

Age-Oriented High School Model: Implementation Outcomes

A. Luchenkov

Andrey Luchenkov

Deputy Vice-Rector for Studies at Siberian Federal University, Employee of the Center of Organizational and Methodological Support for Federal State Educational Standards. Email: aluchenkov@sfu-kras.ru Address: 79/10 Svobodny pr., 660041 Krasnoyarsk, Russian Federation.

Abstract. In the age-oriented model, a high school aims to provide conditions for students to identify themselves as capable of goal setting and achievement and to prepare themselves for self-determination in both learning and life in general. The model was implemented in the Universe Gymnasium of Krasnoyarsk. The experimental and control groups of students were surveyed twice—at the end of Grade 9 and at the end of Grade 11—using a battery of diagnostic methods to evaluate how the model prepared

high school students for self-determination. The experimental group included high school students from Universe, and the control group covered students of two neighboring schools. The study revealed significant differences between the groups in every component of preparedness for self-determination: motivation and needs, cognition, and application. Thus, the development of self-determination, world outlooks, and moral conscience among students is possible and shows better results in institutions based on the age-oriented model.

Keywords: high school models, age-oriented high school, high school student self-determination, preparedness for self-determination, world outlook, moral conscience.

DOI: 10.17323/1814-9545-2016-1-191-204

Received in July 2015

Russia has been implementing its Federal State Educational Standard since 2009. The Standard dramatically increases the requirements for the education process. Schools now have to produce three types of educational outcomes instead of just one: subject-specific outcomes (as before), personal development outcomes, and meta-subject outcomes. Obviously, new types of educational outcomes require new conditions to be provided and cannot be achieved without changing the educational space, expanding education reforms, and breaking the monopoly of class-and-lesson education¹.

¹ Class-and-lesson education is an organization of the learning process where cohorts of students are divided into small groups (classes) for at least one

Before the new standards were adopted, a school's only goal was to ensure that students had a predetermined amount of knowledge by the end of their studies. Working towards this goal, teachers acted as translators of knowledge—they knew how to explain things so students understood and memorized them. “A teacher of skills tries to provide conditions to make their students memorize standard answers to standard questions” [Illich, 2006. P. 41]. Teaching was mostly concerned with this.

A great proportion of today's tenth-graders find themselves to be unable to build their own curricula or educational programs when they have to make a choice at the start of high school. This inability comes from an absence of motivation based on individual ambitions for the future. A. Kasprzhak notes that school students are not prepared for interpersonal communication, despite being involved in interactions with various clusters [Kasprzhak et al., 2004].

At the current point of social development, it is not ready-to-use knowledge, but the ability to find knowledge that young people should have. The teacher is not a mere translator of knowledge anymore. I. Illich refers to the new type of teacher as an “educational manager”, who is “interested in helping people meet and learn. He or she gives support to those who are going to solve their own unsolved problems. In most cases, he or she helps the student articulate their problem because only a clear articulation will allow them to find a partner moving in the same direction and investigating the same problem in the same context” [Illich, 2006. P. 41]. From now on, the teacher should become a guide in the world of knowledge. His or her paramount mission is to impart the methods of obtaining knowledge. Students learn to find knowledge themselves, whether independently or in teams, making decisions, raising questions, searching for answers, setting goals, and collecting and analyzing information. Thus, the school turns from a place that offers ready-to-use knowledge into a place that teaches students to be independent: to work both individually and in a team, to take responsibility, to set goals, to articulate problems, to develop goal achievement plans, to assess and find resources, to solve articulated problems, and to analyze results. In this educational concept, the role of a high school teacher is also subject to change. The teacher is supposed to create favorable conditions for solving teenager problems by building, handling, and maintaining an atmosphere where students will learn to make decisions, including those about themselves and their future.

We therefore face a need to reconstruct the whole educational system for a high school student by approaching both the educational atmosphere and the process of education from a wider perspective

academic year, with all students working with the same materials in lessons, which serve as the predominant form of teaching.

that includes the life context of students, thereby making the student the key subject of the high school learning process.

So, what should a high school be like that both delivers age-specific goals and provides for the attainment of relevant education outcomes?

The majority of researchers of adolescence agree that the early youth period is characterized by personal, social, and professional self-determination. To put it more precisely, the process of self-determination is launched in one's early youth and becomes the "affective focus" in this period. The transfer to early youth tests the preparedness for self-determination. A young person has to determine his or her place in the adult world and choose the path for his or her life journey. They try to plan their future learning with due regard for available resources and existing conditions. The ability to make such plans depends on the development of self-consciousness, self-reflection, and awareness of one's own individuality.

