. As a result, after graduation, students could not communicate in their work places.

After Uzbekistan proclaimed its independence on August 31, 1991, many foreign companies came to do business with Uzbek partners. This business activity increased the demand for Business English. As the world becomes more interdependent, Uzbek students find more opportunities to be in English- speaking environments. Although it is natural that learners wish to acquire English proficiency to successfully function in a business setting, it is necessary to present a realistic view of English attainable in an EFL setting. The paper clarifies what is achievable and what is not achievable in an EFL classroom and a set of achievable goals for EFL teaching and learning.

Intensifying Pulverized Coal Combustion in A Blast Furnace

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Ferrous metallurgy remains one of the most power-consuming industries. It consumes 10-15 percent of generated energy and takes second place in fuel waste only to the power industry. About 1.5 tons of fuel is needed to produce a ton of rolled metal. In producing one million tons of coke, about 7000 tons of pollutants are emitted into the atmosphere including dust, H2S, SO2, CO, NH3, NOx, phenol, CHN and an extra 0.5-0.7 million cubic meters of sewage.

The solution of the problem is the development of blast furnace technology that considerably reduces the use of coke to 200-250 kg/tHM. This technology can be based on injecting into the hearth of the blast furnace a large amount of pulverized coal, which can be prepared from relatively cheap non-caking coals. Replacement of metallurgical coke by pulverized coal injected into the blast furnace tuyeres would yield major economic advantages, due to the high price of coke and the unfavorable effect of its production on the environment.

Theoretical and experimental research was conducted on the pulverized coal burning process during the operation of a blast furnace. Methods and designs for intensifying burning were developed. Among these are enriching the blast with oxygen and the way the blast is used, applying physical methods and chemical additives. We studied the possibility of pulverized coal injection with ferrous-containing wastes. And we estimated the influence of the coal/flue dust mixture on the raceway and blast furnace operation parameters.

Heat Recovery from Molten Slag

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A large amount of molten slag is formed in the smelting and refining processes of base metals such as iron & steel, copper, lead and zinc. This slag is discharged at quite high temperature around 1600-1900 degrees Kelvin, and a large amount of heat remains in the slag. Although several attempts have been made to recover this heat, efficient and feasible technologies have not been found yet. At present, the blast furnace (BF) slag for iron-making is fully used as "BF cement" in a glassy state which is produced through a granulation process by rapidly quenching the slag melt with a large quantity of water.

A new concept for heat recovery from slag is proposed. This system is based on the exchange of energies between the heat in the molten slag and the chemical energy of a gas mixture by using a methane-steam reforming reaction. High temperature heat is recovered by the reaction:

$$CH4 + H2O = CO + 3H2 - 206 \text{ kJ/mol}$$

Some processes can be imagined which are suitable for heat recovery from molten slag, e.g. bubbling reactant gases from the bottom of the slag conduit and atomizing slag using centrifugal atomizers.

We found that the slag acts as a catalyst for that reaction, suggesting the possibility of an innovative energy recovery and transportation system. As a feasibility study of this process, a rotary-cup, methane-steam-blast atomizer was selected because of established slag granulation technology and in order to enhance the reaction by increasing the reaction surface of the slag.

Philosophy of Technology:
From Conceptual Change Toward Change of Activity

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The concept of "change" is widely used in contemporary literature on the philosophy of science and technology to define other concepts and to formulate some important ideas. However, generally the concept of "change" itself is not carefully defined, so its meaning becomes clear exclusively from the context of the problems considered and the solutions proposed. Thus, the concept of "change" serves as a primary concept in defining some other derived concepts, and it has different meanings in different theories. It is important to know what meaning for "change" the author is using in order to understand his general viewpoint more precisely. Furthermore, it is useful to follow the meaning of "change" as it varies from one case to another and to explore how it interacts with the general development of ideas.

The analysis of some concepts in the philosophy of science and technology, which are characteristic of my way of thinking, permits discussion in this paper of the influence of the meaning of "change" on subsequent concepts and conclusions. Also, some problems, which arise from the lack of an explicit and full definition of the meaning of change, are discussed. In conclusion an attempt is made to establish the thesis that in the philosophical literature of the past four-decades there is a steady trend in the evolution of the meaning of change from conceptual change toward change of activity. More generally, it will be argued that there is a change in the focus of attention from the philosophy of science to the philosophy of technology.

Cross-Cultural Team-Teaching for International Managers from America and Russia

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What can be done to increase the chances of successful Russian-American joint ventures? The author's experience in consulting for Russian firms and enterprises that are working with foreign partners provides a practical base for theoretical investigations. The author was able to acquire additional material on this subject by being closely involved in a two year cross-cultural internet collaboration project among Russian, American and German Universities, and by having a chance to team teach with Prof. Stuart Umpleby in a Cross-Cultural Management class in the Spring 2001 semester at GWU.

