

Methodological Preconditions for Modelling Modern Education Quality Resource: Pedagogy of Development Frameworks

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Abstract Education quality is presented in the article as the main criterion which reflects real situation and prospects of educational system development. The article raises the question of human quality in its philosophical meaning. Criteria and characteristic features of “human quality” phenomenon are distinguished. The authors prove it necessary to use a new paradigm of pedagogical science based on interdisciplinary synthesis methodology. The terms “quality”, “resource” and “quality resource” are conceptualized in the paper. The authors dwell on the dichotomy “quality – equality (availability)” of education, describe types of resources characterizing quality of modern education. Phenomenology of intellectual quality resource of modern education represented in the context of developmental pedagogy is covered. The article also reveals the essence of system characteristics of the term “development”. A model of schooling centre created in the scope of pedagogy of development is represented in the article.

Keywords Quality of education, Paradigm space, Quality of a human being, Interdisciplinary synthesis, Theoretical concept, Intellectual resource of education quality, Pedagogy of development, Developmental pedagogy centre

1. Introduction

The article raises the problem of methodological preconditions for modelling modern education quality resource. The category “quality” is characterized in two ways: as individual and as universal entity. The term “quality” in pedagogical activity is revealed in terms of paradigm approach in forms of methodological concept and practically oriented project. The authors give an outline to the sequence of developing an integral matrix of a new paradigm of pedagogical activity referring to the category “resource” and a word combination “intellectual quality resource of modern education”. Phenomenology of intellectual quality resource is discussed in terms of pedagogy of development.

Study objectives:

1. Conceptualization of the terms “quality”, “resource”, “quality resource”, “intellectual quality resource”.
2. Describing mechanism of paradigm shift in pedagogical science.
3. Examining phenomenology of intellectual quality

resource of modern education in terms of pedagogy of development.

2. Conceptualization of the Term “Quality” in Paradigm Discourse

Nowadays, quality in education is considered as the main criterion which reflects real situation and prospects of educational system development. Quality characterises economic, intellectual, cultural, and moral potential of Russian citizens encouraging continuous renewal of school education under conditions of fast growth of scientific knowledge, dynamic development of new technologies, and wide cultural exchange.

Quality stands for the category that allows considering this phenomenon as a certain characteristic, a feature which reflects the “universal” simultaneously with the “individual”: all the parts of the universe, factors of social order and human activity. Dual characteristics of quality stipulate a possibility to provide quality assessment expressed in numbers. Meanwhile, right understanding of quality in the process of pedagogical activity is a primary basis for proper determination of quantity (V.P. Vasiliev, V.V. Krasilnikov and others). It is as well one of the quality characteristics of interaction of a human being with the world, other human

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beings, with himself (herself) that brings to light consideration of life values and meaningful characteristics of human well-being in the context of paradigm approach.

The term “*paradigm*” (derived from a Greek word “*pattern*”, “*example*”) appeared in the antic world and was originally used to characterize interaction of spiritual and real worlds. It was introduced into modern scientific practice by T. Kuhn, an American scientist (1977), and acquired some “*frame nature*” growing up into a peculiar categorical capsule which different authors began to fill with different meanings. The paradigm, dominant in a particular historical period, sets a certain pattern, a model of world perception and explanation as well as background for choosing methods for its study and transformation.

Nowadays, three paradigm spaces exist (according to V.N. Sagatovsky): objective reality, a subject here is disconnected with an object (a person and the world); subjective reality – dialogue-based principle, subject-to-subject connections (a person and other persons); transcendent reality understood as an attitude to over-individual spiritual reality (to himself or herself). It is paradigm bounds that determine human behaviour. To survive socially and spiritually, a person must be able to orientate and act in the ever-changing world without losing his (her) identity, moral principles, respect to oneself and other people, aspirations for self-realization and self-improvement.

Appealing to a human being in his (her) entirety as to a cosmo-, bio-, socio-, cultural, spiritually active creature (B.G. Ananiev, V.I. Vernadsky, M.S. Kagan, A.L. Chizhevsky) raises a question concerning human quality in its philosophical understanding. Relying on understanding of human nature presented in the works by N.A. Berdiaev, Ju.D. Zheleznov, V.V. Zenkovsky, V.P. Kaznacheev, V.S. Solovyov, A.I. Subetto, S.A. Frank, V. Frankle, E. Fromm, the following criteria determining characteristics of such phenomenon as human quality can be distinguished: recognition of himself (herself) as a part of the whole; humanism; education; reflection; axiological attitude. All these criteria are not in-line, but interrelated and interdependent.

