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EUROPEAN TRANSFORMATION OF HIGHER EDUCATION IN UKRAINE – AN OPINION TRANSLATED INTO ACTION: THE CASE FOR COMPUTATIONAL LINGUISTICS AT KYIV NATIONAL LINGUISTIC UNIVERSITY

Barba non facit philosophum

Plutarch

*... we are always slow in admitting any great change
of which we do not see the intermediate steps*

Charles Darwin

Abstract

In this paper, we show how the new educational value is created and managed at Kyiv National Linguistic University taking its strategic direction towards the transformation that the higher education of Ukraine begins to undergo in its harmonization with that of Europe, in the face of the grand challenges and in response to the grand changes that are now revamping Ukraine and the world.

We seek to add an interpretive depth to the concept of transformation by particularizing that this must necessarily be a change in the content, rather than merely a change in the form, which generally is the case with metamorphoses, when it is an input to the content that causes the form to change. To this end, we document the onset and the stage-by-stage development of an academic course in Computational Linguistics that in its evolution migrated from the periphery to the core of the educational program it is part of, creating a sustainable European educational culture in the educational space of the University.

We give a comprehensive account of our concerted educational action in launching the course, and unpack our understanding of how exactly the course contributes to the professional and personal transformation of its students, on the one hand, and to the big transformation of higher education in Ukraine, on the other. We show that our action was informed by our educational praxis with which we continuously engaged in making the artifacts constitutive of the culture: the educational materials that we developed, and the pedagogical and psychological choices that we made when tailoring particular learning experiences for the students. All these in a tandem form our educational practice that we in this paper specify as one endowed with a European spirit. This practice is the input that we prove was transformative throughout the educational change.

The course in Computational Linguistics at Kyiv National Linguistic University ensures the quality of higher education according to European standards, contributing to the national repute and internationalization of the University.

Keywords: Computational Linguistics, educational change, educational culture, educational praxis, European transformation, Kyiv National Linguistic University.

Анотація

У статті показано, як у Київському національному лінгвістичному університеті створюється нова освітня цінність відповідно до стратегічної настанови гармонізації українського та європейського освітніх просторів, що їй на державному рівні надано закладам вищої освіти України в контексті великої трансформації національної освіти.

Автори статті прагнуть збагатити поняття трансформації шляхом його розтлумачення термінах метаморфози як сутнісної зміни, яка відбувається насамперед у змісті освіти й органічно веде за собою зміну у формі. Виходячи з такого тлумачення, автори документують ініціативу створення, початок і поступовий розвиток університетського курсу з комп'ютерної лінгвістики як приклад того, як в освітньому просторі Університету спільними діями керівництва і науково-педагогічних працівників було створено міцну й динамічну академічну культуру, надихнену найкращими практиками європейської вищої освіти. Курс схарактеризовано як такий, що сприяє як особистісній та професійній трансформації студентів Університету, так і ствердженню трансформації вищої освіти України сучасної доби. Розкрито значення в запровадженні курсу авторських навчальних матеріалів й обраних психолого-педагогічних підходів, які сукупно постали рушієм бажаних сутнісних змін.

Курс комп'ютерної лінгвістики сприяє забезпеченню Київським національним лінгвістичним університетом традицій якості відповідно до стандартів європейської вищої освіти, досягненню Університетом його стратегічної мети та є однією з реалізацій місії та візії Київського національного лінгвістичного університету як унікального мультилінгвального академічного середовища в системі вищої освіти України.

Ключові слова: європейська трансформація, зміна в змісті освіти, освітня культура, освітня практика, Київський національний лінгвістичний університет, комп'ютерна лінгвістика.

1. Introduction

This paper comes into a fundamental agreement with the strategic direction given to Ukrainian educational institutions by the Ministry of Education and Science of Ukraine towards harmonizing the Ukrainian and European systems of education (Освіта 4.0: Український світанок, 2022), and showcases the way this direction has so far been taken by Kyiv National Linguistic University (hereinafter referred to as KNLU).

Kyiv National Linguistic University is an institution of higher education in Ukraine and a renowned trailblazer in foreign linguistics, translation, and foreign language education nationwide, which informs this paper with a discussion of harmonizing the Ukrainian and European systems of higher education in the first place. "Education 4.0: Ukrainian Sunrise" (2022) is, according to its authors, the program of big transformation, and it is the concept of transformation that we **aim** to particularize and elaborate upon in this paper, our educational praxis making up the **methodology** and the **material** for this research.

We see **university education as transformation**, i.e. our student experiences an intrinsic, essential change in the acts and processes of acquiring the professional knowledge and skills we teach, with the understanding that this develops the capability of the student's mind preparing them intellectually for life and for the profession, and we now find **university education in transformation**, i.e. university education in Ukraine with its underlying assumptions, espoused values, and artifacts¹ is experiencing an essential change when navigating its transition to those of higher education in the European Union, with the understanding that national education in Ukraine is currently at the forefront of both the COVID-19 post-pandemic and the war, which has introduced a number of non-negotiables in the ways Ukrainian educators now work, lining up physical and mental well-being, workplace optionality, and, notably, an urge for doing a meaningful, purposeful work, contributing to the common good (Васько, 2023).

¹ For the three levels of an organizational culture, see (Schein & Schein, 2016).

Culture and communication, trust and collaboration have become critical. Educational leadership, naturally, has changed, too, transforming into an inspirational resilience of its kind:

“In the complex and uncertain environment of a sustained, evolving crisis, the most robust organizations will not be those that simply have plans in place but those that have continuous sensing and response capabilities. [...] that can coordinate and adapt as events unfold, reacting immediately and appropriately to disruptions such as lapses in communication and losses of physical and human resources. Many leaders think crisis management is not their job. But creating organizations that are strong in the face of uncertainty requires a new mind-set – and that must be driven from the top down” (Nohria, 2020; see also Avelino et al., 2019; Howard-Grenville, 2021; Rauch & Ansari, 2022; Sekiguchi & De Cuyper, 2023).

On that, both educational leaders and educators in Ukraine need to respond to the profound effects of the two crises in combination, and also must get usefully equipped with the necessary frames, concepts, and practices in order to be able to “restore and develop Ukrainian education on its way to European integration” (Міністерство освіти і науки України, 2022; hereinafter, translations from Ukrainian into English are ours).

2. Literature review

2.1 The change in the higher education of Ukraine as a transformation and a metamorphosis

While the point we make of university education as transformation pertains largely to a personal change in a student becoming a professional, the transformation experienced by Ukrainian university education *per se* is **an organizational change** whose loci, by definition, “cut across the four domains of personal, interpersonal, organizational, and systems-level transformation” (Pak, & Ravitch, 2021, pp. 10–11). For educational leaders whose task is to manage this sort of change, this means transforming themselves, transforming educators, transforming organizations (in view of transforming organizational cultures), and ultimately transforming systems (Freire, 1970; Kemmis, 2010; Schein, & Schein, 2016), which we believe is a nested change and a conscious, self-aware action, and interaction, on the part of both the educational leaders who drive this change and the educators who fuel it.