Many Western businessmen who were attracted after the collapse of the Soviet Union by new opportunities to do business in Russia have, together with Russians, faced some serious problems. Russia is a multinational country with a wide range of religions. The cultural diversity seems to create uncertainty and inconsistency in business for foreigners. In addition, 70 years of a centralized, planned economy adds to the complexity. Russians look like Europeans but act like Asians and Europeans at the same time. It costs time and usually money to understand that Russia has a very special cultural environment for business.

The most popular scientific approaches for comparing Russian and American cultures involve making distinctions using concepts such as power distance, individualism and collectivism, competitive orientation, and uncertainty avoidance. It is reasonable to add the creativity orientation of the two nations and their strong sense of planning -- time planning in the case of Americans and goal planning in the case of Russians. The author's two year survey of Russian and American graduate students via internet communication showed the high influence of "propaganda" on Americans and the relatively strong resistance of Russians to media "brain pressure". This is the result of a kind of "immunization" of Russian people to the lies of the mass media. An analysis of the cultural diversity of the two countries shows a very interesting result. Joint ventures can provide high efficiency and synergy. They have a wide base for mutual understanding, being the representatives from multicultural countries which are based on a respect for the rights and cultures of all nations.

Russian and American businessmen should be trained at special cross-cultural seminars to increase their mutual understanding. The most effective method is training by a team of professors with representatives of both cultures. Graduates of such programs would have a better understanding of the cultures of each country, share a spirit of mutual respect, and be better able to engage in successful cross-cultural teambuilding.

Two Methods Useful for Starting a Quality Improvement Program

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Two methods useful for starting a quality improvement program in an organization are a group planning activity and a "quality improvement priority matrix." 1) A group planning activity can, in a short period of time such as two days, produce a definition of an organization's vision, define obstacles to achieving the vision, develop strategies for removing the obstacles, and then create actions to implement the strategies.
2) A quality improvement priority matrix begins with a list of features of a product or service or an organization. Customers or employees then rate the features on importance and performance. Attention is then focused on features that are rated high in importance and low in performance. This method of "data-driven decision-making" is very easy to use. It requires no special knowledge of statistics.

The first method involves people in identifying problems and in devising solutions. The second method provides regular feedback to managers about where additional effort will produce the highest return in customer and employee satisfaction. Both methods are illustrated with examples from a group of professors from the former Soviet Union who were studying in the U.S. in 2000-2001 under programs sponsored by the U.S. Department of State

Applied Psychology in Small Business Initiatives

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The end of the twentieth century, which was marked by changes in world power balances and consequently political, economic and social difficulties, led to the appearance of vulnerable groups – people unable to overcome the cycle of poverty and powerlessness. The dissolution of the communist bloc and the transition from an autocratic government to democracy in the former Soviet Republics (FSR), formed the basis for creating Civil Societies, which require the growing political and economic participation of the middle class. After the hard early years of independence, an issue of vital importance is the development of small businesses. The population has to build confidence in the new governments and their policies. The first stage in developmental psychology is trust vs. mistrust. Future responsible behavior of people depends on full and successful resolution of the first stage.

Unfortunately, the long domination of communist ideology and its consequent influence on individuals' beliefs have tended to prevent the involvement of people in small business. One of the reasons for this can be explained from the position of a psychologist. Studies on locus of control in people in several strata of society in Georgia revealed mostly an external locus of control that fosters dependence and passivity rather than independence and responsibility.

Creation of an internal locus of control in the forthcoming generation can be the result of an altered educational approach. The traditionally teacher-centered philosophy does not encourage independence and self-confidence in students. However, the implementation of a learner-centered style in the education process would enhance skills for success in business, such as planning, identifying specific goals, and designing strategies. This kind of education would provide a powerful armament for future responsible citizens of the middle class.

The Comparative Analysis of Nations: Collaboration among Universities

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Comparative analysis is a very popular subject now. Scientists all over the world compare national economies, societies, cultures and languages for better interpretation of social processes. Despite this popularity, the methodology of comparative analysis of nations is still being debated. Americans prefer empirical research, but Russians prefer theory and generalizations. There would be benefits in combining these two positions.

I am designing a course to teach comparative methods in a Russian university by comparing Russian and American national characters. Both these countries are diverse, so there is a need for careful methods for comparing them. Students need to know the latest information about Russian and American points of view on comparative methods, including what, why and how to compare. Russian universities are well developed, but sometime Russian scientists feel a lack of practice in intercultural communication. The main idea of this course is to organize collaboration between Russian and American management classes on comparative analysis, where they can share their ideas, create electronic discussions, and conduct joint research projects. For this purpose they need to learn how to find, distinguish and interpret cultural patterns in both societies.

One of the goals of the course is to teach not only the methodology of the comparative analysis of nations, but to explain the main factors influencing the formation of national character. This course is designed to provide managers with a basic understanding of the comparative analysis of nations. In addition they will learn how to communicate more effectively, how to collaborate with foreign partners, and how to use modern technologies. I have created this project in collaboration with professors at The George Washington University, but participation by professors at other universities would be welcome as well.

