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IMPLICIT COMMUNICATIONS IN HIGHER EDUCATION PEDAGOGY

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ABSTRACT

The subject of the article is the implicit method in post-industrial education; the object of the work is implicit pedagogy in inclusive education, the purpose of the work is to raise the level of higher education in the context of the fourth industrial revolution; to achieve this goal, the following tasks are being solved: analysis of trends in the development of education in the context of the fourth industrial revolution, analysis of trends in the influence of implicit knowledge, development of methodological foundations of implicit education.; The scientific methods in this article are: philosophy and methodology of science, conceptual approach, systematic approach, historical, logical and systematic analysis, forecasting, theory of pedagogy, didactics, analytical pedagogy; the scientific novelty of the work is associated with the formation of the methodological foundations of implicit pedagogy in the context of the fourth industrial revolution.

Keywords: Education, the Fourth Industrial Revolution, Implicit Knowledge, Science, Pedagogy, Didactics, Implicit Pedagogy, Communication, Education, Efficiency

1. INTRODUCTION

The relevance of this article is determined by the need to ensure the growth of higher education in the context of the fourth industrial revolution and the formation of a new technological order.

The hypothesis of the work is the assumption that the development of the theoretical foundations of implicit education will make it possible to better understand the mechanism of its pedagogical impact, to increase the effectiveness of such pedagogy in order to increase the quality of higher education.

The problem of the work is to improve the quality of higher education through the development and more effective use of implicit pedagogy techniques.

The aim of the work is to increase the level of higher education in the context of the fourth industrial revolution.

To achieve this goal, the following tasks are being solved::

- analysis of trends in the development of education in the context of the Fourth industrial revolution,
- analysis of trends in the influence of implicit knowledge,
- development of methodological foundations of implicit education.

The object of the work is implicit pedagogy in higher professional education.

The subject of the article is the content and methodology of implicit learning.

The analysis of research methods on the issues determined by the topic is related to the study of publications on the topic of this work. This analysis allows us to identify the following research methods, reflected in scientific publications. International experts predict an unprecedented scale of changes in all spheres, including education, as a result of the fourth industrial revolution Schwab and Davis (2018), p.9. In particular, it is noted that neurotechnologies will be used in the study of human mental activity, monitoring changes, and analyzing the processes of interaction of the human brain with the outside world Schwab and Davis (2018), p.135. Russian scientists from academic circles investigate and classify implicit knowledge Tsvetkov and Sigov (2015), p.800. Teachers note that intensive innovations will occur during the fourth industrial revolution and in education Oke and Fernandes (2020), p. 31. Experts believe that there is a modernization of the management system in education, in particular in the Republic of Uzbekistan Muhabbat et al. (2023), pp. 297-306. The policy of higher distance education is changing, for example, in Sudan Onia and Rmadan (2023), pp. 59-68. Russian scientists analyze explicit and implicit concepts, methods and concepts in education Ponomareva (2015), pp. 29-34, Zhu (2024), pp. 78-87. Teachers conduct research on the principles, functions and structure of implicit education Iskanderov (2016), pp. 29-34. Staff of pedagogical universities are developing methods for assessing the level of learning and ways of thinking of students Tulkibayeva (1993), p. 2. Research and teaching staff believe that implicit pedagogy can be useful in inclusive education Glushchenko (2025), p. 16-18.

The analysis of research methods and literary sources has shown that the topic of this publication is relevant.

2. METHOD

The increasing role of the implicit method in pedagogy is determined by the growing importance of implicit knowledge. The amount of implicit knowledge increases due to the increasing complexity of systems and business processes in post-industrial conditions during the Fourth industrial revolution.

The axiom of this work is that the methods of knowledge transfer in the educational process of higher education should be adequate to the structure and content of the transferred knowledge.

At the same time, we will also take into account the fact that information is recognized as explicit (explicit), which is directly and obviously expressed by a given linguistic unit (or numbers, symbols) that do not require their transformation. Such explicit information is transmitted by the teacher to students using verbal methods during the learning process. Implicit knowledge is conveyed by non-verbal methods. This allows you to divide the entire learning process into explicit and implicit components.