A grand educational change is invariably “situated at the intersection of theory, practice, and reflection, with the core of the transformational work happening in a space of practice” (Pak, & Ravitch, 2021, pp. 139–140). As Schein & Schein (2016, p. 17) show, the practice of an organizational culture emerges primarily as artifacts understood as behaviors, processes, and products found in this organization. **Educational practice** is shaped by the curricula that educators develop for their courses of study, by the pedagogical choices that educators make when facilitating their sessions, and by the learning experiences that educators tailor for their students. Theory, practice, and reflection in their continual cycle come to be the **praxis** with which educators engage towards creating a particular **educational culture** in their **educational space**. Praxis is an **educational action** directed at what is to be transformed, and a reflection on this action (Freire, 1970; Pak, & Ravitch, 2021).

In this paper, we aim to add an interpretive depth to the concept of transformation by specifying the European transformation of university education in Ukraine in terms of a

metamorphosis as we are of the opinion that Ukrainian education now seeks an essential change, i.e. a change in its essence. We believe that transformation and metamorphosis as concepts with the *is-a* relationship to change highlight two very close but at the same time distinct aspects in the complex nature of the change that needs to effectively take place in the higher education of Ukraine.

Drawing on insights from Vakhovska & Jusuk (2021), we hold that **the word transformation** means that a content goes beyond and is carried across its different forms, with the focus, etymologically, on changing the forms, which is definitional: in this change, one form is replaced by another form but the content remains the same, at least its propensity to change is not in the focus: “[T]his rationale to connect two points is salient in *a transatlantic flight from Europe to North America* in which the midway remains hidden and is secondary in relation to the starting and ending points” (*ibid.*, p. 65). The propensity to change that a content intrinsically has is highlighted by **the word metamorphosis** with a focus on the midway change that the content undergoes while between its different forms: “[M]etamorphosis is when the input causes the form to change” (*ibid.*). If a content metamorphoses, it undergoes, or is capable of undergoing, an inner change. Now, does European integration require that higher education in Ukraine change its form or, rather, its content? The question is rhetorical, though.

We in this paper certainly do not intend a biologically precise reference to metamorphoses but value the impact that their understanding has historically had sustaining the ideas of evolution of life, and it is an evolution that we sympathetically envisage, and responsibly enact, for Ukrainian higher education in its development. “Education 4.0: Ukrainian Sunrise” (2022), as stated by the authors, “exactly corresponds to the spirit and content of the global vision of the development of education that was voiced at the World Economic Forum in 2022” (Міністерство освіти і науки України, 2022). Vakhovska & Jusuk (2021) and Vakhovska (2022) point up the quality of the spirit as that of the content, and indeed whereas *the spirit of a form* is rather counterintuitive, the wording, *the spirit of a content* makes the requisite sense as a spirit conventionally is inside the entity that is endowed with this spirit, making the essence of this entity. In this light, Ukrainian educators must (be able to) capture **the spirit of European educational practices** into the artifacts that they create, i.e. into the behaviors, processes, and products such as curricula and educational materials, which will bring the European educational culture into the Ukrainian educational space(s).

In our view, the ability of this kind is a prerogative of educators with a robust awareness of **the European educational culture** that they come to develop through exposure to this culture, with the understanding that this exposure must be one of a sufficient breadth and of an absolute depth (see Crowne, 2013). Indeed, the quantity and quality of cultural exposure matter as these will inform the educational action and the ensuing reflection (cf. Kemmis, 2010) completing the continual cycle of educational praxis. Yet, we understand that the wording *European educational culture* might appear open to speculation as an educator will only be exposed to the educational culture(s) of distinct European countries: while possible worlds are many, one cannot be everywhere in them simultaneously. The “donors” of good educational practices will naturally vary, and the educator’s awareness must accommodate this variety, too. We also understand that in the best cases the educator’s cultural exposure will broaden and deepen through time, with the educator arriving as a result at an eclecticism of European practices available for educational action and reflection in their cycles.

Reflection in the educational praxis requires that educational leaders and educators be **intellectuals**, which we insist is their role and function in the society: not simply

talkers, but intellectuals (Antonio Gramsci as cited in Schwarzmantel, 2015, pp. 68–96) who act, organize, and help build the society articulating through the language of educational culture “certain modes of thought, and certain ways of posing and resolving questions involving the entire subsequent development of national life” (*ibid.*). Although we do not explicitly ascribe a supremacy to either theory or practice and treat these rather as a synthesis, we will not fail to emphasize in this paper that now Ukrainian higher education critically needs practitioners capable of reflecting on their practice for which theory is just a lens through which to look at. In the evolution of biological life, first there emerges a function, and only then there develops an organ to fulfill this function. Once educators whose educational action is their proper work – and, certainly, the focus of their reflection – start acting towards their function, the requisite educational culture will emanate.

Seeing the change in Ukrainian higher education as a metamorphosis holds a **unique promise** for recognizing duly the identity of this distinct national education through its transformation. A metamorphosis is when a change in the content induces a change in the form, not vice versa: “[I]t is a many-stage change, and each stage is of equal significance. Indeed, the larval stage in insects, for example, cannot be ruled out from the lifecycle as a non-life in contrast to the adult stage; both are the life of an organism that preserves its identity throughout all of the stages” (Vakhovska, & Jusuk, 2021, p. 65). This corresponds to our vision of the change that must occur in Ukrainian higher education because of the spirit of good educational practices that educators will effectively enact, which will be an inner change, but not because of the names for these practices that educators will borrow, which will be an outer change – the one of no effect for the point we want to make in this paper. It is the spirit of the content that must not be lost throughout the change.

We believe there also needs to be an understanding that on the evolutionary view the European integration is not a vanishing point but a **development stage** for the educational culture of Ukraine whose uniqueness and singularity, just as those of any other national educational culture, add humanistic value globally and must by all means be preserved. One must not hit the proverbial paradoxes expecting that the higher education of Ukraine be reduced to that of Germany, Poland, Latvia, Estonia, etc.², and even less so – that Ukrainian higher education become abstractly European³. One must rather work towards **Ukrainian higher education with an added value**, and it is this value that is European, which we think is the crux in harmonizing the educational cultures.

Culture as an imperative of human evolutionary survival is the one stabilizing mechanism for human societies in their humanistic development (Markarian, 1998). We emphasize the important role that in this development belongs to national **educational cultures** (Ваховська, 2022; Vakhovska, & Isaienko, 2021) and to the good **traditions** by which these cultures are historically sustained at the core: educational actions in the cycles of praxis are not only morally-committed but also oriented at and informed by traditions in the field, which gives meaning to educational practice *per se* (Kemmis, 2010). We set out to define educational culture in terms of **communication**. Communication we believe is not in simply talking with each other but in acting together towards a common objective and a shared purpose, which we make the case in this paper in particular. We have translated our opinion into our joint educational action, and it is this action that we document in what follows.

