Let's consider the following 'disease diagnosis' schema adapted from R.J. Roger and M.W. Geatz (Roger, & Geatz, pp. 16-17, 2003):

Patient ID#	Sore Throat	Fever	Swollen Glands	Congestion	Headache	Diagnosis
1	Yes	Yes	Yes	Yes	Yes	Strep throat
2	No	No	No	Yes	Yes	Allergy
3	Yes	Yes	No	Yes	No	Cold
4	Yes	No	Yes	No	No	Strep throat
5	No	Yes	No	Yes	No	Cold
6	No	No	No	Yes	No	Allergy
7	No	No	Yes	No	No	Strep throat
8	Yes	No	No	Yes	Yes	Allergy
9	No	Yes	No	Yes	Yes	Cold
10	Yes	Yes	No	Yes	Yes	Cold

The students' task is to determine what sets of symptoms constitute the *necessary and sufficient conditions* - the standard topic for Logic courses - for a particular disease such as Strep Throat. (Copi & Cohen, p. 499). Following the standard method of scientific discovery an instructor may offer students a *hypothesis* (derived possibly from past experience):

The symptom of Swollen Glands is a necessary and sufficient condition for the diagnosis of Strep Throat

Then, students' task is to formulate a query, showing that aforementioned symptom constitutes a necessary condition for Strep Throat. The requested query could look like:

List all patients with diagnosis Strep Throat and no Swollen Glands

Following the methodology discussed in a context of database management, students should be able to translate the above natural language query into the relational calculus query and consequently into SQL query such as:

SELECT Patient_ID#
FROM Patients
WHERE Diagnosis='Strep_Throat' AND Diagnosis !='Swollen Glands'

When run in a commercial database system, the result of the query would be an empty table allowing us to conclude that Swollen Glands *is* a necessary condition for the diagnosis in question. The same procedure could be applied to find a sufficient condition - we leave this as an exercise to the reader. This somewhat simplistic example is intended to emphasize further the connection between logical aspects of data management on the one hand, and those of data mining on the other.

The important educational objective to keep in mind is to ensure that the progress in *theoretical* study of logic proceeds hand in hand with the progress in learning the *practical* applications of logic - data management, data mining or some other applied area such as logic programming.

The discussion of Data Mining could be extended to present database management and data mining as two aspects of a broader process known as knowledge discovery in databases (KDD). Consequently, KDD could be used as an industry oriented illustration of the general methodology of scientific enquiry. Such a comparison would incorporate a variety of topics such as the necessary and sufficient conditions, different forms of induction as well as probabilistic inference. (Copi & Cohen, ch. 13-14).

The topic of induction as well as different aspects of data management could be also introduced in the context of logically oriented programming languages such as Prolog and Datalog (Ullman, Widom, 2002; Bratko, 2001). The acquired, in this way, elementary skills in logic programming would be helpful to expose students to the vast area of Artificial Intelligence (AI) - still another field where logic, philosophy, and industry merge. In particular, AI based Decision Support tools would allow an instructor to add additional value to the discussion of professional reasoning in almost any area – from medicine to finance. In this context, several interesting software packages are available from Banxia Co., including Decision Explorer described as "a tool that has been designed to help you to see relationships between different ideas and perspectives which might be expressed about any subject"[2].

The exact scope as well as the level of practice-oriented Logic and Critical Thinking courses should be determined by each college, depending on its orientation as well as faculty and students' interests. However, the general methodology focused on the proposed integration of modern industrial software into logic curriculum is definitely worth considering.

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[2] See www.banxia.com

Education for adults in Russia: steering and promoting at the regional level

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Abstract
The paper analyses the practice that Volgograd State University has had in the development of business education for adults through international projects. The author describes international partnership experience that helps build up effective dialog and relationship among the regional business community, higher education and employment authorities, employers and other higher education stakeholders who strive for cooperation in the design and delivery of continuing education programs.

