

# Methodological aspects of E-Learning innovativeness

## Aspectos metodológicos de la innovación del E-Learning

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#### ABSTRACT:

Like any innovation, the e-learning raises the issue concerning demand for innovation and its operability, that is, the problem of e-learning innovativeness study. First stage of the study shall consist in validation of the methodological aspects as the basis for further theoretical and applied researches that is why this goal has been set in the article. Methods: systemic approach, dialectic approach, expert assessment method. Results: based on the developed scheme of innovative reformation, the categories, principles and criteria of e-learning innovativeness have been systematized; and earlier given definition has been specified. The innovativeness categories have been divided into qualitative and quantitative ones: in a qualitative sense these are industrial, postindustrial and information models, and in a quantitative sense each of these models may be both intrinsic and extrinsic. Innovativeness principles' validation was performed from two positions: from the position of accepted concept definition and from the position of e-learning methodology. Innovativeness criteria have been accepted with due regard to definition itself: this refers to education quality and effectiveness. Novelty: It is the first time when the issue concerning e-learning

#### RESUMEN:

Al igual que cualquier innovación, el e-learning plantea la cuestión de la demanda de innovación y su operatividad, es decir, el problema del estudio de la innovación en el e-learning. La primera etapa del estudio consistirá en la validación de los aspectos metodológicos como base para más investigaciones teóricas y aplicadas, por lo que este objetivo se ha establecido en el artículo. Métodos: enfoque sistémico, enfoque dialéctico, método de evaluación de expertos. Resultados: a partir del esquema desarrollado de reforma innovadora, se han sistematizado las categorías, principios y criterios de innovación del e-learning; Y se ha especificado una definición anterior. Las categorías de innovación se han dividido en categorías cualitativas y cuantitativas: en un sentido cualitativo se trata de modelos industriales, postindustriales y de información, y en un sentido cuantitativo cada uno de estos modelos puede ser tanto intrínseco como extrínseco. La validación de principios de innovación se realizó desde dos posiciones: desde la posición de definición de concepto aceptada y desde la posición de la metodología de e-learning. Los criterios de innovación han sido aceptados teniendo debidamente en cuenta la definición misma: esto se

innovativeness study from the methodology position is set in pedagogical science. Conclusion: Check of this definition validity has shown that it received sufficiently high appraisal of experts.

**Key words:** e-learning innovativeness, innovativeness categories, principles and criteria, methodology.

refiere a la calidad y eficacia de la educación. Novedad: Es la primera vez que la cuestión relativa al aprendizaje de la innovación por e-learning desde la posición de la metodología se establece en la ciencia pedagógica.

Conclusión: La verificación de esta definición de validez ha demostrado que recibió una evaluación suficientemente alta de los expertos.

**Palabras clave:** innovación de e-learning, categorías de innovación, principios y criterios, metodología.

## 1. Introduction

Currently, innovation theory as the field of knowledge in core innovative activities has firmly established itself in the system of knowledge about development of a socioeconomic entity. The distinctive features of innovations are their novelty, existence of market or social orders, commitment to obtaining certain, preliminarily planned effect and others. With due regard to these peculiarities, in previous works (Nabi & Tokmagambetov, 2011 et al) we have validated the "educational innovation" term as motive, goal, process and result of transformative educational activities of the educational process subjects towards assurance of education quality and effectiveness. In this article this definition will become the foundation for consideration of the methodological aspects of e-learning innovativeness.

World society has entered the new stage of its evolutionary development - stage of information society characterized by rigorous penetration of information and communication technologies into all human life spheres, and information resource role has become not less important than role of material and energy resources. At the same time, in e-learning theory and practice the number of persistent problems remains unsolved. There is no unique, generally accepted and long-standing categorical-and-conceptual framework, issue of developing the pedagogical e-learning methodology remains in abeyance (E-learning concept, 2011). Like any innovation, the e-learning at its implementation raises the issue concerning demand for innovation and its operability, that is, the problem of e-learning innovativeness study. Earlier, in order to choose appropriate terminology we have proposed tentative definition for innovativeness as "innovation effect on education quality and effectiveness" (Nabi, Shaprova & Buganova, 2016). However, we understand that creation of a science-based definition requires consideration of all aspects of this phenomenon. That is why we set the goal to systematize the categories, principles and criteria of e-learning innovativeness and to specify its definition. This goal has not ever been set in pedagogical literature; therefore, novelty of the research result obtained is obvious.

