

The Forced Transition to Distance Learning – a Challenge for the Overall Educational Process

Juliana Peneva

New Bulgarian University, 21 Montevideo str, Sofia, 1618, Bulgaria

Abstract

Nowadays the transition to online education is imperative. Under a pandemic situation, universities are regarded as the most prepared institutions to apply e-learning massively. This paper discusses the forced transition to e-learning related to the overall educational process in higher education. The common use of the Internet and social networks changed the motivation and cognitive practices of learners thus producing new didactical and methodological issues to be addressed. To discuss these aspects, we share the experience of New Bulgarian University in conducting e-learning under an emergency pandemic situation and analyse some of its specific features. Technological solutions that facilitate online classes and communications are considered. Some matters concerning the role of the instructor's presence and immediacy in the virtual classroom are also examined.

Keywords

e-learning, teacher's presence, teaching immediacy, students' motivation

1 Introduction

Education, like almost all social spheres, is changed drastically by the Internet. Nowadays modern digital age influences deeply the way we perceive life and the way we acquire knowledge. Distance and e-learning became synonymous, thus absorbing and modifying practically the whole didactic experience. Involving the achievements of cognitive psychology, many educational technologies are implemented in the e-learning practice to assure a flexible and adaptable learning process and, at last, sound and persistent knowledge. Almost all of these remarkable practices, however, are targeted to a motivated and school trained learner.

Key changes in the characteristics of the new generation occur in education and particularly in institutions related to it. The last two decades immersed the born generation in an extreme flow of information via the Internet and other digital media. The terms "digital natives" and "net generation" emphasize their early addiction and special attitude to Internet services. Digital natives are the real population that undergoes modern education and their habits to gain information and to build knowledge cannot be neglected. They make extensive use of social networks e.g. Facebook or Twitter, access the mobile Internet via handheld devices, deal with multimedia data e.g. YouTube, etc. Compared to previous generations their general intelligence appears to be higher nevertheless that their factual knowledge remains at the same or even lower level. This discrepancy could be explicated with a shift in cognitive paradigms. As a result, universities have to meet the expectations of this new generation. As Mark Prensky noticed "Our students have changed radically. Today's students are no longer the people our educational system was designed to teach." [1,2].

At the same time, the modern knowledge-based economy imposes contradictory requirements on education. On the one hand, the creation of high-tech products and services requires a significant level

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EMAIL: jpeneva@nbu.bg

ORCID 0000-0001-6080-3962



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of specific knowledge and skills acquired during the training. On the other hand, innovation and flexibility are expected to cope with technology and market changes, which implies higher cognitive and interpersonal communication skills. These requirements are a key factor for the motivation and professional orientation of students.

The 2020 pandemic forced radical and global-scale transition to distance services, including e-learning. The conservative education had to rely on information technologies to a big extent. The direct shift to e-learning without a pilot implementation in some educational institutions rises several technological and didactical problems.

At New Bulgarian University both the full-time and distance forms of education are enhanced by e-learning. The university has formally adopted three types of delivery models for its courses: in-class, online and blended. The Moodle NBU platform is a proper institutional framework, which provides access to e-learning content for each course and supports active communications among instructors and students in all forms of study.

The goal of this paper is to discuss the influence of this forced transition to e-learning on the overall educational process in higher education. Issues related to changes in the motivation and cognitive practices of learners extensively using social networks compared to previous "non-technology addicted" generations are addressed. Technological solutions that facilitate online classes and communications are considered. The role of the instructor's presence and immediacy in e-learning classes is also discussed.

2 Specific features of e-learning

Forced e-learning because of the COVID-19 pandemia set new challenges for educators. Nevertheless, that e-learning is innovative due to the use of various technological solutions, the methodology of presenting the content was preserved. Strong expectations that technology will improve the quality of any e-learning course often lead to an underestimation of the set educational goals. Obviously, technology is advancing very fast, while the methodology of how to apply it is lagging behind. This discrepancy is because of that the preparation and conduct of any pedagogical experiment requires a minimum of about a year or more while technology develops within six, seven months. In fact, preconditions for the development of teaching methodology are created. The fusion and interchangeability of regular and distance forms give rise to a significant advantage when organizing the educational process in the global information society.

