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## COMPARATIVE STUDY OF PEDAGOGICAL FORECASTING GENESIS IN RUSSIAN AND POLISH PEDAGOGICAL EDUCATION

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*The paper describes the genesis of pedagogical forecasting in Russia and Poland in the context of the development of general forecasting theory mainly with the emphasis on pedagogical education. The periods of forecasting theory development (implicit, explicit, institutional, global) are presented. The content of each period viewing Russian and Polish education is described. In the implicit period the first attempts are made to predict educational issues. During the explicit period pedagogical forecasting obtains methodology of research. In the institutional period pedagogical forecasting from the sphere of state planning becomes the activity necessary for all the participants of teaching and learning. The global period envisages implementing pedagogical forecasting theory to fulfill the tasks of modern education, e.g. doing international projects. The tasks of pedagogical forecasting in the global world include further convergence of educational systems of various countries.*

**The purpose** is to determine and describe the genesis of pedagogical forecasting in Russia and Polish pedagogical education in the context of the development of general forecasting theory.

**Methodology.** *To identify the periods theoretical methods (historical and analytical method, comparative analysis, theoretical and methodological analysis, synthesis, generalization) are used.*

**The results** of the research include specifying the periods of pedagogical prognostication as well as the tasks of pedagogical forecasting in the global world in Russian and Polish Universities.

**Practical implications** of the research are of interest to educators of all levels, especially the ones working in higher pedagogical education.

**Keywords:** *educational futurism; pedagogical forecasting; implicit, explicit, institutional, global period.*

## СРАВНИТЕЛЬНОЕ ИЗУЧЕНИЕ ГЕНЕЗИСА ПЕДАГОГИЧЕСКОГО ПРОГНОЗИРОВАНИЯ В РОССИЙСКОМ И ПОЛЬСКОМ ПЕДАГОГИЧЕСКОМ ОБРАЗОВАНИИ

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*В статье описан генезис педагогического прогнозирования в России и Республике Польша в контексте развития общей теории прогностики с преимущественным акцентом на педагогическом образовании. В работе представлены периоды развития теории прогнозирования (имплицитный, эксплицитный, институциональный, глобальный). Описано содержание каждого периода с позиций особенностей российского и польского педагогического образования. В процессе имплицитного периода делаются первые попытки прогнозирования педагогических явлений. В эксплицитный период педагогическое прогнозирование получает методологию исследования. В течение институционального периода педагогическое прогнозирование переходит из сферы государственного планирования в сферу деятельности всех участников учебно-воспитательного процесса. Глобальный период предусматривает применение теории прогнозирования для решения задач современного образования, включая международные проекты. Задачи педагогического прогнозирования в современном мире включают в себя дальнейшее сближение образовательных систем разных стран.*

**Цель статьи** заключается в определении и описании генезиса педагогического прогнозирования в российском и польском педагогическом образовании в контексте развития общей теории прогнозирования.

**Методология.** Для выявления периодов прогнозирования используются теоретические методы (историко-аналитический метод, сравнительный анализ, теоретико-методологический анализ, синтез, обобщение).

**Результаты** исследования включают в себя периодизацию теории прогнозирования и конкретизацию задач педагогического прогнозирования в глобальном мире применительно к российским и польским вузам.

**Область применения результатов.** Исследование представляет интерес для педагогов всех уровней, особенно преподавателей, работающих в сфере высшего педагогического образования.

**Ключевые слова:** образовательная футуризм; педагогическое прогнозирование; имплицитный, эксплицитный, институциональный, глобальный период.

## Introduction

The education of today is based on decision making which requires research of educational futures. In this research pedagogy as often as not works on the basis of fragments of forecasting theory. In the meantime the new educational tasks, mainly the task of training competent teachers, require implementing a complete theory of pedagogical forecasting. Such theory can guarantee the congruence of the tasks set and the effects obtained in each educational institution.