Building upon the concepts of youth elaborated by Russian researchers (Bozhovich, Kon, Dubrovina, etc.), we can identify the key results of high school personality development:

- Preparedness for self-determination, i. e. being ready to set life goals independently, to choose one's future occupation, and to measure the ideas of future occupation by one's abilities and plans.
- World outlook, i. e. active development of one's own system of views and beliefs and one's own hierarchy of value orientations.
- Moral conscience, i. e. transition from conventional externally oriented conduct standards to autonomous orientation towards one's inner system of principles.

Pursuing the activity approach, we assert that high school students can only prepare for self-determination and develop a world outlook and a moral conscience by following an individual program of studies, making free choices, and actually bearing responsibility for their choices—determining for themselves through reflection of their own behavior, achievements, and failures in various spheres of school life, including learning, social, and extracurricular activities. A particular item becomes knowledge once it has been experienced. High school students study and work on their own experiences, thus achieving psychological maturity. P. Sergomanov describes three types of high school teaching—"mediator", "dispatcher", and "scholar"—emphasizing that an educational institution may either contribute to or inhibit a student's ability to solve age-specific problems of youth [Sergomanov, 2004]. Concern about each student's personality and their feelings and emotions is an essential condition of a high school

**Self-Determination
as the Fundamental
Stage in Early Youth
Personality Development**

[Froumin, Mayorova, Shalimov, 1993]. Education is the only sphere of life in which high school students associate with their future endeavors [Sergomanov, 2000]. Yet, they report a lack of adult support and concern as an important resource for their self-determination.

As we can see, one of the key objectives of students in high school is a comprehensive elaboration of their possible future and matching up their individual plans with their ideas of the future. Recent pedagogical studies have referred to personal learning guides as tutors and the relevant teaching form as tutorship (Kovaleva, Cheremnykh, etc.).

The ability to solve problems productively in a changing world is shaped through the development of projects and activities that promote thinking, creativity, and research abilities [Cheremnykh, 2007]. The school should provide high school students with the opportunity to actually engage in the abovementioned activities and experience and live through them. However, this requires a special organization of the educational space to conform to the needs of high school students and encourage the achievement of competency outcomes. The educational space should help high school students solve the age-specific problems of self-determination and education choice [Kovaleva, 2007; Froumin, 1990]. Self-determination skills can be developed “through situations of meaningful choice and meaningful conflict, through the inculcation of thinking and behavioral patterns, through involvement in different clusters and activities [Froumin, 1990. P. 7]. High school students should attempt to make choices, fail, analyze the grounds and consequences of their decisions, deal with a lack of resources, etc. That is, the process of high school student self-determination should be organized. Following Froumin, we consider schools as a “comprehensive educational space offering opportunities for free actions” [Froumin, 1999. P. 57]—actions performed by the central figure of the educational process. Such schools are represented by “multiple customized forms of development and a diversity of educational opportunities” [ibid. P. 116].

Thus, the system of organizational and pedagogical conditions required to prepare high school students for self-determination should be based on the following ideas:

- Modern education is about solving age-specific problems and developing universal skills (competencies).
- The fundamental process determining the life of high school students is solving the age-specific problem of personal, social, educational, and professional self-determination.
- The fundamental process determining the specifics of teaching in high school is pedagogical guidance for student self-determination.
- An activity approach to the learning process means providing high school students with the opportunity to experience and live

through the necessary activities in three contexts: personal education, educational research, and socialization.

- The student is the central figure of the educational process in high school, which determines the specifics of his or her relationships with teachers, parents, and school administrators.

We believe that the requirements specified above are satisfied by a model that allows for a high school of customized educational programs that provide the conditions for students to practice achieving their educational future through personal learning plans and solve social and personal self-determination problems.

The proposed model suggests that school activities are not restricted to classroom lessons, but include a system of measures to put students in a situation of choice, of realizing this choice, of setting goals, and measuring them using available resources. Students make choices, set goals, and find ways to achieve them building on their own learning and living experiences, such as social practices or constructing curricula from variant and invariant components.

