# Educational and Information Technology Park as an Educational Technology

**Bibigul Almurzayeva[1], Orynkul Shunkeyeva[1], Danna Naurzalina[2], Bibigul Kussanova[1], Altnay Zhaitapova[3]**

## Abstract

*Working Group, consisting of scientists and educators, practitioners, currently undergoes research and development work on the development of methodological bases and the use of educational and information industrial park in the educational process of rural schools with small number of students in Mugalzhar district of Aktobe region of the Republic of Kazakhstan. In this area there are 12 secondary schools with small student population, 14 basic schools, eight elementary schools and one resource center with enrollment of 2125 students.*

*As international experience shows, the most effective mechanism for enhancing innovation in the high-tech market is the creation of technopark zone.*

*Technopark - a formation instrument of the studying system, information and applied research, corresponding to the relevant areas of scientific education research. The components of the considered personality-developing educational environment are learning microenvironment - academic subjects, elective courses, electronic textbooks, manuals; the medium of personal self-development - project activity, Internet classes, as a condition of an individual path of personal development of the student; Technopark and technical equipment of the educational process.*

*Object. This article highlights the interim results of the pilot study, where the core of a technology park was as a resource center - Akkemer high school of Mugalzhar district of Aktobe region of the Republic of Kazakhstan with the surrounding magnetic schools: Elek, Koktobe primary schools and school named after Kotibar Batyr.*

*Result. The members of the working group developed Rules for educational and informational Technopark, its structure and management, including the three sides of the educational process: the student - teacher - parent. At Akkemer resource center, and at the magnetic schools parent-teacher conferences were held in order to promote education and information on the work of the pilot studies and the inclusion of all members of the pedagogical process in educational work and information technology park. Work conducted in Kazakh and Russian languages.*

## 1. Introduction

Specific conditions of the rural schools with small student number put forward special requirements for its pedagogical staff, who must be a team capable of providing uninterrupted educational process at a high educational and methodical level, to organize the planning and implementation of the educational process. Teachers of these schools due to the limited staff composition have to combine the functions of a multi-subject teacher, educational psychologist, a manager, or even a school accountant. In this case he has to use technology to work in the combined classes-sets, which requires strengthening the intensification of its activities and contributes to the introduction in the educational process of new educational ICT.

Group of scientists and educators and practitioners in Kazakhstan is currently under research within the scientific grant for the integration of education and information industrial park in the educational process of rural schools with small student number of Mugalzhar district (Aktobe region, the Republic of Kazakhstan). In this area there are 12 secondary schools with small student population, 14 basic schools, eight elementary schools and one resource center, where enrollment is 2125 students.

## 2. The purpose of the present study

This article highlights the interim results of the pilot study, which is based on work on the development and functioning of the educational and informational technopark based on resource center - Akkemer high school of of Mugalzhar district (Aktobe region, the Republic of Kazakhstan) with the surrounding magnetic schools: Elek, Koktobe primary schools and school named afterKotibar batyr.

[1] K.Zhubanov Aktobe Regional State University, Kazakhstan
[2] Turan University, Kazakhstan
[3] Kazakh Ablay Khan University of International Relations and World Language, Kazakhstan

## 3. Methods and Samples

The content of the article is based on the results of psychological and educational research methods: Phillips's level of anxiety diagnosis, questionnaires and teacher questionnaires by Russian scientists V.Sabila, T.Malakhovskaya, curriculum analysis documentation [1].

## 4. Design of experiment:

Constructing the study is gradual and systemic in nature, consisting of organizational, technical and methodological kinds of work. Also of note is the work of complete pedagogical process in its inseparable connection between student, teacher and parent.

## 5. Findings

Interim results of pedagogical research allow to allocate educational and information technology park as an educational technology. The main tool is the infrastructure, which is based on the activities of training and directs the activities of obtaining knowledge. Methodological aspects of these activities are based on the values, objectives, principles of Kazakhstan's education, the creation of person-developing socially relevant medium. The components of the considered personality-developing educational environment are learning microenvironment - academic subjects, elective courses, electronic textbooks, manuals; medium of personal self-development - projective activity, Internet classes, as a condition of an individual path of personal development of future specialist; technopark and technical equipment of the educational process.

Based on the mapping of rural schools' allocation in Aktobe region, and records of educational institutions defined a base resource center - Akkemer support school of Mugalzhar district, Aktobe region with surrounding Elek, Kotibar, Koktobe magnet schools. Akkemer Resource Center corresponds to the geographical position and has the necessary material and technical base. In supporting school - Resource Center 328 students are trained at 23 class-sets. Training is conducted in Russian and Kazakh languages. There are 12 medium-small schools, 14 - the main ungraded schools, 4 - initial ungraded schools on the territory of Mugalzhar district. The training sessions on-site in the resource center are organized in the autumn-spring period for magnetic schools. Arrived at the session the children are provided with 4 times meals, accommodation in a specially equipped boarding. During a session in the training module, the students have access to the latest innovative technologies, classes are held in equipped classrooms, as well as running virtual laboratory, "Arystan"military - patriotic club, "Saukele" design studio, "Soz Marjan" oratorical arts studio, the Pen -Friends club, "Horizon"young naturalists club, "Esperanto"the club polyglot [2].

