PUBLIC PRIVATE PARTNERSHIPS IN EDUCATION: MODES OF GOVERNANCE IN DEVELOPING ECONOMY

Gulmira K Issayeva, M.Auezov South Kazakhstan State University
Anar A Abdikadirova, Science Committee of the Ministry of Education and Science of the Republic of Kazakhstan
Zhanna T Aliyeva, Narxoz University
Marzhan T Kalmenova, M.Auezov South Kazakhstan State University
Zarema A Bigeldiyeva, M.Auezov South Kazakhstan State University
Ainura N Aitymbetova, M.Auezov South Kazakhstan State University
Zamira U Kudaibergenova, M.Auezov South Kazakhstan State University
Altyn M Yessirkepova, M.Auezov South Kazakhstan State University

ABSTRACT

High schools and their product–a human capital–can be regarded as one of the most important sectors affecting the socio-economic development of the country. The key role here belongs to a public-private partnership of the state and business structures with educational institutions. The relevance of this issue for developing economy is caused by the fact that in terms of financial and economic instability and insufficient amounts of budget funds, attracted for implementation of social projects and programs, there is need to form motivational incentives and create opportunities to attract extra-budgetary sources of funding. As the role of the state in the public-private partnership is not limited by the partner's role in the interaction, this makes it necessary to analyse tasks and functions of the interrelated parties, as well as their benefits from participation in the public-private partnership projects using the dual education. This paper considers the economic essence of the partnership in terms of harmonizing the interests of the state and business. The public-private partnership in the sphere of higher education is defined as a system of mutually beneficial long-term relations between the state and business with a view of efficient allocation of roles between the partners in the sphere of higher education to improve competitiveness of high schools. The authors used the mathematical theory of games in order to estimate all possible strategies of investment and use of funds both for the state and business associations. Applying the minimal costs criterion, it is possible to develop the decision set matrix in the given interaction structure of the state and business organizations.

Keywords: Human Capital, Dual Education, Economics of Public-Private Partnerships, Payoff Matrix, Entrepreneurship Interaction Strategy, Liability of the Parties.

INTRODUCTION

Higher education plays an important role in the professional training of competent and competitive specialists for all branches of the Republic's economy in the integration of science and production.

Currently, there are 148 HEIs in Kazakhstan (9 National, 2 International, 32 State and 12 Non-State, 93 Private, including 16 Corporate), where more than 595 thousand students study.

However, many employers are not satisfied with the quality of training (Tan, 2014; Lauder, 2015; Menguc & Barker, 2015). Educational programs do not always meet expectations of the employers and do not meet needs of the economy.

After its independence, Kazakhstan has carried out the most radical, among the CIS countries, reforms in the higher education to integrate into the European educational space. Currently, private HEIs (96 of 149 or 62% of the total number of higher educational institutions) prevail in the structure of Kazakhstan's higher education. However, leading, the most major HEIs are the state-owned. Thereby, more than half of the graduates continue to provide the state HEIs. In a result of the state's policy to optimize the structure of higher educational institutions, in particular by strengthening the requirements for licensing of educational activity, there is a tendency to reduce the number of HEIs in recent years. From 2001 to the date, this number reduced from 182 to 149. However, existing number of HEIs is too excess.

Significant growth of HEIs and unprecedented increase in the number of students involved both positive and strongly marked negative consequences such as reduction in the quality of education (Petrov, 2009; Dmitrieva, 2011; Shelten, 1996). The quality reduction in its turn leads to the fact that the market is not able to find a use for the increasing number of HEIs' graduates. This can be resulted in increased social strain in the country (Acemoglu and Angrist, 2000; Black, Devereux and Salvanes, 2005). Disappointed career expectations of hundreds of thousands of young people–this is a serious threat (Galiani, Gertler & Schargrodsky, 2007; Harmon and Walker, 1995). Adaptation to the living conditions of graduates of the XXI century is problematic–their expectations are quite high along with the corruption component, covering lives of young specialists, beginning from their entrance to HEI and ending with their beginning of work. On the other hand, the question is inconsistency between the nomenclature of diplomas and real production demands, especially taking into account rapid development of technologies and equipment. Many HEIs and colleges, public and private, have no conditions for qualitative training, as the existing funding system is not destined to upgrade expensive equipment. Overcoming this by increasing the budget financing is unreal and ineffective, while development of partnership relations between HEIs and product, especially foreign companies is necessary to overcome the technological gap. Also, there is a steady ageing of the teaching staff in HEIs of the country. The mean age of HEIs' teachers comes up to the pension age that naturally makes it difficult to reform the HEI system (Damitov et al., 2009).