² The proverb we intend here is *To lose the forest for the trees*.

³ The proverb we intend here is *To throw the baby out with the bathwater*.

2.2. Quality higher education ensured at Kyiv National Linguistic University as a tradition and in time of changes

Digital transformation, creativity and innovation, globalization, diversity and inclusion, new ethics, aging population, the COVID-19 pandemic and post-pandemic, wars, and mass-migration are among the grand challenges that nowadays bring about grand changes globally (Rigotti et al., 2021; Hanelt et al., 2021; Post et al., 2021; Contractor, 2022). These in particular need to be holistically taken up by Ukrainian educational leaders and educators (Освіта 4.0: Український світанок, 2022) who traditionally find themselves at the vanguard of societal change. We believe this can effectively be achieved by action only, and it is an educational action, but not a managerial position *per se*, that we identify with and define as educational leadership⁴.

Tackling challenges and changes of this kind is drawn up as a priority for **the strategic development of KNLU** as of 2021. The mission of the University – to act as a unique multilingual academic environment in Ukraine – capitalizes in particular on **educational programs** that guarantee to students the quality of higher education in the major areas of foreign linguistics, translation, and foreign language education. The educational programs and their components accommodate fundamentals and new arrivals in the fields, and also respond to the societal changes ensuring that professional knowledge and skills be delivered to students in a quality way irrespective of the circumstances and influences that are external to their learning.

The first sentence of this section in the paper cites challenges of different nature. As we come to accentuate university education as the personal and professional transformation of a student, we in this paper focus for the most part on the grand challenges whose nature pertains to **human intelligence in the digital age**: this in particular is weakening of the human intellect in the face of an unprecedented civilizational crisis (Ваховська, 2022), with artificial intelligence now being a major threat to humanity (Narayan et al., 2023). We as educators locate this problem not in the difficulties of assessment that generative artificial intelligence has brought to the education domain with regard to academic fraud, but in the gross debilitating effect that artificially intelligent technologies, or, rather, their massive mis- and overuse, have on the intellectual capacity of the human mind:

“The Internet has come to substitute real life with illusions and idleness; this is **idleness of the intellect**. A veneer of reality has been brought in the place of systems of human survival. Human intellect must break the evolutionary deadlock it has found itself in” (Vakhovska, & Jusuk, 2021, p. 67; emphasis added).

In the virtual space of modern social communication, a connection to reality is only optional and may altogether be absent (Васько, 2013), which we believe fuels the now-notorious **crisis of the experts** (see Gee, & Hayes, 2011) and must be cured by education as “the means by which men and women deal critically with reality and discover how to participate in the transformation of their world” (Jane Thompson drawing on Paulo Freire as cited in Mayo, 1999). Higher education today remains an important, if not the only, social institution whose primary function is to cultivate and nurture the human intellect, aligning this crucial function with the transfer of professional knowledge and skills.

Digital transformation has entirely changed the world, society, education, and the labor market: “[C]learly, the thing that’s transforming is not technology, but it’s technology that’s transforming you” (Ross, 2020). Digital transformation now continues to redefine

⁴ Cf. Donald H. McGannon’s statement “Leadership is an action, not a position” as cited in Krueger & Foster, 2008.

employment either differentiating or commoditizing individuals in the matter of their **expertise**. While technology has become a potent enabler, **human talent** does remain the key differentiator: high-end skills and capabilities hit up superior opportunities of career growth, win premium prices, and are nowadays the central value point in hiring (Future of Work, 2022). It is human talent and expertise that bring **innovation and creativity** into the world: these, as yet, can be aided or, at best, simulated by artificial intelligence but the moments of truth still come exclusively from humans. The global talent economy trends have naturally been accommodated by the Ukrainian labor market: one of the examples relevant for the purposes of our paper is the growing number of employers in the search for translators who in their work do not routinely rely on the technologies of machine translation and thus do not compromise on the quality, which certainly calls for our action as we are the professionals who now educate the future linguists, language educators, and translators for Ukraine and the world, with the understanding that this is **a fluid world** that has brought changes to the whole paradigms of higher education.

KNLU aims to create a solid basis for engagement with its stakeholders: both students and their prospective employers, – for which the educational programs that we curate become the building blocks. Our task, as we see it, is to equip our students with the requisite professional knowledge, or the hard skills, and to simultaneously boost their intelligence and soft skills thus **forming our students into self-reliant professionals and personalities** who make the differentiated, not the commoditized – and, importantly, into **intellectuals** as part of Ukrainian meritocratic elite. We therefore commit ourselves to a practical education developing our students' individual capabilities rather than calibrating the students' academic results in terms of grades: “Non scholae, sed vitae discimus”, as the words of ancient wisdom go. Our concern rests with preparing our students for life and life-long learning, making them competitive in the modern labor market – are the abler our students are, the safer the safer they are in the eye of the sweeping technological unemployment that we believe will only enlarge in its range and scope.

The educational action we have taken at KNLU towards creating a new professional linguistic education to enable our students as professionals and personalities in the digital age is documented below.

3. Results and discussion

3.1. Computational Linguistics at Kyiv National Linguistic University as a response to educational changes

The academic course “Modern Information Technologies in the Profession of a Linguist” that we choose to showcase in this paper integrates as a component into **the educational program “The English Language and Literature, a Second Foreign Language, Translation”** (2023). The Program was drawn up in 2019 and, in response to the grand societal and educational changes of nowadays, has come to reinforce in its continuous development **the applied aspects of linguistics** of which Computational Linguistics is now major-league.

3.2. Artifacts made for Computational Linguistics at Kyiv National Linguistic University: the educational materials

The course “Modern Information Technologies in the Profession of a Linguist” was introduced into the Program in the I semester 2021-2022 as an elective at the Chair of

English Philology and Philosophy of Language of the Department of Germanic Philology and Translation of KNLU and has already been taught for 4 semesters sustaining the Strategy for the development of the University with its stated goals, priorities, and prospects in **education and research**. The course gives professional linguistic knowledge pertaining to the computation of natural language(s), and accommodates fundamentals and latest advances in the field of Computational Linguistics. It is taught to first-year Bachelor students of the Department of Germanic Philology and Translation, the Department of Romance Philology and Translation, and the Philological Department of Educational Technologies of KNLU. The total number of students who have taken the course so far is 367; these have been the students of the specialities 035 Philology and 014 Secondary Education.

The course syllabus (2023) was designed and originally created in 2020 and has now been annually updated to include the key theoretical concepts of **Computational Linguistics**, the objectives of the discipline, and some of the authoritative practical – syntactic and semantic – approaches to natural language processing. Students focus on cutting-edge applications of these approaches in the domains of machine translation; document retrieval and clustering; information extraction and summarization; sentiment analysis; chatbots and companionable dialogue agents; virtual worlds, games, and interactive fiction; natural language user interfaces (database front-ends, inferential (knowledge-based) question answering, and voice-based web services and assistants); collaborative problem solvers and intelligent tutors; and language-enabled robots, – and look at Computational Linguistics both diachronically and synchronically, with a view on its traditions, the state of the art, and also on its inter- and cross-disciplinary embeddings when computational linguists come to work across the scholarly domains of **Cognitive Science** and **Artificial Intelligence**.

