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## MUTUAL INFLUENCE OF DIGITAL, LINGUISTIC AND VALEOLOGICAL COMPETENCIES IN HEALTH-SAVING ENVIRONMENT OF HIGHER EDUCATION

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### Abstract

**Introduction.** In the context of distance learning in the sphere of valeology, the significance of university students' gaining computer literacy and English skills can hardly be overestimated. Therefore, it is relevant to organize an integrative learning format within valeological education based on parallel forming both digital and linguistic competencies of students in order to increase the efficiency of training.

**Purpose of the study** is to analyze the mutual influence of digital, linguistic and valeological competences in the health-saving environment of higher education of Ukraine.

**Methods.** The system analysis and bibliosemantic methods underlie the research.

**Results.** Inconsistencies in understanding the content of the studied competencies, which affect the methods of their forming and the evaluation of the learning outcomes, have been identified. Values and levels of formation of digital and linguistic competences in the European Union have been determined. The essence of valeological competence and proposals on the assessment of the levels of this competence formation has been disclosed by the group of Kharkiv researchers. The common characteristics of the assessment of the levels of forming the competences under study have been detected.

**Conclusions.** It has been ascertained that digital and linguistic competences are necessary for forming university students' valeological competence. The research has proved that gaining utmost effectiveness to that end is enabled through the realization of synergetic principles.

**Keywords:** *health-saving higher education, valeological competence, digital competence, linguistic competence, university students, distance learning, synergy in joint competences formation.*

### INTRODUCTION

Modern higher education in Ukraine is undergoing a severe test due to the COVID-19 pandemic and the armed conflict on its territory. The forced transition from classroom to distance and mixed learning, as well as from distance synchronous to distance asynchronous learning requires all participants of the educational process to be fluent in modern digital technologies [1]. The ability to teach and study effectively in the digital space in modern competence-based education makes up the digital competence [2]. Digital competence is also defined as the expertise in using

digital tools and the legal suitability of the specialist for a certain position which excludes doing without digital literacy. Digital competence is also one of the key competences for lifelong learning [3].

It is also difficult to imagine modern education without foreign language training. The complex of knowledge in vocabulary and the ability to apply it in productive (oral and written speech) and receptive (reading and listening) types of speech activity; capability for operating language tools, which requires knowledge of such language elements as phonetic peculiarities; specific character of forming and differential features of grammatical forms and constructions; preparedness and ability to select and understand relevant information from foreign-language texts with the help of key words, descriptors and concepts we define as the linguistic competence. The integrative nature and adaptivity of the virtual information

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environment are largely determined by multilingualism [4]. It is obvious that English is the most widely used language in Ukraine and all over the world. The English-language information space is an important source of knowledge and at the same time an environment for international learning, self-education, and the functioning of digital educational platforms [5]. English is one of six working languages of the United Nations (UN) and the international language of medicine [6; 7], although at the beginning of the 20th century, English, German and French were used equally in medicine [8].

The Ukrainian higher education system is still being reformed. It is relevant to mention that transformation processes were significantly boosted in 2014 when the country totally set a course for a gradual integration in the European and world community [9]. In the context of reforms, the trends in the development of digital and linguistic competences of university students and teachers, the use of the English language for teaching foreign students and constructing a health-saving educational environment remain unchanged [9–11]. New effective methods of forming the valeological competence are being actively searched for [12–18].

Despite the fact that a number of researchers point to the relevance of gaining parallelism of the vectors of forming health-saving and digital competences along with language and digital ones [19–21], up to now there are no works devoted to the concept of simultaneous development of digital, linguistic and valeological competencies in Ukrainian higher education.

**Purpose of the study** is to analyze the mutual influence of digital, linguistic and valeological competences in the health-saving higher education of Ukraine.

#### **Materials & methods**

The research has been carried out using the bibliosemantic method and the method of system analysis. Research papers presented in PubMed and Google Academia, declarations and regulations of the UN, the European Union (EU) and Ukraine have served as research materials for our study.

#### **Results & discussion**

The competence-based approach in education has a distinctive feature, namely the understanding of the same competence can be different depending on the area of education (humanitarian or technical, medical or non-medical). This mostly concerns competencies that are not defined in regu-

latory documents. For example, in the sphere of non-pedagogical sciences, the notion “pedagogical competence” is sometimes narrowed down to the ability to teach is [22], whereas, in fact, this concept means a systemic unity of pedagogical knowledge, experience and personal features of the teacher that enables execution of effective educational activities. Approximately the same thing one can witness in non-medical higher education, when the valeological competence is regarded as a derivative from the medical competence [23]. In view of this, it is relevant to distinguish this competence from other key competences of the medical university graduate, namely diagnostic, curative and preventive ones [24; 25].

According to the Digital Competence Framework for Citizens (DigComp) the digital competence is defined as “confident, critical and responsible use and interaction with digital technologies for learning, professional activity and participation in social life” [3; 26] and since 2006 this competence has been on the list of eight key competences. Digital competence includes knowledge (regarding digital etiquette, copyright, licensing policies data, information and digital content, environmental safety, the impact of digital technologies on human health) and skills (concerning information retrieval, digital content search, communication by means of digital technologies, creating digital content, programming, protecting devices, digital content and personal data from network threats, identifying needs and technical solutions to problems). Environmental protection includes the issue of safe disposing computer equipment. The aforementioned framework is a reference point for bringing Ukrainian legislation in compliance with the EU standards in terms of digitalization.

