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POST-NON-CLASSICAL PEDAGOGICAL RESEARCH STRATEGIES

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Abstract

The article reveals the essence of the concept "methodological strategy of pedagogical research", focuses attention on the potential of polyparadigmin pedagogical research, the alternative of scientific ideals, methodological strategies, approaches, methods, criteria for solving a specific scientific and pedagogical problem, the potential polyconceptuality – the variability of pedagogical concepts (values, educational goals), content and technologies, development scenarios and models of educational systems of the future. The hierarchy of methodological concepts (paradigm, strategy, approach) is presented, as well as the author's typology of potential strategies for post-non-classical pedagogical research, including into monodisciplinary, interdisciplinary and transdisciplinary methodological strategies, which differ in methodological guidelines, type of reflection and the "nature" of the methodological sources of research. The transdisciplinary strategy of pedagogical research implies interpretation of education as a complex multidimensional phenomenon characterized by multifactorial, non-linear development; centering on the "human dimension" of education. The implementation of the transdisciplinary methodological strategy is represented as the result of convergence of pedagogy with culture and science. Designing a methodological research strategy demands to construct a system of methodological approaches, defining a system-forming approach, and ensuring the functional complementarity of approaches. In this case the attention of the scientific community is focused on the specificity and functional complementarity of interdisciplinary, transdisciplinary, humanitarian, technological methodological strategies in the context of specific pedagogical research as an imperative of post-non-classical pedagogical science.

Keywords: Interdisciplinary, transdisciplinary, technological strategies of research.

1. Introduction

The paradigmatic space of post-non-classical pedagogy is interdisciplinary, transdisciplinary and is characterized by potential polyparadigmality – a variety of sociocultural, interdisciplinary scientific and meta-scientific data (ideals, approaches, theories, concepts) as alternative methodological foundations for solving a specifically scientific and pedagogical problem. The openness of the paradigm space, the cultural, scientific and methodological diversity create the opportunity for scientists to construct alternative (competing) methodological strategies for solving a specifically scientific and pedagogical problem, and become a factor of polyconceptuality (different conceptual visions of the educational phenomenon, scenarios for the development of education, educational systems of the future), providing multidimensionality, integrity of cognition of education.

2. Problem Statement

The attention of the scientific community is focused on different aspects of pedagogical (educational) research. Various articles are devoted to describing and analyzing specific research strategies and types of methodology: pragmatic research methodology (Clarke & Visser, 2019), photovoice methodology (Manasia, 2016), methodological triangulation (Sánchez-Gómez, Iglesias-Rodriguez, & Martin-Garcia, 2016), etc. More and more scientists advocate the interdisciplinary research methodology (Clark et al., 2017; Knewstubb & Howard, 2017).

The scientists also consider contemporary social and cultural context of the pedagogical research, analyzing the influence of digital society (Gómez Galán, 2018), and inequality in scientific research, connected with initial training, financing, research ethics and other factors (Staiculescu & Lacatus, 2017).

Mercieca and Mercieca (2013) argue for the acknowledgement of uncertainty, which is caused by the relationships, created in the research process. The authors call for acknowledging and mentoring uncertainty at every stage of the teaching and learning of method, so that it allows for more engagement with the research and researched.

However, the concepts of "research strategy" and "research paradigm", "research strategy" and "methodological approach" are not differentiated(some sources treat them as identical) in pedagogy and the methodology of pedagogy.

The dominant strategies of post-non-classical pedagogical research are not defined.

The determinants of the choice and the basis for constructing a teacher-researcher strategy for solving a scientific and pedagogical problem are not defined.

Modern specifically scientific (monodisciplinary) research is characterized by a tendency towards interdisciplinarity, transdisciplinarity, and "hybridity". At the same time, the specificity, as well as the functional capabilities of the humanitarian and technological, interdisciplinary and transdisciplinary methodological strategies of pedagogical research, as well as the relationship between strategies, heuristic possibilities of "synthesis", complementary of strategies (or their elements) are not defined.

3.   Research Questions

3.1. What are the essential features of the concept of "methodological strategy"?

3.2. What are the connections between the concepts of "research paradigm", "strategy", "approach"?

3.3. What are the functionalities of monodisciplinary, interdisciplinary, transdisciplinary, technological strategies in the context of pedagogical research?

3.4. What are the factors that determine the researcher's choice or design of the strategy for solving the scientific and pedagogical problem?