Beginning of the higher education reforming in the Republic of Kazakhstan is connected with the year of 1995. Different reforms began to be implemented the most intensively in this period. However, at the same time, the pace and depth are still insufficient, whereas economic difficulties are the main obstacles in the implementation of required reforms. The entire period of Kazakhstan's independence can be divided into the reforming stages of higher education, which can be conditionally divided into the following:

1991-1994 years (first stage). During this period, there was formation of the legislative and development of the regulatory legal framework of the higher education. The main objectives of this stage include formation of a network of higher educational institutions, as well as updating the list of specialties in the higher educational institutions. Measures undertaken in this period, found the legislative approval in the Law of the Republic of Kazakhstan "On Higher Education" (1993). The State Standard of Higher Education of the Republic of Kazakhstan (General provisions), which defined for the first time introduction of a multi-level structure of

the higher education in the country, introduction of academic bachelor and master degrees was approved in 1994.

1995-1998 years (second stage). Initiation of the higher education system's modernization. This stage is characterized by development of conceptual bases for the higher education system development. This was presented in the Concept of the state policy in the field of education, approved in the National council of the state policy under the President of the Republic of Kazakhstan on the 4th of August, 1995, new regulatory legal acts, which established regulations for the higher educational institutions activity, were also signed. The first educational standards in the Republic of Kazakhstan by 310 specialties of the higher vocational education were developed in the period from 1995 to 1997. The latest wording of the Classifier (list) of higher education specialties of the Republic of Kazakhstan, including 342 specialties was approved in 1996. The non-state sector of education was actively developed in this period.

1999-to the date (third stage). During this period, we observe decentralization in management and financing of the education, as well as expansion of the higher educational institutions' academic freedom. Up to 1999, the legal development aspects of the education system governed by two laws: "On education" and "On higher education", adopted in 1992 and 1993. In June 1999, the new interpretation of the Law of the Republic of Kazakhstan "On Education" was adopted. On July 20, 1999, the Government of the Republic of Kazakhstan adopted the next resolution "On the plan of measures to realize the Law of the Republic of Kazakhstan "On Education". The draft law of the Republic of Kazakhstan "On amendments and supplements to some legislative acts of the Republic of Kazakhstan on the issues of education", as well as 28 resolutions of the Government of the Republic of Kazakhstan, 13 of which are related to the higher education, were developed in accordance with the above-mentioned resolution. In the period from 1991 to 2002 more than 70 major regulatory documents, introducing regulations for the higher educational institutions' activity were adopted (Law of the Republic of Kazakhstan, 2007).

In a result of the State program for development of education in the Republic of Kazakhstan for 2005 2010 years carrying-out, the educational structure was coordinated with the International standard classification for education. Conditions for introduction of the 12-year model of education were formed in this period. Restructuring of the technical and vocational education was carried out. Three-level training of specialists: Bachelor–Master–PhD doctor was introduced. The Classifier of the higher and postgraduate education specialties of the Republic of Kazakhstan, including enlarged groups of specialties was also approved. The National system for rating of the quality of education, including elements of independent foreign evaluation (licensing, attestation, accreditation, rating, unified national test (further–UNT), intermediate state control (further–IST), complex test for applicants, etc., was formed. The following structure for the higher professional education was legislatively confirmed in the Republic of Kazakhstan for the first time:

- Higher basic education (Bachelor's program);

- Higher special education;

- Higher scientific-pedagogical education (Master's program).

