Perspectives of the System of Additional Education, Considering the Principles of Individualization for Designing Professional Trajectories

Maxim Bakhtin[1] & Irina Menshikova[1]

[1] International Professors' Club; International Academy of Education; Institute of Additional Education, Russia

Correspondence: Maxim Bakhtin, International Professors' Club; International Academy of Education; Institute of Additional Education, Russia.

Abstract

Perspectives of developing system of additional education, implemented in the Institute of Additional Education have been discussed in the article, namely: construction of the trajectories of the professional development based on the principles of individualization, interdisciplinarity and practice orientation.

Keywords: individualization, individual trajectory of professional development, practice-oriented programs, system of additional education

1. Introduction

Modern economic trends: digitalization, globalization, as well as modernization of production within the framework of the concept of technological sovereignty, lead to changes in competency matrices for various professional fields (Aleshkovsky, 2020). If in the period from 2015 to 2021 the education system discussed the design of the learning process taking into account the competency-based approach, as well as a set of hard and soft skills, now they emphasize the importance of supplementing with digital competencies (Aleshkovsky, 2020; Basharina, 2020; Dziuban, 2018; Fedoseev, 2018; Floricel, 2013). Globalization processes lead to the spread of distance learning (in the form of synchronous, asynchronous and gibrid forms) for different countries and cities, which requires the ability to work in international groups, as well as the inclusion of analysis of global and local problems of society and the economy (Fedoseev, 2018; Floricel, 2013).

An urgent problem in the system of additional education is the lack of a systematic approach to designing professional development trajectories, taking into account the results of preliminary diagnostics of students and the subjectivity of program selection. The purpose of this article is to analyze the problems of the additional education system and consider possible ways to solve them, as well as to present an innovative integrated approach to learning design, taking into account the principles of individualization.

2. The Discussion of the Results

As noted above, the main trends in higher education include the complication of mechanisms for designing the educational process, taking into account the principles of individualization, personalization and subsequent adaptive personalization, and the transition to practice-oriented learning (Aleshkovsky, 2020; Basharina, 2020; Dziuban, 2018; Floricel, 2013). If earlier they discussed the possibilities of modernizing educational programs through the use of only one method: for example, the case method or the project method, then recently the emphasis has been placed on an interdisciplinary approach in researching a problem or process. Trends and features of the organization of educational and methodological work for higher education are very quickly spreading to the system of additional education.

The scientific significance of the additional education system lies in the development of human potential and is described by many concepts: the concept of A.V. Khutorskoy on the principles of education consistent with man

potential (Basharina, 2020; Dziuban, 2018); the model of continuous learning or "long-life learning", as well as K. Dweck's model of flexible consciousness (growth mindset), which is based on the absence of fear of making a mistake (Fedoseev, 2018; Floricel, 2013). The main issue that arises for the system of additional education is the development of human potential with the accompanying methodological tasks of developing a system for diagnosing individual characteristics (Fedoseev, 2018).

Developing a strategy for the development of a system of additional education is impossible without analyzing the characteristics of the target audience. Drawing up a portrait of the customer of educational services will allow us to predict the expected educational results. A study of the target audience (Figure 1), visiting the site for the period 2022-2023 which was conducted at the Institute of Additional Education, has shown that the proportion of people receiving higher or secondary vocational education is 20%. At the same time, the share of people with higher education focused on improving their skills in their professional field or acquiring an additional profession (as part of professional retraining programs) is already 71%. The remaining 9% relate to minor students or legal representatives of students interested in additional general development programs. Research data were obtained using Yandex Metrics' counters, which took into account age, number of visitors, as well as device type and technical characteristics of page views. It is noteworthy that more than 70% of respondents use mobile phones, which clearly indicates the promise of mobile application development, as previously noted by the authors (Fedoseev, 2018). As example, it should be described that many companies have already created mobiles apps for evaluating employee's progress (Fedoseev, 2018).

Table 1. Distribution of the target audience by age

Age, years	Ratio, %
Till 18	9
18-24	20
25-34	18
35-44	21
45-54	16
55+	16

Thus, when developing additional education programs, it is necessary to take into account that the majority of students (Table 1) already have a broad outlook and are interested either in narrow-profile programs of high complexity, or in interdisciplinary programs that allow them to increase the level of development of universal competencies: leadership qualities; ability to organize your time and work processes (time management); ability to think strategically at various scales (a set of programs for training top managers).