Since Russia joined Bologna process it has been facing the new tasks in pedagogical education connected with the European higher education area. Similar processes take place in today's Poland. Poland has already successfully entered the European Union. Now both Russia and Poland proceed converting their educational systems and systems of pedagogical education in particular to the European requirements. Both countries rely on educational futurism and implement pedagogical forecasting. It states to reason to study the development of pedagogical forecasting in Russia and Poland, to compare it with the forecasting in the western world in order to:

- summarize the forecasting theory impact on education in general and pedagogical education in particular;
- present its opportunities in coping with contemporary educational tasks;
- predict the further development trends of a separate country educational forecasting theory.

Fragments of general futurism as well as of educational futurism history have been analyzed by scholars. An overview on futurism history and its terminology was given by F. Polak (1971) [26]. Forecasting methods were disclosed by S. Encel et al. (1975) [29]. Aims and functions of futurism in 1970-1980 were presented by A. Bönisch (1980) [6]. Forecasting concepts and procedures were summarized by I.V. Bestuzhev-Lada et al. (1982) [5]. The forecasting process through data analysis was viewed by J.P. Cleary and H. Levenbach (1982) [9]. Methods of social sphere and economy forecasting were described by M. Ciślak (2005) [8]. Strategic forecasting was analyzed by E. Perycz (2005) [23]. Prediction accuracy was studied by Makridakis and Taleb (2009) [21]. Issues of long-term forecasting were discussed by Granger and Jeon (2007) [12]; group forecasting potential from the perspective of the social psychology of groups was shown in Kerr and Tindale's paper (2011) [20].

Selected issues of educational forecasting theory and practice have been highlighted by M. Cynkie and S. Kowalik (1974) [10], D.E. Glines (1980) [11], J.L. Briggs (1982) [7], J.D. Haas (1984) [13], F.F. Hood (1984) [15], E.W. Kelly (1985) [19], T. Manger and K.H. Teigen (1988) [22], D. Horgan (1990) [16], J.M. Jacobson (1990) [13], A. Pokay and P.C. Blumenfeld (1990) [23], O.V. Kutiiev (1995) [2], B.S. Gershunskij (2003) [1], M. Sawicki (2005) [28], A. Prisyazhnaya (2006) [4], E. Kmeduła (2009) [18], A. Matuszak and Z. Matuszak (2011) [3].

The objective of the paper is presenting the pedagogical forecasting genesis, specifying the stages of forecasting theory development in Russian and Polish pedagogical education and presenting the tasks of the contemporary period.

### **Materials and methods**

In the research theoretical methods are used. Historical and analytical method is implemented to study the content of periods of pedagogical forecasting. Comparative analysis allows to systematize pedagogical forecasting development in Russian and Polish pedagogical education as compared to the general forecasting theory development in Western Europe and USA. Theoretical and methodological analysis helps in characterizing the prerequisites and the tasks of each period as well as studying the essence, structure and content of pedagogical forecasting. Analysis, synthesis and generalization are used in introducing the results of the research.

### **Theory**

Pedagogical forecasting is a sphere of fundamental knowledge. Research in pedagogical forecasting has been conducted in many countries of the world, especially in European countries (Czech Republic, Denmark, France, Great Britain, Holland, Poland, Scandinavian countries) Russia and the USA. In the theory of pedagogical forecasting four periods might be identified: the implicit period (up to the 1960s), the explicit period (from 1960s till 1990s), the institutional period (from 1990s till 2010), the global period (from 2010 till now).