Quality is a variety of individual forms of essential and existential demonstrations of a human being who develops his (her) integrity. Human quality is also considered as a means for solving problems set by the society.

Establishing human quality must be directed at encouraging human nature development, finding out various principles connecting him (her) with other human beings, his (her) nation, nature, depths of the universe corresponding to the quality of a human being destined to live under conditions of a modern stage of civilization development.

Quality is characterised by a paradigm discourse. Paradigm is a fundamental model being a basis of any scientific activity, including pedagogical one, and represented by an assembly of theoretical provisions, methodological grounds, terms and value criteria. In the modern socio-cultural situation, the problem of educational paradigm shift in connection with approaches referred to as

innovative becomes actual: transition to person-oriented education; creation of favourable conditions for development of creativity in children and their self-fulfilment; humanization and humanitarization of education; development of value system; introduction of health saving and nature-friendly technologies, etc. However, the above-mentioned innovative directions are not absolutely new. To oppose ZUN (from Russian “*knowledge, skills and experience*”) being main tasks of educational process) educational model and innovative approaches is incorrect because ZUN is a simplified representation of an educational scheme element, just one component of pedagogical activity.

Certain analogy can be seen while giving a detailed outline of so called innovative approaches. Concentration on any single approach, for example, on a person-oriented one, and insufficient attention to social-oriented and value-oriented education inevitably leads up to the same harsh critical attacks which ZUNs suffered not so long ago. We'd like to note that different types of goals determine designing various educational technologies including technologies oriented at obtaining special knowledge and skills. In this context, special knowledge, professional skills and technological experience will be justified. Competence based approach actualized today is virtually an attempt (and a rather successful one) to “*re-name*” the same ZUN learning model. It has slightly widened the range of elements, enriched the technological component at the account of modern technologies development and laid emphasis on the qualitative result of education (gaining competences and expert knowledge). As a result, terminological structure of pedagogical knowledge becomes wider.

2.1. Methodological Preconditions for Pedagogical Science Paradigm Shift

At present, educational research activity model (i.e. the paradigm represented by such methodological characteristics as: problem, topic timeliness and applicability, object, subject, purpose, tasks, hypothesis, key points, scientific novelty and practical importance) remains unchanged. But practical activity model is being changed following the dynamic nature of technological progress and, as a consequence of this process, changes of socio-cultural conditions. It is possible to suppose hypothetically that when innovative array of practice exceeds acceptable critical threshold, pedagogical science paradigm shift will become inevitable.

The issue under study – modelling education quality resource – will allow highlighting the whole scope of educational practice and establishing a new paradigm of pedagogy. V.V. Kraevsky[1] points out two potential shifts of pedagogical science paradigm. The first one: growth of a role of interdisciplinary studies in education and ever growing integrative function of pedagogical science. The second one: increase of theoretical level and establishing status of pedagogy as the only science studying education.

Integrative function of pedagogy connected with the use of interdisciplinary synthesis of knowledge is one of the methodological conditions for prognostic modelling in

education. Integration dynamics is increased; hence, the new paradigm enhancing synthesis will result in a new theoretical model, the only one studying education. Tendencies of interdisciplinary synthesis specify methodology of a new paradigm and, as a consequence, there appears the necessity to correct terminological discourse, particularly, in terms of terminological definition of the phenomenon “pedagogical science”.

The present study covers multi-aspect modelling: concept-based, system, system-synergetic, procedural, conceptual, axiological, experimental, factorial, mathematic, economic, resource, matrix, etc. Level-based understanding of modelling determines development of a theoretical model in the context of approaches highlighted in pedagogical science.

Elaborated theoretical models of educational research activity are characterised by projections of two vectors. The first one is oriented to formation of methodological construct, concept. The second one is oriented to practical implementation in the form of project activities goal-based on solving one current problem or many problems.

