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METHODOLOGICAL APPROACHES TO DEVELOPING UNIVERSITY STUDENTS' DIGITAL COMMUNICATIVE COMPETENCE BASED ON EMOTIONAL INTELLIGENCE

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Abstract. This article substantiates a set of methodological approaches to developing university students' digital communicative competence through emotional intelligence within social science and humanities courses. The study focuses on the design phase of design-based research and integrates pedagogical modelling, constructive alignment of learning outcomes, instructional activities and assessment, and the mapping of empirically identified risk factors associated with problematic online behaviour to appropriate instructional techniques.

Based on this framework, four design principles were derived, and five complementary methodological approaches were specified: case-based analysis of authentic online situations, emotional-reflective training, prebunking through serious games, peer-led learning, and project-based digital content creation.

For each approach, the target competence component, core instructional techniques and assessment tools are defined. An eight-session instructional module and a four-level assessment rubric are also presented.

The proposed instructional design is theoretically grounded but has not yet undergone empirical testing. Accordingly, the conditions for its subsequent experimental validation are outlined.

Keywords: digital communicative competence, emotional intelligence, teaching methodology, case-based learning, prebunking, peer-led learning, constructive alignment, higher education.

Annotatsiya. Ushbu maqolada ijtimoiy-gumanitar fanlarni o'qitish jarayonida universitet talabalarining raqamli kommunikativ kompetensiyasini emotsional intellekt asosida rivojlantirishga qaratilgan metodologik yondashuvlar majmui ilmiy jihatdan asoslab berilgan. Tadqiqot loyihalashga asoslangan tadqiqot (design-based research) metodologiyasining loyihalash bosqichiga yo'naltirilgan bo'lib, pedagogik modellashirish, ta'lim natijalari, o'quv faoliyati va baholashning konstruktiv muvofiqligini ta'minlash, shuningdek, onlayn muhitdagi muammoli xulq-atvor bilan bog'liq empirik jihatdan aniqlangan xavf omillarini tegishli ta'lim metodlari bilan bog'lashni o'z ichiga oladi.

Mazkur metodologik asosda to'rtta loyihalash tamoyili ishlab chiqilgan hamda bir-birini to'ldiruvchi beshta metodologik yondashuv belgilangan: real onlayn vaziyatlarni keyslar asosida tahlil qilish, emotsional-refleksiv trening, jiddiy o'yinlar (serious games) orqali noto'g'ri axborot ta'siriga oldindan tayyorlash (prebunking), tengdoshlar ishtirokida o'qitish va loyiha asosida raqamli kontent yaratish.

Har bir yondashuv uchun rivojlantirilishi ko'zda tutilgan kompetensiya komponenti, asosiy pedagogik usullar va baholash vositalari aniqlangan. Shuningdek, sakkiz mashg'ulotdan iborat o'quv moduli hamda to'rt darajali baholash rubrikasi taqdim etilgan.

Taklif etilgan ta'lim modeli nazariy jihatdan asoslangan bo'lsa-da, hozircha empirik sinovdan o'tkazilmagan. Shu sababli uni keyinchalik eksperimental tekshirish shartlari belgilab berilgan.

Kalit so'zlar: raqamli kommunikativ kompetensiya, emotsional intellekt, o'qitish metodikasi, keyslar asosida o'qitish, prebunking, tengdoshlar ishtirokida o'qitish, konstruktiv muvofiqlik, oliy ta'lim.

Аннотация. В статье научно обосновывается комплекс методологических подходов к развитию цифровой коммуникативной компетентности студентов университетов на основе эмоционального интеллекта в процессе изучения социально-гуманитарных дисциплин. Исследование сосредоточено на этапе проектирования в рамках методологии исследования, основанного на проектировании (design-based research), и объединяет педагогическое моделирование, конструктивное согласование результатов обучения, учебной деятельности и оценивания, а также соотнесение эмпирически выявленных факторов риска проблемного поведения в онлайн-среде с соответствующими педагогическими методами.