#### ***The implicit period of pedagogical forecasting***

***In western futurism theory*** issues of pedagogical forecasting have been analyzed in the works of the researchers in Europe and the United States: S. Encel et al. (1975) [29], F.F. Hood (1984) [15], E.W. Kelly (1985) [19], F.L. Polak (1971) [26], also in the documents of Phi Delta Kappa Commission (1984) [14]. Prognostication in this period is associated with the terms «futurology» and «futurism». Futurology is not described as a strictly scientific trend. The lack of the object testability is highlighted by F.L. Polak [26] in the analysis of futuristic approach to the study of phenomena. However, in the nineteen-sixties different groups of scientists and futurists begin uniting into one direction. F. Hood [15] writes that «It was 1966 that a group of private citizens formed the World Future Society». Futurism begins developing as an academic trend to study the future. Already in the sixties futurists understand that such a large field of research should possess more specialized directions of knowledge, for example, the pedagogical one. Nevertheless in the first attempts to predict future the accuracy of educational research is still very low.

In the implicit period there appear three major directions in futurism: Crisis futurism, Evolutionary futurism, Spiritual futurism (Hubbard 1983 as cited by F. Hood, 1984). Proponents of the critical direction believe that the rapid technological changes in society can lead to the death of future generations. Evolutionary futurism assesses the negative trends in the society as an evolutionary jump, dangerous, but natural, allowing people to adapt to new conditions. Spiritual futurism believes that the man is part of the Universe, future is viewed as fate.

Pedagogical forecasting is in line with the evolutionary futurism, the more so that evolutionary futurists recognize the fundamental role of education in the development of the society. Hence, in the implicit period of pedagogical futurism the first attempts are made to predict educational issues.

***In Poland*** the development of pedagogical forecasting during the implicit period is in line with the findings obtained in Russia.

An important task of pedagogical forecasting is to prepare young people for life in a changing society, to raise their motivation to learn, to develop their creative abilities. The contents of the implicit period is the appearance of pedagogical forecasting as a sphere of futurism, the delineation of its circle of themes.

***In Russia*** during the implicit period the first characteristic features of forecasting in educators' work have been singled out. Teachers act as predictors, as they perform the following tasks.

1. They predict the effect of using different methods and techniques.
2. They select alternative ways of solving educational problems.
3. They anticipate positive and negative consequences of different types of students' classroom activity.
4. They evaluate the learning process.
5. Teachers make all kinds of decisions about organizing students' educational practice.

### ***The explicit period of pedagogical forecasting***

The essence of the explicit period is obtaining the scholarly basis of pedagogical forecasting, working out methods of research in it.

***In western futurism theory*** pedagogical forecasting is analyzed in the works of: L. Briggs (1982) [7], J.P. Cleary and H. Levenbach (1982) [9], F. Hood (1984) [15], F.L. Polak (1971) [26]. In the second half of the twentieth century education experiences a prolonged crisis. The traditional systems of training do not guarantee quality any longer, and new educational systems have not yet appeared. Forecasting theory is implemented in economy, education and other spheres of life. These conditions influence the contents of the explicit period of pedagogical forecasting.

In the 1970s the West experiences boom of educational futurism. The aims of the period are summed up by Briggs (1982) who states that «instructional technology and futurism should be linked in order to avoid applying instructional design models to outmoded objectives and outmoded media» [7]. American, European educators begin working on methods to study future. The theory and methodology of forecasting is developed in the pedagogical work of the teachers.

Different countries use different terminology to describe similar concepts relating to pedagogical futurism. Researchers in Europe often use the term «forecasting». Forecasting is viewed as based on the fact that there is not one future but many possible futures (E. Kelly 1985 [19]), a more or less technical process, looking ahead with the aid of certain equipment and saying something about the future (F. Polak 1971 [26]), a special kind of prediction by relying on data of past happenings to generate or cast data for future happenings (Th. Saaty 1991 [27]). In the United States the term «forecasting» covers a broader context, while «prediction» is used in a more specific meaning: «prediction of grades», «prediction of academic success», «pretest predictions».

