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Systemically modelled labour pedagogy

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Abstract. The labour pedagogy has not been systemically modelled yet. This is a method based on system modelling theory, also referred to as systemology. The creator of this theory in Poland is K. Duraj-Nowakowa (1997). This work attempts to adapt this theory to labour pedagogy. This initiative is by all means justified, because there are many issues in labour pedagogy that are already systemically modelled. Some of the examples are: Labour Pedagogy in the System of Sciences, Including Pedagogy and Labour Sciences; Classifications of Occupations and Specializations; Polish Classification of Occupations; Education as a Criterion for Modelling Labour Pedagogy.

Pedagogika pracy modelowana systemowo

Słowa kluczowe: system, systemologia, model, Klasyfikacje Zawodów i Specjalności, Polska Klasyfikacja Działalności, pedagogika pracy w systemach nauk pedagogicznych i nauk o pracy

Streszczenie. Pedagogika pracy nie doczekała się modelowania systemowego, zwanego teorią modelowania systemowego, określaną również mianem systemologii. Twórczynią tej teorii w Polsce jest Krystyna Duraj-Nowakowa (1997). Niniejszy tekst podejmuje próbę adaptacji tej teorii do pedagogiki pracy. Podjęta inicjatywa jest ze wszech miar zasadna, bowiem w pedagogice pracy występuje wiele zagadnień, które już są wymodelowane systemowo. Ich przykłady to np. pedagogika pracy w systemie nauk, w tym pedagogicznych i nauk o pracy; Klasyfikacje Zawodów i Specjalności; Polska Klasyfikacja Działalności; edukacja jako kryterium modelowania pedagogiki pracy.

Introduction

The aim of this article is to present the author's views related to **the theory of systemic modelling**, also referred to as **systemology,** the creator of which in Poland is Krystyna Duraj-Nowakowa. This pedagogical sub-discipline of **work pedagogy** can be an area of systemically modelled pedagogical knowledge, which this paper tries to show.

The notion of system is taken as the starting point of system modelling. For example, Jerzy Apanowicz defines a system as a coordinated arrangement of elements or a set forming a certain whole conditioned by a constant, logical ordering of its component parts (2005, p. 114). On the other hand, a **model** is an ambiguous concept, but for the purposes of labour research methods it can be understood as "an example, an ideal, an object to be imitated" (Encyclopaedia, 1998, p. 146, vol. 6), through its faithful reproduction. From the perspective of work pedagogy, for example, the work product performed is supposed to perfectly reflect the idea of the model we want to obtain in the work process, making it at the same time the result of the work. The above approach to the term "model" is useful for labour pedagogues, which are interested in reproducing in the production process the model as a product according to the standard, performing activities according to the adopted model plan of action, as well as launching the workplace or its upgrading according to the assumed model described by the documentation (Baraniak, 2009; Mreła, 1978).

The approximation of the concepts of "system" and "model", very brief due to the possible volume of the article, authorises the presentation of selected examples of systemic modelling of labour pedagogy.

Examples of systemic modelling of work pedagogy

The first such example is the studies – above all by Zygmunt Wiatrowski – on the place of labour pedagogy in the systems of pedagogical sciences and sciences of labour, and which show the science as a system of knowledge. According to the thesis of K. Duraj-Nowakowa, the theory of systemic modelling requires first "systemic, that is comprehensive cognition, and then analyses, comments, descriptions. Only following these, can attempts be made at fruitful applications, which would be characterised by the properties required by system methodology (1997, p. 7)". Given the interdisciplinary character of work

pedagogy, the content of this subdiscipline has its references in a multiplicity of sciences, which researchers call related or auxiliary sciences – as proposed by Z. Wiatrowski. The above-described model – 30 years after it was designed – was subsequently extended. Thanks to the realisation of the international project "Pro-environmentally oriented vocational counselling"[1], its consequence was the introduction of *environmental pedagogy* into the complex of *pedagogical* sciences. The revised model of work pedagogy aims to include pro-environmental content in contemporary work research issues (Baraniak, 2008; Baraniak, 2016), as well as in new important work contexts expressed by vocational and personal counselling.

Another example of a systematic solution present in labour pedagogy is the Polish Classification of Activities (PKD), which shows the division of economy in sectional terms, marked with capital letters and distinguishing 21 of them. In the current PKD system, sections are the first level, marked with a one-letter symbol, dividing the general collective of the economy into the mentioned 21 types of activity, systematized according to activities illustrating the traditionally shaped, general division of work. The second level is a division denoted by a two-digit numerical code, which divides the general collectivity into 88 groupings of activities, comprising activities according to characteristics that are essential – both when determining the degree of similarity and when considering the linkages occurring in the national economy (e.g. in input-output tables). This level is closely linked with level three, the so-called grouping denoted by a three-digit numerical code. It comprises 272 groupings of activities which can be distinguished from the point of view of the production process, the purpose of production or the nature of the service or the nature of the recipient of these services. The Polish Classification of Activities shows the structure of the economy and plays an important role in the design of occupations and jobs in the economy, as well as preparing, through education, for a person's professional career.