На основе данной методологической модели сформулированы четыре принципа проектирования и определены

пять взаимодополняющих методологических подходов: анализ реальных ситуаций онлайн-взаимодействия на основе кейсов, эмоционально-рефлексивный тренинг, предварительная подготовка к противодействию дезинформации (пребанкинг, prebunking) посредством обучающих игр (serious games), обучение при участии сверстников и проектная деятельность по созданию цифрового контента.

Для каждого подхода определены целевой компонент компетентности, основные педагогические приёмы и инструменты оценивания. Кроме того, представлены учебный модуль, включающий восемь занятий, и четырёхуровневая оценочная рубрика.

Предложенная образовательная модель имеет теоретическое обоснование, однако пока не прошла эмпирическую проверку. В связи с этим определены условия её последующей экспериментальной апробации.

Ключевые слова: цифровая коммуникативная компетентность, эмоциональный интеллект, методика преподавания, кейс-метод, пребанкинг (prebunking), обучение при участии сверстников, конструктивное согласование, высшее образование.

INTRODUCTION

University students today conduct a substantial proportion of their interpersonal communication online, where they develop many of their practices of expressing opinions, engaging in disagreements, providing support and interacting with others. Consequently, digital environments have become an important context for the development of communicative behaviour alongside formal educational settings.

Our previous research demonstrated that internet communication influences young people's self-esteem, emotional well-being and social behaviour in different ways. While it can encourage social engagement and self-expression, it may also be associated with increased anxiety and challenges related to responsible online conduct [7]. International research provides similar evidence and identifies emotional intelligence (EI) as an important factor associated with patterns of social media use. In particular, lower levels of EI and difficulties in emotional regulation have consistently been associated with problematic social media use [12, 18].

The aim of this article is to substantiate methodological approaches to developing university students' digital communicative competence based on emotional intelligence.

In this study, digital communicative competence is understood as an integrated personal quality comprising motivational-axiological, cognitive, emotional-reflective and activity-based components. This competence enables students to communicate purposefully and ethically in digital environments while recognising and taking into account their own emotions and those of others.

The article addresses two research questions: which design principles should guide the development of such a methodology, and which pedagogical approaches and instructional techniques correspond to each component of digital communicative competence?

LITERATURE REVIEW

Research on the social consequences of online communication has traditionally been structured around two contrasting hypotheses. According to the displacement hypothesis, time spent communicating online may replace face-to-face interaction, potentially affecting interpersonal relationships and psychological well-being. By contrast, the stimulation hypothesis suggests that online communication frequently occurs between existing friends and may therefore contribute to strengthening social relationships.

In their examination of both hypotheses among adolescents, Valkenburg and Peter found evidence supporting the stimulation hypothesis, particularly among participants who communicated online primarily with existing friends [16]. This context-dependent finding has important pedagogical implications, as it suggests that the effects of digital communication are influenced not only by the frequency or duration of online engagement but also by the nature of interactions and the individuals involved.

Our previous analysis reached a similar conclusion, identifying internet communication as a factor that can both facilitate development and present challenges in the socialisation of young people [7].

At the policy level, the European Digital Competence Framework for Citizens (DigComp 2.2) identifies communication and collaboration as a distinct area of digital competence, encompassing netiquette, digital identity management and the protection of well-being [19]. However, the framework primarily specifies expected behaviours rather than the emotional mechanisms through which these behaviours are developed.

Evidence concerning the organisation of relevant educational interventions is derived predominantly from school-based programmes. In a meta-analysis of 213 social and emotional learning (SEL) programmes,

Durlak et al. identified improvements in social and emotional skills, behaviour and academic achievement. The effectiveness of these programmes was associated with sequenced, active, focused and explicit instruction [3].

Similarly, RULER, a skills-based SEL approach, demonstrated improvements in the emotional climate of classrooms in a cluster-randomised trial involving 62 schools [13].