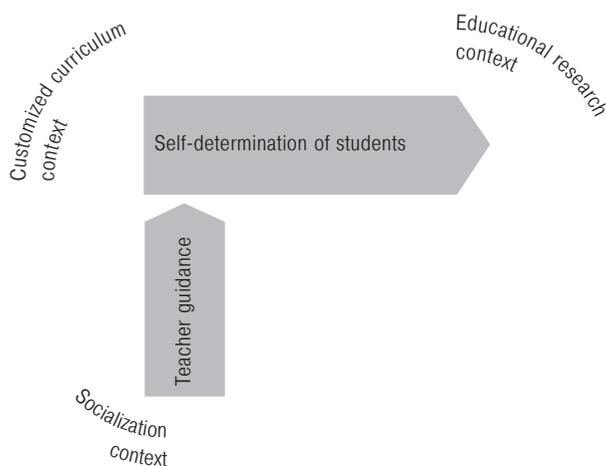
In this model, the high school aims to provide conditions for students to identify themselves as capable of setting and achieving goals and to prepare themselves for self-determination in both learning and life. The system of organizational and pedagogical conditions that allow for a high school of customized educational programs rests on two fundamental processes of student self-determination and teacher guidance in each of three contexts that ensure the achievement of relevant educational outcomes (both competency and age-specific):

- *The customized curriculum context*, where students can make thoughtful attempts to choose their educational future and begin realizing their plans at school.
- *The educational research context* as a sphere for professional communication and acquiring the experience of research and learning activities.
- *The socialization context* allowing young people to try on different social roles, initiate responsible actions, realize their potential, and understand themselves (make an attempt at something and receive expert feedback) (Fig. 1).

Together with teacher guidance, these three contexts facilitate the process of high school student self-determination.

In the proposed model, the high school has the following objectives:

1. Develop a diversified educational space that provides students with the opportunity to select different levels of study, elective courses, and graduation paper topics.

Figure 1. **Age-oriented high school model**

2. Create conditions for preparation and the defense of graduation papers.
3. Provide social experience opportunities for students.
4. Ensure teacher guidance for customized educational programs (identifying the reasons for choosing specific subjects, building customized educational programs, and finding resources for their implementation).

These objectives can only be achieved through the consistent and coordinated work of high school staff. A customized educational program manifests the activity of a high school student in each of the three contexts described. Subject-specific teachers play a crucial role in the customized curriculum aspect, where research supervisors play a key role in the educational research aspect and social activity tutors play a crucial role in the socialization aspect. Class advisors coordinate the scope and the overall logic of customized curricula, as well as the correlation between educational goals and resources.

Customized curricula are designed according to an organized procedure of presenting the three contexts. A student should design his or her own educational program, or rather a draft of it that can be discussed with teachers and parents. In presenting the customized curriculum aspect, subject-specific teachers actually present the curricula of their courses. There should be a choice among a few teachers of mathematics, Russian language, literature, and all other subjects, whether they are compulsory or elective. Presenting the educational research aspect is about demonstrating field-specific labs. Having selected one, a student then meets his or her research supervisor and they work on a research project together. The social practice aspect is presented as a set of social activities, from volunteerism to independent projects like mentoring a group of pupils. A different tutor coordi-

nates each type of practice. After the presentations, high school students make drafts of their educational programs, discuss them with class advisors and parents, and make changes as necessary. During the next two years, students may modify their curricula in accordance with a specifically designed procedure. Performance in customized educational programs is assessed three times throughout the high school period: after the first, the second, and the third semesters.

The basis for building customized educational programs includes the life goals of high school students, the resources they have at hand, and the way they plan to engage in activities where they will be able to implement their customized programs².

The Universe university gymnasium in Krasnoyarsk has implemented the model of high school as a school of customized educational programs. A comparative study was carried out to test the model's efficiency.