Significant contribution to the country's human capital formation was introduction of the international scholarship of the President of the Republic of Kazakhstan "Bolashak", providing training for gifted young Kazakhs in the best universities of the world (Bolashak, 1993).

To the date, Kazakhstan has signed the major international documents in the field of education, defence of human and children rights, such as Universal Declaration of Human Rights, Convention on the Rights of the Child, International Declaration of Economic, Social and Cultural Human Rights, Lisbon Convention on the Recognition of Qualifications concerning Higher Education in the European Region, Bologna Declaration and other.

Certain steps to achieve the world level in the field of higher education system were taken: The Republic entered in the European educational space, joined the Bologna Declaration, established one of the most prestigious higher educational institutions of the world level–"Nazarbayev University" in Astana.

The academic freedom of HEIS in establishing of the curriculum content was considerably expanded; an optional component was strengthened–from 40% to 50% in the Bachelor's program, from 50% to 60% in the Master's program and from 70% to 80% in the doctorate.

Number of ambitious students, who want to obtain qualitative higher education, annually increases. Currently, more than 20 thousand Kazakhs study abroad. More than 3000 holders of "Bolashak" international scholarship of the President of the Republic of Kazakhstan study in 27 countries of the world (Bolashak, 1993). Appropriate measures for formation of conditions to increase attractiveness of Kazakhstan's higher education system of for foreigners are taken. Currently, more than 10 thousand foreigners study at HEIs of the Republic.

A major hidden factor covering the entire system of higher education in Kazakhstan is corruption. The higher education policy will not be effective until specific measures will not be taken to eradicate the corruption.

There are negative tendencies in the staffing of HEIs: There is no systematic reproduction of teaching staffs, a multiple employment is in common practice.

Currently, effective mechanisms of the state support for financing of educational services are in deficiency.

Integration of education, science and production, development of post-graduate education based on modern achievements of science and technology are among the priority directions of the economic development.

There are many outstanding problems in the field of science.

- Outdated material and technical base and equipment in laboratories do not allow carry out qualitative scientific researches.

- Insufficient quantity of design institutes and bureaus slows down transfer of technologies into production. There is no interaction mechanism between design institutes, bureaus and production with HEIs.

- No conditions to attract the youth in the science. Personnel ageing are observed. The mean age of research workers is 55 years.

- Scientific potential of Kazakhstan HEIs is used extremely ineffectively.

The poor collaboration of education, science and production is caused by:

- Interdepartmental barriers among HEIs and scientific organizations;

- Insufficient financing of HEIs' science;

- Over directing of the educational process, which does not allow flexibly respond on achievements in the science and technology, consider changed needs of production;

- Lack of the private sector's economic motivation to invest in education, science and innovative activity.

Kazakhstan has no developed institutional support forms of innovative structures, which perform developments and ensuring rendering of scientific research and R&D works' results to their implementation. The share of scientific research in Kazakhstan remains below the level accepted in developed countries in more than ten times.

To overcome these difficulties in the sphere of higher education the most effective decision is the public-private partnership at which the business may invest in training of marketable qualified specialists (Bok, 2015; Sharma et al., 2015; Okoye & Chijioke, 2013; Torvinen & Ulkuniemi, 2016). Such business investments in the system of higher education in South Korea achieved 98 thousand USD, in Singapore-84.5 thousand USD, in Holland-72.8 thousand USD and that resulted in advantages in development of technologies and training of professional personnel (Investment in education, 2013). However, in the post-Soviet countries this question has not been considered enough and as the result the public-private partnership share in the system of higher education is low. Thus the objective of the paper is to consider prospects from the public-private partnership in the system of higher education.

The theoretical and methodological basis of the study consists of fundamental positions of classical and modern economic theory on the role of higher education in economics (Bonin, 2017), human capital theory (Fitzsimons, 2015; Papagiannis, 2018).