Educational programmes specifically addressing online behaviour have also demonstrated positive outcomes. In Finnish schools implementing the KiVa programme, pupils reported lower levels of cybervictimisation than those in the control groups [19]. The Spanish ConRed programme contributed to reductions in cyberbullying and cyber-dependence in a quasi-experimental study involving 893 students [10]. Meanwhile, the Italian NoTrap! programme demonstrated the potential of trained peer educators to support improvements in online behaviour [11].

Research on media literacy interventions has reported an average effect size of $d = 0.37$, with larger effects associated with interventions comprising more sessions and smaller effects associated with those incorporating a greater number of components [6]. In addition, psychological inoculation delivered through serious games has been shown to increase resistance to online misinformation [14].

Taken together, the reviewed literature supports three principal conclusions. First, the effects of online communication are context-dependent rather than uniform. Second, emotional intelligence is associated with greater resilience to problematic online behaviour. Third, emotional competencies can be developed through structured educational interventions.

Nevertheless, two areas require further methodological development. First, most evaluated educational programmes focus on school-age learners, while research on emotional intelligence training and digital behaviour has largely developed along separate lines. Second, the existing literature provides more extensive evidence concerning the effectiveness of educational interventions than practical guidance on the specific instructional techniques that university teachers can integrate into regular academic courses.

To the best of our knowledge, research addressing this methodological dimension within the context of higher education in Uzbekistan remains limited. The present study therefore seeks to address this gap by substantiating methodological approaches to developing university students' digital communicative competence based on emotional intelligence.

RESEARCH METHODOLOGY

The present study focuses on the initial design phase of design-based research, during which an educational intervention is developed on the basis of theoretical foundations and existing empirical evidence before undergoing testing and refinement in authentic educational settings [17].

Three methodological approaches were employed. First, pedagogical modelling was used to define the structure of digital communicative competence and establish the sequence of instructional activities. Second, constructive alignment, as conceptualised by Biggs, was applied to ensure consistency between intended learning outcomes, instructional activities and assessment tasks for each competence component [1].

Third, risk-factor mapping was employed to identify instructional priorities. Empirically established correlates of problematic social media use, including difficulties in goal-directed behaviour, limited access to emotion regulation strategies and challenges in impulse control [18], were identified as areas for pedagogical development and matched with instructional techniques supported by evidence of effectiveness.

The theoretical framework draws on the ability model of emotional intelligence (EI), which conceptualises the perception, use, understanding and management of emotions as skills that can be developed through learning [2]. It also incorporates the process model of emotion regulation [4], experiential learning theory [8] and the concept of reflective practice [15].

Evidence concerning the effectiveness of instructional approaches was drawn from meta-analyses of social and emotional learning (SEL) and media literacy interventions [3, 6], as well as from previously evaluated educational programmes [10-11, 13].

Artificial intelligence tools were used for approximately 10% of the research preparation process.

ANALYSIS AND RESULTS

The analysis identified four fundamental principles underpinning the proposed methodology.

First, explicit instruction. Emotional skills relevant to digital communication should be clearly identified, demonstrated and practised. This principle reflects the sequenced, active, focused and explicit (SAFE) characteristics associated with effective social and emotional learning programmes [3].

Second, instructional depth rather than excessive breadth. Given that media literacy interventions comprising more sessions tend to demonstrate larger effects, whereas interventions incorporating more components tend to demonstrate smaller effects [6], the proposed methodology focuses on a limited number of complementary approaches implemented throughout a complete instructional module.

Third, authenticity. Learning activities should be based on realistic online communication situations familiar to university students rather than exclusively on abstract behavioural rules.

Fourth, the social dimension of learning. Peer interaction and the emotional climate of the learning group should be used as resources for developing communicative competence, consistent with the approaches employed in the RULER and NoTrap! programmes [11, 13].

Based on these principles, five complementary methodological approaches were identified.

The case-based approach involves analysing anonymised situations drawn from social networking platforms and messaging applications. Examples include an escalating disagreement in a comment thread, an online post that inaccurately represents a fellow student, or a group conversation in which one participant experiences social exclusion.

