

TRENDS IN DELIVERING EDUCATIONAL SERVICES WITHIN THE KNOWLEDGE-BASED SOCIETY

Zamfir Andreea
Academy of Economic Studies Bucharest
Faculty of Management

Education and implicitly educational services become extremely important in the context of the knowledge-based society. Therefore, this study investigates the trends in delivering services identified through research of literature, as well as based on personal experience in providing educational services. It has been concluded that information and communication technology creates a vast opportunity to improve the way of delivering educational services within the knowledge-based society, to develop (educate) people's awareness of the need for knowledge, as well as their skills for the knowledge-based society.

Keywords: management, educational services, information and communication technology, knowledge-based society

JEL classification: A22, I20, L80.

1. Introduction

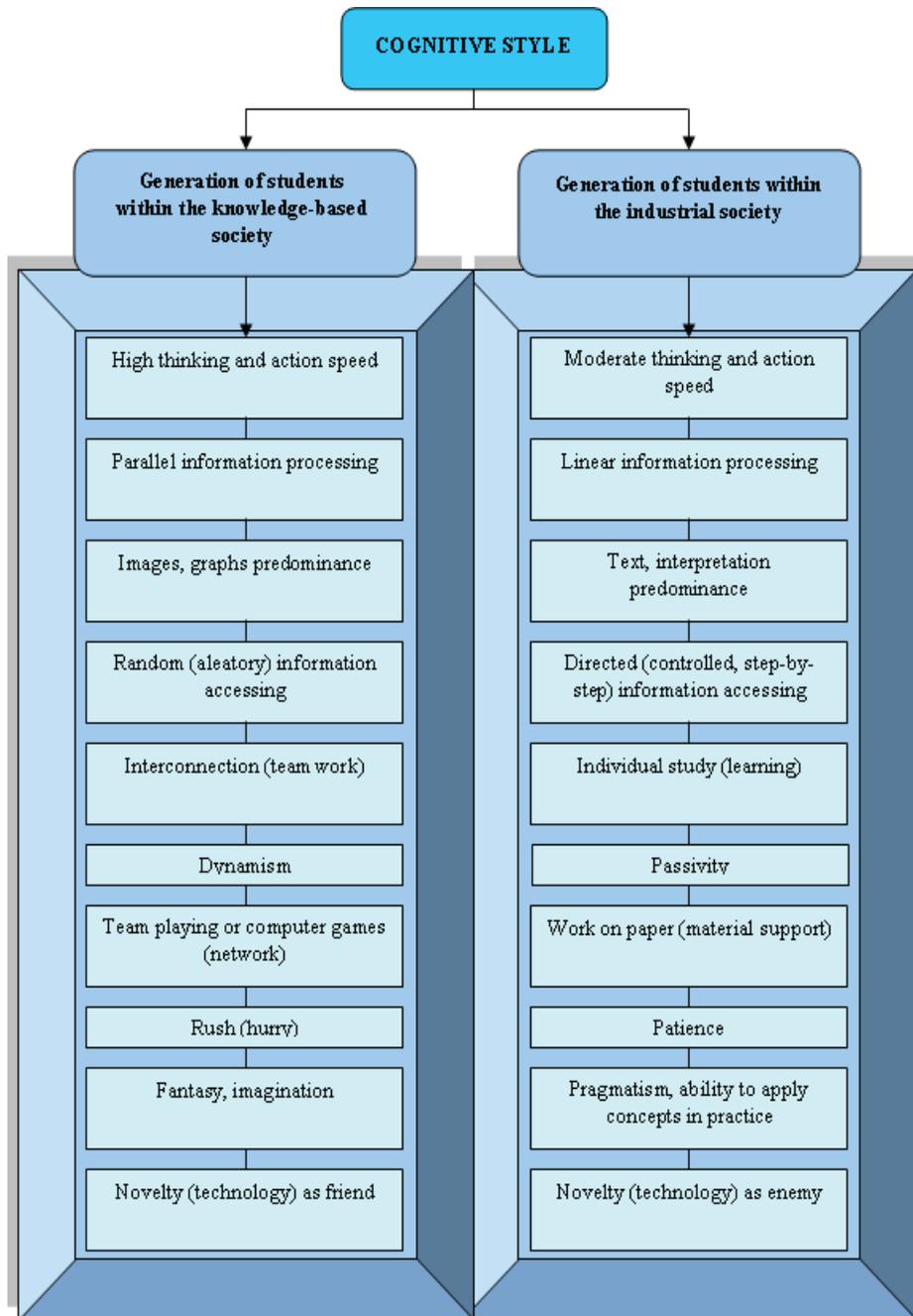
The “key words” in managing services within the knowledge-based society are knowledge, people and networks. Therefore, education (and implicitly educational services) becomes extremely important in the context of the knowledge-based society. This is the reason for trying to briefly disclose in this study some of the trends in delivering services identified through research of literature, as well as based on my personal experience in providing educational services. Since knowledge is assessed throughout people's life (lifelong learning), people's awareness of the need for knowledge should be developed (educated), as well as their skills for the knowledge-based society. Given that information and communication technology plays a major role within the knowledge-based society, it is reasonable to use it for delivering educational services.

