Application of ICT tools in teaching American English for computer science students in the context of global challenges

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Abstract. The article deals with the urgent issue of American English learning for IT-professionals under challenging conditions of the changeable economic situation in the world. Some statistical data on global education trends and its analysis are given to confirm the topicality of the problem. State-of-the-art trends in foreign language teaching in the context of global challenges are presented. It is stated that informal education environments, distant learning platforms, virtual reality environments, artificial intelligence applications and collaboration platforms are to be mastered by Ukrainian undergraduates. Certain peculiarities of choosing and studying British and American English course by students of IT-specialities at three Ukrainian universities are given: the course choice procedure, the reasons for course preference, and the syllabus content. The best technologies, applications and tools for classroom activities and independent learning are substantiated, specific examples of their application for British and American English course learning are presented. The transferability of the skills inculcated in the course participants through implementation of the certain tools is founded.

1. Introduction

The interdependency of global changes and education advance has always been the reason for scientific, social and economic progression: educational level of population ensures its citizen awareness and determination; on the other hand, shifts in collective consciousness caused by any wide-ranging triggers (both positive and negative events) influence education vectors and methods. Nowadays, namely this congruence globally determines the headway in most public spheres.

In Ukraine which had the reputation of a rather conservative country in the field of teaching and training, education (and higher education specifically) had had a stable paradigm of its functioning for decades. Nowadays, dramatic changes have been introduced in accordance with European tendencies of the student-oriented approach, the choice of a student training trajectory, skill transferability and the lifelong learning concept. The Osvita Nova educational portal presents the most relevant concepts which have come to the fore due to current social challenges.

The key concept is lifelong learning since “speed and diversity of changes increase” [2]. The other important notions included into the list are the equal access to learning for everyone, personalization

of the learning process, dissolution of the border between learning and work, appearance of new educational environments.

The National Institute of Strategic Research [12] emphasizes development of the lifelong learning system along with further export capacity building of Ukrainian higher education as crucial factors of obtaining economic outcomes and accelerating education modernization and empowerment of the positive image of the country globally.

According to the Organisation for Economic Cooperation and Development [22] to develop individuals as persons, citizens and professionals is the ultimate goal of education in order to continue to deliver on its mission. That is why education itself must continuously evolve on the ground of economic, social and technology changes. This "requires the reorganization of formal and informal learning environments, and reimagining education content and delivery". The mentioned above concept correlates both with compulsory education and lifelong learning.

Tom Vander Ark in [3] has considered trends in education in terms of aims, strategies, measures and supports. The author has outlined four mega trends, four emerging trends and four adjacent trends impacting education. The mega trends include new goals, active learning, competency and integrated services. The emerging trends list interrelated items are: contribution, immersive learning, success skills, and thoughtful guidance. The adjacent trends comprise inclusion and equity, lifelong learning, quantified life and mindfulness.

Lynda Gratton and Andrew Scott, professors at the London Business School, insist that the traditional model of education (education-work-retirement) has not been relevant, and the multistage model consisting of education, exploration, transition, employment in an organization, self-employment, portfolio in the sense of mixing paid and unpaid work, and retirement is to be more applicable [10]. The stages in the multistage model can be carried in different orders; they can overlap and be repeated.

The Valamis consumer-grade learning platform designed to provide digitalization of learning outlines numerous long-term benefits of lifelong learning for adults: renewed self-motivation, recognition of personal interests and goals, improvement in other personal and professional skills, and improved self-confidence [37]. The listed above benefits include only those connected to personal learner advantages without taking into account business, industrial and even national and international aspects.

The Government Office for Science, UK provides the list of possible returns of lifelong learning concerning individuals, employers and society [9]: benefits to the individual (increases in incomes, career promotion, physical and mental health and independence, etc.); benefits to the employer (performance of higher-level tasks, increasing productivity, acquiring occupational- or sectoral-specific new skills); health benefits (improvements in life satisfaction, slowing cognitive decline); welfare and exchequer benefits; social and civic benefits (reducing racism, and increasing civic participation and voting, greater participation in sport).

In their turn, businesses and organizations are to encourage their employees who "(1) anticipate learning requirements, by, for instance, identifying areas for future job requirements and implications for needed skill updates, (2) set development goals that reflect needed knowledge and skill structures, (3) participate in learning activities, (4) ask for feedback to test goal relevance, and (5) track progress" [17] to make it possible to continue their learning.

In spite of the overall tendency of the last decade to prolong seniors' professional engagement, the implementation of lifelong learning is not uniform across the countries of the world. As Anja P. Jakobi stated in 2012 the implementation was based on similar principles and values "without sufficiently taking into account the specifics of the national context" [13]. The current trend in lifelong learning in some countries is replacing of integrated approaches with disintegrated ones "focusing on certain life phases, modalities of learning and topics", while other countries develop lifelong learning systems which integrate all levels of education, ages and learning modalities [35]. The advantage of the disintegrated approach has been explained by Mohanbir Sawhney on the example of IT-specialist training. He proposes to organize lifelong learning using "learning objects" instead of courses. These

the other hand, the undergraduates have developed their profession-related skills of applying ICT tools in their future employment.

Table 1. SWOT analysis of Worksection implementation into the educational process.

Strengths	**Weaknesses**
Appeal Unusualness Effectiveness Collaboration encouragement Communication enhancing	Account and role setting inflexibility High level complexity for average users Demand for intense concentration and accuracy (especially from administrators)
Opportunities	**Threats**
Involving large number of participants with various educational background Shifting a part of educational assignments into the Worksection service Developing separate projects for specific academic spheres	Time consuming setting and routine administrating Unmotivated students' disregard ruining planned activities of the whole group Price rising

The skills inculcated in the students and participants of the study group within training operating and using Mondly, Moodle, AI, Worksection and social networks with English and American English interface are transferable and will definitely be of great value in the future when more sophisticated and advanced derivatives of the learning environments, communication tools and management platforms occur. The lifelong and collaboration concepts will underlie every new ability of the young people who are currently capable to master the broad spectrum of the mentioned above ICT applications and training tools.

4. Conclusions

Education development trends are nowadays important for every specialist in order to match the rising labour market requirements, but it is urgent for IT-professionals (whose skill and competence half-life continually shortens), especially for the ones determined to collaborate internationally. Since most employees need periodic or even urgent retraining in response to global economic, environmental and social changes, reskilling and upskilling postgraduate holders should demonstrate the independent learning habit which must be fostered in undergraduates within curricula or study groups. ICT tools for learning English like online courses, AI, virtual reality applications, systems of project management control and social network facilities are popular with students since using them provides the individual approach, a self-determined pace and combines foreign language acquisition and mastering software application facilities and settings, both applicable in IT-professionals future employment. The use of the mentioned above technologies and tools for study and further on for work ensures forming transferrable skills underlying for the life ability to withstand the challenges of the future.

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