## 2. Methodology

### 2.1 Systemic approach

Systemic approach consists in application of the general system theory tools. This theory founder, Ludwig von Bertalanffy, sufficiently wide interpretation of the systemic approach methodology; and despite of its further development in different directions, understanding of this approach being the most important method in methodology remains. We also will consider the systemic approach as one of the innovation system formation methods and qualify this system as a certain entirety. To be sure, based on the accepted tentative definition the innovativeness should be considered as a system, since:

- In innovativeness definition there are two concepts. They are: cause (innovation) and effect (quality and effectiveness);
- Each of the subsystems (education quality and effectiveness) constitutes a comprehensive and multi-aspect concept.

In the view of the aforesaid we set the goal to identify the innovativeness criteria.

## 2.2 Dialectic approach

Dynamic nature of the processes which occur in education constitutes the result of constant striving of educational process subjects to improvement, to movement from old towards new. This movement shall occur in accordance with the Hegel law of the negation of the negation. As it is known, the law refers to interconnection between three cycles of an object changes ("thesis" – initial state, "antithesis" – first negation, "synthesis" – second negation). As a result of double negation all the best contained in "old" evolves to "new". However, it is necessary to bear in view that in the e-learning implementation process which we consider the second cycle, that is, tradition replacing by innovations still takes place; therefore, the synthesis stage, i.e., replacement of all best, does not still occur, since process of thorough understanding the phenomenon itself is in progress. It is naturally following from the perpetual concrete historical nature of novelty. It is of no importance whether the idea, concept or technology are really new at that moment or not; it is quite possible to determine the time when they were really new (for example, Komensky's class-and-lesson system was really new at the time). Being generated at certain time and progressively solving the problems of certain stage, the innovation may rapidly become available for many people, become a standard, the generally accepted mass practice or may become outmoded, obsolete and putting brakes on development at the later time (Grebenyuk,1996). In 1962, the American sociologist Everett Rogers published the book titled "Diffusion of innovations" in which, on the basis of multiple researches and diffusion concept borrowing from Physics, he had developed his theory of innovation implementation. In deed, by analogy with the physical laws the new (concepts, phenomena, objects) is gradually entering the life of society and becoming its part, i.e. the innovation diffusion process never occurs in a moment. (Danilina, 2015). Therefore, following the author's idea, we do not expect rapid implementation of e-learning. At the same time, we share the Concept authors' opinion (E-learning concept, 2011) that in due course the "e" prefix in "e-learning" word may disappear and all learning will become electronic.

Based on dialectic approach, we conclude that at the stage of innovativeness phenomenon understanding it becomes important to identify its principles and criteria.

## 2.3 Expert assessment method

Methodology of scientific research shall rely not only on theoretical backgrounds but also on empirical verification of the results obtained. Various methods of the research validity: observation, pedagogical experiment, questionnaire and interviewing, expert assessment and others are substantiated and widely used in pedagogy. Taking into consideration the theoretical nature of our research, the use of such methods as observation, pedagogical experiment and others, seems to be impossible. We apply the expert assessment method based on questionnaire and interviewing. Interview resulted in personal expert opinion of the distinguished scientist. For the expert assessment method the questionnaires with numerical score and comparison scales were used. In the expert selection there were considered both generally accepted indices for pedagogical research (academic degree, title) and experience of participation in expertise of scientific and pedagogical documents. We believe that experience in using expert assessments in pedagogical research confirms the method reliability.