Nowadays circumstances impose a transition from teaching traditionally to online education. To meet these challenges, New Bulgarian University has formally adopted three types of delivery models for its courses: in-class, online and blended. Most of the courses are delivered online only. Practical courses e.g. drawing that require attendance are brought face-to-face with an intensive schedule during the spring or summer semester. E-learning is supported with different face-to-face activities such as: seminars, schools, workshops, lectures, consultations, exercises, demonstrations during the summer semester. The final objective is to attain mutual exchange among regular, part-time and distance studies – for separate courses and a whole program as well, i.e. to deploy blended learning as a combination of face-to-face sessions with self-paced online learning over the whole education process.

Consider also that in-class and online courses differ in the predominant type of communication – synchronous or asynchronous. So, learning content has to permit independent and efficient learners' work. The modular approach, where content is divided into units of instruction is widely applied. Depending on the trainee's learning style, current knowledge and attitude, the access to a single unit of the learning content could result in different outcomes. We observe the principle of encapsulation, i.e. minimum references to other courses and facts outside the content, thus reducing the dependency of a momentary missing knowledge. In this way, we try to achieve maximal independence among the different courses and to make easy different configurations of curricula. Interdisciplinary links are to be realized at the upper stage of education and higher cognitive level. To facilitate learners' navigation within the coursework and their choice of the learning paths, competencies are defined explicitly. We place different types of resources at students' disposal and practice all possible learning activities. Common teaching techniques are applied concerning the specificity of e-learning. For example, "exposition" can be varied with interactive exercises. The "active method", i.e. non-guided learning can

be implemented as performing different tasks working in groups or individually. When “demonstration” is implemented, the learners repeat the demonstrated activity, supported via instructions transmitted by communication devices.

The active presence of the teacher is extremely important to maintain students’ motivation and interest in the subject as well as to develop communication skills and to stimulate teamwork. The shift from the traditional classroom to a virtual platform may represent a challenge for instructors and learners. The increased use of various devices permits high connectivity among the learners. The lack of proper communication [3] with the course instructor leads to the disorientation of students and indifference to the overall learning process. It is up to the teacher to give the students the perception of community. The role of interactivity in establishing the instructor’s presence and live engagement in the course activities is vital to the effectiveness of e-learning. Teachers’ visibility and immediacy bring a sense of reality and seriousness and at the same time proves their identity.

However, the active presence of the instructors in online classes is interpreted differently. Verbal communication is missing. The instructor must dynamically be present throughout the course to ensure proper feedback. Moreover, online students expect immediate feedback on any issue of interest. Otherwise, they complain and feel isolated or insecure and participate less in the course. Every student has to feel that the tutor is always present and monitors his/her efforts. The physical remoteness of online classes makes interaction with the instructor very important as it concerns students’ satisfaction. That is why before the start of every e-learning course we carefully plan and prepare the content of each learning unit, set the curriculum, establish time parameters for students’ activities, and determine the netiquette rules. Students are informed that their course work is submitted to a check for plagiarism. In order to facilitate productive discourse, we use the possibilities of the applied LMS e.g. forums, chats, e-mails etc. to draw the participants in various discussions and to reinforce students’ contributions. We try to stimulate learners’ engagement in the overall process. Direct instruction deals with the presentation of the content, the proper formulation of discussion questions and the answer to different kinds of learners’ questions. We think that the ongoing interactions of teachers represent the key to their visibility in e-learning classes.

Immediacy is defined by psychological availability. Instructor’s immediacy refers to the behaviour that takes the teachers and trainees closer together in terms of perceived distance. Verbal immediacy [4] is more relevant for e-learning classes as the instructor is not physically apparent. Students lack non-verbal communication with their instructors and they need frequent support to be involved in the different activities. To establish verbally immediate behaviour, we carefully design our course content and pay attention to the written interactions with students. Politeness, accessibility and visual cues e.g. instructors’ video lessons, animations, cartoons, funny images, etc. are also used to attract trainees’ attention. We initiate discussions, ask questions and give different kinds of assignments. Different electronic communication tools such as BigBlueButton, Zoom, MS Teams, etc. facilitate the interaction among instructors and learners thus reducing the psychological and physical distance.