Another example is the Classification of Occupations and Specialities (KZiS). It is a basic document used by educators, including labour educators, as well as specialists in other sciences. It reflects the nature of the professional activity (work performed) and qualification levels. The latter – along with qualification

[1] Project ‚Pro-environmentally oriented vocational counselling' implemented at the Faculty of Pedagogical Sciences of Cardinal Stefan Wyszynski University in Warsaw in 2014-2016, financed from the Norwegian funds, led by dr hab. Barbara Baraniak, prof. of the University.

specialisation – is fundamental to education and then employment. The classification of professions and specialisations, like the Polish Classification of Activities, has an international dimension. It is adapted to the modified International Classification Standard ISCO-88 (COM), which determines the level of professional qualifications (for large groups) and provides criteria for the specialisation of skills and similarity of tasks (for other groups, i.e. large, medium, elementary). In this way, it fulfils the requirements not only set by the International Standard Classification but also by the levels of education defined in the International Standard Classification of Education (ISCED 2011). This is important, because it thus ties in with the European Qualifications Framework (EQF) described by eight levels of not only qualifications but also competencies. This framework was established by the Recommendation of the European Parliament, the Council of the European Union of 23 April 2008 on the establishment of the European Qualifications Framework for lifelong learning, as a means of promoting it and increasing the employability, mobility and social inclusion of workers and learners. They are being adapted by EU countries, which are creating National Qualifications Frameworks (NQFs) for their own needs, enabling the development of professional qualification and competence standards. The systemic approach to qualification systems allows for an understanding of the professions in the economy, their education and the requirements of employers.

An important example of systemic modelling in work pedagogy can be education in the educational system, or more precisely education with contexts of preparation for professional work inscribed in the educational system. That is, referring to the notion of a system, the educational system with the entirety of educational institutions enabling lifelong human development, including preparation for professional work, is inscribed in its essence. For the purposes of this article, it is worth pointing out the current elements of the vocational education system. Schools that prepare people for the labour market are:

1) first-degree vocational schools – i.e. those which, over a three-year cycle, provide training in occupations with a single vocational qualification, with the majority of these occupations having a qualification in common with the occupation taught at technical school level;
2) upper-secondary vocational schools – intended for graduates of lower-secondary vocational schools. They may continue their education at the industry school of the 2nd degree in order to obtain a technician's diploma in professions entered in the classification of professions of vocational education, for which education in this type of school is provided.

These are occupations educated at the level of a technician which have a qualification in common with the occupation taught at the industry school of the 1st degree. In addition, a graduate of an upper-secondary vocational school obtains secondary vocational education and can take the matura exam.

3) 5-year technical schools on a primary school basis have replaced the previous 4-year technical schools, and vocational training is concerned with learning 2 or 3 vocational qualifications.
4) post-secondary schools – schools with a maximum 2.5-year training cycle, addressed mainly to graduates of general secondary schools, as well as all those interested in obtaining further professional qualifications in professions covered by the classification of professions of vocational education
5) vocational special schools that are not indifferent to people with with disabilities, including mild disabilities.

The model of vocational education adopted in Poland is in line with the view that the aim of vocational education is to take into account the needs of all stakeholders in vocational education; that vocational education is intended to prepare graduates at different levels for their full participation in the vocational work process and to shape not only the vocational personality, but also the personality of the human being as an educational subject.

In addition to the above indicated approaches in labour pedagogy, further systemic modelling can be distinguished. For example, an approach to the basic concepts of labour pedagogy within which their systemic modelling takes place, i.e. work as the leading scientific and research category of labour pedagogy, similarly – occupations, qualifications and competences.

Systemic modelling also does not overlook methodology for the purposes of labour pedagogy. The criterion for this modelling is research methods, distinguishing simple methods, complex methods together with the application of the model as a research method in different modelling contexts, as well as research procedures (Baraniak, 2021).

The examples cited demonstrate that labour pedagogy – in addition to didactics, educational theory, pre-school pedagogy, diagnosed on the basis of systemology by K. Duraj-Nowakowa – is another area of systemically modelled pedagogical knowledge.

Conclusions

The presented author's considerations show that work pedagogy can, and even should be modelled systemically. In this sub-discipline, there are many areas that require a systemic approach and allow designing model solutions that are important for practice and flow from scientific theory. The most valuable are the models mapping the work process with the modelling of occupations, but also research processes, bringing new threads to the development of work pedagogy, which after all celebrates its 50th anniversary in 2022.

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Regulation of the Council of Ministers of 20th January 2004 (Journal of Laws No. 33, item 289) on the Polish Classification of Activities and its use in statistics, records and documentation and accounting, as well as in official registers and information systems of public administration.

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