Development of the concept and development of the project are interdependent and coordinated in time. Small time gap is allowable and even necessary. Sequence of procedures is determined by peculiarities of the problem to be solved. If the problem has a clear practical character, then projecting will logically include the following stages

- analysis of pedagogical situation development and problem definition;
- putting forward ideas in the frameworks of a certain system of values and approaches which can encourage resolution of conflicts and problems;
- modelling targeted pedagogical object in accordance with the leading ideas and values;
- making assumption in regard to methods of objective achievement as well as variants of staged activity;
- establishing criteria for assessment of the expected results;
- choosing an optimum object as part of general model of pedagogical activity; setting tasks and objectives to be fulfilled for project realization;
- stage of project implementation with continuous diagnostics, analysis and correction of project activities;
- final stage: integration of results, conclusions, presentation of experience to pedagogical community.

Development of a project actually means development of a range of models: *prognostic* – for optimum distribution of resources and setting right objectives; *conceptual* – based on an informational database and programme of actions; *instrumental* – which makes it possible to prepare means of fulfilment and teach teachers to work with pedagogical instruments; *monitoring model* – for creation of feedback mechanisms and methods of correction of possible deviations from the planned results; *reflexive model* – to be created for coming up with a solution in case of unexpected and unforeseen situations.

As early as in the 1980s, E.N. Gusinsky[2] formulated an

indeterminacy principle for humanitarian systems. In accordance with it, results of interoperation and development of humanitarian systems cannot be predicted in details. Therefore, for such systems probability projecting is applied. Many authors deny existence of absolutely similar educational situation and conditions because basis of modern educational system contains a principle of indeterminacy of some educational and control parameters. It is not mandatory and sometimes even impossible to create an integrated pedagogical toolkit in modern educational system and apply it in isomorphic (similar) educational situations.

Matrix model of quality represented by integral visualised scheme of quantitative numeric data resulted from the project under development monitoring, transformed in evaluating (criteria) characteristics of the obtained results should be prepared for each project. Visualized matrix will allow coordinating experimental procedure and dynamics of its qualitative evaluation. Simultaneously, situations characterized by only numerical values or specified evaluative criteria – indices of quality level (degree) achievement – will be revealed.

Procedure of theoretical concept definition includes the stages as follows:

- 1) entering the process and choosing methodological foundations for modelling, qualitative description of a subject under investigation;
- 2) stating a problem for modelling;
- 3) constructing a model while specifying interdependence between the main elements of an object under investigation, parameters of an object and criteria of evaluating changes of these parameters, choosing measuring methods;
- 4) study of model validity in solving the assigned tasks;
- 5) application of the model in pedagogical experiment;
- 6) well-grounded interpretation of modelling results.

Creation of a meaningful integrative field uniting the concept and the project represented, first of all, by conceptual construct, discourse, methodology of modelling and projecting, goes further. Well-ordered context of a sense-bearing field constitutes an element of an integral matrix of a new paradigm of pedagogical activity.

Austrian logician Kurt Godel proved the theorems about incompleteness and non-contradiction of formal systems. The first one stipulates that it is impossible to formalize the whole conceptual part in any logic-mathematical system, i.e. any system of axioms is incomplete. The second one tells about impossibility to prove non-contradiction of a formal system by means of that very system. Godel theorems also obtained general scientific interpretation. According to them, there is no any full and final set of information sufficient for deductive construction of a model accurately describing “behaviour” of a system of any nature. To describe effectiveness of modelling, a special term is used in pedagogy – *pedagogical validity* which is close to reliability, adequacy, but not identical to them. Pedagogical validity is demonstrated in an integrated manner: conceptually, criterially and quantitatively as multi-factorial phenomena are modelled, as a rule.

While developing a paradigm, it is necessary to take into account the above-mentioned provisions. To get a clear idea of an object of interests, projecting of its development, and description of its motion pattern it is necessary to construct a complex of models. Meanwhile, axiomatic completeness of paradigm under formation is not an obligatory issue. It is a synergistically organized, highly adaptive model formalized by criterially determined parameters – *quality, resource, quality resource* – spatial-temporal and meaningful. Procedural characteristics of these parameters are stipulated by such phenomena as *culture, communication, and socialization*.