The course resonates really strongly with the German **educational concept of Bildung** and in its actuality is an attempt to implement the philosophy and principles of European Bildung in the realities of Ukrainian higher education. Bildung originated in Germany and historically has helped a number of European countries to go through their major structural, economic, and technological changes. Now, when globalization and digital technologies are transforming human societies again, Bildung is extensively used “to approach human development and meaning-making in times of great change” (Andersen, & Björkman, 2017). Bildung has resulted into a **European kind of education**, where everybody’s potential matters and must be developed and honed.

Bildung, as defined by W. von Humboldt who pioneered it, is the development of the relationship between the self and the world (cited from Stolzenberg, & Ulrichs, 2010), with the understanding that this self and this world are formative one for the other. The self acts towards self-creation and self-development and is never passive in the transformation. The purpose of education is to kindle the urge for knowledge and, notably, self-knowledge in students, which will bring about both their intellectual and moral development (Miyamoto, 2021). W. von Humboldt not only theorized Bildung but also practised it in his work as an educator and practically implemented it in his educational reforms, which we think is important as we in this paper enunciate the value of informed educational action in the first place.

Bildung lays great emphasis on a scientific engagement of both educators and students in the academic context of a university. The central principles of Bildung are **the academic integrity** that must be internalized and mastered by individuals in the process of their intellectual and moral development, and **the academic freedom** that the individuals must have an opportunity to enjoy in their university teaching and learning (Stolzenberg, & Ulrichs, 2010). Academic integrity and freedom are complementary and mutually supportive: we believe their interplay must effectively bring it home to students that academic fraud first and foremost does harm to the fraudsters as it robs them of the fruit

of self-development that could otherwise be reaped by intellectual work. If it comes, for example, to ChatGPT-based fraud that is now notoriously gaining momentum in education, our appeal to students, and a sincere bewilderment, is: Why train artificial neural networks, if one shouldn't waste a single opportunity to train the neural connections inside one's own – natural – brain?..

The virtues of academic *Bildung*, as we have first-person experienced these, are accentuated in **the project approach to teaching and learning** that we adopted into teaching the course in Computational Linguistics at KNLU. On that, we use authentic scholarly papers on subject-related topics to engage our students into teams, with each team working on a particular paper and making a joint presentation based on this paper during one seminar. The presentations are then delivered and discussed in class, which is teacher-facilitated and aimed to boost a combination of hard and soft skills in students. This invites the students to their independent research, introduces them to a real-world academic writing, and in effect and action cultivates academic integrity and academic freedom among the students, including them into the corporate culture of the University with its traditions and values.

The course design includes our authorial **handbooks of Computational Linguistics** published in 2023 at KNLU: “Basics of Computational Linguistics” (Ваховська, 2023a) and “Applications of Computational Linguistics” (Ваховська, 2023b) are intended to support students in their learning, and also to substantiate the new curriculum and the part that we take in the task of creating a new professional linguistic education for Ukraine. These are handbooks of selected readings and hand-crafted activities for the focused intellectual pursuit.

Each unit in the handbooks takes up a distinct topic and is designed as a heuristic toolkit: by choosing from and combining the different tools that the unit offers, the teacher can at their own discretion construct particular learning experiences in the different formats of university education. The handbooks include assorted **thematic tasks** of varying degrees of complexity, as in academic groups there are students with various backgrounds and skills; diverse **project assignments** that invite dialogue and creativity and roll the topic out along its logical lines; and tasks for **independent work** intended to engage the students with self-education and ways to acquire healthy habits of the mind and brain, *sensu* Plato who saw upbringing as acquisition of good habits in humans. All these activities impart **professional knowledge** adding to the students' linguistic expertise, and form a continuum of learning where one has an opportunity to master their hard, digital, and soft skills. As Computational Linguistics is a dynamic field given to the constant and rapid technological change, the handbooks prepare to play the long game and are open-source, in the sense that they have the foundation but also make it possible for both the teacher and the students to continuously update the educational materials bringing the new emergences of the field into the class.

The thematic tasks expand the students' intellectual horizon, boosting their **general intelligence** together with the capabilities of systematic, critical, and analytical thinking. The project assignments teach a whole range of essential **soft skills**, these being self-organization, time-management, planning, and responsibility; empathy and interpersonal communication for negotiation, cooperation, and teamwork; agility of the mind, adaptivity to change, resilience, change- and conflict-management; flexible and independent thinking, (co-)creativity and creative problem-solving, associative thinking, attention to details, and curiosity; project-management, public speaking, etc., – and ultimately boost **emotional intelligence** in students. It is in project work that the **scientific engagement** of students occurs as they participate in academic discussions, practice academic freedoms in reference to academic integrity, do some open science, get tangible, hands-on experience of academic writing, and, most importantly, build the conceptual foundation for their own competent

research. The independent work motivates towards self-knowledge, **self-development**, and **life-long learning**, and also includes a range of practical activities that promote **professional orientation** in students along with an awareness of opportunities of professional self-realization and employability in the modern Ukrainian and international labor markets.

Though in the handbooks we pertinently cite the works by both Ukrainian and international scholars, our priority remains given to the educational culture of Ukraine, with an emphasis on harmoniously shaping our students' **cultural cognition**, contributing to the tide of Ukrainian national life and to its future: "Be the one who learns from others, and also be the one who doesn't shun what is one's own", as Taras Shevchenko timelessly puts it (Шевченко, 1845). The new professional education for Ukraine we believe must be developed on the grounds of robust **humanistic values**, with social responsibility and respect to human dignity being among the ground rules. On that, we include into the handbooks our authorial translations of selected professional literature from English into Ukrainian, in our response to the need that Ukrainian universities now report for modern educational materials written in, and translated into, the Ukrainian language. We pay tribute to the Ukrainian people who were the pioneers and to the Ukrainian companies that were the trailblazers in the area of Computational Linguistics in Ukraine and in the world, and are now continuing to drive the whole industries. We give special attention to, and base our project assignments exclusively on, papers written by scholars who come from the major research-intensive universities of Ukraine, KNLU included, and from the country's leading scientific institutions.

In the II semester 2022-2023, due to the traction that the course from the onset has been enjoying with KNLU students, and also due to the favor and recommendation from the Industry Expert Council that it has received upon **the Program's accreditation** (Акредитація, 2023) by the National Agency for Higher Education Quality Assurance, the course is now re-designed as "**Introduction to Computational Linguistics**" taught as a compulsory component of the Program to third-year Bachelor students of the speciality 035 Philology at the Department of Germanic Philology and Translation of KNLU. This way, the course has evolved, migrating in its evolution from the periphery of the Program to its material core.