The empirical base of the study is presented by information from the Ministry of Education and Science of the Republic of Kazakhstan, European PPP Expertise Centre and the World Bank data.

The information base for the study were laws, regulations and orders of the Government of the Republic of Kazakhstan, sectorial statutory regulations of Kazakhstan's ministries and authorities, regional legal acts, regulating relations between the state and business structures, including in the field of higher education and information materials of the Ministry of Education and Science of the Republic of Kazakhstan, Committee on Statistics of the Republic of Kazakhstan.

The paper used a dialectical approach, methods of comparative and statistical analysis, graphical and tabular data visualization techniques. The work also used mathematical theory of games (Tucker & Luce, 2016).

DATA ANALYSIS AND RESULTS

Improvement of interaction between the state and entrepreneurship is to ensure both the state and entrepreneurship with maximal yield. To find the best strategy for investing the resources, it is necessary consistently analyse all possible strategies of investment and use of funds both for the state and business associations.

To this end, the authors used the mathematical theory of games. Possible options (outcomes) of the game can be summarized in so-called payoff matrix. The rows of the matrix correspond to different strategies of a player and columns–to the strategies of B player. The value of q on the intersection of corresponding rows and columns is called a worth of the game.

To find an optimal strategy, it is necessary consistently analyse all possible strategies and depend on the fact that an intelligent opponent will answer for each of the strategies by a strategy at which a payoff of A player is minimal. Usually, minimal numbers in each row are denoted by α_i and put down in the form of the payoff matrix additional column (Table 1).

	B_1	B_2	B_3	...	B_n	α_i
		Table 1 **GENERAL VIEW OF THE PAYOFF MATRIX WITH SELECTED** **VALUES OF IMPUTATIONS**				
A_1	q_{11}	q_{12}	q_{13}	...	q_{1n}	α_1
A_2	q_{21}	q_{22}	q_{23}	...	q_{2n}	α_2
A_3	q_{31}	q_{32}	q_{33}	...	q_{3n}	α_3
...	...	...	...	...	...	...
A_m	q_{m1}	q_0	q_{m3}		q_{mn}	α_m
β_i	β_1	β_2	β_3	...	β_n	

Each row will have its own min q_{ij}. The preferred strategy for A player is that strategy, at which α_i is turned into the maximum, i.e., α=max α_i or, taking into account the previous expression, α=max min q_{ij}. The value of α is called a maximin payoff or simply a maximin and its corresponding strategy–a maximin strategy. If to observe the maximin strategy, then at any behavior of B part (business association), the win will be guaranteed, anyway not less than α. In this connection, α is also called as a lower value of the game–this is that guaranteed minimum of the state's budget revenue, which can be provided at the most cautious (overcautious) strategy.

Similar arguments can be brought forward for B part. In this case for the enterprise. An entrepreneur considers all his/her strategies, allocating for each of them maximal values of the win: β_i=max q_{ij}. These values are put down in the payoff matrix additional row. The minimal is found from all the values: Min max q_{ij}. Supposing that the state and enterprise will behave reasonably, i.e., choose appropriate "cautious" strategies and then the next equation can be written for them:

$$\text{Min max } q_{ij} = \text{max min } q_{ij}.$$

This means that the lower value of game is equal to the upper one $\alpha=\beta$. The value of ν is called a net value of the game. In the payoff matrix of such game, there is an element, which is simultaneously minimal in its row and maximal in its column. If we neglect B discrete strategy, then we can say that the point is a "saddle". A pair of minimax strategies, which are optimal for both players, i.e., both for the state and business, corresponds to the "saddle" point.

The authors considered the public-private partnership in the field of higher education dual training. The estimation identified that within the framework of public-private partnership in the system of dual training in the sphere of higher education, the most effective interaction variant will be the state procurement of laboratory and other training equipment (Table 2).