2. Developing (educating) students' need for knowledge

The task of developing (educating) the student's need for knowledge is a challenging one because it implies changing the educational practices, its adjustment to new contexts within the knowledge-based society. The generation of learners within the knowledge-based society is different from the preceding one within the industrial society (Figure 1), in the sense that some main cognitive style changes have been observed (Mitchell and Savill-Smith, 2004). For instance, high thinking speed, action speed, interconnection and “friendship” with technology are all changes in the cognitive style of modern students. These changes may be considered in the process of teaching and learning in order to stimulate learners' awareness, interest, and desire to know more and more and to induce them the feeling that they cannot survive as workers within the knowledge-based society without lifelong learning.

Therefore, educational policies and practices should give emphasis to a lifelong learning perspective (Zamfir and Plumb, 2007). The main reason for this is that the spiral of knowledge everlastingly expands due to the application of knowledge to knowledge. Consequently, we may assume that if students are educated to apply knowledge to knowledge in the process of learning as well as in day-to-day life, then this process will become habitual, and their permanent need for knowledge will be encouraged and developed.

Figure 1 Comparative approach of the cognitive style within the knowledge-based society and within the industrial society



(Source: Adapted from Mitchell and Savill-Smith, 2004)

Learners growing up and working within the knowledge-based society are far more experienced and able to process information rapidly than were their predecessors within the industrial society. Therefore, they may be bored and lose interest for continuous knowledge (learning) if their capacities are not exploited and properly stimulated in school, in the process of teaching and learning (Zamfir, 2008b). However, it has been noted (Plumb and Zamfir, 2008) that to some extent curricula still tend to contain theoretical knowledge, which dominates practical learning

and thus changes the educational practices. In this context, applying a learning-oriented approach is a must.

Furthermore, the learning-oriented approach has to consider the cognitive style of the learners within the knowledge-based society. They are intensely using new technologies such as computers, internet, cell phones, simulations and computer games (Mansour and El-Said, 2008: 772). Moreover, the generation of students within the knowledge-based society find modern technology very useful when they search for things of their own interest (Milkova, 2008). As a result, the traditional teaching methods no longer match the current student's needs and behaviour. As teachers cannot change students, the best way is to adjust their pedagogical approach to the students and to create new learning environments supported by artificial intelligence (Prepelita-Raileanu, 2008; Dondon et al., 2008; Paladini and De Carvalho, 2008; Saarinen et al., 2008). These learning environments facilitated by the development of information and communication technology add value when compared to traditional learning environments, and also respond to the learning needs of 21st century students (Saarinen et al., 2008).

Practically, based on my personal experience, I can assert that having in mind the elements which define the cognitive style of students within the knowledge-based society one can educate the students' need for knowledge through various means, such as: assignment of team tasks, appeal to the students' imagination, practising open (free) discussions, avoiding answers to some questions, etc.

With regard to team tasks, instead of individual tasks, these stimulate knowledge sharing and as a result, students may ask themselves new questions starting from the ideas and knowledge shared. Trying to answer these questions in order to solve the team task will require searching the literature, making logical connections, discussing and identifying new aspects of the subject they are studying. As well, when teachers avoid answering to some of the questions posed by the students, the latter will be interested to find it themselves. Appealing to the students' imagination by asking them to imagine different situations, cases or solutions to the problems may contribute to educating their need for knowledge because afterwards they might be interested to know if their imagined solutions were or not discussed in the literature, applied in practice, or if it can actually be applied in the future and how.

3. Developing students' skills for the knowledge-based society

Living, learning and working within the knowledge-based society requires specific skills, emphasising on creativity and innovation, as well as on communication and collaboration. Students should be able to demonstrate creative thinking, to construct knowledge as a means of individual or group expression, to use models and simulations to explore complex systems and issues, to interact and collaborate using a variety of digital environments and media in order to support individual learning and contribute to the learning of others (ISTE, 2007). Technologies that support teacher-student and student-student interaction, whether real time or asynchronous, promote and support collaboration and discussion (Yoder, 2008). People have now more diverse and frequent interaction opportunities than they have ever experienced before, due to the development of the Internet and its communication possibilities such as Email, chat, Web discussion forums, etc. (Woo and Reeves, 2007). This fact could lead to a better teaching-learning process and also to the creation of new and attractive methods for teaching and learning. Educational process could be improved with communication tools that provide synchronous and asynchronous opportunities for interaction and collaboration. Blogs, podcasts, real time interaction, and virtual worlds could be incorporated in education to create a learning environment that strengthens teaching and motivates learners (Yoder, 2008) so as to gain the skills needed within the knowledge-based society.

