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Current issues of motivation, academic performance and internet use- implications for an education of excellence

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Abstract: Today's world is facing many problems caused by the economic crisis *leading* thus to an education crisis. *Witnessing* major changes in the curricula, *at* different ways of assessment, at teaching and learning in transdisciplinary manner which took by surprise the students who, in turn, *feel* disarmed and unable to cope with these changes that take place in a very fast rate. *And internet has a big influence in students learning and their performance. Many universities try to introduce the internet and new technologies to facilitate student learning, to enhance their motivation for study and to improve their academic performance.*

Given that, *if we want to provide an education of excellence*, we have to know the student professional motivation, which determines *them* to obtain academic performance, *to enhance their learning using internet to successfully cope with the challenges of knowledge-based society.*

Keywords: *motivation, academic performance, internet technology, critical thinking, active learning*

I. Relational configurations between internet, academic performance and education

I.1. Motivation and performance in higher education

Motivation, in terms of academic performance, refers to cognitive, emotional and behavioral indicators involved in learning and education" (Tucker, Zayco, & Herman, 2002, p. 477). But it is very difficult to discover what really motivates students to become performers. From this perspective, Tuckman (1999) presents a model of academic motivation that includes three motivational factors:

1. attitude or belief of a person that he / she is able to achieve its goals;
2. desire to achieve goals;
3. strategies and techniques involved in achieving objectives, a very important role having auto-efficiency.

The relation between self-efficiency and performance is revealed by Bandura: "The efficacy beliefs contribute significantly to level of motivation and performance. They predict not only the behavioral changes accompanying different environmental influences but also differences in behavior between individuals receiving the same environmental influence, and even variation within the same individual in the tasks performed and those shunned or attempted but failed." Bandura (1997, p. 61).

Various research papers show that students having an intrinsic motivation use cognitive strategies and self regulating processes much more than students with extrinsic motivation. So, those who are intrinsic motivated will obtain better performances and they are active learners compared with students who are extrinsic motivate?

But what means active learning? Active learning involves "instructional activities involving students in doing things and thinking about what they are doing" (Bonwell & Eisen, 1991, p. 5).

We have to convince students to be part of these instructional activities which allows them to obtain better performances and to have a high self-esteem.

I.2. The role of internet in students learning and motivating

There are a variety of forms of learning using computer— including computer based instruction, computer-assisted instruction, Integrated Learning Systems, and intelligent learning systems. All of these types of learning involve using the computer as a "mentor".

Students like to learn using computer because it motivates them to be performers and more actives, they feel a sense of satisfaction when obtain information in less time and with less effort.

They use internet to gather, organize, and analyze information, to solve professional or personal problems. Internet helps them to spend less time doing calculations and more time creating strategies for solving complex problems and for a deep understanding of different subjects or themes; allow them to write, edit information and to transform its to a better form.

Internet is seen by some students as a facile way to access information, to understand and to develop it. By some other students is an environment which allows them to communicate with others, to establish social contact with persons all around the world.

Internet and the new technology *stimulate active learning*, helping students to obtain better performances and to enhance their self efficiency- an important component of academic motivation: "Because many new technologies are interactive, it is now easier to create environments in which students can learn by doing, receive feedback, and continually refine their understanding and build new knowledge. Computer-based technologies hold great promise both for increasing access to knowledge and as a means of promoting learning. Much remains to be learned about using technology's potential: to make this happen, learning research will need to become the constant companion of software development". (Bransford, Brown & Cocking, 2000, p. 194).

It is very important that university to create new environments witch stimulate students to be more involved in their own learning, to become active participants to their own progress and academic performance, being intrinsic motivated.

Driscoll (2002) shows; "When students become active participants in the knowledge construction process, the focus of learning shifts from covering the curriculum to working with ideas. And using technology tools 'to think with' facilitates working with ideas and learning from that process".

1.3. The relation between internet technology' skills and performance

First of all, students must have some elementary skills to use internet, such as: ability to find the proper information necessities for them; ability to think critically because not every information is a good one; ability to communicate in order to obtain new information; ability to work with many documents in the same time; ability to access different programs and to manage them efficiently, etc.

According to Pintrich & Schrauben, 1992, pp. 451-502, students must have the next skills to obtain academic performance: selecting Internet resources, adopting powerful search strategies for attaining the goals, planning the search process for attaining the goals, evaluating one's search strategies and the information being searched etc.

