
Students’ perception on using eLearning technologies

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Abstract

With the emergence of the Internet and new technologies, eLearning has become the promising solution for the Universities which are currently in an environment of intense change. Considering students’ perception toward eLearning technologies, their expertise in the field is important for successful development of the academic programs, since the attitude of the end user towards application of information technology is one of the most effective factors. The objectives of the research are: a) identification of students’ perception regarding e-learning; b) identification of e-learning practices employed by students in different contexts; c) identification of e-learning practices used in HE.

Keywords: eLearning; perception; technologies.

1. Paper Rationale

Nowadays we usually equate educational technology with computers, laptops, iPads, iPhones, 3Dprinters, etc. However technology is not that new to education and most probably in 50 years it will look very different from what we now consider as being hi-tech. Just to make a point here, in the early 1800s, a technological innovation was introduced to the classroom that would prove to have a profound impact on teaching. But back then it had the same reaction from teachers as the “new technology” receives today: ignoring. The technology in question: the chalkboard!

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The same happened to the filmstrip projector, the overhead projector, the motion picture or the educational television. Still the consequence as history might prove is that the eventual acceptance of any new technology has been determined more by the needs and the demands of the classroom than by the claims of the technology advocates.

According to Connolly and Stansfield (2006) e-learning has gone through three distinct generations. The first generation, from 1994 to 1999, was marked by a passive use of the Internet where traditional materials were simply repurposed to an online format. The second generation from 2000 to 2003 was marked by the transition to higher bandwidths, rich streaming media, increased resources, and the move to create virtual learning environments that incorporated access to course materials, communications, and student services. The third generation, currently underway, is marked by the incorporation of greater collaboration, socialization, project based learning, and reflective practices, through such tools as e-portfolios, wikis, blogs, social bookmarking and networking, and online simulations. Additionally, the third generation is increasingly being influenced by advances in mobile computing.

It is common sense to admit the fact that using technology in the educational process actually changed learning. The most agreed upon directions are: communication evolution, expanding audience, collaborative learning, multitasking, rapid access to information, random access to information (hyperlink), image versus text. These features led the theorist to come up with new learning theories such as rizomatic learning (Deleuze and Guattari, 1987), connectivism (G. Siemens, S. Downes, 2005), heutagogy (Hase and Kanyon, 2007), paragogy (J. Corneli and C. Danoff, 2011), etc.

2. Paper theoretical foundation and related literature

In recent years, several studies have been published exploring student perceptions and expectations regarding eLearning (Wang, 2004). Studies by the National Center for Education statistics show a growing demand and acceptance of online learning (Waits & Lewis, 2003), while students who have been involved in eLearning courses are generally very positive about their experiences. Furthermore, studies show that students’ perception of e-learning in university education may be influenced by several variables. Keller and Cernerud (2002) have identified variables such as age, gender, previous experience of computers, technology acceptance and individual learning styles as major predictive factors when discussing acceptance of technology by students. There are various theories of technology acceptance used to appreciate the perceptions of students. Studies in Australia (Kennedy, Krause, Churchward, Judd & Gray, 2006a, Kennedy et al., 2006b), in the US (Kvavik, 2005; Salaway, Caruso & Nelson, 2008) and in the UK (Green & Hannon, 2007) in general confirm that the vast majority of the students have ready access to web-enabled personal computers and web features and own personal digital devices such as mobile phones. They also use a wide range of digital features and web features in their everyday lives, for communication (e-mails, msn, etc.) or for forming social networks (blogging, Facebook, etc.).

Our premise for the present study is quite obvious when working and interacting with the students: being a digital native does not mean one is a willing and natural digital learner. We think it is a timely and important question to ask ourselves which is their experience, their expertise, their expectations, and their perception on the subject. Relevant literature that might help us find answers and solutions can be found in the area of users’ perceptions on innovation.

Roger (2003) diffusion of innovations theory is one of the most appropriate for investigating the adoption of technology in higher education. He defined a number of users’ perception of an innovation that can influence adoption which include relative advantage, the degree to which an innovation is perceived as better than the comparable product it supersedes; compatibility, the degree of consistency with existing values, past habits and experiences of the target recipients of the innovation; and complexity, the degree to which an innovation is perceived as difficult to understand and use. Similarly, Davis, Bagozzi and Warsaw (1989) proposed a Technology Acceptance Model (TAM) in which perceived usefulness and perceived ease of use are among the two major factors that determine acceptance. Venkatesh, Morris, David, and David (2003) revisited TAM and seven other models and developed the Unified Theory of Acceptance and Use of Technology (UTAUT) model. In this model, users’ various perceptions of technology are still found to relate to acceptance of technology, together with other factors such as social influence, and the presence of facilitating conditions such as training and support.
3. Methodology

In line with the above studies which are quite rare, when comparing with the studies dealing on technological or pedagogical issues, in this research project we aimed to focus on the students who are using technologies to support their learning activities. We consider this phase to be only the pilot part and we will present here a sample of the preliminary results (since the questionnaire is still on-line and we are receiving further answers). However, we strongly believe that this is a phase necessary in order to generate a more accurate image on the state of the art of eLearning in HE which can be further use to improve the research tools as well as to support future research projects.

