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DIGITAL-MEDIA COMPETENCY OF PRE-SERVICE TEACHERS: ESSENCE, STRUCTURE AND REGULARITIES OF DEVELOPMENT

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Abstract. *The article analyses the problem of the integrated development of digital competences and media literacy in pre-service teacher education from the standpoint of pedagogical theory. Interpretations of the concepts of digital competence, digital literacy, media literacy and media and information literacy are compared, and three approaches to their relationship are identified.*

On this basis, the author proposes a definition of the pre-service teacher's digital-media competency and substantiates its motivational-value, cognitive, activity-technological, critical-analytical and reflexive-ethical components, as well as the integrating property of "pedagogical transfer", that is, readiness to develop these qualities in pupils.

Four pedagogical regularities of the development of digital-media competency are theoretically substantiated: dependence on professional context, mutual conditioning of the activity-technological and critical-analytical components, reflexive mediation, and dependence on socio-cultural context.

Keywords: *digital competence, media literacy, digital-media competency, pre-service teacher, competence-based approach, pedagogical regularity, DigCompEdu, pedagogical transfer.*

Annotatsiya. *Maqolada bo'lajak o'qituvchilarni tayyorlashda raqamli kompetensiyalar va mediasavodxonlikni yaxlit rivojlantirish muammosi pedagogika nazariyasi nuqtai nazaridan tahlil qilingan. Tushunchalarning ilmiy talqinlari qiyosiy o'rganilib, ularning nisbati bo'yicha uchta yondashuv ajratilgan.*

"Bo'lajak o'qituvchining raqamli-media kompetentligi" tushunchasining mualliflik ta'rifi berilib, uning besh komponenti hamda ularni birlashtiruvchi "pedagogik ko'chirish" xususiyati asoslangan, rivojlanishining to'rtta pedagogik qonuniyati ochib berilgan.

Kalit so'zlar: *raqamli kompetensiya, mediasavodxonlik, raqamli-media kompetentlik, bo'lajak o'qituvchi, pedagogik qonuniyat, pedagogik ko'chirish.*

Аннотация. *В статье с позиций теории педагогики анализируется проблема целостного развития цифровых компетенций и медиаграмотности будущих учителей.*

Сопоставлены трактовки понятий, выделены три подхода к их соотношению.

Предложено авторское определение цифровой медиакомпетентности будущего учителя, обоснованы пять её компонентов и интегрирующее свойство «педагогического переноса», раскрыты четыре педагогические закономерности её развития.

Ключевые слова: *цифровая компетенция, медиаграмотность, цифровая медиакомпетентность, будущий учитель, педагогическая закономерность, педагогический перенос.*

Introduction

In the context of digital transformation, teachers are expected not only to use digital tools but also to understand the source, purpose and mechanisms of influence of information, and to teach pupils to evaluate information critically. The European Union recognises digital competence as one of the eight key competences for lifelong learning, and its 2018 Recommendation explicitly includes media literacy within it [1]. UNESCO recommends media and information literacy as an integral part of teacher education programmes [2]. In Uzbekistan, the "Digital Uzbekistan – 2030" strategy sets the tasks of digitalising education and raising the digital literacy of the population [3].

At the same time, research literature tends to study digital competence and media literacy separately: the former mainly from a technological-didactic perspective, the latter from a critical-cultural one. The theoretical foundations, structure and regularities of their development as an integrated quality of the pre-service teacher remain insufficiently explored. The aim of this article is to clarify the relationship between these concepts, to define the pre-service teacher's digital-media competency, and to substantiate theoretically its structure and the regularities of its development.

Methods

The study employed comparative analysis of concepts, systematisation and generalisation of scholarly sources, systemic and competence-based approaches, and theoretical modelling. The analysis covered the European Commission's DigComp and DigCompEdu frameworks [4; 5], research on teachers' professional digital competence [6; 7], cognitive, critical-pedagogical and semiotic theories of media literacy [8; 9; 10], and the theoretical foundations of the competence-based approach [11; 12]. Activity theory and cultural-historical theory served as the methodological basis for identifying regularities [13; 14].

Results and discussion

Relationship between the concepts. P.Gilster, who introduced the term "digital literacy", emphasised that its essence lies not in technical skills but in the ability to critically evaluate information obtained from diverse sources [15]. Later, digital competence came to be interpreted as a multi-layered structure combining knowledge, skills and attitudes [16; 4]. According to the widely cited definition, media literacy is the ability to access, analyse, evaluate and communicate messages in a variety of forms [17].