Students examine the emotions of the individuals involved, anticipate potential consequences and formulate alternative communicative responses. This approach is intended to develop the cognitive and emotional-reflective components of digital communicative competence and is informed by traditions of problem-based learning [5] (Table 1).

Table 1
Methodological approaches, target components and assessment¹

Approach	Main component	Core techniques	Assessment
Case-based analysis	Cognitive; emotional-reflexive	Analysis of authentic online conflicts; role mapping of participants' emotions; drafting alternative responses	Case solution graded by rubric
Emotional-reflexive training	Emotional-reflexive	Labelling emotions in text messages; "pause before posting"; reappraisal of provocative comments	Emln questionnaire [17]; self-report diary
Prebunking through serious games	Cognitive; motivational-axiological	Playing a misinformation game, then debriefing on manipulation techniques	Recognition test of manipulative posts
Peer-led learning	Activity-based; motivational-axiological	Trained student facilitators lead small-group discussions of online dilemmas	Observation checklist; peer feedback
Project-based content creation	Activity-based	Groups produce constructive content for a real audience	Product evaluation; group reflection

Emotional-reflective training focuses on developing students' ability to regulate their emotions during digital communication. Text-based interactions lack non-verbal cues, such as facial expressions and tone of voice, which may increase the likelihood of misinterpreting others' intentions.

Students practise recognising emotions expressed in sample messages, identifying and describing their own emotional responses using precise emotional vocabulary, and applying the "pause before posting" technique. This technique encourages students to interrupt an impulsive response and creates an opportunity for cognitive reappraisal, which Gross identifies as a more adaptive emotion regulation strategy than expressive suppression [4].

The approach directly addresses difficulties associated with impulse control and emotion regulation that have been identified among individuals exhibiting problematic patterns of social media use [18].

The prebunking approach is grounded in the theory of psychological inoculation. In the browser-based game examined by Roozenbeek and van der Linden, participants assume the role of creators of misleading information. By actively engaging with simplified forms of manipulation techniques, they develop a greater ability to recognise such strategies [14].

Within the proposed methodology, the game is followed by a structured reflective discussion in which students identify the emotions exploited by different manipulation techniques, including fear, outrage and the desire for group belonging.

The peer-led learning approach adapts the principles of the NoTrap! programme to the university learning environment. A small group of student volunteers receives preliminary training and subsequently facilitates

¹ Author's development

peer discussions. This approach is intended to enhance the credibility and relevance of educational messages among fellow students [11].

Finally, the project-based digital content creation approach requires student groups to develop a short awareness campaign, a podcast episode or a series of social media posts addressing an authentic challenge associated with online communication. Through these activities, students are provided with opportunities to demonstrate their digital communicative competence in practical contexts [8].

The five methodological approaches are integrated into an eight-session instructional module that can be incorporated into university courses such as Social Psychology, Psychology of Communication or Sociology.

The instructional sequence progresses from initial diagnosis and awareness-raising to guided skills practice and, subsequently, independent application. This progression is consistent with Kolb's experiential learning cycle, which comprises concrete experience, reflective observation, abstract conceptualisation and active experimentation [8] (Table 2).

Table 2

Structure of the instructional module²

Session	Topic	Leading approach and activities
1	Diagnosis and my "digital portrait"	Pre-test; one-week online activity diary assigned
2	Emotions in text-based communication	Emotional-reflexive training: labelling and decoding messages
3	Conflict in comment threads	Case-based analysis; drafting alternative responses
4	Manipulation and misinformation	Prebunking game with debriefing
5	Bystanders and cyberbullying	Peer-led group discussion of dilemmas
6	Regulating impulses online	"Pause before posting" practice; reappraisal exercises
7–8	Creating constructive content; reflection	Project presentation; portfolio; post-test

A four-level assessment rubric was developed to evaluate students' digital communicative competence. At the initial level, students interpret online communication situations primarily from their own perspective and tend to respond impulsively. At the basic level, students recognise the emotions of other participants but demonstrate limited ability to apply this understanding in their communicative behaviour. At the productive level, students consistently select constructive communicative responses in familiar online situations. At the creative level, students transfer these strategies to unfamiliar contexts and support others in applying them effectively.