It is the author's opinion that it is effectually compare the strategies by criterion of costs C to realize the interaction project (resources of the state, business organizations, going into the partnership). Choice of the optimal interaction variant occurs on the base of minimal costs' choice at the specified threshold value of efficiency $Э_0$

$$F(R, T) = \text{min } C \text{ at } Э_0 \geq Э; T_0 \leq T,$$

Where:
F(R, T): The choice function of the optimal interaction variant;
R_i: A multitude of the alternative interaction variants;
C: The costs indicator;
Э: The interaction variant efficiency indicator;
$Э_0$: The specified (threshold) value of the efficiency;

T: Time indicator;

T_0: Specified (limit) period of time

Table 2 THE STATE AND ENTREPRENEURSHIP INTERACTION STRATEGY CHOICE IN THE SYSTEM OF DUAL TRAINING IN THE SPHERE OF HIGHER EDUCATION, BILLION KZT							
	Creation of research-and-production workshops at the base of enterprises	Procurement of laboratory and other equipment	Training on the base of universities	Organization of production practice for students	Total complex of educational services	Total complex of services (equipment + education)	Minimal value (α_i)
Full participation of the state at all stages	1.1	1.9	0	0	0	0	0
Only theoretical training without training of practical skills	0	1.5	1.5	0	0	3.6	0
Only training of practical skills without theoretical training	0	2.7	0	1.8	2.4	4.1	0
Complete delegation of educational functions to business structures	**1.2**	1.8	1.9	2.1	3.5	5.8	**1.7**
Maximal value (β_j)	**1.2**	2.7	1.9	2.1	3.5	5.8	4.8

Using the minimal costs criterion, let's choose the least costs in the given interaction structure of the state and entrepreneurs.

Let us denote the structure V_1. In a similar manner, using the minimal costs criterion, let's choose the least costs in the given interaction structure of the state and business organizations V_2, etc. Then, a complex of possible solutions can be described by a matrix presented in Table 3.

Table 3 DECISION SET MATRIX				
Interaction forms	Interaction variants			
	S_1	S_2	…	S_N
V_1	E_{11}	E_{12}	…	E_{1N}
V_2	E_{21}	E_{22}	…	E_{2N}
…	…	…	…	…
V_M	E_{M1}	E_{M2}	…	E_{MN}

Where:

S_i: An interaction variant;

V_j: An interaction form;

E_{ji}: Quantitative screens of optimality for the considered project of the interaction realization S_i in conditions of the definite form V_j.

It is necessary to choose the optimal from the available set of variants. Let's take maximization of the efficiency function as the optimality criterion, respectively:

F(i; j) =E max, where F(i; j)=The optimal variant, from N possible strategies and M variants of integration structures.

Thus, based on the given decision set matrix, the interaction initiator chooses the most optimal form and variant of the interaction. It is fundamentally important that tools of the game theory allow define the most effective interaction variant for all its participants. This is the ground and passport to success of any strategic interactions.

DISCUSSION

The public-private partnership in the field of education of the Republic of Kazakhstan is facing with a number of problems. One of the major problems is imperfection of the regulatory legal and methodical framework (in terms of sectorial and other by-laws), that allows implement effective mechanisms of the public-private partnership and ensure at the same time implementation of strategic goals and objectives of the state in the field of education, as well as interests of the private sector as a full a partner of the state in the field of vocational education. Currently, some restrictions in the active legislation significantly hinder implementation of such mechanisms of the PPP institutional form as creation of commercial (or non-commercial) organizations with participation of the state or private educational institution or public authorities and local government (Antonova, 2010; Hodge & Greve, 2017; Ameyaw & Chan, 2016).

Based on the revealed problems, hindering the public-private partnership development in the sphere of higher vocational education in the Republic of Kazakhstan, the next possible solutions were offered (Table 4).