CONTEXT

At present Russia is experiencing a substantial gap between the needs of the national economy and training of certified specialists at conventional higher education institutions. Therefore the two main tendencies of the higher school development in Russia over the recent years have been the growing number of retraining programs on the one hand, and universities' efforts to enhance the quality of educational services that such programs provide on the other hand. The objective of the traditional training of "diploma specialists" in our country comes in the foreground, but there is also the task of raising the skill level of the national workforce through an efficient retraining system for those who already hold higher education degrees.

Russia's transition to market economy created a huge need for quality business education. Universities began to lay emphasis on competitiveness, high quality and choice of the most effective educational projects. In order to solve the task of creating the system of business education in Russia, they thoroughly studied the progress of the best Western business schools. It is not uncommon when Russian universities' professors and lecturers are trained at Harvard, Massachusetts Technology Institute, London Business School, and other prestigious higher education institutions of the world. Creative application of the world experience allows them to initiate short and long-term joint educational projects with the leading Western business schools. There is a big variety of such projects and Russian higher education institutions are becoming more and more inventive in designing them to meet the demands of their services' consumers.

The international partnership projects in the sphere of business education provide considerable help in the organization of business skills training.

Most of retraining programs of the kind were originated in Moscow or St. Petersburg institutions of higher education. Russian regions joined this process relatively late due to these circumstances:

- sporadic and short-term relationships of regional universities with business schools abroad;
- lack of national and international educational markets research;
- poor liaison between regional administrations, universities and business community;
- need of research on the retraining programs demand.

CONTINUING EDUCATION AND INTERNATIONAL COOPERATION

Volgograd State University has accumulated considerable experience of international academic cooperation that allows it to use the relationship between educational institutions and the regional business community with the purpose of raising the efficacy of the regional economical process. (DUDINA, 2003; INSHAKOV, 2000).

The international projects that are being realized at the Department of Continuing Education provide the opportunity of improving and enriching the system of the post graduate education in the regional market. From 1999 till 2003 the program "The Partnership of the Kent State University and the consortium of the Tver, Volgograd and Voronezh Universities in the sphere of business administration and management training" was realized (ISKRENKO, 1999). This was the first and rather successful experience of the international collaboration in the field of business education. The project resulted in the creation of the course realized at the Department of Continuing Education and lead to the establishment of cooperation between the University and Volgograd businesses (ISKRENKO, RISIN, GOGOLEVA, 2002, 2003).

Department of Continuing Education of Volgograd State University has won the right to participate in the TACIS project DELFI II "The Development of Educational Initiatives in the Sphere of Higher and Professional Education". In a rather competitive struggle. The one-year project (2004-2005) is being realized within the framework of the joint program of the European Union and the Ministry of Education of the Russian Federation. The management of the project is executed by the European Educational Fund.

At the moment two types of retraining programs for local businesses have been designed at our University:

- "Corporative management"
- "Environmental management".

As a result of the five teaching seminars held during 2004 our professors and lecturers were able to acquire the experience of the elaboration and development of twin retraining programs identical to those launched in the European Union member states. There have been presentations of all the necessary teaching aids and methodology materials, as well as curricular for the courses especially meant for training people with professional skills. The new knowledge that the faculty received enabled them to launch the up–to date programs that have already attracted the attention of 10 Volgograd enterprises who are now consuming these educational services.

All the necessary monitoring, assessment and accreditation procedures for the two retraining programs have been successfully accomplished in 2004, and we are now working on the schedule of their dissemination in strict accordance with the technical plan. The full implementation of the project at 40 businesses and enterprises of Volgograd and the Volgograd Region is planned for September 2005.

RETRAINING JOURNALISTS IN THE REGION

The second joint international project is realized with INHOLLAND Academy and Media Academy of Netherlands. Its main emphasis is training and retraining journalists of the Volgograd Region, but it also aims at the establishment of stronger ties between the academic community and the regional administration authorities via their joint efforts in promoting democratic trends of free press.