Students' competence levels are determined by combining questionnaire scores with expert assessments of case-based solutions and project outcomes.

The proposed methodological approaches are not individually novel; rather, their contribution lies in their systematic integration and alignment. Each approach is associated with a specific component of digital communicative competence and a corresponding risk factor. Furthermore, the instructional module is deliberately limited to five complementary approaches to maintain an appropriate balance between instructional duration and content coverage, consistent with findings from research on media literacy interventions [6].

This structure makes the methodology compatible with the practical requirements of university teaching, where digital communication may not constitute a separate academic course but can be addressed through a series of instructional sessions integrated into an existing discipline.

Several methodological considerations should also be acknowledged. Case-based learning may expose students to potentially harmful online content if instructional materials are not appropriately selected and anonymised. Serious games may be perceived primarily as entertainment if they are not accompanied by sufficiently structured reflective discussions. The effectiveness of psychological inoculation depends on active reflection rather than participation in gameplay alone [14].

Similarly, peer-led learning requires the careful selection and preparation of student facilitators, as emphasised by the developers of the NoTrap! programme [11].

Furthermore, the effects of emotional intelligence training among university students tend to be smaller than those observed in other adult populations. This finding highlights the importance of establishing realistic expectations regarding educational outcomes and employing a combination of assessment methods. Accordingly, self-report instruments, including the Emln Emotional Intelligence Questionnaire [9] and Young's Internet Addiction Test [20], should be complemented by direct observation and expert assessment.

The principal limitation of the present study is that the proposed methodology has, to date, been

² Author's development

substantiated at the theoretical level and has not yet undergone empirical validation.

Its effectiveness is planned to be evaluated through a one-semester quasi-experimental study involving experimental and control groups. The evaluation will employ the proposed four-level assessment rubric, Pearson's chi-square χ^2 test to compare competence-level distributions, and Student's t-test, together with Cohen's d, to assess differences in mean scores and their effect sizes.

CONCLUSION AND RECOMMENDATIONS

Developing university students' digital communicative competence requires more than simply raising awareness of potential risks associated with online communication. The present study substantiated four fundamental instructional design principles: explicit instruction, instructional depth rather than excessive breadth, authenticity, and the social dimension of learning.

Based on these principles, five complementary methodological approaches were identified: case-based analysis, emotional-reflective training, prebunking through serious games, peer-led learning, and project-based digital content creation.

These approaches, systematically aligned with the components of digital communicative competence, relevant risk factors and assessment tools, constitute an eight-session instructional module that can be integrated into social science and humanities courses.

Based on the theoretical findings, the following recommendations are proposed:

1. Integrating digital communicative competence into university curricula. It is recommended that higher education institutions incorporate structured learning activities aimed at developing digital communicative competence into existing social science and humanities courses, particularly Social Psychology, Psychology of Communication and Sociology.

2. Strengthening emotional intelligence-based instructional practices. University teachers should be encouraged to apply emotional-reflective training, case-based analysis and peer-led learning to develop students' emotional awareness, self-regulation and ability to engage in constructive online communication.

3. Introducing comprehensive competence assessment. It is advisable to employ the proposed four-level assessment rubric alongside questionnaires, case-based assignments, observation and expert evaluation of student projects to assess the cognitive, emotional-reflective and behavioural dimensions of digital communicative competence.

4. Conducting experimental validation of the proposed methodology. Further research should evaluate the effectiveness of the eight-session instructional module through a quasi-experimental study involving experimental and control groups. Particular attention should be given to measuring changes in students' digital communicative competence and identifying opportunities for refining the proposed instructional approaches.

The next stage of the research will therefore involve the experimental validation of the proposed methodology to determine its effectiveness and assess its potential for broader application within higher education.

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