The model construct with complex organization constitutes a non-formalized open system. It is formed by human intellect and represented by a scenario (scheme, contour, profile) of personality development, culture directed to the future prospects including pedagogical activity in the whole multidimensionality of the mentioned phenomena comprehended as resources. A priori, resource turns out to be characterized by such phenomenon as *quality*, i.e. a specified level with which a product should conform; in our case we mean an educational product.

Definition of the term “education quality” is provided in the Article 11 of UNESCO World Declaration on Higher Education for the Twenty-First Century: “*Quality in higher education is a multidimensional concept which should embrace all its functions and activities: teaching and academic programmes, research and scholarship, staffing, students, buildings, facilities, equipment, services to the community and the academic environment*”.

Essential features of modern stage of human civilization development are determinant for understanding quality in education. Nowadays more than ever, educational system must take into account capabilities and needs of a human being and build itself with consideration of the values of a new age: subjectiveness, dialogue, existentialism, aim at development, integrative and fundamental character.

The phenomenon of “education quality” stipulates studying the dichotomy – “quality” and “equality” (availability) of education. In terms of schooling, educators often speak about equality as equality of educational opportunities (EEO).

Realization of EEO can be analysed in terms of input, process and result[3]. Input is a kind of *raw material* for educational process (for example, human resources). Process includes things which come around with pupils at school (for example, the manner the teachers treat pupils). Interaction of input and process produces results (for example, educational progress and achievements). J. Murphy[4] states that a new interpretation of the term equality of educational opportunities emphasizes access to education that means providing equality through input, but not through process or results.

Equality of educational opportunities means accounting both similarity and differences between pupils and providing appropriate education for all the pupils through inputs, processes and results. *Quality* is, as a rule, understood as certain achievement or as superiority determined on the basis of certain measure. In education, this concept has been

transformed into an idea of superior inputs, processes and results. Equality requires an answer to the question “what is equality for?”, and quality requires an answer to the question “who is superiority for?” When answering these questions different types of relationship between equality and quality appear. Educational policy can be associated with one of these types depending upon how it provides equality and quality.

2.2. Humanitarian Character of Resources in Modern Education Functioning and Development

Increase of effectiveness in education and personality development makes the term “resource” relevant. *Resource (resources)* (from English word resources means in general facilities allowing achieve desired result by means of the specified transformations.

Education quality is determined by the main types of resources as follows:

- teaching and studying activities as culture phenomena;
- pedagogical personnel;
- innovative activity;
- development programmes;
- health;
- sport;
- methodical, informational, material and technical support of education;
- electronic educational resources;
- accreditation, certification, and others.

All the above-mentioned resources are the blocks constituting model of school education quality resource. Modelling modern educational system quality resource on a school level is characterized by clear and detailed identification of objectives; selecting and processing the content, achieving the planned results; assured level of proficiency meeting educational standards; availability of feed-back; reflexivity; economic efficiency; flexibility.

Humanitarian orientation of modern education predetermines shift of emphasis from deriving general laws to searching for something individual, special. A new view on human nature as an integrated unified complex system is being formed. Perceptions of abilities, potential and objectives of a person are being changed. Accomplishments are understood today not as simple possession of a lot of knowledge and grasping a set of professional skills, but as sophistication of various abilities of a system character with a high degree of their efficiency. It is supposed to model such system in which the leading role should be played not by a traditional transmitting knowledge, skills, values, standards of conduct and so forth, but by creating conditions for maximum possible adaptation and development of an individual.

The very term “development” initially comes down to some expansion of something that is potentially available. Existing theories of personality development – psychosexual (Z. Freud), psychosocial (E. Erikson, D.B. Elkonin), cognitive (J. Piaget), theory of moral development (L. Colberg), behaviour theory (F. Skinner, J. Watson),

humanity oriented theories (A. Maslow, C. Rogers), pragmatics (P.P. Blonsky, L.S. Vygotsky, A.N. Leontiev) – study various aspects of personality development: biological, psychological, social.