As part of the study the psychological background of students is observed using Phillips's diagnostic school anxiety level in young and middle school age (Figure 1) [3].

All questions are divided into 8 main factors of anxiety:

1. General anxiety at school.
2. Experience of social stress.
3. Frustration of need to achieve success.
4. Fear of self-expression.
5. Fear of knowledge test situation.
6. Fear not to meet the expectations of others.
7. Low physiological resistance to stress.
8. Problems and fears in the relations with teachers.

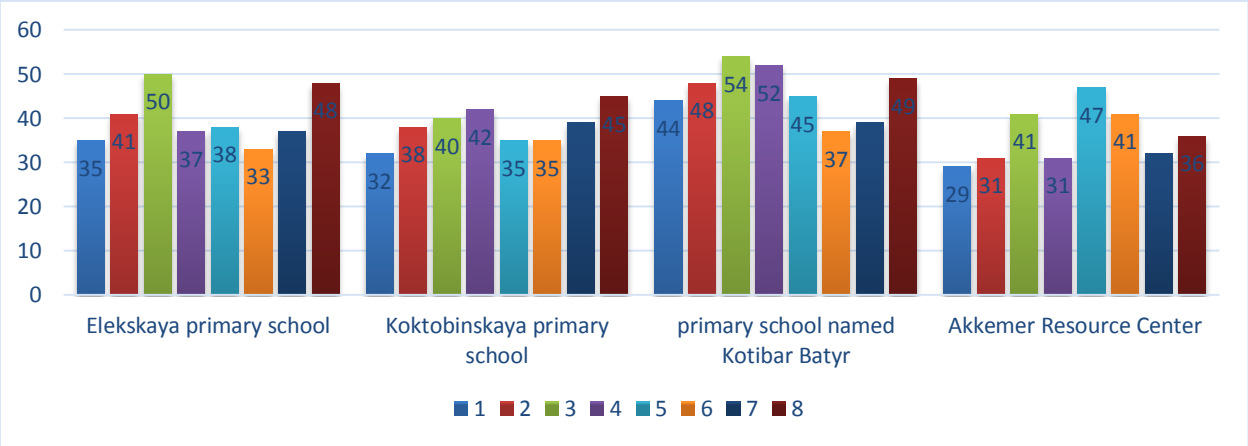


Figure 1. The results of Phillips's diagnosis of school anxiety level

According to information received the fact of relatively calm background of school anxiety should be noted at the time of the students' presence at the resource center. Students of Elek general school showed an increased level of anxiety (50%) for the frustration needs to succeed. The students of general school named after Kotibar Batyr showed the state close to the alarming one. This is due to the small number of students come to study to the resource center.

At the time of the experiment work it was also important to determine the level of personal and professional capacities of teachers participating in the study. To do this, they took part in the survey "Assessment of the school. Evaluation own work results" (according to V.Sabila, T.Malakhovskaya)[1].

This survey was conducted with schools teachers and teachers of Akkmer magnetic resource center teaching in classes 8-9. Questions are ranked in two ways:

1. Evaluation of the school where the teacher works;
2. Evaluation own work results (see Figure 2).

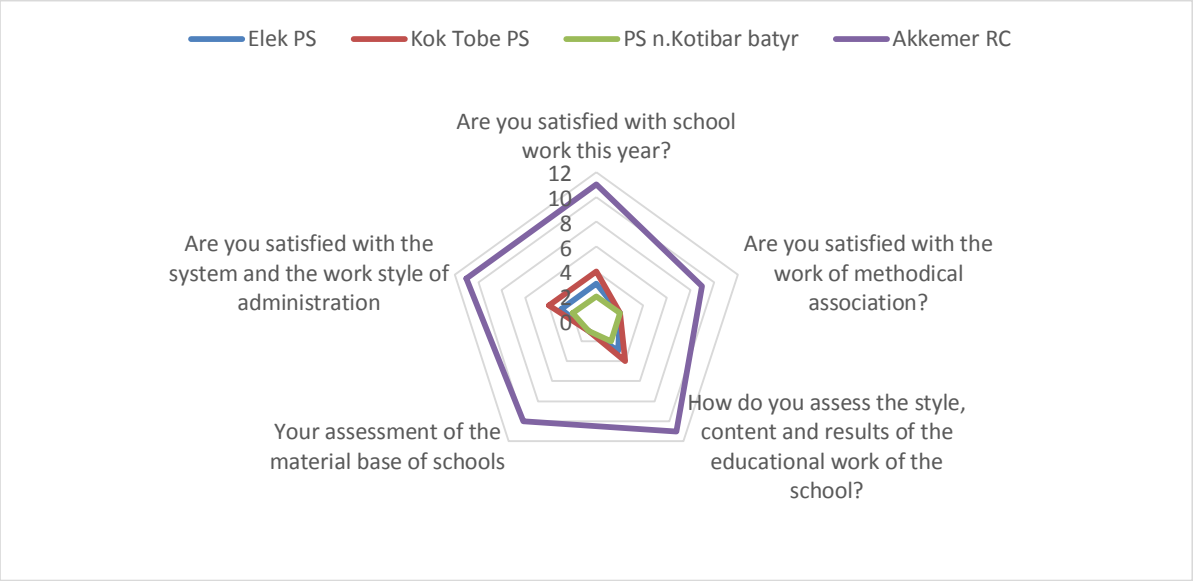


Figure 2. The results of the survey "Assessment of the school. Evaluation own work results" (according to V.Sabila, T.Malakhovskaya)

Evaluating own work results teachers of magnetic schools also showed a low creative activity, 13% have difficulties related to the conduction of experiments, the presence of the necessary equipment, educational materials. Joining the resource center, many educators have established creative contacts and joint projects in their subjects. The parameter "work as a classroom teacher" showed low indicator. This is due to the fact that sending students to the resource center, all are liable for the safety of life and

health of the students, establishing and administration of educational work not only with students but also with their parents.
In order to develop methodological aspects of educational technology and information technopark following principles have been identified [4]:

1. *Openness of technopark* - resource center of advancing civilization networking in all its positive development: human values, science, labor, culture, communication, production, economy, lifestyle and others.
2. *Focus on continuous improvement* of the educational process on the basis of all the new tools and technologies.
3. *Continuous improvement* of common information and educational space of the network of schools and networking.
4. *Creation and development of a single network of schools*, combined digital school - resource center, based on the infrastructure of the new combination of new and irreplaceable traditional concepts.
5. *Technological effectiveness of education*. The educational process is fulfilled with modern developing and information and computer technologies.
6. *The system of children protection from morally destructive information* in an open informative-educational environment.

Organizational-methodical aspects of education-information technopark's technology allow to determine the result orientation in the joint activity of the bodies at networking, such as:

- educational results taking into account the regulatory requirements to the activities of education and information technopark and a factor of networking schools;
- resource software (legal, logistical, personnel, information, educational, scientific, methodical, software, financial);
- application of information-communicative and electronic resources in various activities (curricular, extracurricular, administrative and extra-budgetary, networking with other education organizations, socio-cultural environment);
- traditional forms of leisure and educational activities;
- infrastructure changes of educational and informational technopark - resource center networking;
- changes in the socio-cultural environment of the area under the influence of the activities of educational and informational technopark - resource center as a component of the infrastructure of the neighborhood.

The basic principle of creating a common information and educational technopark is to provide a superior personality-developing socially important environment for all information consumers, as well as determining the most effective modalities of interaction between all participants in the educational process - the bodies of the information space.
The following stable groups should be understood by the participants of the educational process:

- administration of educational institutions (the director and his deputies);
- social-pedagogical service;
- pedagogues (class teachers, subject teachers);
- students (regardless of parallel and age-class);
- parents or persons replacing them (as the main customers of high-quality educational services);
- social partners [5].

All of these participants of the educational process are involved in a single information space and linked on the informational level, combined with each other with relevant information flows.
Organizational matters of the opening and operation of educational and informational technopark allow to highlight correction processes to improve its operations. In the process, there are side issues that must be solved, otherwise they make the operation of technopark area impossible.

## 6. Conclusion

The results obtained at the intermediate stage, allow us to determine the educational and information technopark as an educational technology, aimed at improving the educational process of rural students

who do not have access to quality education. Two types of educational programs with the introduction of this technology are mastered:

- Mainstream educational program;
- Additional (person-oriented) educational program.

With the development of educational programs the following are used:

- Educational and informational resources technopark – resource center;
- Own resources (education institutions);
- The resources of other organizations.

Considering the educational and information technology park as an educational technology, we identified the values, the purpose, objectives, principles, methodological and organizational-methodological aspects.

## References

[1] Guidelines for young professionals to design modern educational schoo, Ufa: Izd Chelyaba. state. University Press, 2013, 67 p.
[2] Shunkeyeva OA Almurzayeva BK, Functioning of basic school as effective way of socialization of rural schoolchildren, ICEEPSY on Education & Educational Psychology Turkey, Istanbul, 13-17 October 2015, pp 237-245
[3] http://azps.ru/tests/tests_philips.html
[4] Suvorov G, Organization of classes in small schools, Moskow, Rural School. - 2000, №6, p.108-117.
[5] Almurzayeva, BK The educational process in small schools, Meth. pos. - Aktobe:, 2015. - 71 p.