Table 4 THE PUBLIC-PRIVATE PARTNERSHIP DEVELOPMENT PROBLEMS IN KAZAKHSTAN AND METHODS OF THEIR SOLUTION		
Problem	**Possible risks**	**Solution**
Imperfection of the regulatory legal base	• Full protection of rights in business is not provided (for example, concessioner's rights). • Standard forms of PPP-contracts are not provided. • Possible interaction directions and forms, taking into account sectorial specificity, are not specified. • List of possible preferences is not available. • Specific character for regulation of relations under the PPP in legislation of a number of subjects in RK is not provided.	• Legislative consolidation of rights and duties of parties in the PPP. • Determination of forms and mechanisms of partnerships in the law on PPP on federal and regional levels. • Development of regional legislation on PPP. • Consolidation of list of preferences, presented to the business. • Consolidation of list of guarantees, presented to all interacting subjects. • Establishment of sanctions for default on commitments by the parties, under the PPP-agreements.

Corruption and imperfection of procedures for selection of a contracting party	• Block business resources flow into the sphere of World Education. • A risk of biased sampling of a partner's company during competitions. • Increase business costs. • Reduce projects' management efficiency. • Promote to the purposeless capital application. • Reduce investment attractiveness for foreign investors.	• Development of mechanisms to conduct competitions: The process should be public, open and transparent. • Regulation of investment projects' passage through the authorities. • Development of contracts' detailed conditions. • Application of a signal system, filtration or rationing, for example, by making a part of information public to representatives of business structures or due to the application of payment vehicle, directly depending on activity results, etc.
Opportunistic behavior of business partners	• Low quality of rendered services. • Nonobservance of key periods of projects, delay of works for reduction of costs.	• Detailing of conditions, use of sanctions for non-performance, introduction of modifications in the legislation and judicial system. • Establishment of specified in a contract conditions efficiency indicators. • Monitoring system should comprise all aspects for functioning of a project.
Insufficient motivation	• Promotes to the development of "short investments" only. • Blocks the PPP development. • Favors to the shift of all risks and responsibilities on the state.	• Creation of possibilities to achieve high profitability in the business. • Provision of long-term guarantees for return of invested resources. • Rendering of investment tax credit. • Granting of certain guarantees. • Reduction in investor's property tax depending on the investment amount.
Deficiency of contracts and asymmetry of contractual relations' information	• Rights and duties of the parties are not defined completely; essential conditions of the contract are not stipulated. • Provisions of the contract are indefinite, can be explained differently. • Fraudulent misrepresentation of the partner is possible, the contract's information hiding.	• Introduction of requirements to open information. • Use of standard contact terms (especially in the field of World Education infrastructure). • Legal consolidation of standard provisions in the PPP contracts, requirements for their observance, sanctions for default of the contract's provisions.

A problem of risks and liability of the parties	• Allocation of responsibility without any competencies. • Inefficient management by risks. • Increase in costs for the project implementation.	• Availability of detailed conditions in the PPP agreements with indication of the investments returns order and compensation of existing costs. • Granting of guarantees, protecting business structure representatives from a confiscation risk, currency convertibility risk, risks connected with changes in the regulatory legal base, etc. • Development of risks' typology.
A problem of low qualification and qualified personnel deficit	• Lack of required knowledge and competencies. Increase of managerial risks. • Decrease in the quality of rendered services.	• Formation of centers for further training for civil servants at HEIs. • Increase of requirements to qualifications of civil servants, participating in the PPP-projects. • Publishing of periodicals, training aids to form appropriate competencies. • Introduction of requirements to the competence of business-partners in evaluations.

However, the existing experience of the interaction of the University with companies and organizations in the region, strengthening the existing relations allow in the long term move to the full partnership of education and production.

CONCLUSION

An important discussion aspect of the future strategic partnership of higher schools, scientific and business communities is interest of enterprises to solve a number of practical issues, related both to the training of specialists, capable to work in the innovative field of modern production and to solve a number of scientific and technical problems, associated with increase in efficiency of technological and business processes. The partnership between universities and industrial enterprises is not obtained due to the lack of motivation.

Thus, the offered practical recommendations on development of the public-private partnership in the sphere of higher education may increase the business' motivation level and enter into constructive cooperation between the private sector and state structures.