A systematic analysis of a number of works on implicit pedagogy provides a basis for saying that in these works this type of pedagogy is studied without regard to the fact of the existence and growing influence of implicit knowledge [Iskanderov (2016), pp.37-40, Tulkibayeva (1993), pp.2, Glushchenko (2025), pp.16-18]. Thus, the research of implicit knowledge and implicit pedagogy were considered as two unrelated fields of research. This circumstance was highlighted in Glushchenko (2025), pp.16-18. At the same time, it was noted that the very fact of the existence of implicit knowledge Tsvetkov and Sigov (2015), p.800 may be the basis for the assumption that the methods and tools of implicit pedagogy are the most suitable (or only naturally suitable) for communication in the interests of transmitting implicit knowledge.

In this paper, the implicit method in pedagogy refers to a method of transferring explicit and implicit knowledge, which includes a set of hidden (expressed and implicitly implemented), purposeful pedagogical techniques. These methods of the teacher are aimed at the transfer of implicit knowledge, more effective organization of cognitive, educational and practical work of students in the interests of ensuring the student's unconscious assimilation of the worldview, educational content, ethical and cultural norms and values. The implicit component of pedagogy is aimed at more effective and efficient achievement of educational goals.

The implicit component of pedagogy is inextricably, systematically linked with its explicit part, complements the explicit part of education.

Additionally, it should be borne in mind that in post-industrial conditions, the importance of science and education is increasing. At the same time, we can expect an increase in the volume and influence of implicit knowledge in science. The source of this process can be called the complication of real-world objects, financial and economic activities, and the interdisciplinary nature of innovative projects. Such interdisciplinary knowledge does not belong to any of the related fields of study and cannot be expressed in terms of known fields of knowledge. For example, implicit knowledge can include knowledge about how exactly the characteristics of a certain product are transformed into the choice of buyers of this product.

Therefore, can we say that implicit (implicit) knowledge has a system-forming character in the knowledge system (the nature of communication), and explicit knowledge plays the role of elements of the knowledge system.

Implicit knowledge arises and is practically applied in the processes of aggregation (combining elements into a system) and decomposition (dividing the system into parts). For this reason, it can be argued that the level of synergy in the national innovation system depends on the effectiveness of the use of implicit knowledge. For this reason, can we assume that implicit knowledge has a decisive influence on the design processes of complex hierarchical systems. Is it therefore possible to divide implicit knowledge into intra-level and inter-level.

Can experience and its generalization (sublimation) by a person of this experience be recognized as the mechanism of accumulation of implicit knowledge in the subconscious of a person. A person with sufficient knowledge or experience can be called an expert.

The educational process can have two types of representations: a project representation, when periods of study (school, college, university, etc.) can be clearly distinguished in a person's life, and a process representation within the framework of the concept of continuing education (learning is carried out continuously from the moment of birth to death of a person). We will proceed from the fact that in the intervals of practical work, a person accumulates mostly implicit knowledge.

It can be recognized as an axiom of the educational process that in connection with the allocation of explicit and implicit knowledge:

1) The entire educational process can be divided into two subprocesses (or projects, since the student's period of study at the university is finite), namely, the transfer of explicit and implicit knowledge;
2) The perception and effectiveness of using explicit knowledge transmitted in training in practice depends on the context that implicit knowledge creates;
3) Implicit knowledge (as well as explicit knowledge) should be adequately transmitted to new generations in the implicit learning process;
4) The structure of the communication process in the transfer of implicit knowledge is close to the structure of explicit communications, which are carried out in the educational process most often in parallel;
5) In the process of communication (transmission) of implicit knowledge, a transmitter (teacher) and a receiver (student) participate, a communication channel between a teacher and a student (personal communication, Internet, telephone, etc.);
6) Implicit knowledge has its own structure and content, which can be intuitively felt by a scientific and pedagogical worker;
7) Communication between the teacher and the student in the transfer of implicit knowledge is implicit;
8) The effectiveness of implicit communications depends on the degree of coincidence of the picture of the world and the scale of values of the teacher ("transmitter") and the student ("receiver") of implicit knowledge;
9) The interpretation of implicit knowledge depends on the degree of coincidence of the picture of the world and the scale of values of the teacher ("transmitter") and the student ("receiver") of implicit knowledge, the context of the situation in communication;
10) Communication channels in education for the transfer of implicit and explicit knowledge can be: personal communication, video communication, telephone communication, etc.;
11) Non-verbal means can be used as ways and tools for transmitting implicit knowledge.: facial expression (visual channel); timbre and intonation of voice (audio channel); "body language" and others.