The analysis allowed three approaches to the relationship between these concepts to be distinguished. In the first, media literacy is treated as a component of digital competence (DigComp, the EU Recommendation) [1]. In the second, conversely, digital literacy is seen as part of the broader media and information literacy (UNESCO) [2]. Proponents of the third approach regard them as equal and complementary qualities [18]. In our view, the third approach is the most appropriate for teacher education. Digital competence mainly answers the question "how to do it?", while media literacy answers the question "why and for whom?". A deficit in either limits the effect of the other: a technically skilled but media-illiterate teacher may use unreliable or manipulative resources.

Author's definition. On the basis of this analysis, we define the **pre-service teacher's digital-media competency** as an integrative professional and personal quality expressing the pre-service teacher's readiness, based on knowledge of digital technologies and media, professional motivation and values, to use digital tools for pedagogical purposes, to critically analyse and create information and media texts, to reflect on his or her own activity and act ethically and responsibly in the digital environment, and to develop these qualities in pupils.

Following I.A.Zimnyaya, who distinguishes competence as a set of requirements in a given field from competency as the degree to which a person has mastered them [11], we use "digital competences" to denote the requirements for the pre-service teacher and "digital-media competency" to denote the degree of their mastery.

Structure of components. Each element of the definition corresponds to a specific component (Table 1).

Table 1

Components of the pre-service teacher's digital-media competency

Component	Content	Element of the definition
Motivational-value	Professional need for digital and media activity; acceptance of information culture as a professional value	Professional motivation and values
Cognitive	Knowledge of digital educational technologies, media language and mechanisms of influence, information security and copyright	Knowledge of digital technologies and media
Activity-technological	Selecting, creating and adapting digital educational resources; organising online learning; digital assessment	Using digital tools for pedagogical purposes
Critical-analytical	Decoding media texts; verifying source reliability; detecting mis- and disinformation	Critical analysis and creation of information and media texts
Reflexive-ethical	Analysing one's own digital activity; observing digital ethics and safety norms	Reflection and ethical, responsible action

The final element of the definition – readiness to develop these qualities in pupils – is not singled out as a separate component. It is a system-forming property that directs all components towards professional goals; we call it "pedagogical transfer". Unlike a citizen's digital competence, a teacher's professional digital competence includes awareness of its impact on learners' digital formation [6]. DigCompEdu likewise defines facilitating learners' information and media literacy as a separate area of teacher competence [5]. Pedagogical transfer should therefore be assessed as a separate indicator within each component: for example, the ability to explain knowledge to pupils within the cognitive component, or to design a media analysis task for pupils within the critical-analytical component.

Regularities of development. In pedagogy, a regularity expresses an objective, recurrent and essential connection between pedagogical phenomena [19]. Theoretical analysis made it possible to identify the following regularities of the development of digital-media competency.

Dependence on professional context. The more closely digital activity is linked to professional tasks, the more fully the acquired skills transfer to professional practice. According to A.N.Leontiev's activity theory, an operation becomes a conscious action only when it is linked to the person's motive [13]; the context-specific nature of professional digital competence has also been confirmed empirically [7].

Mutual conditioning of components. Growth in the ability to use digital tools does not by itself lead to growth in the ability to evaluate information critically. The scientific refutation of the "digital natives" thesis [20] and studies showing students' weak skills in evaluating online sources [21] confirm this. Hence, the activity-technological and critical-analytical components must be developed together within a single activity.

Reflexive mediation. Digital and media experience becomes competency only when it is made conscious through reflection. According to W.J.Potter, most media messages are processed automatically [8]; reflection ensures the shift from automatic consumption to conscious analysis.

Dependence on socio-cultural context. Media literacy is inseparable from a society's linguistic environment, information space and values. Therefore, the development of digital-media competency is more effective when it draws on materials of the national media environment and national pedagogical values. A.V.Fedorov stressed the need to take the national cultural context into account when adopting foreign media education models [22].

The identified regularities result from theoretical generalisation and have the status of scientific hypotheses. Their validity will be tested in subsequent experimental work, in particular through analysis of the relationships between the components.

Conclusion

The analysis leads to the following conclusions. First, in teacher education, digital competences and media literacy should be developed in an integrated way as equal and complementary qualities. Second, their integration is expressed in the concept of the pre-service teacher's digital-media competency; its five components and the integrating property of pedagogical transfer provide the basis for defining assessment criteria. Third, the development of digital-media competency depends on professional context, on the mutual conditioning of its components, on reflexive mediation and on socio-cultural context. These regularities provide a theoretical basis for designing the psychological and pedagogical conditions and the pedagogical model of pre-service teacher education.

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