In the last few years, there has been a growing understanding of the important role of information and communication technologies in education. Various new models of education are evolving in response to the new opportunities (Barak, 2007) that are becoming available by integrating new

technologies and computer applications into the process of teaching and learning. The new educational model is characterized by the interdependence of communicative interaction, new technologies, the development of computer applications, the design of computer-based tasks and focused activity for learners to become critical thinkers and creators of knowledge (Kimber et al., 2007).

Recent educational research from a socio-cognitive perspective has validated students' collaborative engagement with new technologies and heightened understanding of influential factors shaping the effectiveness of peer interactions, learning contexts and computer interfaces for enhancing learning (Kimber et al., 2007). All these changes pose considerable challenges for the educators and business trainers who wish to promote literacy skills (Mitchell and Savill-Smith, 2004).

One significant pedagogical approach gaining credence through research and classroom practice is students' collaborative engagement with problem-solving, computer-based tasks for more effective learning (Kimber et al., 2007). There are some characteristics of the computer applications that contribute to the engagement of the students in the process of learning, such as rules, goals, interaction, outcomes and feedback, challenge, problem solving, etc. (Mitchell and Savill-Smith, 2004). Teachers should focus their efforts to ensure that students are given opportunities to work collaboratively with electronic knowledge-creation tools in their learning process to enhance their learning. When students are encouraged to externalise their mental schemas and clearly communicate their understanding of the interconnectedness of ideas verbally and graphically, then student-designers are effectively engaged in productive, reflective, creative practices (Kimber et al., 2007).

4. Using information and communication technology for delivering educational services

Nowadays educational practices are profoundly changing by integrating information and communication technologies into the process of teaching and learning. Knowledge society and growing demands for highly skilled and educated people are elements that claim for the change of traditional teaching and learning processes. Modern students need to update their knowledge, skills and competences (Beleviciute and Sileikiene, 2006). Therefore, teachers should redesign their courses by adopting new educational methods and appropriate technologies to fully exploit the benefits of web-based learning environments (Lee et al., 2007) and computer applications in education (Zamfir, 2008b). Although some progress is being made, relatively few authentic web-based learning and lifelong learning programs have been developed and implemented at different levels of education (Zamfir, 2008a). One type of changes is related to an integration of various kinds of computer-based learning systems as supplements to conventional teaching methods (Zamfir, 2007).

Many possibilities are available for using information and communication technology for delivering educational services (e.g. PowerPoint presentations, E-mail, Chat, discussion forums, or special software). One of them is computer simulation (which integrates computers, software, virtual networks, people, and knowledge iterative processes) that could be successfully used in economic and managerial education. Some recently conducted studies (Zamfir, 2008c, Zamfir et al., 2009) have confirmed that it is very useful to simulate the activities of a company in order to develop students' competences and skills that they need for their real-life activities. Teachers could integrate into their teaching activity technological tools such as computer simulation, which promote interaction and critical thinking among students, and seem highly motivating and make learning enjoyable for students.

5. Conclusions

Education and implicitly educational services become extremely important in the context of the knowledge-based society. Consequently, we have briefly disclosed some of the trends in delivering services identified through research of literature, as well as based on personal

experience in providing educational services. Since knowledge is assessed throughout people's life (lifelong learning), people's awareness of the need for knowledge should be developed (educated), as well as their skills for the knowledge-based society. Given that information and communication technology plays a major role within the knowledge-based society, it is reasonable to use it for delivering educational services. If students are educated to apply knowledge to knowledge in the process of learning as well as in day-to-day life, then this process will become habitual, and their permanent need for knowledge will be encouraged and developed. In this respect, we have briefly illustrated how information and communication technology could be used to deliver educational services.