In this respect, there is urgent need in integrated system-based analysis of the issue of development. In this case, reflection is an important system-forming factor. Thus, for example, reflection can be considered as ability connected with the term “method” (they have the same root in the Russian language). Hence “able” (“capable”) means possessing a number of abilities (“methods”). Even J. Locke[5] considered reflection as a “mental process of the same kind as we cognize external for us items”. Then, this ability pointed out by P. Teilhard de Chardin[6] as a differential human ability (according to his works, it is this ability that made a human being a human being, separated him from the whole animal world) is characterized by the fact that a human being not just knows something, but is aware that he (she) knows.

D. Raineri[7] pointing out two types of reflection – “ontological”, understood as an ability to stay in the logic of knowledge contents, and “psychological”, addressed to a subject as a knowledge source that is free to behave either in the logic of knowledge contents or in the logic of his (her) condition – opened a method of psychological reflection studies. It works when the subject gets to personal identity as part of personal idea of himself (herself). Special features of reflective processes as part of personal identification are determined by spiritual world of a human being, his (her) ability to comprehend or re-comprehend his (her) experience, knowledge about himself (herself), feelings, values, opinions, relations, etc.

Thus, reflection is a mechanism due to which a system obtains ability for self-organization.

Specific features of reflective mechanism and variety of reflection methods, in other words, subjective thesauruses (M.S. Mirimanova) determine potential for personal growth.

Thesaurus is a dynamic self-organizing system which we create and correct being in continuous interaction with the world around us. Reflection provides correction of mutual relations and interconnections of subjective reality and existing objective reality allowing re-organizing and transforming a current system in case it restricts and reduces flexibility of reaction of a personality.

Reflection orientation gives a possibility to look not so much “at himself (herself)” as “into himself (herself)” receiving reflex of existing deep subjective subsystems of different levels. Levels of personality development can be associated with the hierarchy of reflection levels. Multi-factor character of reflection provides a possibility to transfer from one type of activity to another. Meanwhile, that mastered types of activity are used as material for achieving new ones. From the point of view of a new activity, an individual builds up new meanings on the assumption of which he understands the previous activity as well. Thus, involving an individual into a new type of activity motivates meaning-search providing a possibility to consider the

previous one in the context of new meanings. That is to say, reflection is the source of new ideas generation ([8];[9]).

Activity is the basis for personality development. Two sides can be marked out in the integral process of activity: “attitude to the world of things” and “attitude to the world of people”.

Practical objective activity provides mainly development of intellectual activity. Social activity of a personality is mainly developed by means of activity aimed at acquiring standards of human relations. In development process, different aspects of activity come to be the first, one after another, strengthening intellectual or social activity of a personality stipulating shift of periods of its formation in ontogenesis.

Any activity of the subject means functioning of subjective representations of external environment, and its efficiency therefore depends upon adequacy of these representations. Information is an instrument of cognition and interaction with the world around. Process of information consumption and organization represents a conceptual foundation of the personality development process.

The most important informational formation of individual consciousness is the world view (cognitive map). World view is a focus of human individuality, mechanism and at the same time a purpose of development.

Personality development can be associated with formation of axiological dispositions. It is axiological dispositions, or activity motives, that represent a link connecting objectives and means of human life, a life goal and actions required for its achievement. Life goals are formed as consequences of one or another system of axiological dispositions actualization and its fixation in human mind as the standard.

Structure of axiological dispositions correlates with the hierarchy of needs model offered by A. Maslow (theory of motivation)[10]. It determines both starting and end points of motivational frame of a developing personality. Axiological dispositions, which organize behaviour for good body balance control and secure psychological comfort, act as primary needs provided by genetically determined behavioural stereotypes.

Personal achievement of certain levels of self-development leads to formation of self-respect, public recognition and approbation, success as leading values of self-esteem.

At the peak level of personality development, values of self-actualization, human fulfilment and creative capabilities as well as need for cognition of the world start to play the leading role.

To achieve life goals, people may use two types of behaviour: “natural” and “ritual”[11]. Natural behaviour is individually significant and self-centred. It is aimed at achievement of individual purposes and is adequate to them. Ritual behaviour is a kind of “correct” behaviour, a tool of social structure stability.

Educational system is to solve a task of switching-on a “mechanism” of ritual behaviour, learning its “rules” to provide continuous and successive movement of a person “up” the scale of values.

Bringing individual needs into compliance with objective requirements of reality is performed in the context of intellectual activity. Intellectual development of a human being gets especially significant under conditions of transfer of the society to its informational stage of development.