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# 3. Results

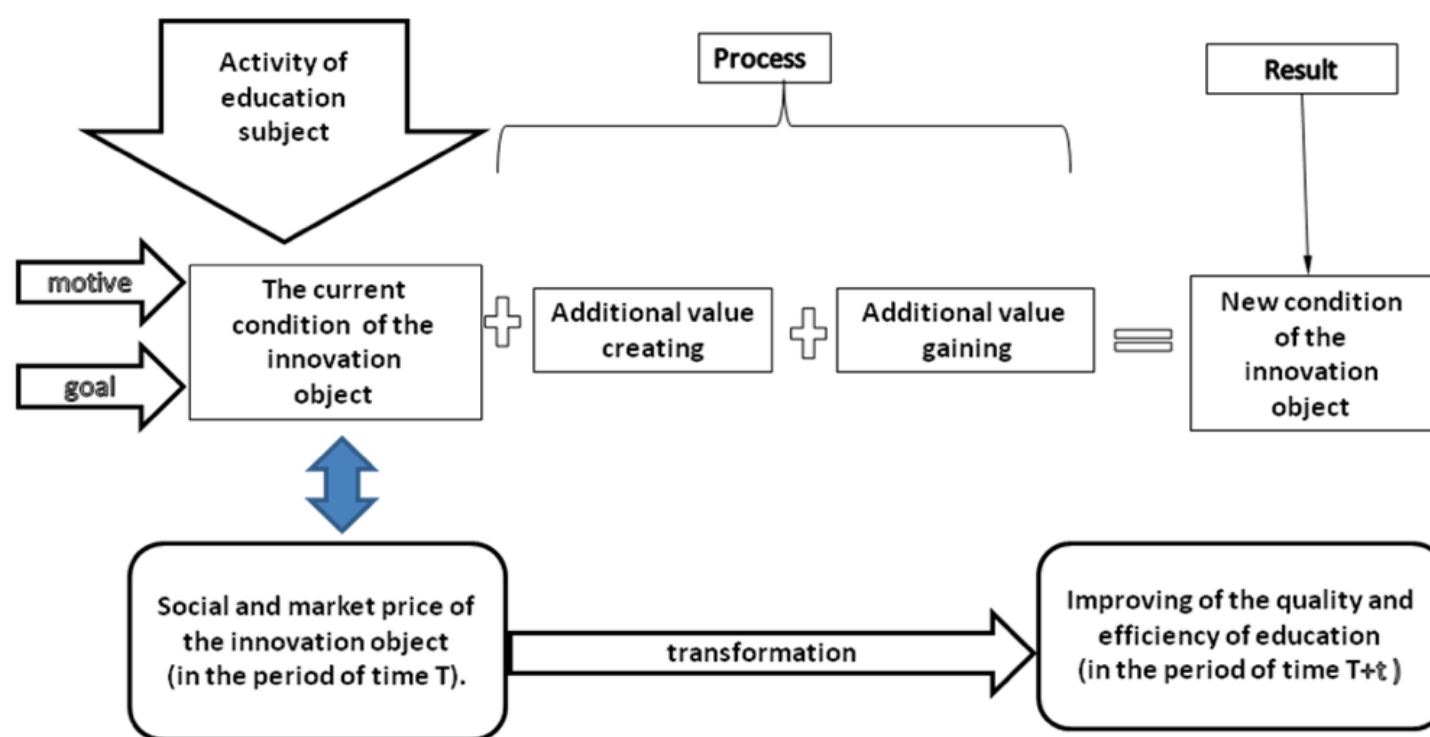
## 3.1 Innovative transformation scheme

Innovativeness concept is rarely but for all that is encountered in pedagogical works (see, for example, Ivanova, 2012). Apparently, this is due to its origination from economics or means common feature of innovation. For example, *Definitions.net*. (2017) source gives following

specification: “Innovativeness is originality by virtue of introducing new ideas (Princeton's WordNet). Innovativeness is the characteristic of being innovative. (Wiktionary)”, and L.R. Batukova emphasizes that innovativeness is the ability of an object (product of consumption, infrastructure, development strategy, information etc.) to be the source for improving effectiveness of the labor system of this socio-economic system (Batukova, 2010).

Apart from direct definitions of the term there are “indirect” ones which characterize some of its aspects. For example, A. Sidorkin notes that the higher the innovativeness in system is the higher the total results are (Danilina A., 2015). “Innovativeness” term, given by I.D. Korotetz (2011) also suggests similar idea of its ability to perform modal function in relation to finished product (sale at market). Author of article (Ivanova, 2012) connects innovativeness level with intensity of innovative change.

As we see, innovativeness is characterized as a result achieved in the course of certain process with observing totality of conditions as source to improve the system effectiveness. According to this, we have developed the scheme of innovative transformation (figure 1).



**Figure 1.** Scheme of innovative transformation

The scheme makes it possible for us to pass on to systematization of categories, principles and criteria of e-learning innovativeness to specify the tentative definition.