These questions are developed in the works of the following scholars: L.J. Briggs (1982) [7], D.E. Glines (1980) [11], J.D. Haas (1984) [13], D. Horgan (1990) [16], J.M. Jacobson (1990) [17], T. Manger and H.T. Teigen (1988) [22], P.C. Blumenfeld, A. Pokay (1990) [25]. L.J. Briggs (1982) examines the instructional design and its implications for the future [7]. D.E. Glines (1980) presents a forecast of educational futures [11]. D. Horgan (1990) examines students' predictions in the context of meta-cognitive strategies [16]. J.M. Jacobson (1990) studies congruence of pretest predictions and posttest estimations of grades on short answer and essay tests [17]. T. Manger and H.T. Teigen (1988) are particularly interested in time horizon of students' prediction of grades in Scandinavia [22]. A. Pokay and P.C. Blumenfeld (1990) conduct a study related to students' predictions early and late in the semester [25].

Researchers pay special attention to forecasting in teachers' work: setting objectives, planning, programming. Identification of these forms is based on the degree of generalization activities. Studying pedagogical forecasting scholars from different countries define its components. For example, F. Polak (1971) identifies the following elements: intuition, imagination, creativity [26].

**In Poland** issues of forecasting in education were developed by A. Bönisch (1980) [1] M. Cynkie and S. Kowalik (1974) [10]. But futuristic works pertaining to educational futurism are not numerous.

The explicit period of pedagogical forecasting indicates that it begins to acquire theoretical and methodological foundations. However, at this stage teachers forecast spontaneously. They apply elements of forecasting in their work. Forecasting is not treated as a separate process. It is based on educators' intuition.

*In Russia* pedagogical futurism is studied in several directions. At the end of the twentieth century pedagogical futurism has four areas: social-pedagogical, theoretical and methodological, experimental, personality-oriented (Kutiev 1995) [2].

Social-pedagogical forecasting is designed to predict the development of the national educational system based on social conditions. The main method is an extrapolation of past and present trends into the future.

Theoretical and methodological forecasting studies predictions in the system of professional education and lifelong learning. This direction considers in detail forecasting methods. Conclusion is made that implementing forecasting methods requires special teacher training .

Experimental forecasting is based on attempts to create practically the school of the future. In contrast with the first three directions personality-oriented forecasting studies external and internal forecasts. This envisages forecasting of teachers professional development. Internal forecasting or «self-forecasting» is totally undiscovered part of educational futurism research, although it is considered the highest form of predicting reality on a personality level.

Thus, the explicit period leads to deepening the research identified during the implicit period.

### ***The institutional period of pedagogical forecasting***

The institutional period brings forth the idea of pedagogical forecasting as the function of University teachers and students.

*In western futurism theory* this period envisages further work on forecasting methods and techniques. Among papers on forecasting there are works discussing the problems of prediction accuracy (Makridakis and Taleb, 2009 [21]), long-term forecasting (Granger and Jeon, 2007 [12]), group forecasting potential (Kerr and Tindale, 2011 [20]).

The third period in the development of pedagogical forecasting is marked by the work of special commissions examining the futures of education: XXII European Commission «Teaching and Learning. On the way to the learning society», 1997; International Commission on Education for the twenty-first century under the leadership of J. Delors, 1998.

*In Poland* in the 1990s processes of market economy development and integration of Poland into European economy determines the beginning of a new period of pedagogical forecasting. The new economic situation reveals the need to predict changes in education, to guarantee congruence of the anticipated results and the prognoses.

Theoretical and practical works on forecasting include: social forecasting developed by M. Cieslak (2005) (the concept, classification, methods) [8]; strategic forecasting worked out by E. Perycz (2005) (definitions, conditions, methods) [23].

Problems of pedagogical prognostication in Poland developed by the researchers: E. Kameduła (2009) (forecasting and analysis of changes in education) [18]; E. Perzycka (2010) (forecasting techniques in the use of digital media in the school of the future) [24]; M. Sawicki (2005) (education development strategy up to 2013) [28].

*In Russia* pedagogical forecasting during this period includes the development of various types of educational institutions, the diversification of higher education, widespread development of post-graduate studies, self-education of adults.

During the institutional period pedagogical futurism becomes applied to more specific issues: psychological consultations of high school students in career planning, teaching pedagogical forecasting to educators.