2.3. Intellectual Resource of Education Quality and its Formation under Conditions of Personality Development Centre

Dynamics of social-economic and public life of the Russian state indicates increasing necessity to analyse existing intellectual resources of the society centred on child's talents. There is an urgent need to develop an invariant model of personality developing schooling centre which summarizes accumulated work experience of existing schools for talented children[12].

Individualization and differentiation become fundamental principles of education (development) in the school-centre. Implementing principle of individualization in education provides indication of peculiar features of a child, young person, his (her) individual qualities. Differentiation represents a tool for individualization of education. A principle of differentiation serves as a basis for creating contents of individual routes (programmes) for personality development.

Goal-setting of a school-centre or schools-centres is a practical task of pedagogy of development. It is worth giving an invariant name to educational institutions focused on implementation of an idea of personality development – developmental pedagogical centres[13].

Mission of a developmental pedagogical centre is to create conditions for personal growth of educational process subjects, to design adaptive pedagogical technologies for training students in accordance with their individual routes (programmes), to provide orientation of education contents to permanent renewal, innovative character of which appears in educating and developing a person capable of being creative, doing exploratory search, finding his (her) individual “self”.

Axiological priorities of the centre activity are associated with the following issues: considering student's personality as a complex, unique, contradictory phenomenon requiring delicate, careful and cautious attitude; understanding that education is ensured by the initiative motivated by interests, wishes and activity of students, in this respect, the task of pedagogy is to encourage each student and help him (her) to reveal this activity in an efficient and constructive way; emphasis on cognition, focus not on objective, factual part of knowledge, but on subjective, personal meaning; providing pedagogical technologies adapted to individual development of a student's personality; variety, alternativeness, flexibility, dynamism, entirety, integrity of educational process; determination of interpersonal dialogue by means of communication, teaching, conflict resolution; establishing authenticity and individuality of each child and a young person being the most important indicators of quality of pedagogical process.

Conceptual grounds are set as follows:

- highlighting reflection as a systemically important factor providing “increase” of personal potential growth and represented by models of subjective thesauruses of students;
- providing diversified types of students' activities (research, projects, creative tasks) accounting that an individual constructs new meanings in the context of new activity on the basis of which he (she) understands and describes previous activity;
- understanding information consumption and processing as conceptual basis for personality development dematerialised in informational education of an individual – cognitive map or world view;
- considering personality development process in terms of developing axiological dispositions where activity motives represent a link connecting goals and means of human life, i.e. life purpose and behaviour aimed at achieving it;
- special focus on intellectual development of personality consisted of enriching mental (subjective) experience considered as a starting point of education and at the same time as a context of education.

Basic premises of pedagogical centre functioning are: humanity – respect for personality, recognition of personal growth and development of children and youth as highest priority issue and the main objective of pedagogical activity; environmental friendliness – orientation to non-violent and non-forcing personality-conformable educational technologies taking into account individual features, mental and psychological health of each student; democratic character – creating conditions for conscious and responsible training for students enabling them to live in the civil society, development of constructive interpersonal interaction and communication abilities; dialogue and cooperation – teachers should communicate on equal terms with pupils, considering another person as a value, accepting him (her) as he (she) is, belief in his (her) abilities, recognising freedom of personal manifestations; personal importance of education – giving subjects of educational process the right to participate in choosing direction of specialized education, its contents and forms.

Functions of developing Centre:

- to improve educational process quality;
- to create informational environment for providing educational, research and innovative activities;
- to arrange space for cross-cultural communication of educational character via Internet;
- to create experimental base for training younger people oriented to work in the “mode of development”;
- to design programs and methodical systems which provide stable forward-looking character of educational process;
- to assist and support students in choosing future professional career;
- to support and develop students' creative work.

Centres of developmental pedagogy are oriented to organization of teaching process for talented children.

The structure of the centre is presented by blocks as followed[14].

The first block is preparation for school which includes nursery education (for children aged 2–5). Functions of education: discovering age-linked abilities of a child's personality (respect for pace of life, space needs, mutual relations with environment, rules of games and relations with other children) and developing abilities with adults' assistance; entering social life and support of stability of social life style of children; preparing for studying in pre-school in terms of physical and intellectual development.