The survey as a whole is tackling students’ experiences with technologies within the wider context of their studies. The objectives of the research (assumed also by the questionnaire used) are: a) identification of students’ perception regarding e-learning; b) identification of e-learning practices employed by students in different contexts; c) identification of e-learning practices used in HE.

**Table 1: Demographic profile of respondents**

<table>
<thead>
<tr>
<th>Basis of Classification</th>
<th>Category</th>
<th>Count</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level of studies</td>
<td>Bachelor</td>
<td>71</td>
<td>61.74%</td>
</tr>
<tr>
<td></td>
<td>Masters</td>
<td>44</td>
<td>38.26%</td>
</tr>
<tr>
<td>Types of studies</td>
<td>Humanities</td>
<td>98</td>
<td>85.22%</td>
</tr>
<tr>
<td></td>
<td>Science</td>
<td>17</td>
<td>14.78%</td>
</tr>
<tr>
<td>Gender</td>
<td>Male</td>
<td>28</td>
<td>24.65%</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>87</td>
<td>75.65%</td>
</tr>
</tbody>
</table>

Source: Primary data

It is necessary to explain why this sample is quite unbalanced when referring the types of studies with the respondents falling under the following categories: Humanities (foreign languages and letters, philosophy, history, geography, psychology and theology) – 85.22% and Sciences (biology, physics, mathematics and informatics) – 14.78%. At this point we were interested particularly in seeing whether the students whose field of study does not necessarily involve an explicit contact with digital technology or specific training, such as we might expect in informatics, do feel the need to access eLearning.

The questionnaire was organized around four sections: a. Identification data, b. Perceptions on e-learning, c. Learning, training and/or personal and professional development in non-formal and informal environments, d. E-learning in university. The first section consisted of six items which allow students’ classification according to different criteria. The second section (4 items) focused on identifying the level of using digital technologies, different software and applications; students’ perception regarding the position of e-learning within the vaster context of their learning; students’ perception regarding the features of eLearning. The third section (5 items) relates to other environments within which students go through a learning process; the relation between “traditional learning” and e-learning; the digital technologies used by students; their contribution to e-learning outputs. The last section focuses on the practice of eLearning within higher education: the position and impact of eLearning related to students’ activity; the comparison with the “traditional” approaches to learning; the identification of present practices, as well as proposals for further development.

The questions were mostly closed, with some opportunities to offer short answers. Also they were designed to allow us a certain control of the answers and also an opportunity to establish some correlations between the perceptions, the use of digital technologies outside the HE area and inside as similar references to digital technologies appear in different sections. Administration of the questionnaire was carried out online.

4. Results

The first question on the issue of students’ perception regarding the use of technologies related more precisely on their perceived experience and expertise in the subject. We thought this question to be important because the premise is
that students’ perceptions towards using technology might influence their perception towards using technology in educational contexts. Good experiences of an innovation bring expertise and lead to confirmation. On the contrary, poor experiences lead to changes of perception too, but towards avoidance. Consequently, we aimed at finding what types of technology (both the hard component and the soft one, applications, services, etc.) students used in their everyday life and the frequency of use.

We found out that, as anticipated, the experiences students had using technology in their everyday lives is quite impressive. Concerning their everyday use, there was a high ownership to digital devices as well as applications and services. Almost all students (98.11%) consider that they have a medium and advanced expertise in using a computer or laptop, while 96.52% of the students declared the same level of expertise for Internet usage (search engines, e-mail).

In fact at absolutely all categories of hard components (iPad and Smartphones) over 50% of students declared medium or advanced level of competences while for absolutely all categories of applications and services the rates exceeded 67% (text editors – 84.78%, data processing – 89.56%, mobile apps – 66.96%, socialising and communication spaces – 90.43%, learning spaces – 82.61%). It is also important to underline that over 62% of the students spend at least 5-6 hours per day using technologies, with 8% declaring more than 10 hours. In the same line, 67.83% of the students contributed with comments to the on-line articles, while 42.61% of them have a blog or a personal site.

![Fig. 1. Students’ perceived level of expertise in using digital technologies and applications](image)

Furthermore we wanted to tackle students’ perceptions and beliefs towards the main features of eLearning based on their own experience within formal and non-formal environments. The table below shows that students were quite certain about the individualized feature of the eLearning (score 4.00), but also about its collaborative character (3.85). However, the scores were quite close. It is also worth mentioning that the high-level of autonomy although at the bottom of the scores, has the smallest SD showing a much similar view on the feature. Actually the answers given at various questions within the questionnaire support one another. For instance the individualized character of the eLearning was the first option when indicating that e-learning strategies and digital technologies are mostly employed within the individual activity of the student (67% in a great and very great degree) (Mironov, C. & Borzea, A., 2013).