The project "Professional Journalism in the Region" (PJR) is focused on both the retraining of professional journalists and media experts already working in the sphere as well as on students - prospective employees in mass media.

The mass media in the Russian Federation have faced considerable changes during the past ten years. They had to develop from a centralized political controlled institution into an independent, objective and transparent type of media. It also became more and more important for the media to acquire a public and market oriented attitude, because there are groups with different informational needs to be served on the one hand, and there other hand. The shift to the marketable media is not a simple process and it is still ongoing.

Well trained professional journalists are in great demand for further establishment of efficient, independent quality media that are also able to gain a stable position in the market oriented society, thus contributing to further development of the democracy and the market economy. The difficulties of the establishment and promotion of the European quality retraining journalism program in a regional center like Volgograd, as they are seen by us, are:

- the regional authorities conservatism and resistance to change;
- resistance of most higher education institutions' authorities to new training approaches in educating journalists;
- time gap for the application of change management mechanisms and techniques.

To realize the importance of having the continuing education program at Volgograd State today one need to know that traditionally only the Moscow Region has played the leading role when it has come to new approaches in media retraining programs. In other parts of the Russian Federation new developments, facilitated in this field are fairly few.

Volgograd State University is the only institution in the Volgograd Region (which is about the size of France with the population of about 2 million people) that offers courses in journalism to regular students. The course curriculum at the Volgograd State School of Russian Philology and Journalism is still based upon the old journalistic traditions and needs a new approach to prepare efficient media employees fulfilling their functions in a new and rapidly changing society.

Volgograd State will be the only institution to offer structural retraining at the graduate level to professionals in mass media in the Volgograd area. Most journalists have to go to Moscow to grasp at retraining opportunities. As the result of this the concept of "life long learning" is considered to be rather unsuitable in the profession, a lot of journalists face a gap in their knowledge, working style and sense for public and market orientation.

The PJR project deals with the subjects that strongly contribute to the media objectivity and transparency, offering such courses as, for example, Investigation in the Journalism and Functions of Journalism in a Modern Society, that are obviously focused on a more public and market oriented approach. There is also the course Editorial Design, which includes such sections as journalistic formula, advertisement for special target groups and editorial management.

The main project result that Continuing Education School wishes to achieve in collaboration with the MATRA team will be:

1. Organization of the professional retraining program "Journalism" (February 2004 - December 2006).
2. Development of the post graduate retraining course material for professional journalists and media specialists in Investigation Journalism and Editorial Design.
3. Establishment of the professional Educational and Knowledge (Scientific) Center (PEKC) to meet the graduate (re)training needs of professional journalists and other professionals working in the mass-media.

RIMA

Last year the cooperation with INHOLLAND University enabled Volgograd State University to launch another project - for training marketing specialists in the Volgograd region. Through *RIMA* - The Russian Institute Of Marketing (www.rima.ru), hosted by Moscow State University of Management, INHOLLAND's official representative partner in Russia, we agreed about franchising the accredited Dutch program. This decision led to the networking effect: there are several regional universities in this country that have joined *RIMA* and we are now in better touch with them both as partners and competitors.

The RIMA marketing retraining curricula were developed by Dutch and Russian professionals and adapted especially to the developing Russian market. The quality of the multilevel training system corresponds to international standards. On completion of each level the program graduates will receive Dutch and Russian diplomas.

Before launching the project in Volgograd the Russian professors have been on a Train-the-Trainer Program either in Russia or in the Netherlands. The full scale training of students will start at Volgograd State in September, 2005, and we hope, it will fill the marketing specialists gap in the Volgograd business community.

CONCLUSION

Over the past ten years our international partners' practices have been successfully integrated in the curricula of graduate education. However, the steering and promotion of the education for adults is becoming more and more challenging and competitive for Russian regional economy.

