Bulgarian Higher Education and the Knowledge Society

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Abstract: There are multiple literature sources discussing the importance of knowledge management and the processes encompassing knowledge gathering and transfer of knowledge. The acknowledgement of the significance of intellectual capital at present leads to the establishment of new management practices, which are based on knowledge. However, the existing literature has devoted limited attention to knowledge management in higher education and its socio economic impacts. This article aims at exploring the function of knowledge management in Bulgarian institutions of higher education and identifies major shortcomings. It also emphasizes on the decreasing quality of higher education in the country and the restricted resources available for research and science, which puts a damper on possible developments in this realm. This paper also offers the fact that Bulgarian undergraduates do not engage in scientific undertakings for critical discussion. Essentially, the article proposes a theoretical model that can leverage the management of knowledge in Bulgarian higher education institutions and by virtue of this – enhance the value of the educational product they offer. Finally, knowledge management increases the competitiveness of higher education in a particular country and holds significant economic and social value.

Key words: Knowledge Management, Higher Education, Knowledge Society, Cognitive Education

Резюме: Има множество литературни източници обсъждащи важността на управлението на знанията и процесите обхващащи събирането и предаването на знания. Осъзнаването на значението на интелектуалния капитал в наши дни води до създаването на нови управленски практики, които се основават на знанието. Тази статия цели да изследва функцията на мениджмънта на знанието в българските Висши Училища и определи основните недостатъци. Акцентира се също така и върху понижаването на качеството на висшето образование в страната и ограничените ресурси за научни изследвания. Статията предлага теоретичен модел, който може да подобри мениджмънта на знанието в българските висши учебни заведения и чрез това да повиши стойността на образователния продукт, които те предлагат и конкурентоспособността на висшето образование в страната като цяло.

Ключови думи: мениджмънт на знанието, висше образование, общество на знанието, когнитивно обучение
I. Introduction

The question of the nature of knowledge represents a major challenge given that knowledge is not constant but it rather transforms and changes itself. The old maxim states that knowledge is power and we should collect it and learn from it. Nowadays it has changed to its present form, which implies that “Knowledge is power, so share it to replicate and proliferate (Allee, 1997; Hicks, 2000).

In the framework of edification, the success of higher education increasingly comes to be dependent on the intellectual capital of the academic staff and its potential to grow and thrive in a dynamic environment (Du Toit, 2000; Norman, 2004; Madhavan & Grover, 1998).

Rowley extends that concept emphasizing that institutions in higher education must better understand and appreciate their changing role in societal terms (Rowley, 2000). The latter role includes not only provision of the best academic level, but total support and guidance of all students.

II. Presentation

Depending on the level of professional orientation of educational material, higher education contributes greatly to the future success of organisations at which graduates will occupy positions (Garnett, 2001). Recently the focus on the institutions of higher education as incubators for professional knowledge is emphasized very frequently, but this factor still does not play a fundamental role in the establishment of the image of any Bulgarian university as a place for acquiring knowledge (Santo, 2005). The main challenge facing universities and colleges in Bulgaria is how to prepare students who can successfully meet the needs of the business. Educational materials and theoretical concepts must not remain only in academic halls, but rather be turned into practice, into tools for achieving the objectives of the society.

I. Въведение

Въпросът за природата на знанието представлява голямо предизвикателство имайки предвид, че знанието не е константа, а се променя постоянно. Старата максима гласи, че знанието е сила и трябва да черпим от нея. В наши дни тя се е променила до съвременния си вид гласейки: „знанието е сила, за това го споделайте, за да се размножава и разпространява” (Allee, 1997; Hicks, 2000).

Що се отнася до обучението, успехът на висшето образование все повече и повече започва да бъде зависим от интелектуалния капитал на академичния състав и неговия потенциал да се развива и оцелява в една динамична среда (Du Toit, 2000; Norman, 2004; Madhavan & Grover, 1998).

Rowley разширява тази теза като отбелязва, че институциите във висшето образование трябва по-добре да разбират и оценяват своята изменяща се обществена роля (Rowley, 2000), интегрирайки и всички обучаващи се.