As it concerns e-learning, numerous platforms can be applied. Any LMS represents an infrastructure platform via which learning content is delivered and managed. Typically, a LMS provides instructors with resources to create and deliver content, to monitor students’ participation, and to assess students’ performance. Present-day systems are web-based to facilitate "anytime, anywhere" administration and access to learning content. In addition, digital natives enjoy new educational approaches dealing with technological innovations. These platforms facilitate significantly the development and management of proper learning content. Different universities and schools use different kinds of them both for distance and regular education. Concerning Bulgarian universities, a quick check on the Web shows that most universities prefer Moodle [5]: New Bulgarian University, Sofia University, Plovdiv University, Burgas Free University, University for National and World Economy, Technical University of Sofia, University of Mining and Geology, Medical University of Varna and University of Forestry rely on Blackboard [6]. South-West University of Blagoevgrad is using both of them. Recently the American University of Bulgaria shifted from Blackboard to the open-source software Canvas [7]. Finally, the institution adopts one e-learning environment and deploys its courses on it.

The choice of a specific platform, commercial or open-source is of secondary importance. The emphasis is on the selection and the get-up of the learning content for every course supposed to be delivered distantly. The learning content can be organized and offered in different ways and via various learning environments.

To administer e-learning at New Bulgarian University, the open-source learning management system Moodle has been implemented. This platform offers a localized interface and allows further customization. Close interoperability with the integrated information system of the university has been established thus ensuring strict control over the course enrolling. Moodle allows various didactical and pedagogical features to be implemented such as modular course design; in-class and distant assignments and assessments; online and blended course delivery models; task-based learning; collaborative learning to name a few.

3 Changes in motivation and cognitive practices of present-day learners

The learners' attitude towards required competencies differs upon their motivation. At least three types of motivation could be outlined: "early-targeted professional", "gaming-experienced digital native" and "job-oriented ignorant".

The first one is presented by students who combine work and study – this is especially true for technological specialities. They are highly motivated, conscientious and successful learners and apply different learning styles adapting easily to the available learning modes. These students exhibit some professional skills, e.g. web design or programming and are highly adaptive to the offered forms of training. They prefer disciplines where factual and procedural knowledge is exposed and encounter difficulties in those with a high degree of abstraction and deduction.

The group of "gaming-experienced digital natives" are the largest one. These are learners who really belong to the digital generation. It grows in an environment that encompasses all achievements of information and communication technologies. This generation is characterized by good computer literacy, intensive use of many web-based services and "interactive" and "visual" thinking. This influences their behaviour, in particular, their learning practices and motivation for the learning process. Access to web resources and computer games forms habits and develop an intuition for recognizing the interface through experimentation. This approach to acquiring knowledge somewhat neutralizes the school routine, namely the use of ready-made, pre-formatted knowledge. Digital natives are highly adaptable [8] without the need for prior training in an unfamiliar environment. In the process of identifying and recognizing the unknown, they constantly use the method of limited goals ("trial and error"). As a result, the learners approach the learning content rather pragmatically, selectively mastering the topics they consider to be practically useful. In this way, the integrity of the curriculum is seriously violated.

In contrast, the third group includes people who choose a speciality (computer science, photography, graphic design, etc.) because this speciality is modern and they expect to find a well-paid job in the future. Those students are not aware of the needed competencies, nor they have established learning habits or good computer skills, but they expect the training to be attractive and easy. Generally, their cognitive skills are similar to those of the digital natives, but with poor or none of prior knowledge and skills.

Regardless of the motivation and digital skills, the educational process performed via learning management systems (LMS) exhibits one general challenge: the distracted attention. Modern teaching can no longer rely on the natural curiosity of the learners to concentrate them on a given subject. Widely accessible via Internet distractors can fail any learning activity. Surfing the Internet during regular lectures can be observed very often. It turns out that the classical lecture form is uninteresting for the students, no matter how well prepared the lecturer is and despite the efforts to attain their attention. This form presupposes a gradual exposition of the topic, leading to detailed elaboration afterwards. At the same time, learners are impatient and want to review quickly the content and decide about the learning by themselves.

The general principle of efforts savings is becoming more explicit. The learners apply various tricks to delay memorization. The most popular is the above-mentioned quick review. Learners try to gain some idea on the topic by making an analogy with well-understood concepts and facts. In this way, they compose their work definitions and interpretations of reviewed content. When this concerns key concepts, it may lead to complications at higher cognitive levels. Another manifestation of effort savings is the replacement of procedural knowledge with quick references about the subject on the

Internet, if necessary. We mean here procedures as parts of skills that must be acquired “by doing”. Such competence is thus postponed “when needed”.