The second block is pre-school (for children aged 6). Function of education: introducing fundamental disciplines (mathematics, the Russian language, foreign language, artistic and aesthetic training). Activities: physical activity; communication; verbal and written self-expression; artistic and aesthetic activity; development of scientific and technical abilities.

Physical activity. Such classes are aimed at development of motion functions, orientation in space, adaptation to circumstances and teaching children to unite through getting pleasure from overcoming obstacles and self-affirmation, to strengthen their aspirations for knowledge. To provide all these things, appropriate facilities and availability of space are required: yards, stadiums or sports grounds, swimming pools, and special gyms. Lessons for children focused on development of their gross motor functions should be accompanied by movements of different amplitudes (walking, running, jumping, crawling, scrambling or climbing, throwing, carrying different items, balance keeping). Classes connecting with development of movement coordination involve series of body movements and purposeful actions (games developing legerity, sense of rhythm and dance, dancing and walking around).

Classes for expressiveness development are conducted in the form of short drama performances with special gestures.

Communication, verbal and written self-expression. The purposes of lessons for younger children include: training their abilities to carry on a dialogue. Special attention should be paid to individual work or to work in small groups in different situations. Their abilities to trace and describe different patterns in writing with the use of specified graphic structures are developed at the same time. All these things should be accompanied by a wide demonstration of books, albums and posters available in the classroom and in the school library where a teacher should bring children since the earliest age. Depending on abilities of one or another child, his (her) success in reading can be different by the end of education in pre-school.

Artistic and aesthetic education. Development of artistic abilities of children should be performed by making them familiar with different techniques and developing artistic imagination.

Aesthetic education involves acquaintance with different art forms: painting, photography, singing, instrumental music. All these things should contribute to development of sensory perception, listening skill as well as observation

skills.

Development of scientific and technical abilities. Such classes are aimed at a skill to be able to set a problem and solve it. They give children possibility to research, discover and create using all those materials and items available in a craft corner. Understanding "number" and different space constructions are formed step by step.

Through practical lessons, a child learns to discover the simplest physical features of items and change their conditions. He (she) begins to observe and distinguish landscape pictures, determine the time of the day and season, climate conditions; perceive different demonstrations of life, get interested in plants and animal world. He (she) also begins to get interested in questions concerning hygiene and health.

Developing all the child's abilities as a whole allows him (her) to actively develop his (her) personality, gradually demonstrate his (her) self-sufficiency and independence.

The third block is primary school (1st – 4th forms; for children aged 2–57–10). Functions of education: teaching fundamentals of reading, writing, counting; establishing informational competence; making children familiar with a foreign language; widening frames of time, space, and individual self-perception.

The first level – 1st – 2nd forms (for children aged 7–8) – learning the cycle of fundamental disciplines.

The second level – 3rd – 4th forms (for children aged 9–10) – extensive training in subjects.

The forth block is main school (5th – 9th forms; for teens aged 11–15). This block can be divided into two levels.

The first level (5th – 6th forms; 11–12 years). Functions of education: general educational training; profession-oriented general training in fields as followed: technological, mathematical, natural-scientific, artistic-aesthetical, language learning oriented, social-ecological.

The second level (7th – 9th forms; 13–15 years). Function of education: general educational training with extensive study of disciplines; extensive profession-oriented training.

The fifth block is a secondary school (10th – 11th forms; for teens aged 16–17). Functions of education: profession-oriented training, assistance in specifying subjects necessary for future professional career, orientation at productive study.

Priority types of activities: research; experimental; projecting.

Transfer from one structural block to another widens objective-subjective area of activity, means and methods, technological algorithms, etc. – in the aspect of sophistication, enrichment and inclusion of new elements.

Organizational form of teaching process: combination of studying in general secondary school with studies in the centre during holiday periods; distance learning; modular education by consequential immersion into learning of curriculum disciplines.

Types of individual developmental programmes used: accelerated education; professional orientation based on development of special abilities; profession-oriented education of accelerated character.

Structural units of a municipal centre of pedagogy of development should include the following ones: guidance department; guidance department of distance learning; academic department; diagnostic department; management centre; education quality department; centre of informational and communicational technologies.