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The costs and benefits of implementing a university-wide VLE: some real data

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Abstract

Kingston University implemented an institution-wide VLE (Blackboard) four years ago, first going live in January 2001 with 60 modules. There are now over 1800 modules supported via Blackboard. This represents around 90% of all students and staff using the VLE. Yet, in early 2000 there was no VLE and only very localised e-based learning. This paper describes how we got to where we are now, and assesses the related costs and impact on learning and teaching.

BACKGROUND

Before the University could consider rolling out a VLE it was necessary to strengthen the infrastructure. This involved enhancing the IT networks across the University *and* strengthening the management structure in the computing service. *NB. A comprehensive restructuring of the computing service was carried out but the cost of this (including consultant's fees) is* not *included in the analysis.*

At Senior Management level agreement was reached to support and fund a VLE with the provisos that a) the IT network and user support services were robust and b) the VLE was used to *support* traditional approaches to teaching and *not* to replace them.

The implementation model

The model focused on a staged implementation of the VLE over a period of 4 years. Key elements to this model included:

➢ The establishment of an Educational Technology Unit (ETU). Government Funding was used for a full-time Director, a technician, and six seconded part-time staff (one per Faculty). It was critical that the seconded staff were recognised teaching academics in their faculties to provide a strong local component to a central strategy.

➢ Joint Management of the Project between ICT Services (the Head of Academic IT Services) and Academic Development (Head of the Educational Technology Unit). This collaboration has been crucial to the success of the roll-out.

➢ Staged staff development programme. Although we recognised that the real potential of the VLE was the blending of e-learning and face-to-face teaching and learning, we felt that this was a later goal rather than the starting point. The first stage of staff development was to overcome any hurdles to staff using the technology and familiarisation with the available tools. Over 600 staff voluntarily undertook this training in the first year. Initially staff would use the system with existing teaching materials and then start to explore the administrative, collaborative and online assessment facilities. Even at this 'basic' level of implementation students derived benefit through, for example, increased flexibility of access and enhanced communication. This level of staff experience provided the base for the next stage of staff development with a focus on the effective and appropriate integration of e-learning and face-to-face approaches.

An important element of this is the University's course team-based Sustainable e-Supported Learning (SeSL) programme. Staff teams complete a number of reflective exercises on their course approach and use of Blackboard and then, where appropriate, redevelop this model to make best use of online and face-to-face approaches. Subsequently, during a one day intensive workshop with a range of specialist staff in support (academic, ICT/Media, Library and Copyright), the team works to re-design one of the learning activities. Eleven module teams have completed SeSL and another 135 staff attended a related development day.

Once it was agreed that the VLE was an institutional goal, all relevant funding sources were scrutinised, while the Learning and Teaching Strategy included a commitment to a VLE with yearly development targets.

Capital funding for learning and teaching was used to:

➢ Enhance the networks, increase Learning Resource Centre (LRC) facilities,

➢ Install digital projectors etc in teaching rooms, and

➢ Buy the VLE servers and licenses. The direct costs of the VLE at this stage were small and we felt that if Bb 'didn't work' the bulk of the money had been spent on hardware and infrastructure that was needed in any case.

The policy was to standardise on one VLE across the Institution and Blackboard was selected because of its intuitive interface. Initially Blackboard went live as a standalone system but in September 2001 the enterprise-level of Bb was installed which allowed integration with the student record system.

The cost model

The purpose of this cost model is to identify the costs associated with implementing Bb as a *corporate* system. It addresses two main areas of investment:

1. Direct costs of implementing Blackboard:
   ➢ Hardware, Software, Integration and Customization
   ➢ Support staff in Educational Technology and ICT Services
2. Indirect costs relating to the overall improvement of the infrastructure for learning and teaching.

Although the initial systems integration was expensive (£85,000), *the overall cost of delivering Bb over the 5 year period averaged £136,000 per annum for hardware and software.*

There are 22,000 users registered on the Bb system, including all students, staff, and students taking a Kingston University award at associated colleges, nationally and internationally. In addition, our joint Faculty with St George's Hospital Medical School uses our Bb system. *Therefore the yearly cost per user registered on Blackboard is £6 for hardware and software.*