Implicit pedagogy and mentoring can overlap and be associated with the implicit leadership of a teacher. Such leadership can be interpreted as an expedient process of inclusive student learning implicitly organized by the teacher, taking into account the interpersonal relations between the teacher and the student within the framework of a specific form of educational activity (practical lesson, lecture, seminar, educational project, laboratory work, organizational activity, project activity game, reflection on the results of the lesson as part of a student group, etc. other) in the study group. This makes it possible to recognize the teacher as a leader, a subject of managing such an educational process.

At the same time, the techniques of implicit pedagogy can be used at various stages of the knowledge transfer session (the introductory and motivational stage of the lesson, the stage of transfer and acquisition of new knowledge by the student, the stage of consolidation and refinement of new knowledge, the organization of

memorization and repetition of the studied material, the formation of research techniques, the formation of skills and abilities of a creative nature, the creation of presentations, etc.). The system of implicit pedagogy techniques can cover the following: anchoring knowledge (a bundle of concepts) in order to create logical connections and facilitate the acquisition and memorization of new knowledge by the student; disclosure of the teacher's inner world during a pedagogical educational conversation and description of the teacher's professional experience; disclosure of the essence and content of professional and business organizational culture in the process of pedagogical conversation, generalization and description of the teacher's professional experience; joint participation of the teacher and the student in educational games and projects, etc.).

It can be assumed that, based on the results of the practical application of the methods of implicit pedagogy, the student may unconsciously adjust (rethink): fragmentary knowledge in certain subject areas; the entire interdisciplinary knowledge system of the student, etc. For example, it can be: the development of a student's worldview; replenishment of organizational culture values, etc.

University professors with extensive experience in interdisciplinary research, interdisciplinary innovation, and more have the maximum amount of implicit knowledge.

For this reason, the effectiveness of implicit pedagogy among such teachers and scientists is maximized.

3. DISCUSSION

Since explicit knowledge (elements) and implicit knowledge (connections) are part of and form a single system of knowledge, it is necessary to rely on the theory of systems and the methodology of system analysis when designing and researching a complex of educational communications. In this case, in particular, the results of the work may be useful Mesarovich et al. (1973), p.2, Glushchenko (2023), p.2.

A typical representation of a cybernetic type, called a "black box", can be recommended for modeling and studying the processes of implicit communications Glushchenko (2023), p.42. When presenting the process of implicit communications as a "black box", the researcher abstracts away, does not consider the structure of the subprocesses occurring within the communication process. In this case, the communication process can be investigated according to the "input"-"output" scheme. For example, an implicit pedagogical communicative signal is provided as an input and the signal (result) is evaluated at the output of the black box. This kind of research is well-known. For example, viewers are asked to describe the content of the actor's pantomime.

As part of this approach to research, test systems can be developed in which the results of the "exit" (student learning quality) are evaluated in connection with the incoming input, explicit and implicit impact on students, and others.

An important aspect of implicit learning can be considered minimizing the likelihood of manipulation by one side in relation to the other side of such communications. Additionally, it should be taken into account that students can manipulate the teacher using implicit methods and tools. It is possible to reduce the likelihood of manipulation, in particular, by observing the principles of inclusive education in educational practice: every teacher and student has the right to communicate; every teacher and student must be heard.; all people (teachers and students) need each other; effective education is achieved only within the

framework of real relationships; all people (teachers and students) need the support and empathy of colleagues.

4. CONCLUSION

The article examines the factors of the growth of the level of education based on increasing the effectiveness of the transfer and use of implicit knowledge in education and real activities, describes the methodological foundations of implicit learning in its systemic unity with explicit learning. The paper suggests using a model called the "black box" in cybernetics to study the mechanism of implicit education. The systemic interaction of explicit and implicit teaching methods is described. It is shown that the development of the methodology of implicit higher education can have a positive impact on the level of higher education during the fourth industrial revolution.

Further areas of research on the topic of this article may include: the use of methods and results of cognitive neuroscience for the study of implicit education; the possibility of using neurotechnologies in implicit education, and others.

CONFLICT OF INTERESTS

None.

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