The course will have undergone an essential change until its launch in the I semester 2023-2024, with this change shaping **the new syllabus** and the new educational materials for the course in the now-updated curriculum. While "Modern Information Technologies in the Profession of a Linguist" is a course in Ukrainian, "Introduction to Computational Linguistics" will be taught in English, which is the students' major foreign language. This will broaden the scope of the scientific inquiry we engage our students in, allowing us to use authentic scholarly papers written in English as the *lingua franca* of modern science, which positively holds the promise to contribute further to the transformation when the Ukrainian and European systems of university education are now being harmonized.

The engagement of this kind will introduce our students to **the world's research in Computational Linguistics**, and will also boost their foreign language competence, giving a better command of the English language as now their learning will in effect integrate the content and the language. The students will acquire and learn to be able to articulate the concepts of their education and research in English, gaining entry to the international scientific community of which European students, educators, and scholars are part. This sides with the traditions and values of KNLU as the biggest center of foreign linguistics, translation, and foreign language education in Ukraine and the national-scale hub of the multilingual community, and also synchronizes with the strategies of multilingual education that are now being developed for Ukrainian universities, with regards to the status that **the English language** is gaining at the state level.

In view of this, we are now setting out to write in English a **handbook “Introduction to Computational Linguistics”** in order to substantiate the new syllabus for the course. The handbook will accommodate the change, and also, as we treat this change as a transformation and a metamorphosis, will inherit from its predecessors the goodness of capturing the spirit of European educational practices.

3.3. Artifacts made for Computational Linguistics at Kyiv National Linguistic University: the pedagogical and psychological choices

Our handbooks of Computational Linguistics are aimed at students of foreign linguistics, foreign language education, and translation, and our sincere hope is that the handbooks usefully equip the educators who teach these as a profession across the universities of Ukraine. The handbooks are therefore aimed equally at our colleagues who teach engineering disciplines to students of humanities, basing their teaching on the **interactive, action-oriented & learner-centered approaches** that the handbooks we believe have the virtue to enable. We identify ourselves with researchers and educators who think integratively, and act accordingly, and with our handbooks we address our like-minded colleagues who choose to realize themselves as **mentors, coaches, and facilitators** rather than teachers of the subject alone.

Educators by their pedagogical choices, that must invariably be psychologically informed, shape particular learning environments, and it is from these environments that students derive their learning experiences (Pak, & Ravitch, 2021). We thus intend our handbooks as no more than a raw material that needs to be enliven with the help of **facilitation tools**, with the understanding that different tools of facilitation will enliven the material differently, producing peculiar learning experiences suited to distinct academic environments. Our preferred tools in the facilitation repertoire are good questions, reflective conversations, (micro-)discussions, circles, cooperative inquiries, gathering ideas, paraphrasing and mirroring, stacking, metaphors and garlands of associations, mind maps and presentations that work particularly well in the flipped classroom, take-home messages, and the feedback and feedforward technique. We use these in a seamless tandem to create a **participatory educational space** for our students, supporting the **horizontal group dynamics** therein. We share the belief stated by Orlova (Орлова, 2020) that students learn better when they have the right to be themselves, when they take the responsibility for their learning upon themselves, when they feel physically and psychologically safe, when they are engaged in actions and in peer-interactions, when they see themselves and are seen by others as good students, and, vitally, when in their learning they are reinforced by acceptance, positive emotions, and by natural curiosity.

As our course happened to be introduced amid the COVID-19 pandemic, it was taught **offline** only for a few weeks, giving way to the large-scale distant education that has gone on up to nowadays. The project approach, augmented by the tools of facilitation, has lived up to our vision of the course and proven to work very well **online**. We made it our job then to transfer the power and the lure of human connections from offline to online, making digital platforms our partners in teaching. We think that technologies are secondary, and give the highest priority to humans and to the humane, for which the dialogue and the positive communication frame in education are the key.

Microsoft 365, and in particular Microsoft Teams where we keep up a channel for the course with a chat and a collection of resources uploaded by both us and our students, formed the digital substrate for the online **educational community** of students enrolled in our course, and continues to do so. This community is a student-led network that brings

together the students of different departments of KNLU who have taken the course since its launch, and aims to initiate and strengthen communications and collaborations among the students of different years of study: this way, first-year students are effectively welcomed to the student community and have an unprecedented opportunity to meaningfully connect to their seniors and peers, which we think is of particular importance given the isolation one experiences when working and studying online. At the end of semester II 2022–2023, a number of first-year students initiated their presentation of the course for the Open Doors Day at the Department of Germanic Philology and Translation where they met school leavers and applicants, shared their know-how, achievements, and practical solutions, and gave some advice, in which we rejoiced a lot as the network has proven viable, growing, and ever stabler: the students strive to connect, and we feel we have done our task giving them a good reason for this connection.

We hold that by engaging in a **dialogue**, we as educators and the students we work with are forming a peculiar educational culture that makes our educational space distinct, turning it into an attractor toward which the student community as a dynamic system tends to evolve. An element of this dialogue is **satisfaction surveys** that we initiate among the students enrolled in our course at the end of each semester, and use to inform our cycles of praxis in further constructing the course. We intend the surveys as a feed for our capabilities of continuous sensing and of adequate response, rather than a source of rigorous statistics. Table 1 summarizes the results of the surveys:

Table 1

**“Modern Information Technologies in the Profession of a Linguist”:
evaluations of the course by its students, 2021–2023**

Semester / Evaluation	Positive	Neutral	Negative
I semester 2021–2022	90	7	–
II semester 2021–2022	154	12	–
I semester 2022–2023	65	2	–
II semester 2022–2023	35	2	–
The total number of students	344 (93.7%)	23 (6.3%)	–
	367 (100%)		

The table shows that there are no negative evaluations of the course among the students enrolled in it across the different semesters of the two academic years. The reports that we deem positive are those that explicate the students’ high opinion and evaluation of the course, stating straightforwardly its merits; the neutral reports are those that either do not contain a clear and straightforward statement of such an evaluation or come from the students who had first chosen the elective out of interest but later saw that its subject matter was alien to them. The major assets of the course, according to the surveys, are professionalism, communication, inclusion, and empowerment that the students invariably report as their **formative experiences** in learning. These are the professional & academic

and the people & communication directions of the course that take one way to eventually bring the students to their better selves.

The **professional & academic** direction of the course. The course gives the students a broader, and for them often an unprecedented, view of their future profession, showing in what ways exactly they can cultivate and productively engage their expertise and talent in the ultra-modern technological world of today, with sound prospects for the future. The students for the first time come to realize that their future profession is not restricted either to a schoolroom where they are the language teachers or to an office where they are the translators, which are the popular beliefs and the students' stereotypical expectations upon graduation, but discover instead that linguistics is a vibrant field, opening them up to a wide range of opportunities for working both independently and in interdisciplinary and international teams, e.g. making educational expert systems, enabling human-computer interaction, or putting artificial intelligence to work, for which their good theoretical knowledge and a capability to practically apply this knowledge are the prerequisites. The students develop an awareness of themselves as modern linguists, and strive to contribute to making a safe and comfortable future. They reportedly get a holistic perspective on their future profession and start to see its realness.