Implementing the Model in Universe Gymnasium

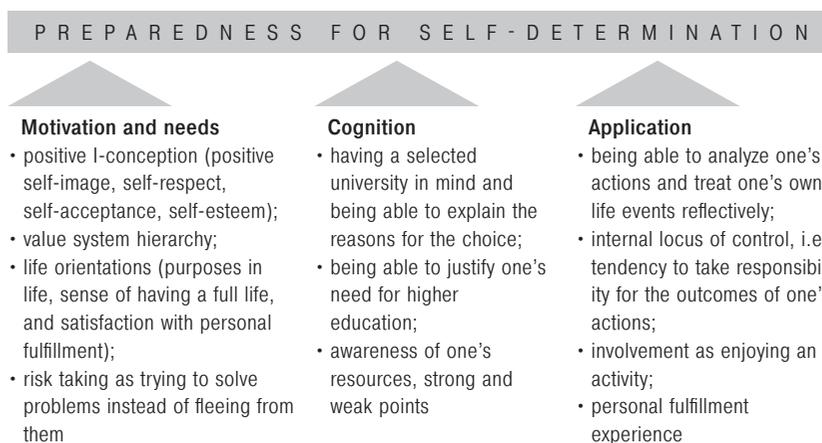
The experimental group covered 124 students of Universe gymnasium, while the control group included all students of the same cohort in two neighboring schools of the same city district (91 students). Thus, both experimental and control groups had the same school infrastructure (institutions of supplementary education, cultural venues, and clubs) and even living conditions—all students lived in standard apartment blocks. The total sample included 215 high school students. 93 Universe gymnasium teachers participated in developing organizational and pedagogical conditions conforming to the model of customized educational programs: class advisors, social activity tutors, lab teachers, and subject-specific teachers.

The performance of the model under examination was measured by the preparedness of the student for self-determination as the main high school educational outcome. Preparedness for self-determination is an integrated factor that predicts the success or failure of the self-determination process. It implies sufficient maturity in terms of motivation, values, and cognitive and practical skills to develop and realize intentions and aspirations. There are three components of preparedness for self-determination in early youth: motivation and needs, cognition, and application [Chistyakova, Shurkina, 1997] (Fig.2).

The study used a before-and-after experimental design. The two groups of students were tested using the same set of diagnostic methods. Next, one of these groups received an experimental intervention, and both groups were tested again using the same methods. Preparedness parameters in the control and experimental groups

² See [Sergomanov et al., 2004] for a more detailed description of an age-oriented high school.

Figure 2. **Model of high school student preparedness for self-determination**



were measured upon entry (at the end of Grade 9) and exit (at the end of Grade 11).

A battery of diagnostic methods was used to evaluate the preparedness for self-determination:

- To test the motivation and needs component: personal value orientation structure diagnostics by S. Bubnova³; self-image investigation method by S. Panteleev⁴ (“self-respect”, “self-affection”, and “inner insecurity” scales); viability test [Leontyev, Rasskazova, 2006] (“risk taking” scale); a life-orientation test [Leontyev, 2000] (“purposes in life”, “life’s fullness”, and “satisfaction with personal fulfillment” scales).
- To test the cognition component: structured interview.
- To test the application component: life orientation test (“internal locus of control” and “external locus of control” scales); structured interview; viability test (“involvement” scale); reflection assessment method by A. Karpov and V. Ponomareva [Karpov, 2003].

For the purposes of processing statistical data, all parameters were measured in points: 1 point for a low level, 2 points for a medium level, and 3 points for a high level. The level of preparedness for self-determination was calculated as the sum of all points obtained. Table 1 shows the entry and exit results for the experimental and control groups as a percentage distribution among the three levels.

At the start of the survey, it was only the motivation and needs component in which students in both experimental and control groups

³ http://www.miu.by/kaf_new/mpp/025.pdf

⁴ <http://testoteka.narod.ru/lichn/1/41.html>

Table 1. Preparedness for self-determination (by components) in the experimental and control groups before and after learning, according to the model of customized educational programs (%)

	Motivation and needs			Cognition			Application		
	Low	Medium	High	Low	Medium	High	Low	Medium	High
Experimental group before	3	91	6	4	74	22	15	80	5
Experimental group after	0	55	45	2	57	41	2	75	23
Control group before	9	85	6	53	43	4	56	44	0
Control group after	3	87	10	42	54	4	43	56	1

Table 2. Bottom-line changes from entry to exit values (by components), %

	Motivation and needs			Cognition			Application		
	Low	Medium	High	Low	Medium	High	Low	Medium	High
EG	-3	-36	+39	-2	-17	+19	-13	-5	+18
CG	-6	+2	+4	-11	+11	0	-13	+12	+1

did not differ substantially. Because the parameters in the other components were different before applying the model of customized educational programs, Table 2 presents the bottom-line changes in percentage upon exit across the components.

The analyzed data demonstrates that the experimental group shows a considerable growth in the number of students who achieved a high level in all the three components of preparedness for self-determination, while the control group only shows an insignificant increase in the proportion of highly prepared students and a slightly higher increase in the proportion of moderately prepared students.

Thus, we found significant differences in all three components of preparedness for self-determination between high school students of the experimental and control groups: motivation and needs, cognition, and application.