Network organization model for developmental pedagogical centres is preferable. It includes: centres for preparation of children for school; specialized classes of developmental education; resource centres of profession-oriented education; children groups learning in the systems of additional education; lyceums and lyceum profession-oriented classes arranged in educational institutions; gymnasiums; summer schools.

Basic principles providing functioning and development of a network model of developmental pedagogical schools-centres are:

- continuity and succession of learning;
- organizational, academic, scientific and informative-communicational cooperation of structures organizing a network model;
- integration of environmental components of educational institutions.

Thus, pedagogy of development is a non-formal open system formed by a human intellect representing a scenario of personality development, pedagogical activity, culture aimed at the future and comprehended in its whole multidimensionality of the above mentioned phenomena as a resource.

Phenomenon of quality becomes an integrative educational product presented by quality of educational contents, quality of educational technologies, and quality of personality accomplishments.

3. Conclusions

1. Nowadays, quality in education is considered as the main criterion which reflects real situation and prospects of educational system development. Quality characterises economic, intellectual, cultural, and moral potential of Russian citizens encouraging continuous renewal of school education under conditions of fast growth of scientific knowledge, dynamic development of new technologies, wide cultural exchange and intercultural interaction and globalization. Education quality marked out as a unique feature is characterized by multidimensionality, complexity, synergetic nature of description.

2. In this study quality is characterized by a paradigm discourse. Modern situation in education makes it relevant to consider problem of educational paradigm shift. Mechanism of new educational activity is based on multidimensional modelling. The above-mentioned model construct, formed by human intellect and organized as an open system, represents resource.

3. In this study, an invariant model of developmental

pedagogical centre is outlined. Its functionality includes: to improve educational process quality; to create informational environment for providing educational, research and innovative activities; to arrange space for cross-cultural communication of educational character via Internet; to create experimental base for training younger people oriented to work in the "mode of development"; to design programs and methodical systems which provide stable forward-looking character of educational process; to assist and support students in choosing future professional career; to support and develop students' creative work.

REFERENCES

- [1] Kraevsky V.V. Upbringing or Education? // *Pedagogics*. – 2001. – No. 3. – pp. 3-10.
- [2] Gusinsky E.N. Designing a Theory of Education on the Basis of Interdisciplinary System Approach. – M. "School", 1994. – p. 269.
- [3] Sutton R.E. Equity and Computers in Schools: Decade of Research // *Review of Educational Research*. – 1991. – v. 61. – pp. 475-503.
- [4] Murphy J. Equity as Student Opportunity to Learn // *Theory into Practice*. – 1988. – v. 27. – pp. 145-151.
- [5] Locke J. *Selected Philosophic Studies*. v.1. – M., 1960. – p. 736.
- [6] Teilhard de Chardin P. *Phenomenon of Human Being*. – M., 1987. – p. 240.
- [7] *Visual Dictionary*. Electronic Edition. 2005. – p. 297.
- [8] *Visual dictionary*. Electronic Edition. 2005. – p. 297.
- [9] Locke J. *Selected Philosophic Studies*. v.1. – M., 1960. – p. 736.
- [10] Maslow A.H. *The Psychology of Science: A Reconnaissance*. – N.Y., 1966. – p. 168.
- [11] Shreider Ju.A. Ritualization of Behaviour and form of Indirect Goal-setting // *Psychological Mechanisms of Social Behaviour Regulation*. – M. 1979. – pp. 103-127.
- [12] Uvarovsky A.P. *Pedagogy of Development at Work with Gifted Children as Model of Intellectual Quality Resource of Modern Education*. Rostov-on-Don: Foundation, 2010. – 176 p.
- [13] Uvarovsky A.P. *Pedagogy of Development as Model of Intellectual Quality Resource of Education: theory and practice // Theory and Methods of Pedagogical Work*. In 2 volumes. V.2.: monograph edited by S.V. Kuprienko; SWorld. – Odessa: Kuprienko S.V., 2012. pp. 5-22.
- [14] Uvarovsky A.P. *Phenomenology of Intellectual Resource of Modern Education Quality: Frameworks of Pedagogy of Development // Proceedings of Southern Federal University. Pedagogical sciences*. 2012. № 3. pp. 205-213.