The students report taking their pleasure in and having the benefit of the case studies that are discussed in the course; the cases of Ukrainian students' collaborations with Grammarly and of the collaborations that IBM Watson offers to international students appear most spectacular and motivating. The cases of University graduates' job placement are equally instructive as they teach proactivity and realistic (self-)expectations and probe into the labor market in Ukraine and overseas. The arrival of chatbots, for example, has made prompt management into a profession, and now the students who try this profession on are able to see what sort of linguistic work exactly, when expertly done by humans, unlocks the productivity and innovation of generative artificial intelligence.

The students report their insights from the course that machines do need to be taught by humans, when experts let computers understand what people already know, which in principle amounts to teaching *per se* and is to become the students' profession, and that programming is not the matter of doing mathematics but that of doing translation, which they as future translators now in principle master. They come to sharpen their awareness of programming languages as languages of human communication with computers, and a number of our students report getting started with extracurricular programming courses in order to get a command of this sort of communication, which certainly makes them abler and more competitive in the modern information society.

Our students like to see the connections that the course exposes to them between the different courses in their Bachelor program, e.g. Introduction to Linguistics, tying the theories they learn to a practical ground, when what is now difficult for them is explained through the functional and simple. They develop a taste for natural language semantics and reconsider the value of words as its carriers, which reinforces them in learning the courses in Lexicology, Lexicography, and Translation Studies in particular, and boosts their intelligence and interpretive thinking. The students discover the potential of the British National Corpus along with some other language corpora, and start using these. A number of students report having started their informal education based on their interests in language engineering, data analytics, machine learning, user interface design, and project management.

The course reportedly is our students' eye-opener regarding that a human skillset generally comprises hard and soft skills, and that soft skills just as much as hard skills need to be developed for a fulfilling life and for the profession; our students value a lot the project assignments that the course offers for building their self-reliance, creativity, and

capabilities of teamwork. They are motivated by the drive of their teams, and like it that the course habitually involves them in interactions with peers, bringing them friendships and acquaintances within the student community, which is reported as especially precious by the students who were finishing school during the lockdown.

The students see that what they do in their projects has an influence upon the team's performance towards the shared result. The students learn to negotiate; their conflicts, if any, are mediated either by the teacher or by the team leaders and resolved. The students like to feel included, and appreciate it that the teacher invites them to draw up the criteria for assessing their presentations together. They report that they learn a lot from the discussions and from the good presentations, in terms of both their hard and soft skills, and also from the presentations made by the teacher who reportedly acts as a role model for them. They want to adopt into their future work as educators the teacher's manner of lecturing, her sense of direction and her craft of organizing, and also to learn and to put to their work her approach and practical tools of teaching. The students say they come to be more responsible and independent in their learning; they plan and manage their time better, and grasp the concepts of self-development and life-long learning.

The students report the usefulness of working with the real-life materials that the course brings to them, e.g. with the authentic scholarly papers that they read, with Wikipedia where they are authorized to responsibly shape and curate the open knowledge for Ukraine and the world, and with the tangible instruments for information structuring and mind mapping that they get to know of and learn to use. The students enjoy discussing papers written by their teacher and the University professors as this brings them closer, introducing one to the academic life of the University. They indulge in the challenge to analyze the existing and to give their own translations of professional terminology, contributing to the expansion of the field and also getting the knack of creativity in translation. The poster conference on Artificial Intelligence and Robotics that as a single seminar closes the course invites creativity and reportedly is a non-trivial academic experience, too. On that, the students develop a respect for intellectual rights, see themselves and the others as responsible subjects exercising these rights, and practice academic integrity while being able to enjoy their academic freedoms.

The **people & communication** direction of the course. The students evaluate the communication within the course as positively stimulating them towards (self-)knowledge, (self-)respect, (self-)fulfillment, (self-)actualization, and (inter-)action: they develop an awareness of themselves as personalities, raise their self-esteem, and strive to communicate with others. The students like it that the teacher as a practitioner of the profession herself pushes them to start acting as the theories that they learn will necessarily transform when applied to the practical reality of their job. Particularly noted by the students is the teacher's sentiment that one must get their "a job" before eventually getting their "the job", which had urged a number of students to actually find and start their first jobs that they later did change to their greater satisfaction and reward. The students report their first experiences with work.ua and coursera.org, and their now-habitual use of LinkedIn.

The students state that during the course they feel included into a bigger professional community on a par; they are encouraged by the "colleagues" and the "young colleagues" as the teacher's forms of addressing them, which they pick for themselves and invariably hear as an invitation to the corporate culture of the University and to the linguistic profession where they now feel treated as peers. The International Girls in ICT Day that we traditionally celebrate with the students is reported to promote a professional self-identification in many of the female students, respecting their future work in the information and communication technologies.

The students enjoy expressing themselves in the discussions that follow their presentations, and think highly of their freedom to articulate an opinion and of the dialogue

nature in the overall organization of the course. They report that they feel the teacher believes in them, takes joy in their motivation and enthusiasm, and cares for the transformation that they experience throughout the course in terms of their skills, professional orientation, and engagement with the useful and practical things that their linguistic profession grants. The students relate that the learning process is customized to their needs and that they feel the center of it. They feel valued as individuals with their own sense of direction, and are empowered because their opinion and preferences do matter in shaping workflows and the agenda of the course. Based on their beliefs about European education, the students come to define the course as European.

The students report that the course is very carefully designed and well-organized. They always know exactly where they are in their road map, what is now expected from them, and at each step they take a meaningful message home. They say they like the teacher's prudence, goodwill, kindness, and student-friendliness, and find her mild, smooth, relaxed, and self-possessed way of communicating very appealing and restful. The course reportedly contributes to the students' psychological and mental well-being, strengthening their peace of mind and giving them regular moments of repose, which is especially noted now during the war when the students have accumulated substantial amounts of psychological fatigue. They like the teacher's good humor and the creative metaphors she comes up with; she is always ready to give and accept feedback, and prompts them to do so, too. With the overall human-centeredness of the course, the students comprehend the plurality and diversity of the human world in the digital age, and come to appreciate the uniqueness of the human brain, mind, and intelligence, understanding that these need to be nurtured with due care and devotion.

In view of the opinions and evaluations of our course expressed in the surveys, we conclude that educational *Bildung* has actually been the case throughout the students' learning, directing their professional and personal development within the educational culture constituting our educational space. As culture arranges into a harmonious whole the people and the artifacts that these people create (Markarian, 1998), educational culture certainly is no exception to this. The artifacts that the students have created to date in the framework of our course are **the chat-bot** they built for the 2023 school leavers applying to the University, **the web-site** they developed for the students of the Department of Germanic Philology and Translation of KNLU, and **the digital application** for imaginative learning of foreign words using authorial rebuses and puzzles that is now being developed by its creators as a start-up idea. These emerged as the students' initiatives in the in-class projects and teamwork, and are now the ongoing projects that substantiate the students' practical solutions in studying the course, which we believe is a strong message to each of **the stakeholders of the University** that at KNLU we educate professionals who make differentiated candidates for future employment. The chat-bot is now being integrated into the web-site, which is conceptually and organizationally supported by Prof. Yaroslava Gnezdilova, Dean of the Department and the guarantor of the Program. The projects have thus taken their next level as a fact of **the students' self-government** in action, and will continue in the academic year to come, this time supported by the senior students.