II. Изложение

В зависимост от равнището на професионална ориентираност на преподаването материал, висшето образование до голяма степен допринася за бъдещия успех на организациите, към които дипломираните се студенти ще работят (Garnett, 2001). В последно време акцентът върху университета като инкубатор за професионални знания се подчертава все по-често, но този фактор все още не играе основополагаща роля при разглеждането на всякакво висше училище като място за получаване на знания (Santo, 2005). Основното предизвикателство стоящо пред университетите в България е как да бъдат посрещнати нуждите на бизнеса. Преподаваният материал не трябва да остава само в учебните зали, а напротив – трябва да бъде превръщен в способ за постигане на целите на социума.
Assuming the majority of knowledge workers at higher education institutions in Bulgaria and at the Bulgarian Academy of Sciences have received their education in the period 1960 – 1990, it is surprising how quickly we have given up many best practices and previous achievements of the Bulgarian science and educational traditions.

Why do we rail against the transformation of our universities and colleges regarding them as “diploma printing institutions”, a result of an educational process of dubious quality, resulting from the work of traveling troupes of lecturers, while we do not even make a simple effort to restore and revive the abandoned laboratories, and bring students back to them.

If for many of the visiting (travelling) teachers, the latter shortcoming is not perturbing, undemanding analysis of the level of scientific output of our educational system would convince us otherwise (Zahariev, 2005). Assuming that higher education is essentially deemed as scientific and educational center, we can easily make a rating of these institutions in Bulgaria using only science-metric criteria, not sociological, journalistic, political, and other types of rating techniques. The subject of traveling lecturers can be ground for many controversies, consequently raising the question of freedom and rights, etc. However, it is noticeable that this issue does not even exist in the short term planning of Bulgarian higher education. As it will be elucidated later, the practice of travelling lecturers cannot exist. But most notably, the question is why?

How is the educational process perceived today? What are the goals and objectives, which it pursues, and why does it pursue them?

Let us approach the issue by taking a simple model for total consolidation of educational institutions and try to reveal the image of the process by observing Figure 1 below.

The number of higher education applicant students situated at the entrance of the educational structure is roughly equal to the number of graduating high school students.
Lately, another negative tendency has come to the management forefront of many Bulgarian universities and colleges - graduates who have failed at the matriculation exams are becoming subject to marketing pressure exerted by the respective university structures. Criticism on that policy should not be disapproved, but rather supported. The wide access to higher education, even for 100% of the young people, is not surprisingly № 1 priority of Finland, for example.

The vision of the educational institution that executes the educational process (for now we refrain from the use of "educational service") in Bulgaria is sufficiently vague at present. Its image is concealed by crude relics of historical achievements, traditions, social attitudes and perhaps - parental nostalgia.

Here we enter into the most controversial and uncertain area of conscious human activity - the use and proliferation of knowledge. The literature abounds in research in the field of knowledge management, which makes it unfeasible to make even a review of the problem.

Instead, we intend to provide a convincing example of the importance of the organisation of processes of any kind in the accomplishment of human progress. In view of this, if we take a flashback of about 140 years ago and take a closer look at one of the greatest technical inventions - the internal combustion engine, we will be able to conclude that only by mastering the details, organisation and management of processes today do we have an almost perfect product, which continues its development. And if at the outset a 5 horsepower engine has burned 100 liters of petrol, today a 100 hp engine burns only 5 liters.

In light of this, the improvement and modernisation of the organisation and management of the educational process brings spectacular gains in innovative Western European and Eastern universities.

Не на завършитите, защото напоследък се оказва че неуспелите на мatura зреолюци също са обект на маркетингов натиск реализиран от съответните университетски структури.

Не очаквайте критика на въпросното състояние. Напротив, широкото отваряне на вратите на висшето образование даже за 100% от младежите, не случайно е цел №1 на Финландия например. Визията за образователната институция реализираща образователния процес (въздържаме се за сега от употребата на „образователна услуга“) в настоящия момент в България е доста̀чно неясна. Нейният образ е скрит от дебелия слой прах на историческите дадености, традиции, обществени нагласи и ако щете - родителска носталгия.

Тук навлизаме в най-спорната и неопределената територия на осъзнатата човешка дейност за умножаване и използване на познанието. Има толкова много изследвания в областта на менеджмънта на знанието, че е абсурдно дори да направим обзор на проблемата.

Вместо това се изкушаваме да дадем убедителен пример за важността на организацията на процеси от всяка вид при реализацията на човешкия прогрес. Ако се върнем около 140 години назад и се запознаем с едно от определящите и днес технически отрития - двигателят с вътрешно горене, ще установим, че само с усъвършенстване на детайлите, организацията и управлението на процесите днес разполагаме с един почти съвършен продукт, продължаващ развитието си. И ако в самото начало за 5 конски сили са се разходвали 100 литра бензин, днес за 100 к.с. изразходваме само 5 литра.