On these grounds, we can assert that the problems of developing world outlooks, moral conscience, and preparedness for self-determination among high school students can be solved more efficiently in institutions based on the age-oriented model of customized educational programs. The model owes its success largely to joint efforts in creating organizational and pedagogical conditions that ensure the implementation of customized educational programs and teacher guidance.

References

1. Cheremnykh M. (2007) *Organizatsionno-pedagogicheskie usloviya individualnogo obrazovaniya starsheklassnikov* [Organizational and Pedagogical Conditions of Customized Education for High School Students] (PhD Thesis), Izhevsk.
2. Chistyakova S., Zhurkina A. (eds) *Kriterii i pokazateli gotovnosti shkolnikov k professionalnomu samoopredeleniyu. Metod. posobiye* [Criteria and Indicators of Student Preparedness for Self-Determination. Guidance Manual], Moscow: Institute of Secondary General Education, Russian Academy of Education.
3. Froumin I. (1990) *Samoopredelenie starsheklassnika v letney shkole* [Self-Determination of a High School Student in Summer School] (PhD Thesis), Riga.
4. Froumin I. (1999) *Tayny shkoly: zametki o kontekstakh* [School Secrets: Notes on Contexts], Krasnoyarsk: Krasnoyarsk State University.
5. Froumin I., Mayorova L., Shalimov D. (eds) (1993) *Perekhod v starshuyu shkoly: mekhanizmy vzrosleniya. Metod. materialy* [Transition to High School: Mechanisms of Growing Up. Guidance Materials], Krasnoyarsk.
6. Illich I. (2006) *Osvobozhdenie ot shkol. Proportionalnost i sovremennyy mir* [Rescue from Schools. Proportionality and the Modern World], Moscow: Prosveshchenie.
7. Karpov A. (2003) Refleksivnost kak psikhicheskoe svoystvo i metodika eyo diagnostiki [Tendency Towards Reflection as a Psychological Attribute and Methods of Its Assessment]. *Psikhologicheskiy zhurnal*, vol. 24, no 5, pp. 45–57.
8. Kasprzhak A., Mitrofanov K., Polivanova K., Sokolova O., Tsukerman G. (2004) Rossiyskoe shkolnoe obrazovanie: vzglyad so storony [School Education in Russia: An Outside Perspective]. *Voprosy obrazovaniya/Educational Studies*. Moscow, no 1, pp. 190–231.
9. Kovaleva T. (2007) Yunosheskiy vozrast i starshaya shkola: tyutorskoe soprovozhdenie profilnogo obucheniya [Adolescence and High School: Tutor Guidance in Domain-Specific Learning]. *Pedagogika razvitiya: yunosheskiy vozrast—vershina detstva i/ili nachalo vzroslosti* [Pedagogy of Development: Adolescence as the Zenith of Childhood or the Dawn of Adulthood], Krasnoyarsk: Institute of Natural Sciences and Humanities, pp. 82–90.
10. Leontyev D. (2000) *Test smyslozhiznennykh oriyentatsiy (SZO)* [Life Orientation Test], Moscow: Smysl.
11. Leontyev D., Rasskazova Y. (2006) *Test zhiznestoykosti* [Viability Test], Moscow: Smysl.
12. Sergomanov P. (2000) K voprosu o vedushchey deyatelnosti v starshem shkolnom vozraste [Revisiting the Principal Activity at High-School Age]. *Pedagogika razvitiya: sootnoshenie ucheniya i obucheniya: Materialy 7-y nauchno-prakt. konferentsii. Ch. 1* [Pedagogy of Development: The Balance between Learning and Teaching: Proceedings of the 7th Applied Research Conference. Part 1], Krasnoyarsk, pp. 59–64.
13. Sergomanov P. (2004) Dostupnost vysshego obrazovaniya i razvitiya v yunosheskom vozraste [Accessibility of Higher Education and Development for Teenagers]. *Dostupnost vysshego obrazovaniya v Rossii* [Accessibility of Higher Education in Russia] (ed. S. Shishkin), Moscow: Independent Institute for Social Policy, pp. 206–242.
14. Sergomanov P., Luchenkov A., Vasilyeva N., Loginova N. (2014) *Vozrastno-orientirovannaya starshaya shkola. K realizatsii novykh obrazovatelnykh standartov* [Age-Oriented High School. Implementing the New Educational Standards], Moscow: Lenand.