The students' artifacts emerged only now, in semester II 2022–2023, with the 4 semesters in the record of the course behind, which we believe is indicative of the critical juncture in maturation when the educational culture that we grow in our educational space has eventually matured to bear its fruit. The artifacts were created by the students themselves, which we take as a signal that now they are neither guests nor visitors to this culture but its natives.

4. Conclusions and further research

The academic course in Computational Linguistics that we showcase in this paper fits within the Strategy for the Development of Kyiv National Linguistic University in 2021-2025, bearing the priorities that the University sets for education and research.

The course is a realization of the mission of the University to act as a unique multilingual institution of higher education in Ukraine, and of the vision of the University as a competitive leader with a highly-developed corporate culture and robust opportunities for the professional and personal development of all the participants of the educational process. The course is conducive to this development as it results from and promotes professionalism and creativity, academic freedom and academic integrity, collegiality and partnership, delivering the quality of higher education in the face of the grand challenges and in response to the grand changes that are now transforming Ukraine and the world. The course builds upon the traditions and values of the University, contributes to training highly-qualified, differentiated linguists for Ukraine, fostering their integration into the global professional community, and is a potent binder for students and prospective employers as the stakeholders of the University.

The course resonates and synchronizes with the big transformation now programmed by the Ministry of Education and Science of Ukraine in view of the integration of Ukrainian science and higher education into the European educational space, with industry and education posed as counterparts. The course ensures the quality of higher education according to European standards and contributes to the national value and internationalization of the University, in a harmonious way creating a European educational culture in the educational space of the University.

The **prospect** of this paper is a discussion of the case that it presents with educators and educational leaders coming from the other Ukrainian universities, as well as with theorists and practitioners of higher education in its transitions generally.

REFERENCES

- Vasko, R.V. (2013). Linhvosemiotyka i virtualna realnist u proektsii na svit sotsialnoi komunikatsii. *Visnyk Kyivskoho natsionalnoho linhvistychnoho universytetu. Serii Filolohiia*, 16(2), 28–34.
- Vasko, R.V. (2023). Naratyvy osvitho-naukovoï polityky KNLU v umovakh voïennoho stanu ta kliuchovi aspekty yii realizatsii. In *Proceedings of the International Scholarly Conference 'Ad Orbem per Linguas: Towards the World through Languages. The Narratives of Modern Ukraine in Global Geopolitics'* (May 18-19, 2023). 5–7. Kyiv : Kyiv National Linguistic University.
- Vakhovska, O.V. (2022). Imperatyvy suchasnosti i pereklad: vid teorii perekladu do praktyky yoho universytetskoho vykladannia. In Babelyuk, O. (Ed.), *Innovative Pathway for the Development of Modern Philological Sciences in Ukraine and EU Countries. Scientific Monograph. Volume 1*, 242-267. Czestochowa : Polonia University in Czestochowa. <https://doi.org/10.30525/978-9934-26-196-1-10>
- Vakhovska, O.V. (2022, serpen 31). *Robocha prohrama navchalnoi dystsypliny "Suchasni informatsiini tekhnologii u profesiinii diialnosti filoloha"*. Kyivskyi natsionalnyi linhvistychnyi universytet. Fakultet hermanskoi filolohii i perekladu. Kafedra anhliiskoi filolohii i filosofii movy. https://eng.phil.knlu.edu.ua/wp-content/uploads/2023/01/%D0%A0%D0%9F_%D0%A1%D1%83%D1%87%D0%B0%D1%81%D0%BD%D1%96-%D1%96%D0%BD%D1%84%D0%BE%D1%80%D0%BC%D0%B0%D1%86%D1%96%

- D0%B9%D0%BD%D1%96-%D1%82%D0%B5%D1%85%D0%BD%D0%BE%D0%BB%D0%BE%D0%B3%D1%96%D1%97_2022-2023.pdf
- Vakhovska, O.V. (2023a). *Osnovy kompiuternoï linhvistyky. Navchalno-metodychnyi posibnyk*. Kyiv : Kyivskiy natsionalnyi linhvistychnyi universytet.
<http://rep.knlu.edu.ua/xmlui/handle/787878787/3115>
- Vakhovska, O.V. (2023b). *Prykladni aspekty kompiuternoï linhvistyky. Navchalno-metodychnyi posibnyk*. Kyiv : Kyivskiy natsionalnyi linhvistychnyi universytet.
<http://rep.knlu.edu.ua/xmlui/handle/787878787/3116>
- Kyivskiy natsionalnyi linhvistychnyi universytet. (2023, traven 22). *Osvitnia prohrama "Anhliiska mova i literatura, druha inozemna mova, pereklad"*.
<https://www.knlu.edu.ua/osvita/osvitno-profesiini-prohramy.html>
- Kyivskiy natsionalnyi linhvistychnyi universytet. (2023). Proiekt zmin do osvitnoi prohramy "Anhliiska mova i literatura, druha inozemna mova, pereklad". Skhvaleno na zasidanni proiektnoi hrupy (protokol № 3 vid 12 kvitnia 2023 r.) ta na zasidanni kafedry anhliiskoi filolohii i filosofii movy (protokol № 13 vid 12 kvitnia 2023 r.). *Akredytatsiia osvitnoi prohramy "Anhliiska mova i literatura, druha inozemna mova, pereklad", pershyi (bakalavrskiy) riven vyshchoi osvity*.
<https://www.knlu.edu.ua/universytet/akredytatsiia/spetsialnist-035-filolohiia-osvitnia-prohrama-anhliiska-mova-i-literatura-druha-inozemna-mova-pereklad-pershyi-bakalavrskiy-riven-vyshchoi-osvity.html>
- Konferentsiia trudovoho kolektyvu Kyivskoho natsionalnoho linhvistychnoho universytetu. (2021, cherven 24). *Stratehiia rozvytku Kyivskoho natsionalnoho linhvistychnoho universytetu na 2021-2025 roky*.
<https://1drv.ms/b/s!ApCbMGU-a2logeluHydUxQoWeGzFDg?e=SRol07>
- Ministerstvo osvity i nauky Ukrainy. (2022, hruden 10). *Ministr Osvity i nauky Ukrainy prezentuvav Prohramu velykoi transformatsii "Osvita 4.0: Ukrainskyi svitanok"*.
<https://mon.gov.ua/ua/news/ministr-osvity-i-nauky-ukrayini-prezentuvav-programu-velikoyi-transformaciyi-osvita-40-ukrayinskij-svitanok>
- Ministerstvo osvity i nauky Ukrainy. (2022, hruden 10). *Osvita 4.0: Ukrainskyi svitanok*.
<https://mon.gov.ua/storage/app/media/news/2022/12/10/Osvita-4.0.ukrayinskyy.svitanok.pdf>
- Orlova, N. (2020, lypen 13). *Instrumenty fasylytatsii v onlain-osviti. Materialy vebinaru*. Central European Academy of Studies and Certifications. <http://ceasc.net/>
- Shevchenko, T.H. (1845). *I mertvym, i zhyvym, i nenarozhdennym zemliakam moim v Ukraini i ne v Ukraini moie druzhnieie poslanie*. Poema-poslannia.
- Andersen, L.R., & Björkman, T. (2017). *The Nordic Secret: A European Story of Beauty and Freedom*. Fri tanke.
- Avelino, F., Wittmayer, J.M., Pel, B., Weaver, P., Dumitru, A., Haxeltine, A., Kemp, R., Jørgensen, M.S., Bauler, T., Ruijsink, S., & O’Riordan, T. (2019). Transformative Social Innovation and (Dis)Empowerment. *Technological Forecasting and Social Change*, 145, 195-206. <https://doi.org/10.1016/j.techfore.2017.05.002>.
- Contractor, F.J. (2022). The World Economy will Need Even More Globalization in the Post-Pandemic 2021 Decade. *Journal of International Business Studies*, 53(1), 156–171. <https://doi.org/10.1057/s41267-020-00394-y>
- Crowne, K.A. (2013). Cultural Exposure, Emotional Intelligence, and Cultural Intelligence: An Exploratory Study. *International Journal of Cross Cultural Management*, 13(1), 5–22. <https://doi.org/10.1177/1470595812452633>
- Freire, P. (1970). *Pedagogy of the Oppressed*. Herder and Herder.
- Future of Work. (2022, May 27). *Redefining Employment: Gig vs Talent Economy*. TC Global. <https://tcglobal.com/gig-vs-talent-economy/>