В тази посока, усъвършенстването и модернизацията на организацията и управлението на образователния процес носи зашеметяващи ползи в иновативните западни и източни Университети.
Benefits reach such an extent that the U.S. academic research centers are the second highest revenue source, outpacing the industry, transport and other strategic sectors of the U.S. economy (Moss et al., 2007).

On the same level, Bulgarian educational institutions consume a single financial resource and almost 99% of it is being used to achieve the outcome depicted on Figure 1 - a graduate specialist.

We do not want to comment on the quality of any educational process or the preparation of graduates, but just to highlight that, universities and colleges are different from high schools in terms of research and higher educational criteria necessary for the realisation of that research and its outcomes.

Now we will try to take an alternative look at the educational institution accredited to employ scientific and educational activities and meeting societal needs in this direction.

Figure 2 examines the activity of schools of higher education in three directions, hoping to provoke expansion to four, five realms. Mastering the science educational process and application of latest technologies and innovations has been the subject of numerous research papers (Cabrera & Cabrera, 2005; Dimitrakiev et al. 2008; Du Toit, 2000; Norman, 2004; Madhavan & Grover, 1998; Garnett, 2001; Rowley, 2000; Santo, 2005; Zahariev, 2005; Ignatieva, 2006; Marinova & Atanasova, 2010; Ruzaev & Ruzaeva, 2004), especially in recent few years.
Technological developments in information technology today not only allow us to use them, but they rather oblige us to do so. We live in a world without digital boundaries and the expansion of virtual education extends far beyond the walls of each university.

The existence of virtual universities (Dimitrakiev et al. 2008; Shannon et al., 2009) is a reality and others who continue to rely only on bricks, mortar and old glory to attract and educate students will disappear very quickly, leaving only the memory of their rich academic traditions.

Nowadays, there are computer generated, virtual reality environments for cognitive education managed by lecturers (Panchev & Dimitrakiev, 2010), which do not restrict students to acquire and demonstrate knowledge only within the higher education institutions and lecturers to teach and assess just there.

In the virtual reality, students and teachers are in continuous contact (Panchev & Dimitrakiev, 2010; Marinova & Atanasova, 2010), regardless of their location. They may work and study wherever suits them best: at home, riding on the bus or lying on the beach without losing contact with each other and using all the resources available (Cabrera & Cabrera, 2005).

NOWADAYS, THERE ARE COMPUTER GENERATED, VIRTUAL REALITY ENVIRONMENTS FOR COGNITIVE EDUCATION MANAGED BY LECTURERS (PANCHEV & DIMITRAKIEV, 2010), WHICH DO NOT RESTRICT STUDENTS TO ACQUIRE AND DEMONSTRATE KNOWLEDGE ONLY WITHIN THE HIGHER EDUCATION INSTITUTIONS AND LECTURERS TO TEACH AND ASSESS JUST THERE.

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Figure 2. Contemporary model of an educational institution
Фиг. 2. Съвременен модел на образователна институция
In this respect, an emerging issue is the greater use of simulators and electronic platforms for practical education, especially given that most of them are made available for free by firms truly interested in the quality of education not only for students but also for all members of the society.

For instance, for education in technical analysis of financial markets there are demo versions of the trading platforms of Benchmark, Elana, Varchev Finance, etc.

Virtual laboratories have practically started to be implemented although they are in the initial stage. Large business structures invest in creating them and become a natural sponsor of scientific educational process.

In this sense, construction of specialised laboratories in universities and colleges in certain fields of knowledge becomes useless. Only 5 years ago all institutions of higher education in Bulgaria competed in setting up computer labs and now imagine half of these funds being invested in laptops for each student.

Thus, virtually any environment, even the benches in university courtyards can become computer labs. Most importantly, innovation in education will allow us to intensify and improve the learning process at a very fast pace.