4.   Purpose of the Study

To determine the essence of the concept of "methodological strategy", priority strategies of post-non-classical pedagogical research, to justify the need for functional complementarity of methodological strategies in the context of post-non-classical pedagogical research.

5.   Research Methods

5.1. Comparative reflection of scientific texts (monographs, scientific articles) in order to determine the essential features of the concept of "methodological strategy", the distinctive features of the concepts of "paradigm", "strategy", "approach", hierarchical relationships between these concepts.

5.2. Content analysis and methodological reflection of monographs, scientific articles, doctoral and master's theses in order to determine the dominant strategies of post-non-classical pedagogical research.

6.   Findings

A number of methodologists appeal to the concept of "research strategy" (Kiyashchenko, 2009; Knyazev, 1994; Mikeshina, 2009; Moren, 2005; Stepin, 2000). Scientific revolutions are associated with paradigmatic transformations in science, including "restructuring research strategies" (Stepin, 2000). Describing modern science, scientists use the terms "multidisciplinary research fields", "interdisciplinary research", and "transdisciplinary research strategy" (Moren, 2005).

A methodological strategy is defined as a methodological norm that defines the prognostic vision of pedagogical research as an integrity, predetermines the dominant methodological tools (approaches, principles, methods, criteria) for solving a particular pedagogical problem, respectively, logic, angle (subject), value and target priorities of the study of the pedagogical object, its conceptual vision, range, type of scientific results. The specifics of the strategy is determined by the philosophical and methodological settings of the researcher. The methodological strategy is the result of methodological reflection, methodological self-determination (positioning, choice) of the researcher. The methodological strategy is mentally constructed by the scientist.

It is wrong to identify the concepts of "strategy" and "paradigm". Firstly, the principle of conceptual and terminological uniqueness is violated. Secondly, not only methodological strategies are integrated into the structure of the paradigm of pedagogical research as a methodological system, but also other

methodological norms: scientific ideals, philosophical, general and specifically scientific approaches, theories, concepts, methodological, logical, humanitarian, statistical quality criteria.

The choice of strategy depends on the cultural and scientific context, the type of research (fundamental, applied, interdisciplinary, etc.), the specifics of the problem, the object of research, the methodological ideal and style of thinking of the scientist, his value and target priorities: to understand the educational phenomenon in the context of particular cultural traditions; explain the essence, determine regular relationships, identify factors, trends, predict the most likely scenarios for the development of education, taking into account sociocultural dynamics; transform the educational system in accordance with the cultural ideals and trends of civilizational development (Rozin, 1989).

It is important to distinguish between the concepts of "methodological approach" and "methodological strategy". Some scholars see methodological strategies as "specific methodological moves and techniques" in the frames of general approach to specific methodological situations, and also focus on the potential variability and complementarity of methodological strategies in the context of a priority methodological approach (Arlamov, 2009). From our point of view, the methodological strategy in local pedagogical research sets its methodological guidelines and is specified by methodological approaches and principles. The methodological strategy is based on the integration of methodological approaches, their functional complementarity.

If education is studied in the context of culture, as a sociocultural phenomenon, as a factor in the genesis of culture, as a cultural and educational space for a person's continuous development, as a way of his spiritual being, then the researcher is clearly an adherent of the humanitarian methodological strategy and, accordingly, applies humanitarian approaches: axiological, anthropological, culturological, hermeneutic, personality-developing, competency-based, environmental, eventual, etc. However, education can be interpreted from the standpoint of the values of technoculture: education as a system, information and educational environment, technology, object of management, design, forecasting, examination. Then the researcher is an adherent of the technological methodological strategy and, accordingly, applies technocratic approaches – systemic, informational, qualitological, qualimetric, cluster, etc.

Consider the methodological strategies in a different "coordinate system". Depending on the dominant methodological guidelines (cognition of education from the perspective of science or cognition of education as a multidimensional integral cultural phenomenon), respectively, of the type of reflection (methodological, that is, "intrascientific", reflection or "external" reflection of the cultural field), we differentiate methodological strategies into mono-, interdisciplinary and transdisciplinary. Monodisciplinary and interdisciplinary methodological strategies are associated with the scientific dimension, transdisciplinary with the sociocultural dimension. Compare:

▪ methodological guidelines: the scientific dimension – "to explain the essence, identify patterns, factors and trends in the development of the pedagogical object"; sociocultural dimension – "to know the object as a whole, to understand the phenomenon in the context of different cultural traditions";

▪ the type of reflection: the scientific dimension – methodological reflection; sociocultural dimension – "external" reflection of the sociocultural context;

- the "nature" of the methodological sources of research: the scientific dimension – scientific approaches, theories, concepts; sociocultural dimension – extra-scientific socio-humanitarian knowledge (political, religious, ideological, ethnocultural and other concepts, values, traditions, imperatives).