### 3.2 Innovativeness categories

Category (derived from κατηγορία — “statement, accusation, sign”) constitutes, from philosophical standpoints, the utmost common concept or similar to it. In the science, any phenomenon arisen as a process which radically changes the customary postulates is expressed in the form of category. Analysis made above has shown: despite of the “innovativeness” term appearance in the second half of last century the term has not any distinct definition. This is due to the term complexity, firstly, due to its content. As it is known, content complexity gives birth to difficulties in the term description or designation. Nevertheless, there are attempts to substantiate the innovativeness category scientifically. In our opinion, the best substantiation of these categories was given by I.D. Korotetz (2011). We introduce the author’s main points with one remark: it would be better to use “information society” term instead of “network, virtual” forms of society. As is argued by the author, innovativeness is executed in the space of certain activity configuration with the purpose of obtaining a competitive product; the essential aspect of this approach consists in entirety of both innovativeness system and of all its subsystems; at that, according to certain parameters, the innovativeness is in conformity to industrial and postindustrial society, as well as to information society (out amendment). Author introduced the

important words by M. Castells that for innovation consumers the process is performed in real time and in the mode of open access to information.

In connection with the above circumstances the author proposes to differentiate innovativeness as phenomenon on the basis of quality and quantity; thus, with respect to quantitative basis he separates natural (or intrinsic) and imported (extrinsic) innovativeness. Then, at such approach in the maximum general approximation, he receives minimum four modernization models based on various forms of innovativeness.

We believe that with due regard to information society six models are obtained: in a qualitative sense these are industrial, postindustrial and information models, and in a quantitative sense each of these models may be both intrinsic and extrinsic (figure 2).