Basic level programs will also be in demand among certain target audiences, but these programs must relate theoretical information to practical areas and provide the ability to differentiate training across several levels of complexity.

In higher education, the content of curricula and programs is determined at a minimum level by the requirements of federal state educational standards. In the system of additional education, very often certain types of programs are developed to meet the individual requirements of the customer. With a systematic approach, the chaotic development of commercial products should be replaced by the development of comprehensive educational portfolios, which, in a modular manner, include several complementary professional development programs. Much the same problems exist in higher education. Thus, recently, some universities have begun to introduce the concept of liberal education, which provides for training in groups of variable composition due to the wide variation in educational trajectories (Konanchuk, 2013; Jansen, 2020). There are several varieties of the concept of liberal education: the open curriculum model; the system of distribution requirements, as well as the nuclear model — all these curriculum models provide for a different number of disciplines of the variable part and different freedom for students when designing an educational route.

For the system of additional education, it is promising to develop individual trajectories of professional development.

Considering organizational features of training in the system of additional education, the Institute of Additional Education has developed a unique methodology for working with individuals and corporate customers, based on the principles of individualization and formulated in the form of an complex approach with the following stages (Figure 1):

- Diagnosis of customer needs with determination of the level of development of professional competencies in the chosen field;

- Drawing up a matrix of competencies with recommendations on the types of advanced training programs, as well as professional retraining programs;

- Drawing up a training roadmap with a career counselor;

- Consideration of the need for bilingual education, as well as lesson formats, followed by final assessment and feedback from teachers.

Figure 1. Stages of corporate training implementation

Innovation in the organization of the learning process cannot fail to take into account the trends of digitalization and automation of production and the need to increase the level of development of digital literacy and the formation of digital competence (Khutorskoy, 2011; Khutorskoy, 2011; Menshikova, 2022). The current list of digital competencies is specified in the order of the Ministry of Economic Development of Russia dated January 24, 2020 No. 41 "On approval of methods for calculating indicators of the Federal project "Personnel for the Digital Economy" of the national program" Digital Economy of the Russian Federation. It includes five key competencies of the digital economy:

- Communication and cooperation in the digital environment;

- Self-development in conditions of uncertainty;

- Creative thinking;

- Information and data management;

- Critical thinking in a digital environment.

These competencies can be developed within the framework of additional education programs both in the specialized direction "Information Technologies" ("Machine Learning", "Neural Networks", "Fundamentals of Artificial Intelligence"), and interdisciplinary programs that address several areas: information technology and economics / information technology and marketing / information technology and law. For example, "Digital Marketing", "Digital Law". Technology for implementing the learning process also helps improve computer literacy:

- Several training formats: online format; hybrid format;

- The existence of our own digital platform (Learning Management System) with personal accounts for students;

- Development of proprietary electronic materials and applications.

Another innovative characteristic is the practice-oriented nature of the programs and cooperation with professional communities and associations. Depending on the training format, practice orientation can be expressed through full-time or remote internships, analysis of practice-oriented cases, as well as the involvement of expert practitioners and company representatives in the learning process. A current direction is the transition to the modular nature of programs — which is often referred to as student-based learning (SBL) technology. In international experience at Charles Start University, the educational model is designed according to the "topic tree" principle based on the SBL concept (Kasatkina, 2011; Menshikova, 2023; Nagorny, 2021). At the Institute

of Continuing Education, the educational portfolio can be formed from several advanced training programs, or any of the programs can be customized taking into account the interests of the customer. Most programs provide for the analysis of practical cases, analysis of video interviews with experts, or the connection of company representatives for online internships, as well as conducting full-time internship formats.

It is important to note the correlation in the development trends of higher education and the system of additional education. In the system of additional education, as in higher education (Nagorny, 2021; Nikolsky, 2018; Stephen, 2020), interaction between the university and business representatives should be organized from the very first stages of joint program development with planning of internship formats, as well as formats of interaction with students (connection to team work or participation in the excursions to the labs of industrial partner).

3. Conclusions

Thus, promising directions for the development of the additional education system include the implementation of the principles of individualization (including taking into account the design of individual trajectories of professional development), interdisciplinarity and a practice-oriented approach. At the same time, it is important that the formation of additional education programs for corporate training takes into account the project model and the interaction of educational institutions and business at all stages of development. Supplementing digital platforms with mobile applications will allow you to individualize progress tracking and adapt the interface to a specific student.

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