If an educational phenomenon is considered only from the perspective of pedagogical science (through the prism of pedagogical approaches, theories, concepts), then the applicant is an adherent of a monodisciplinary methodological strategy. An interdisciplinary strategy is based on a critical extrapolation of interdisciplinary special scientific and methodological knowledge (for example, philosophical, cultural, psychological, sociological concepts, theories, concepts, approaches, methods) as an interdisciplinary source for the design of pedagogical concepts.

The specificity of the transdisciplinary strategy of pedagogical research is: the interpretation of education as a complex multidimensional cultural phenomenon characterized by multifactorial, non-linear development; centering on the "human dimension" of education; recognition of the diversity of cultural meanings of education and the installation of cognition of education as a whole; legalization of polyconceptuality; centering on solving the "cross-cutting" problems of education, refracting at the local, regional, national, transnational levels (quality, continuity, inclusiveness of education, etc.) through the complementarity of interdisciplinary and sociocultural approaches; complementarity of humanitarian and technological research strategies; triangulation of approaches and research methods; implementation of problem-oriented research programs; openness of the humanitarian expertise of innovations, etc. The implementation of the transdisciplinary methodological strategy is the result of the convergence of pedagogy with culture and science, a manifestation of the "hybridity" of pedagogical research.

Designing a methodological research strategy involves constructing a system of methodological approaches, defining a system-forming approach, and ensuring the functional complementarity of approaches. The strategy incorporates approaches that perform various functions: 1) approaches that determine the research technology (logic, principles, methods, quality criteria) – systemic, model, interdisciplinary, scientific, linguistic and pedagogical, etc .; 2) "conceptual" approaches that define the value-semantic parameters and target priorities of the author's pedagogical system in the cultural space (sociocentric, culture-centric, anthropocentric, etc.), focusing on the dominant factors, psychological and pedagogical mechanisms of the formation of certain personality groups in the target group potentialities (hermeneutic, phenomenological, subjective-active, "task-based", situational-environmental, contextually competent, cognitive-style, personality developing, dialogical, simulation and gaming, creative-design, research, etc.).; 3) approaches that specify the design technology of author's pedagogical systems – structural-functional, analytical, expert-reflective, ontodidactic, parametric, qualitological, qualimetric, cluster, etc.

The methodological imperative of designing post-non-classical pedagogical research is the complementarity of elements of interdisciplinary and transdisciplinary, humanitarian and technological methodological strategies. Methodologies focus on the trend of "crossing the natural-scientific and humanitarian approaches" in the context of a specific study (Rozin, 1989). The complementarity of methodological strategies is appropriate due to the following factors.

First, post-non-classical pedagogical studies are designed from the perspective of an integrative approach based on the integration of the natural sciences, technological, humanitarian scientific ideals.

Secondly, education is a subsystem of culture; education is associated with different cultural contexts, traditions, cultural meanings – education is multidimensional; the understanding of education as entirety, the solution of urgent pedagogical problems requires a combination of scientific and sociocultural approaches.

Thirdly, pedagogical problems that are to be solved in pedagogical research are different in level and type: methodological problems (methodological strategies and approaches to the study of the phenomenon of "continuing education"; invariant quality criteria for international scientific research); specifically scientific conceptual problems (the scientific justification of the humanitarian model of the content of higher pedagogical education), qualitological problems (quality and quality management of international pedagogical systems; high-tech systemic design of open information and educational environments), qualimetric problems ("measuring" the quality of functioning and development of author's pedagogical systems), instrumental and technological problems (scientific justification and development of technologies for personality developing methods of teaching foreign languages in elementary school), etc.

Fourth, even "the highest humanitarian level" pedagogical conceptions are just declarations if they are not developed at the technological level ("values – goals – content – technology, methodology").

Fifth, the scientific justification and development of pedagogical innovations related to the development of educational systems almost always include philosophical, methodological, conceptual, as well as ontodidactic, instrumental-technological, qualitological, qualimetric and other aspects.