We also investigated students’ attitudes towards technology-enhanced learning. We were interested in exploring how learners react to changes in training methodology due to the transition to e-learning. The study employed survey research to assess the extent to which students are ready for changes in the training methodology regarding e-forms. The survey shows that most of the students – about 70% – work. That is why the benefits of e-learning namely to choose the right moment for self-training, discussions, teachers’ visibility and immediacy are crucial (see Fig.1). In general, students at New Bulgarian University exhibit readiness to participate in a technology-enhanced learning process [9].

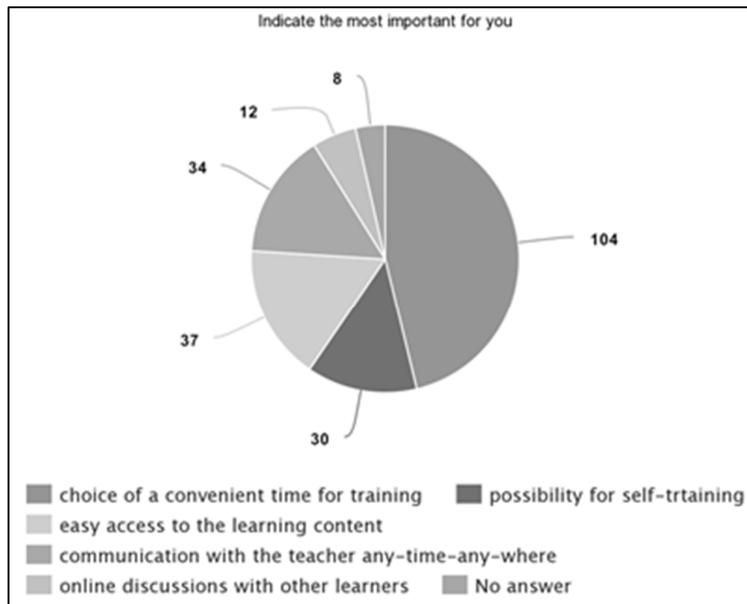


Figure 1: The benefits of e-learning

As a part of quality control, several inquiries are systematically applied by the university administration, but their results are not allowed to be discussed anywhere. That is the reason to analyze and include specific data from the author's actual educational practices.

Conducting forced e-learning during three semesters (spring 2019/2020 and 2020/2021, fall 2020/2021) via LMS Moodle in six courses of Informatics (Database systems, Software engineering, Information systems, etc.) the following (own) quantitative data has been captured:

- enrolled students (total) – 599
- learning activities participation – 574
- regular participants (performing weekly assignments) – 356
- weekly self-assessment performed -230
- formally performed self-assessment – 150
- exams attendance – 518
- successfully passed – 456
- failed – 62

There is an obvious “hardcore” group of students, which are regular and successful learners. These can be referred to the first category mentioned above. The other two categories form the rest of the regular participants. Formally performed self-assessments exhibit the "digital natives" attitude.

Summarizing, the redundancy of easily accessible data determines the behaviour of net generation in learning media and this manifests its spontaneous strategy for working with a huge amount of information. At the time of forced and ubiquitous transition to e-learning, these circumstances should be considered thus aiming to achieve a better organization of the overall learning process.

4 Conclusion

The speeded development and deployment of networking and computer technologies has altered almost all aspects of modern life. These technologies have a significant impact on education as universities manifest a continuous effort to implement them both at institutional level or participating in large projects. The rapid and forced transition to e-learning due to the COVID 19 pandemic is in progress. Educators have to carry out this “digital transformation” quickly and efficiently.

In this paper, we discussed some methodological aspects that concern forced e-learning. The behaviour of net generation is strongly influenced by their motivation and cognitive habits. Ongoing interactions that occur within the course are central to the students’ motivation and engagement in the learning process. The active involvement of teachers in course activities benefits students’ effective learning and cognition. Common teaching techniques are to be tailored and to conform to the specificity of e-learning. The learning content should be adaptable to the different learning styles and to allow the following of different learning paths. Any course topics are to be targeted against the preliminary set educational goals. The choice of technological tools and platforms to implement e-learning is of secondary importance. The strong expectations that technologies contribute to the quality of any e-learning course often blur the educational objectives. The quality of learning content and the teaching methodology remain essential.

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