In the context of our research it is relevant to state that forming the linguistic competence should be realized with due regard for the EU policy of multilingualism, which dates back to the second half of the 20<sup>th</sup> century, when there was encouraged mastering languages, prompted linguistic diversity in the society, developed a multilingual economy, ensured access to the European legislation and information in various European languages, provided conditions for migrants’ intercultural dialogue and labor mobility, etc. In view of this in the course of Ukraine’s integration process in the EU, at the national level a broad scientific discussion on unifying the concept of multilingual education is being held.

At present the valeological competence is being formed within distance learning, which is based on digital technologies and skills. And although some authors evaluate distance learning positively [27] (as it is carried out at any time convenient for the student, is flexible and cheap, provides access to a large amount of educational information), others, on the contrary, point out the disadvantages of distance learning compared to the classroom format [28], and especially the weak points of distance asynchronous learning [29]. However, a high level of digital and linguistic competence in any learning environment can improve the process of forming the valeological competence, because teaching valeological disciplines [30–32] is based on the use of digital platforms for distance learning, which facilitate holding web-conferences, making online surveys, watching video materials, working with Ukrainian and English professional terminology in terms of compiling an appropriate glossary, etc.

There are various definitions of the competencies under our study. It is clear that to a certain extent the selection of training methods and correct definition of their essence both the methods forming these competences and the effectiveness of the outcomes of their forming depends on the correct understanding of their essence. We regard the health-saving competence (or the valeological competence) as the ability to lead a healthy lifestyle, practice safe behavior patterns and provide emergency aid in critical situations [33]. Taking into account the fact that the list Ukrainian higher education standards contains a number of health care issues [35], we believe that the valeological competence is mandatory for the graduate of any university in Ukraine. The term “valeological competence” is more typical of scientific-pedagogical literature, whereas in educational standards and other regulatory legal acts of Ukraine, the notion “health-saving competence” is used. The translation of this concept into English also adds variability to the issue of trying to unify this phenomenon (*health saving, health protection, health preserving*) [11; 13; 24; 35]. Health-saving competence is often considered in combination with the ecological competence, and as a component of

“ecological-valeological culture” [36; 37]. The spectrum of the concepts of “linguistic culture” and “digital culture” is also broader than the one of the corresponding competencies [38–40]. But the very concept of culture of the university graduate, which must be formed in the course of his/her academic training, raises fewer questions than the list of competencies that must be formed in accordance with education standards. Regardless of whether we are talking about general-, professional-, or corporate culture, its three components – digital, linguistic and valeological ones – look like intuitively understandable parts of a single whole.

A number of interdisciplinary studies on health education also suggest that, ultimately, competence must become a part of the general and professional culture. However, unlike research in the linguistic and digital fields [41], there is still no unified understanding of the content of the valeological competence [13]. So, for example, the concept of multilingualism in Ukrainian scientific space gradually changed to “bilingualism”, and after that to the “linguistic competence”. Speeding up a similar process of the valeological competence crystallization can be gained through the evaluation of its effectiveness by following the model of assessing the efficiency of forming linguistic and digital competences in accordance with the criteria adopted not only in the EU, but also throughout the world (*Table*): as for foreign languages – according to the standards of the Common European Framework of Reference (CEFR) [43] and in terms of digital capabilities [44, p. 87] there are 6 levels of competence mastery (A1, A2, B1, B2, C1, and C2).

The levels of valeological competence formation are suggested to be determined in accordance with Bloom’s taxonomy [44; 45]. It reflects the ability of the individual with formed competences to solve professional and everyday problems at six levels, namely “to remember”, “to understand”, “to apply”, “to analyze”, “to evaluate”, and “to create”. It should be mentioned the important common feature of this scale and the ones of the formation levels of linguistic and digital competences, lies in integration of each previous

*Table. Levels of forming linguistic and digital competences according to the EU standards*

Competence	Level of competence formation					
	A1	A2	B1	B2	C1	C2
Linguistic, CEFR	Beginner	Elementary	Intermediate	Upper-Intermediate	Advanced	Proficiency
Digital	Newcomer	Explorer	Integrator	Expert	Leader	Pioneer

level in each subsequent one. Another common feature is the definition of the minimum required level in accordance with the conditions for further application of the competence. In view of this, for instance, in some countries, a foreign language proficiency at the C1 level is the minimum required one for admission to a PhD postgraduate course, and B2 – for admission to a master’s degree program. Similarly, it is suggested that it is acceptable to achieve the valeological competence formation at the levels of “to analyze” and “to evaluate” for bachelors, and “to create” – for master’s degree students.

We have also detected the following regularity: forming any special competence within distance learning format is impossible without a formed digital competence, and is less effective without a sufficient level of linguistic competence formation. In course of studying valeological disciplines, due to working in a digital environment and completing tasks on creating a glossary of professional terms, digital and linguistic competences are being formed in parallel.

#### Conclusions

Thus, digital and linguistic competences are necessary for forming valeological competence

within studying valeological disciplines at the universities of Ukraine. Forming valeological competence is the duty of any university to comply with the requirements of educational standards. Digital, linguistic and valeological competences mutually and synergistically affect each other in the course of studying valeological disciplines, and are also an important part of the professional and general culture of the university graduate.

#### DECLARATIONS:

##### Disclosure Statement

The authors have no potential conflicts of interest to disclosure, including specific financial interests, relationships, and/or affiliations relevant to the subject matter or materials included.

##### Data Transparency

The data can be requested from the authors.

##### Statement of Ethics

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