All these trends in forecasting theory lead us to conclude that the content of the third period of pedagogical forecasting reveals itself mostly in:

- 1) the development of prognostic theory and methodology,
- 2) forecasting the further development of the educational system,
- 3) projections of educational and career paths of pedagogical trends and professions graduates.

The first trend (forecasting the further development of the educational system) is manifested, for example, in building schools of the future. The second trend (projections of educational and career paths of graduates) is shown, for example in the works of E. Kelly (1985) [19], who sees the main goal of educational futurism for students in helping them to cope with difficulties, in assisting people to adapt to the information society and advanced technology. The task of educational institutions is to teach students competent choice of the trajectory of life, education and career.

### ***The global period of pedagogical forecasting***

The period has begun in March 2010 with the declaration of European Higher Education Area.

*In western futurism theory* the period is characterized by the globalization of all spheres of life including education. This means the unification of tasks set before many states at once. The period brings forth the idea of pedagogical futurism not only as the function of University teachers but also as the function of students.

Consequently, *in Russia and in Poland* the period envisages the following tasks:

- 1) implementation of national/international educational projects (A. Matuszak, Z. Matuszak 2011) [3];
- 2) predicting the educational process in the university and its results, such as the National Qualification Frameworks;

- 3) forecasting in further development of convergence of higher education systems of various countries.

### **Results and discussion**

In this section the review results corresponding to the main objective – the study the development of pedagogical forecasting in Russian and Polish pedagogical education against the background of the forecasting in the western world – will be presented. As viewed from the historical overview steps of pedagogical forecasting development are as follows. The implicit period resulted in: formulating the first principles of pedagogical forecasting and preparation of the grounds for working out the theoretical and methodological foundations of pedagogical forecasting.

These outcomes made the basis for the explicit period. During the period, first, the appearance of fragments of pedagogical forecasting theory and methodology were created. Second, the trends of pedagogical forecasting development were determined.

The explicit period was followed by the institutional period. The evolution of pedagogical forecasting results in transition of pedagogical futurism from the sphere of the country's education planning to the activity necessary for all the participants of teaching and learning. The institutional period makes educators search for a complete Theory of pedagogical forecasting to perform the activity correctly, accurately and adequately as regards the tasks of the moment. An example of pedagogical forecasting theory to assist educators and students in coping with the tasks of life-long education is worked out in Russia (Prisyazhnaya 2006 [4]). Different theories may be developed in other countries during the new, global period of pedagogical forecasting.

Each period of pedagogical forecasting theory development has contributed both to futurism in general and to the educational theory. In the next section the minor objectives will be dwelt upon.

### **Conclusion**

The minor objectives of the paper included predicting the further development trends of a separate country educational forecasting theory, summarizing the forecasting theory impact on education; presenting its opportunities in coping with contemporary educational tasks.

1. Pedagogical forecasting has been developing in many countries, but as seen from the analysis shown above, it goes through similar stages, its new state and tasks are determined by similar factors, its outcomes seem alike. This makes it possible to predict trends of educational forecasting theory in the whole world and in a separate country. Such trends have been predicted in the article for Russian and Polish educational systems effected by globalization.

2. The world of today depends on human resource. The human resource in its turn is characterized by qualification and education. Hence, the life in today's world is strongly affected by education. Directing the worlds' future is only possible through forecasting the education of the future. Educational futures are dependent on the state of educational forecasting theory.

3. Forecasting theory is to play an essential part in the contemporary education decision making. Pedagogical forecasting can help both educators and the educated in meeting the challenges of today's world. It may assist in best organizing the system of training by educators, best choosing the competencies to be acquired in a given profession and best determining the trajectory of studying by learners. Consequently, the forecasting theory has good opportunities in helping educators to cope with contemporary educational tasks in a separate country as well as in the global world. This means that educational forecasting theory should be given a better concern and implemented more intensively.

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