<table>
<thead>
<tr>
<th>Feature</th>
<th>Mean</th>
<th>SD</th>
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</thead>
<tbody>
<tr>
<td>Active</td>
<td>3.70</td>
<td>1.05</td>
</tr>
<tr>
<td>Collaborative</td>
<td>3.85</td>
<td>1.02</td>
</tr>
<tr>
<td>Individualized</td>
<td>4.00</td>
<td>1.02</td>
</tr>
<tr>
<td>High-level of autonomy</td>
<td>3.72</td>
<td>0.98</td>
</tr>
<tr>
<td>Pleasant/attractive</td>
<td>3.73</td>
<td>1.08</td>
</tr>
<tr>
<td>Effective</td>
<td>3.73</td>
<td>1.00</td>
</tr>
<tr>
<td>Motivating</td>
<td>3.70</td>
<td>1.13</td>
</tr>
</tbody>
</table>
Also we wanted to see in what degree students perceive that they are undergoing a learning process outside the formal environment (the university) and if they are using technologies in this area. In the case of learning activities outside the formal environment hobbies were identified as a first learning experience (64.3% in a great and very great degree), followed by cultural institutions (48.68% in a great and very great degree). Interestingly enough the e-mail seems to be the main means of 67.82% getting informed or getting knowledge, communicate, share materials, information, train, etc. in other environments than the formal one (from the university), followed by the groups (yahoo, Google) – 62.60%. The online courses (27.83%) and the learning platforms (11.29%) find themselves at the other end of the continuum.

5. Discussions

Universities are currently in an environment of intense change, being required to educate more students, from an increasingly variety of backgrounds, with different ages and different needs. Information technologies and eLearning are viewed as an important factor in streaming their operations and all universities are investing heavily in systems and services. The implementation of technology covers aspects like IT infrastructure, online management systems, academic management systems which may be fully integrated with the learning management systems and financial systems, digital library investment and extensive staff development.

However we should not underestimate the difficulties involved in innovation and change for both academics and students. Our students are digital natives and use technology as an integral part of their everyday lives. Of most interest is the fact that they use technology extensively for Internet searching, socializing and communication. Taking into account the results discusses in a previous paper (Mironov, C., & Borzea, A., 2013) it is quite relevant to discuss these results comparing them with those referring to the use of technology in higher education.

Data show us that the experience digital natives have in using technologies to learn is very different from the extensive experience they have in using the technologies in their everyday lives. A series of studies and international reports show that, while the percentage of supplementary online courses websites has grown a great deal and statistics say that they will continue to do so with half of all courses being on-line by the year 2019 the web continues to be mostly seen as a convenient storage house for easy distribution of course materials to students, often using existing basic functions in learning management systems. Most communications are done through online
forums with quite simple designs which are not very active. Even more the students main requests is related to the development of learning environments/ spaces by teachers where they would find theoretical support, but also links to other resources, including videos and audio, references, interactive materials. On the second position their responses underlined the need for implementing effective strategies of communication with the teachers.

The findings tend to suggest that students are, on the whole, open to innovation. To us, the fact that a positive relationship was found between the expertise and the perception of eLearning is good evidence that it has provided learning benefits to our students. However, we observe a delicate balancing act in operation; students are well-disposed towards the use of technology in education but we cannot assume students will unilaterally welcome more use of technology for learning. The use of the more complicated (but potentially more educationally useful) eLearning strategies is limited. We need take into account this reticence into our planning for innovative uses of eLearning. If planning and induction strategies are appropriate, the evidence from this study is that students’ perception about eLearning will improve once they experience some learning benefits. Once students have a good first eLearning experience, there is a high likelihood that they will appreciate and seek similar engaging experiences.

6. Conclusions

This study investigated students’ views on eLearning technology within non-formal and formal settings. Although the number of responses was not high 115 valid replies we only considered research as a first step to pilot a tool in order to implement it at a larger scale.

The centrality of the student and her/his learning needs is clear and it is presently assumed by all actors involved in the educational process. So the questions that arise relate to how students interact with learning materials, with the teacher and with peer learners and which is the potential of online technology? What does it offer that can enhance or replace and/ or offer alternative or greater impact of face-to-face modes of operation? The answer to these questions might offer a better understanding on how technology can improve the learning experience, make it more motivating and efficient.

It becomes quite obvious that students are deeply aware of the changes brought over by the digital technologies, by their impact on the learning process. Also it is clear that students are well equipped in using technology in formal environments and are already using these technologies in order to support their learning process. Furthermore, students seem to understand that a more coherent approach based on specific developments might prove even more effective. However such an approach can be supported mainly by teachers. Just as much as the teacher represents an organiser of the learning activity of student in the offline environment, he/she should assume the role of organising the students’ e-learning process related to the HE. The need for a systematic, well organised approach to e-learning in HE might be the main conclusion that should empower further study on the subject that further could be translated later in a strategy for HE teacher training.

References