But how can we, as teachers, to facilitate the development of these skills? The solution consist in giving them themes (subjects) which allows to put in action all these skills and to develop them with every thinking based activity. Kay and Honey, 2005 presents some skills which will help students to use the technology in order to be performers:

- communicate effectively: students may use not only paper and pencil, but also audio, video, animation, design software (e-mail, Web sites, message boards, blog etc.).
- analyze and interpret data: students must compare, and choose among data now available web-based and other electronic formats.
- understand computational modeling: students must know the power, limitations of various data representation systems, such as computational models and simulations.
- manage and prioritize tasks: students must be able to manage the multi-tasking, selection, and prioritizing across technology applications.
- engage in problem solving: students must know how to apply what they learn and what can do in new and different situations.
- ensure security and safety: students must know and use strategies to acknowledge, identify, and negotiate some risks factors of the 21st century.

1.4. Internet and critical thinking

Critical thinking is one of the abilities which has to be develop in universities. There are a lot of definitions regarding it. We will present some of them.

Critical thinking establishes an “executive level of thinking, a powerful inner voice of reason, to monitor, assess, and reconstitute- in a more rational direction- our thinking, feeling, and action.” (Elder & Paul, 1998, p. 298).

Another one says: “critical thinking involves the ability to participate in ongoing conversations about important issues” (Nussbaum, 2002, p. 488)

What is common in all definitions is the fact that critical thinking involves conceptualizing, analyzing, synthesizing, evaluating different types of information, to establish if are correct or not.

Because the access to internet has increased so much, students have to be more selective with the information access by them and to do studies and researches based on their own critical thinking.

Critical thinking allows students to achieve a “deeper understanding of existing social conditions and power relations” (Luke and Shannon, as cited in Jongsma, 1991, p. 518).

The universities have to encourage critical thinking, especially when students use the internet. If we want to make students to think critically, we must stimulate them with questions that lead them to other questions and so on.

Two factors may assure the success of Internet search and learners’ engagement in practicing critical thinking:

1. learners’ knowledge of Internet searching, including selection of different internet resources, types of search strategies;
2. learners’ motivation, including goal orientation to their learning and self-efficacy of the subject and internet.

II. Is the internet a solution to motivate students to become performers or not?

The literature is full of different opinions and results. Some research demonstrates that there is no evidence of a key role of internet technology in higher education (Angrist and Lavy, 2002; Banerjee *et al.*, 2004; Goolsbee and Guryan, 2002; Kirkpatrick and Cuban, 1998) and other studies show a real impact of internet technology on students’ achievement (Kulik, 1999; Sosin *et al.*, 2004; Fushs and Wossman, 2004; Coates *et al.*, 2004).

2.1. Internet as a solution for an education of excellence

A lot of studies point out the importance of Internet in education. Li *et al.* (2003) says: “First, web-based instruction presents information in a non-linear style, allowing students to explore new information via browsing and cross-referencing activities. Second, web-based teaching supports active learning processes emphasized by constructivist theory. Third, web-based education is enhanced understanding through improved visualization and finally, the convenience, it could be used any time, at any place”. A review of studies conducted by the CEO Forum (2001) emphasizes: “technology can have the greatest impact when integrated into the curriculum to achieve clear, measurable educational objectives.”

2.2. Internet as a barrier for an education of excellence

But, other studies conducted by M.J. Metzger *et al.* (2003) shows some weaknesses of the internet in academic work:

- few centralized information filters relative to the amount of information available
- no explicit editorial review policies to analyze content and verify factual information
- less social and professional pressure to ensure accuracy
- no regulatory policy concerning web-based information
- ease of electronic sabotage and content alteration
- many web sites do not have established reputations that can aid users in assessing the sites’ veracity.
- merging of advertising and information
- professional-quality web sites are easy to create and can appear credible, even when they are not.

III. Conclusions

Within the academic setting, is important to differentiate between those activities which involve internet technology use and those which do not involve internet use. It is known that undergraduate students prefer to use internet technology in their activity because it facilitate them learning and motivates to obtain better performance. But teachers have the obligation to give them tasks which involves information processing, critical thinking and a rational argumentation of reasons why they used some information from net and others not.

Even if there are a lot of arguments pro and against internet use technology, in academic settings it will be more and more present because this is one of the strong tendency of the 21st century and it is obvious that students will use it more and more.