7. Conclusion

The post-non-classical paradigm of pedagogical research is a methodological system open for critical reflection and reconstruction, it integrates sociocultural (cultural values and trends), specifically scientific (general and specifically scientific theories and concepts), methodological (methodological ideals, strategies, approaches, methods, criteria for the quality of research) and subjective-personal (methodological settings of the scientific communities) measurements, for which the potential polyparadigm is regular (immanent). The strategy sets methodological guidelines, a prognostic vision of the study as anentirety. Strategies are varied: monodisciplinary or interdisciplinary, transdisciplinary, humanitarian or technological. Strategies are specified in approaches and principles. The approaches are multifunctional: they predetermine the author's conceptual vision of education (understanding, interpretation, representation), for example, as a cultural phenomenon, humanitarian value, a person's spiritual life, the mechanism of his continuous development and self-development, its system, the object for control and projecting, etc., determines the technology (principles, algorithms, methods, criteria) of scientific research. In particular, a systematic approach to the object of study (educational phenomenon) is to determine its components, the backbone component, the functions of the components in the system, structure (relationships). The genetic approach assumes a retrospective, relevant and prognostic modeling of the object of study, as well as the reconstruction of the corresponding cultural context, "background" factors that determine the specifics of functioning and the vector of development of the object. For example, the technological strategy of scientific knowledge corresponds to informational, qualiological, qualimetric, normative-criterial, cluster and other approaches.

References

Arlamov, A. A. (2009). The integrity of methodological approaches in pedagogical research (universalization and the compensatory ratio). *Bulletin of the Volgograd State Pedagogical University*, *9*(43), 14-18. [in Russ.].

Clark, J., Laing, K., Leat, D., Lofthouse, R., Thomas, U., Tiplady, L., & Woolner, P. (2017). Transformation in interdisciplinary research methodology: the importance of shared experiences in landscapes of practice. *International Journal of Research & Method in Education*, *40,* 243-256. https://doi.org/10.1080/1743727X.2017.1281902

Clarke, E., & Visser, J. (2019). Pragmatic research methodology in education: possibilities and pitfalls. *International Journal of Research & Method in Education, 42,* 455-469. https://doi.org/10.1080/1743727X.2018.1524866

Gómez Galán, J. (2018). Educational Research and Teaching Strategies in the Digital Society: a critical view. In E López-Meneses (Ed.), *European Innovations in Education: Research Models and Teaching Applications* (pp. 105-119). Sevilla: AFOE.

Kiyashchenko, L. P. (2009). *The philosophy of transdisciplinarity*. Moscow: IFRAN. [in Russ.].

Knewstubb, B., & Howard, N. (2017). From model to methodology: developing an interdisciplinary methodology for exploring the learning–teaching nexus. *International Journal of Research & Method in Education, 40,* 270-287. https://doi.org/10.1080/1743727X.2017.1301914

Knyazev, E. N. (1994). *The laws of evolution and self-organization of complex systems.* Moscow: Science. [in Russ.].

Manasia, L. (2016). From Community to Individual. Re-Thinking Photovoice Methodology for Education Research. *Edu World 7th International Conference, The European Proceedings of Social &Behavioural Sciences, 55,* 450-459. https://doi.org/10.15405/epsbs.2017.05.02.55

Mercieca, D., & Mercieca, D. P. (2013). Engagement with research: acknowledging uncertainty in methodology. *International Journal of Research & Method in Education, 36,* 228-240. https://doi.org/10.1080/1743727X.2013.806470

Mikeshina, L. A. (2009). The philosophy of knowledge. Problems of the epistemology of humanitarian knowledge. Moscow: Canon +. [in Russ.].

Moren, E. (2005). *Method. Nature.* Moscow: Progress – Tradition. [in Russ.].

Rozin, V. M. (1989). *Specificity and formation of natural, technical and human sciences.* Krasnoyarsk: Publishing House of the Krasnoyarsk University. [in Russ.].

Sánchez-Gómez, M. C., Iglesias-Rodriguez, A., & Martin-Garcia, V. A. (2016). Methodological triangulation as a research strategy in educational innovation processes: case study of the b-learning methodology in the university context. *Proceedings of the Fourth International Conference on Technological Ecosystems for Enhancing Multiculturality*, 643–650. https://doi.org/10.1145/3012430.3012587

Staiculescu, C., & Lacatus, M. L. (2017). Initial Training and Inequality in Scientific Research. An Exploratory Survey. *The European Proceedings of Social & Behavioural Sciences*, *34,* 267-275. https://doi.org/10.15405/epsbs.2017.05.02.34

Stepin, V. S. (2000). *Theoretical knowledge.* Moscow: Progress – Tradition. [in Russ.]