Personal Responsibility as a Condition for Development of Small Business in Armenia

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Small business is a part of a free market economy, the development of which is a condition for establishing real democratic societies in the Newly Independent States, including Armenia. There are a number of problems in the transition from a planned economy to a market economy. At the root of most difficulties is an absence of democratic values and belief systems among former citizens of the Soviet Union. Among these values personal responsibility for individual activity and its consequences is one of the essential values.

Personal responsibility is an integral part of individual liberty. In the totalitarian Soviet regime the connection between liberty and responsibility has been distorted. And the distorted connection between these inalienable parts continues, unfortunately, to dominate in our people's consciousness. After the collapse of the Soviet Union people acquired freedom, but at the same time they lost the totalitarian government, which not only controlled their lives as a whole but also was responsible for them.

The disconnection of liberty and responsibility is expressed by a fear to start one's own business, because people do not want to be responsible for the consequences of it. This is the primary obstacle to develop of small business in Armenia. That is why the main goal for small business development is for our people to learn new democratic values and belief systems, including reconnecting individual freedom and personal responsibility.

Development of Business Teaching in Russia

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Innovation and creativity are essential parts of business education. It is important to adopt findings and ideas from very different backgrounds. This paper proposes some changes to current Russian business education teaching methods to increase innovation in the teaching process. These changes are part of the globalization of higher education. They will help to bring Russian universities closer to international standards.

The approach to business courses is different in Russia than in the United States. Although activities such a practical work for selected courses, term papers, and scientific research are presented, the teaching methods used in Russia are mostly theoretical. Russian teaching is more static and less connected to the business world. There is a lack of applied studies such as case studies and real business consulting. Having observed teaching practices in GWU graduate courses we can summarize that in the USA a combined approach using a number of teaching techniques is more common. Students have more discussions, first-hand experience, and homework on the course material, thus stimulating their learning, creative, and analytical skills. Teamwork and real business experience is an important part of the teaching process. These are instruments to help students accumulate and share ideas, to gain experience in co-operation and to acquire a professional orientation.

Based on a comparison of the two systems there are a number of suggestions to be made for future development of higher education in Russia. These ideas apply mostly but not solely to graduate level business courses. Case study practice based on a student's graduate papers and Russian businesses should be developed at least for master's level students. Teamwork implementation will help to combine theory and practice and to provide business co-operation skills. Active methods of teaching and computer and internet based activities should become an essential part of the preparation for the business world. A flexible grading system coupled with a balance of theoretical knowledge and practical activities is particularly suited for entrepreneurial and management courses.

What Theory of Knowledge Should Guide the Development of Knowledge of Management?

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The philosophy of science has traditionally assumed that knowledge should be organized in the form of theories. From theories propositions can be deduced that can be tested in experiments. Most propositions deduced from theories take the form of if-then statements. For example, if variable A increases, what happens to variable B, assuming that all other variables are held constant? However, an alternative way of organizing knowledge, in the form of producer-product relationships, was proposed by the philosopher E.A. Singer, Jr. and advocated by two of his students, C. West Churchman and Russell L. Ackoff. Colleagues of Churchman and Ackoff who shared this view were Fred Emery and Eric Trist. Presently a few management schools are basing their curricula upon the idea that management knowledge should take the form of methods more than theories.

Meanwhile, the criteria in quality awards as a model of management has been spreading from Japan to the U.S. to Europe and recently toward the former Soviet Union. In contrast to university courses, which separate management knowledge into a variety of disciplines with an ever-expanding literature, these awards present an integrated, finite description of how management should be done. The criteria in the awards are revised regularly to incorporate new knowledge. Executives in public and private organizations seem to favor an integration of knowledge in the form of methods whereas professors of management generally develop knowledge in the form of diverse, usually unconnected, theories.

Within universities the idea that management knowledge should be constructed in the form of methods rather than theories has had to struggle against the larger, more well-known literature in the philosophy of science on theories. For example, it is not clear how methods can be tested in practice. If a method does not produce good results, does the explanation lie in the method, in the skill of the person using the method, in the cultural context, or in some other reason or combination of reasons? On the other hand, a portfolio of quality award-winning companies has consistently out-performed major stock indexes.

Whether to structure knowledge in the form of theories or methods is related to the question of whether there is a fundamental difference between the natural and the social sciences. Rather than Karl Popper's doctrine of the unity of method, this paper argues that structuring knowledge in the form of methods is appropriate in applied fields, particularly in management where a large part of the task is to achieve agreement among a group of knowing subjects on an appropriate set of actions

Using a Quality Improvement Priority Matrix in a University Department

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A Quality Improvement Priority Matrix is a useful method for achieving data-driven decision-making. Regular information from employees and customers about the features of the organization that most need improvement allows managers to focus attention and resources where they can contribute most to improving employee and customer satisfaction. In May 2001 the members of the Department of Management Science at The George Washington University used a Quality Improvement Priority Matrix to identify those features of the Department that they felt were high on importance but low on performance. This quadrant of the matrix contained 17 of the 51 features listed. Several questions were also asked concerning whether the members of the Department found the exercise to be useful and whether they thought it would be helpful to other departments in the University. A large majority thought the results were useful and that similar exercises in other departments would be helpful to them as well.