As a final conclusion, “even as internet use has grown exponentially, the hierarchy of metaphors that describe it has remained constant: The internet is most of all a mail pigeon, then a library, then an amusement park, then a shopping center.” (Internet: The mainstreaming of online life – Trends 2005. www.pewinternet.org)

References:

1. Angrist, J. D.; Lavy, V., 2002, New Evidence on Classroom Computers and Pupil Learning, *Economic Journal*. No. 112, pp. 735-765.
2. Bandura, A. 1997, Self-efficacy. The exercise of control, New York: W.H. Freeman.
3. Banerjee, A.; Cole, S.; Duflo, E.; Linden, L., 2004, Remedying Education: Evidence from Two Randomized Experiments in India, [mimeo]. MIT.
4. Bransford, J. D., Brown, A. L., & Cocking, R. R. (Eds.), 2000, *How people learn: Brain, mind experience, and school committee on developments in the science of learning*, Commission on Behavioral and Social Sciences and Education of the National Research Council, National Academy Press.
5. CEO Forum on Education and Technology, 2001, June, The CEO Forum school technology and readiness report: Key building blocks for student achievement in the 21st century, Retrieved February 21, 2002 from <http://www.ceoforum.org/downloads/report4.pdf>
6. Coats, D.; Humphreys, B. R. [*et al.*], 2004, No Significant Distance’ between Face-to-face and Online Instruction: Evidence from Principles of Economics, *Economics of Education Review*. Vol. 23, no. 6, pp 533-546.
7. Driscoll, M., 2002, How people learn (and what technology might have to do with it), ERIC Clearinghouse on Information and Technology Syracuse, NY. Retrieved 5 January 2006 from <http://www.ericdigests.org/2003-3/learn.html>
8. Elder, L., & Paul, R., 1998, The role of Socratic Questioning in thinking, teaching & learning, *The Clearing House*, 71 (5), 297-301.
9. Fuchs, T.; Woessmann, L., 2004., Computers and Student Learning: Bivariate and Multivariate Evidence on the Availability and Use of Computers at Home and at School, *CESifo Working Paper*. No. 1321, November. Munich.
10. Goolsbee, A., Guryan, J., 2002, The Impact of Internet Subsidies in Public Schools, *NBER Working Paper*, No. 9090.
11. Jongsma, K. S. 1991, Critical literacy. *Reading Teacher*, 44(7), 518-519.
12. Kay K. & Honey, M., 2005, Beyond technology competency: A vision of ICT literacy to prepare students for the 21st century, The Institute for the Advancement of Emerging Technologies in Education, Charleston, W.V.: Evantia.
13. Kirkpatrick, H.; Cuban, H., 1998, Computers Make Kids Smarter–right?, *Technos Quarterly*,. No. 7.
14. Kulik, J. A., 1994, Meta-analysis Study of Findings on Computer-based Instruction, In: E. L. Baker; H. F. O’Neil, *Technology Assessment in Education and Training*, Hillsdale, NJ: Lawrence Erlbaum.
15. M.J. Metzger et al., 2003, College student Web use, perceptions of information credibility, and verification behavior, *Computers & Education*.
16. Nussbaum, M. E., 2002. The process of becoming a participant in small-group critical discussions: A case study. *Journal of Adolescent and Adult Literacy*, 45, 488-498.
17. Pintrich, P. R., 2000, The role of goal orientation in self-regulated learning, In M. Boekaerts, P. R. Pintrich & M. Zeidner (Eds.), *Handbook of self-regulation* (pp.451-502), New York: Academic Press.
18. Sosin, K.; Blecha, B. J.; Agawal, R.; Bartlett, R. L.; Daniel, J. I., 2004, Efficiency in the Use of Technology in Economic Education: Some Preliminary Results, *American Economic Review*. May 2004 (Papers and Proceedings), pp. 253-258.
19. Tucker, C. M., Zayco, R. A., & Herman, K. C., 2002, Teacher and child variables as predictors of academic engagement among low-income African American children, *Psychology in the Schools*, 39(4), 477-488.
20. Tuckman, Bruce W., 1999, [A tripartite model of motivation for achievement: Attitude/drive/strategy](#), Paper presented at the annual meeting of the American Psychological Association, Boston, <http://dennislearningcenter.osu.edu/all-tour/apa99paper.htm>