In the result of such partnership the level of the educational quality will substantially increase and the business will obtain qualified specialists.

REFERENCES

Acemoglu, D. & Angrist, J. (2000). *How large are the social returns to education?* Evidence from compulsory schooling laws. NBER Macroeconomics Annual. Cambridge: MA, MIT Press.

Ameyaw, E.E. & Chan, A.P. (2016). A fuzzy approach for the allocation of risks in public–private partnership water-infrastructure projects in developing countries. *Journal of Infrastructure Systems*, *22*(3).

Antonova, K.A. (2010). Public-private partnership: Modern approaches. *Economics and management, 3*(53), 49-51.

Black, S., Devereux, P. & Salvanes, K. (2005). Why the apple does not fall far: Understanding intergenerational transmission of human capital. *American Economic Review, 95,* 437-449.

Bok, D. (2015). *Higher education in America.* Princeton University Press.

Bonin, H. (2017). *Economics of education*.

Damitov, B.K. (2009). National report on conditions and development of education in the Republic of Kazakhstan. *Astana,* 308.

Dmitrieva, Y.A. (2011). *Public-private partnership in the sphere of education as a mechanism for stimulation of a country's innovative development.* Materials of International youth scientific forum "Lomonosov-2011". M.: MAX Press.

Fitzsimons, P. (2015). Human capital theory and education. In *Encyclopedia of educational philosophy and theory*. Springer Singapore, 1-4.

Galiani, S., Gertler, P. & Schargrodsky, E. (2007). Helping the good get better, but leaving the rest behind. *Journal of Public Economics, 92,* 2106-2120.

Harmon, C. & Walker, I.A. (1995). *Estimates of economic return to schooling in the UK.* Working Paper 540195, Department of Economics, Finance and Accounting. National University of Ireland.

Hodge, G.A. & Greve, C. (2017). On public–private partnership performance: A contemporary review. *Public Works Management & Policy*, *22*(1), 55-78.

http://delonovosti.ru/main/1621-investicii-v-obrazovanie.html

https://www.bolashak.gov.kz/ru/o-stipendii/istoriya-razvitiya.html

Lauder, H. (2015). Human capital theory, the power of transnational companies and a political response in relation to education and economic development. *Compare: A Journal of Comparative and International Education*, *45*(3), 490-493.

Law of the Republic of Kazakhstan "On Education". (2013).

Menguc, B. & Barker, T.A. (2015). The role of human capital resources in rent generation and rent appropriation: Implications for knowledge management process. In *Assessing the Different Roles of Marketing Theory and Practice in the Jaws of Economic Uncertainty,* Springer.

Okoye, K.R.E. & Chijioke, O.P. (2013). Private-public partnership and technical vocational education and training (TVET) in a developing economy. *Arabian Journal of Business and Management Review, 2*(10), 51-61.

Papagiannis, G.D. (2018). Entrepreneurship education programs: The contribution of courses, seminars and competitions to entrepreneurial activity decision and to entrepreneurial spirit and mindset of young people in Greece. *Journal of Entrepreneurship Education*, *21*(1).

Petrov, Y.N. (2009). *Dual system of engineering-pedagogical education–innovative model of current vocational training.* N. Novgorod, 280.

Sharma, D. (2015). *Role of public-private partnership in higher education.*

Shelten, A. (1996). *Introduction into professional pedagogics.* Ekaterinburg: Publishing house Ural of the State Professional-Pedagogical University, 288.

Tan, E. (2014). Human capital theory: A holistic criticism. *Review of Educational Research*, *84*(3), 411-445.

Torvinen, H. & Ulkuniemi, P. (2016). End-user engagement within innovative public procurement practices: A case study on public–private partnership procurement. *Industrial Marketing Management*, *58*, 58-68.

Tucker, A.W. & Luce, R.D. (2016). *Contributions to the Theory of Games (AM-40), 4*, Princeton University Press.