There is another field for modernisation of the educational process in Bulgaria, which is powerfully launched by the European educational institutions, and which is of crucial importance for our schools of higher education on the educational market. Degree programs fully taught in English started five or six years ago and they were verbally rejected by a number of professors and senior officials of the Ministry of Education.
However, this type of education was the only lifejacket of more educationally advanced universities and colleges in the framework of fierce competition on the educational market and tightening budget. It is the only opportunity for already existing multinational educational programs which teach students from over 15 countries (International University College), whereby academic faculties include lecturers from Bulgaria, Great Britain, France, Holland, Finland, etc., and where students can obtain double degrees from two universities depending on their performance and willingness (Hicks, 2000).

Educational programs of this type are a reality in International University College, Bulgaria. We are sure that multilingual education is about to witness the same recognition.

Let's look at the vertical line in Figure 2 above. Acquisition and proliferation of knowledge during the millennia has been an everlasting aspiration of mankind (Mackenzie, 1983; Menon, & Pfeffer, 2003). Today, in a unique way, billions of human beings have virtually free access to accumulated knowledge and are provided the opportunity to collect it and multiply it with publications on the free web space (Marinova & Atanasova, 2010). We will not concentrate on the process of acquiring knowledge by the students.

We will rather try to convince you that Knowledge' is the result of joint research and exchange of knowledge between lecturers and students in the execution of the scientific and educational process. And this multiplied knowledge is not a simple sum of the knowledge of individual members of scientific teams. We will try to simultaneously develop the other concept from Figure 2 - Money-Money'. Bulgarian scientists somehow inexplicably avoid the question of money in the realisation of these two vertical directions.

Moreover, almost all people over 40 years old will remember those 60 BGN, which students could receive on the subject of TSCY
Almost all projects in European countries provide funds for salaries and scholarships for the students and PhD students. We regretfully highlight the fact that the Bulgarian SRF projects (Scientific Research Fund) have no such resources and it is no secret that students are not interested in them.

European research programs can provide Bulgarian scholars and students (bachelor’s, masters, and doctoral students) the necessary funds for their scientific development and can cover their subsistence. At present, this is the only opportunity to undertake serious research initiative. Difficulties for our scientific teams will also be in purely psychological terms given the need for real financial benefits that the society will expect from scientific research. Earning Money “as a result from university efforts” is related to ownership of patents, shares from incubated innovative companies, additional revenue from licensing and control activities of scientific laboratories, revenue from knowledge-initiative associated with the use of nanotechnology and other modern scientific and applied fields.

For instance, in most American universities the contribution of tuition fees to the revenue part of their budget is less than 30%. In the framework of the Bulgarian higher education they are almost 100% of the financial resources available for lecturers and for student subsidies. That is the main reason for the huge number of lecturers following this money. Some lecturers teaching in several Bulgarian universities and colleges have an annual workload in the range of 2000 contact hours, which significantly decreases the quality of the educational process.

(Technical and Scientific Creativity of Youth) and SR (Scientific Research) in schools of higher education 20 years ago and the serious additional funds for laboratory equipment, field trips and salaries.

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Additionally, the latter factor leaves no room for establishment of scientific and educational environment in which students can participate under the guidance of leading scholars in the realisation of research and development and implementation of their creative capabilities. That is just not financed well, thus implying the maxim that no one would work for free.

Being in permanent arbitration position, our scientific and educational market will continuously lose the best that our nation can produce, especially in the framework of the common European market, where the price of scientific work is dozens of times in favor of the old EU member states.

Modern higher education must generate new knowledge and manage it effectively in order to meet new challenges in the development of science. Universities and colleges must be more creative and develop faster than the business as the former are expected to provide knowledge, which will precede its practical application in various industries (Figure 3).

Professionals, who are prepared by universities, must be ready either for academic development, or for successful entry into the dynamic environment of different businesses (Ignatieva, 2006). In the intervening time, with increasing complexity of knowledge, not all companies have sufficient resources to manage them.
III. Conclusions

The higher education institutions possess the scientific potential needed for the creation of a proper system of knowledge management. Preserving traditions, offering modern educational approaches and maintaining proper management are the key factors that determine the attractiveness of a higher education institution (Rumizen, 2002; Rumizen & Stemke, 2001).

Indeed, the quality management of educational services is becoming the driver of competitive edge in higher education (Ruzaev & Ruzaeva, 2004).

In this respect, there is an urgent need for revision of the financing practices provided to Bulgarian science and education and their gradual conversion into a natural source of scientific output, which will allow the society to enjoy the benefits of the modern economy. The concept depicted in Figure 3 should be implemented simultaneously with the new reforms in the Bulgarian higher education.

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