- Gee, J.P. (Ed.), & Hayes, E.R. (Ed.). (2011). *Language and Learning in the Digital Age*. London and New York : Routledge.
- Hanelt, A., Bohnsack, R., Marz, D., & Antunes Marante, C. (2021). A Systematic Review of the Literature on Digital Transformation: Insights and Implications for Strategy and Organizational Change. *Journal of Management Studies*, 58, 1159–1197. <https://doi.org/10.1111/joms.12639>
- Howard-Grenville, J. (2021). Grand Challenges, Covid-19 and the Future of Organizational Scholarship. *Journal of Management Studies*, 58, 254–258. <https://doi.org/10.1111/joms.12647>
- Kemmis, S. (2010). Research for Praxis: Knowing Doing. *Pedagogy, Culture & Society*, 18(1), 9–27. <https://doi.org/10.1080/14681360903556756>
- Krueger, G., & Foster, M.-L. (2008, April 15). *Timeless Principles*. Biggs Success. <https://biggsuccess.com/2008/04/15/leaadersip-is-action-not-position/>
- Markarian, E.S. (1998). Capacity for World Strategic Management: The Forthcoming Reform on the UN System through the Prism of Evolutionary Survival Imperatives. Yerevan : Gitutyun.
- Mayo, P. (1999). *Gramsci, Freire, and Adult Education: Possibilities for Transformative Action*. London : Zed Books.
- Miyamoto, Y. (2021). Wilhelm von Humboldt’s Bildung Theory and Educational Reform: Reconstructing Bildung as a Pedagogical Concept. *Curriculum Studies*, 54(2), 1–18. DOI: 10.1080/00220272.2021.1949750
- Narayan, J., Hu, K., Coulter, M., & Mukherjee, S. (2023, April 5). *Elon Musk and Others Urge AI Pause, Citing “Risks to Society”*. Reuters. <https://www.reuters.com/technology/musk-experts-urge-pause-training-ai-systems-that-can-outperform-gpt-4-2023-03-29/>
- Nohria, N. (2020, January 30). *What Organizations Need to Survive a Pandemic*. Harvard Business Review. <https://hbr.org/2020/01/what-organizations-need-to-survive-a-pandemic>
- Pak, K. (Ed.), & Ravitch, Sh.M. (Ed.). (2021). *Critical Leadership Praxis for Educational and Social Change*. Teachers College Press.
- Post, C., Muzio, D., Sarala, R., Wei, L., & Faems, D. (2021). Theorizing Diversity in Management Studies: New Perspectives and Future Directions. *Journal of Management Studies*, 58, 2003-2023. <https://doi.org/10.1111/joms.12779>
- Rauch, M., & Ansari, S. (2022). From ‘Publish or Perish’ to Societal Impact: Organizational Repurposing towards Responsible Innovation through Creating a Medical Platform. *Journal of Management Studies*, 59, 61–91. <https://doi.org/10.1111/joms.12737>
- Rigotti, T., Yang, L.Q., Jiang, Z., Newman, A., De Cuyper, N., & Sekiguchi, T. (2021). Work-Related Psychosocial Risk Factors and Coping Resources during the COVID-19 Crisis. *Applied Psychology*, 70(1), 3–15. <https://doi.org/10.1111/apps.12307>
- Ross, J. (2020, April 27). *2020 Digital Transformation*. MIT Corporate Relations. <https://ilp.mit.edu/watch/2020-digital-transformation-jeanne-ross>
- Schein, E.H., & Schein, P. (2016). *Organizational Culture and Leadership*. John Wiley & Sons.
- Schwarzmantel, J. (2015). *The Routledge Guidebook to Gramsci’s Prison Notebooks*. London and New York : Routledge.

- Sekiguchi, T., & De Cuyper, N. (2023). Addressing New Leadership Challenges in a Rapidly Changing World. *Applied Psychology*. <https://doi.org/10.1111/apps.12401>
- Stolzenberg, J., & Ulrichs, L.-Th. (2010). *Bildung als Kunst: Fichte, Schiller, Humboldt, Nietzsche*. Martin-Luther-Universität Halle-Wittenberg; de Gruyter.
- Vakhovska, O.V. (2022). The Sin of the Translator: On Words and Mental Images in Translation. *Amazonia Investiga*, 11(54), 178–188.
<https://doi.org/10.34069/AI/2022.54.06.17>
- Vakhovska, O.V., & Isaienko, O.M. (2021). Language, Culture, and Image-Driven Interpretations in Translation: A Case for the University Translation Classroom in Ukraine. *Amazonia Investiga*, 10(47), 240–249.
<https://doi.org/10.34069/AI/2021.47.11.25>
- Vakhovska, O.V., & Jusuk, F.F. (2021). Image-Driven Interpretations in Professional Communicative Mediation: Bringing Translation and Psychotherapy Together. *Science and Education a New Dimension. Humanities and Social Sciences*, 48(261), 63–67.
<https://doi.org/10.31174/SEND-HS2021-261IX48-11>

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