References

1. Barak, M. (2007), Transition from traditional to ICT-enhanced learning environments in undergraduate chemistry courses, *Computers & Education*, 48 (1): 30-43.
2. Beleviciute, I., Sileikiene, I. (2006), Integrating Learning Management and Knowledge Management Systems, *Proceedings of the 3rd WSEAS/IASME International Conference on Engineering Education*, Vouliagmeni, Greece, July 11-13, WSEAS Press: 108-113.
3. Dondon, P., Legall, J., Dagorette, M.M. (2008), A Human behaviour modelling to improve the quality and effectiveness of the relation between students and teachers. Impact on student's motivation, *Proceedings of the 4th WSEAS/IASME International Conference on Educational Technologies (EDUTE'08)*, Corfu, Greece, October 26-28, WSEAS Press: 11-15.
4. International Society for Technology in Education – ISTE (2007), *National Educational Technology Standards for Students*, <http://www.iste.org/Content/NavigationMenu/NETS/ForStudents/2007Standards/NETS_for_Students_2007.htm>, last accessed March 1, 2010.
5. Kimber, K., Pillay, H., Richards, C. (2007), Technoliteracy and learning: An analysis of the quality of knowledge in electronic representations of understanding, *Computers & Education*, 48 (1): 59-79.
6. Lee, T. H., Shen, P. D., Tsai, C. W. (2007), Applying Web-Enabled Problem-Based Learning and Self-Regulated Learning to Involve Low Achieving Students in Learning Application Software, *Proceedings of the 8th WSEAS International Conference on Mathematics and Computers in Business and Economics*, Vancouver, Canada, June, 19-21, WSEAS Press: 219-225.
7. Mansour, S., El-Said, M. (2008), The Impact of Multi-Players Serious Games on the Social Interaction among Online Students versus Face-to-Face Students, *Proceedings of the 7th WSEAS International Conference on Applied Computer & Applied Computational Science*, Hangzhou, China, April 6-8, WSEAS Press: 772.
8. Milkova, E. (2008), What Can Multimedia Add to the Optimization of Teaching and Learning at Universities?, *Proceedings of the 7th WSEAS International Conference on Applied Computer & Applied Computational Science*, Hangzhou, China, April 6-8, WSEAS Press: 704.
9. Mitchell, A., Savill-Smith, C. (2004), *The use of Computer And Video Games for Learning. A Review of the Literature*, London: Learning and Skills Development Agency: 24-26.
10. Paladini, E. P., De Carvalho, F. G. (2008), Dynamic and Communicative Teaching Methods with Artificial Intelligence Techniques Support, *Proceedings of the 5th WSEAS / IASME International Conference on Engineering Education (EE'08)*, Heraklion, Greece, July 22-24, WSEAS Press: 132-137.
11. Plumb, I., Zamfir, A. (2008), Development of Higher Education in Romania, *Theoretical and Applied Economics*, vol 4 (521) (supplement), issue 4 (521) (supplement): 157-164.

12. Prepelita-Raileanu, B. (2008), Learning and Teaching in the Digital Age, *Proceedings of the 7th WSEAS International Conference on Education and Educational Technology (EDU'08)*, Venice, Italy, November 21-23, WSEAS Press: 106-111.
13. Saarinen, E., Lainema, T., Lahteenmaki, S. (2008), Experiencing Virtual Team Membership Decentralized Decision-Making Processes Leading to Meaningful Learning, *Proceedings of the Seventh IASTED International Conference Web-based Education*, Innsbruck, Austria, March 17-19, ACTA Press: 328-332.
14. Woo, Y., Reeves, T. C. (2007), Meaningful interaction in web-based learning: A social constructivist interpretation, *The Internet and Higher Education*, 10 (1): 15-25.
15. Yoder, M. (2008), Constructivist Teaching 2008: Virtual Worlds, Promising Technologies, Inspiring Examples, *Proceedings of the Seventh IASTED International Conference Web-based Education*, March 17-18, Innsbruck, Austria, ACTA Press: 293-298.
16. Zamfir, A. (2007), E-learning within the Knowledge-Based Society, *Proceedings of the 9th International Conference "The Risk in the Contemporary Economy"*, November 29-30, "Dunărea de Jos" University of Galatz, Faculty of Economics, Galatz: EUROPLUS: 268-274.
17. Zamfir, A. (2008a), Management of E-Learning Services in European Union, *Proceedings of the Seventh IASTED International Conference on Web-Based Education (WBE 2008)*, March 17-19, Innsbruck, Austria, ACTA Press: 121-126.
18. Zamfir, A. (2008b), Impact of Using Computer Applications in Education on Teaching-Learning Process, *Proceedings of the 7th WSEAS International Conference on Applied Computer & Applied Computational Science*, Hangzhou, China, April 6-8, WSEAS Press: 684-688.
19. Zamfir, A. (2008c), Teaching and Learning Management through Managerial Simulation, *Proceedings of the 9th WSEAS International Conference on Mathematics and Computers in Business and Economics*, Bucharest, Romania, June 24-26, WSEAS Press: 167-172.
20. Zamfir, A., Plumb, I. (2007), New Opportunities for Educational Management into Knowledge-Based Society, *Proceedings "Romania within the EU: Opportunities, Requirements and Perspectives. International Conference"*, volume II, Section 2: Management – Marketing – Tourism, Sibiu: "Lucian Blaga" University Publishing House: 457-465.
21. Zamfir, A., Plumb, I., Dobrin, C., Popa, I. (2009), Using Computers and Simulations in Business Education, *Proceedings of the 10th WSEAS International Conference on Mathematics and Computers in Business and Economics*, Prague, Czech Republic, March 23-25, WSEAS Press: 147-152.