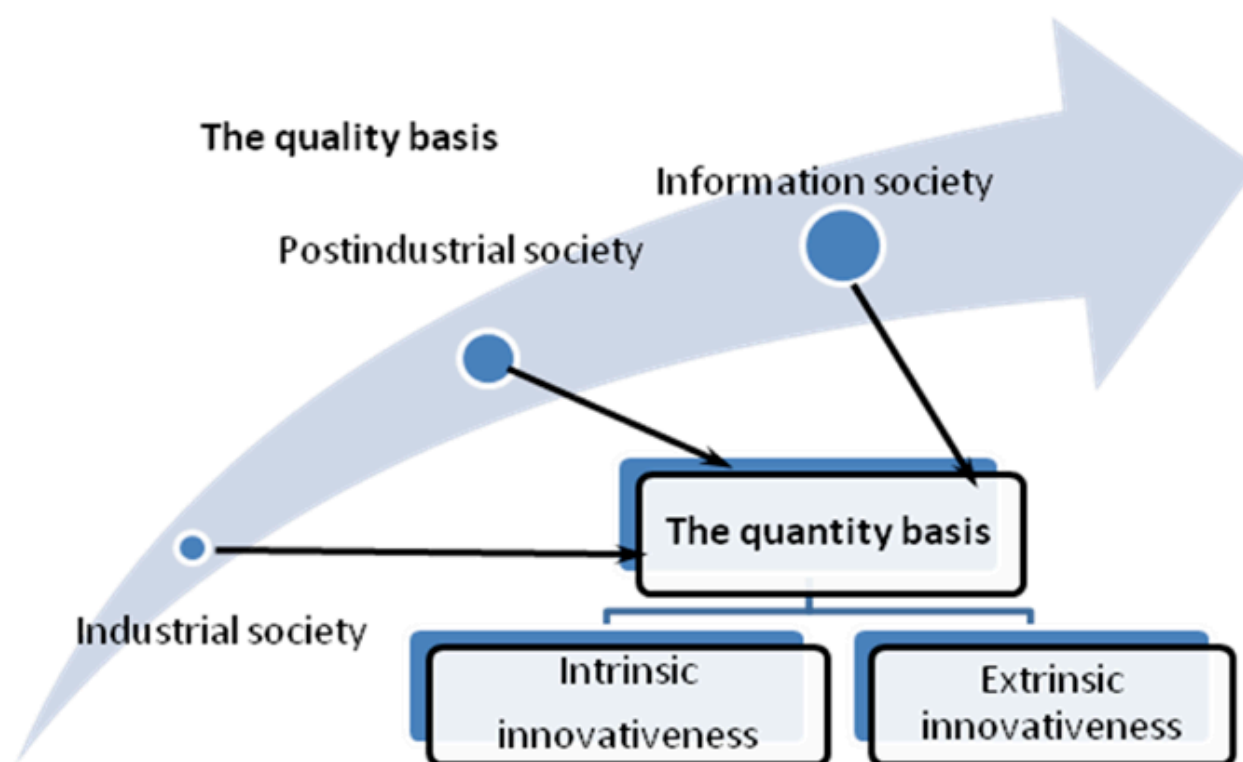


Figure 2. Innovativeness categories

### 3.3 Innovativeness principles

**We will validate innovativeness principles from two perspectives, exactly:**

- from the **perspective** of accepted concept definition;
- from the **perspective** of e-learning methodology

#### **Principles based on the concept definition**

Entirety principle is that interacting elements (education quality and effectiveness) having the features not existing in the system jointly form the system the features of which are not the additive components of these features. At the same time, the system functioning gives the result being higher than the result of each element taken separately. This is achieved through integration of the system components and interaction between them inside the system. Therefore, as a result of integration the comprehensive interconnection occurs.

Adaptability principle is based on the fact that gains in the innovation process performance depend, to the great extent, on possibility to adapt the system to environment changes. Recently, in educational environment the increase is observed in rate of changes having different effect on the process. As E. Naumkina writes, "...the current time peculiarity consists in extremely high rates of innovation implementing..."

Therefore, it is required to adapt continuously to all changes with due regard to both positive and negative effect of this process.

## Principles based on methodology of e-learning implementation

**In previous works devoted to methodology of e-learning implementation, we used regular structural logic connectives which are conditionally called as "triads"** (Nabi Y., 2015). Structural model of such associations is presented in the form of conditional isosceles triangle in the cortex of which there is an element which in itself balances the contradictions of two others. Triad pairs connected by bases where equal elements are located, form some rhomb-like structural associations. We have shown that the main triad of content-related components of problems concerning e-learning implementation is comprised of trainer, trainee and teaching information environment in which the didactic performance capabilities of information and communication technologies are exercised. The triads have the tops where content-related components of problems concerning e-learning implementation in the Republic of Kazakhstan are having been gradually connected to the main triad. In particular, smoothing of contradictions caused by essential changes in educational interaction between trainer and trainee occurs as a result of feedback not only between the trainer and trainee but also between them both and academic information environment which functions on the basis of information and communication technologies. It is appropriate at this point to remind the M. Castells words about the process running in real time. The contradiction arisen is eliminated by change in essence of academic information interaction under conditions of e-learning implementation. Strengthening of the trainer's role in educational process leads to contradiction between a trainee and academic information environment. To eliminate such contradiction it is necessary to develop the scientific-pedagogical and methodological support for e-learning implementation. As a result, contradiction appears between the trainee and this element, the elimination of which requires development of methodological issues of teachers' training for work under conditions of e-learning implementation. However, continuous updating and complicating of interactive teaching aids lead to contradiction between the need in educational process intensification and requirement for protection of mental and physical health of the trainee. This contradiction elimination requires scientific substantiation of policy aimed at mitigation of negative consequences resulted from information and communication technologies using in education and pedagogical product quality evaluating in terms of didactics and ergonomics, and health-saving technologies, as well.

Consequently, we separate following principles of e-learning innovativeness:

- principle of change in essence of academic information interaction under conditions of e-learning implementation;
- principle of scientific-pedagogical and methodological support for e-learning implementation;
- principle of methodological training of teachers for work under conditions of e-learning implementation;
- principle of mitigation of negative consequences resulted from information and communication technologies using in education through use of the health-saving technologies;
- principle of continuous evaluation of pedagogical product quality.

## 3.4 Criteria

Innovativeness criterion constitutes novelty (based on "known – unknown" and "existed – did not exist" principles) (Edited by V. Deliya, 2011). This brief description clearly reflects the criterion essence, but we consider it feasible to determine criteria on the basis of definition we introduced. In fact, innovativeness criteria are the parts of definition itself: **these are education quality and effectiveness**. Keeping in mind that each of two subsystems constitutes a complex phenomenon which requires special consideration, let us briefly describe their characteristics. It may be stated that education quality may be considered as integrative education system characteristics which reflect the conformity level of really achieved educational results to the goals, that is, normative requirements, social and personal

expectations.

Compliance with the effectiveness requirements constitutes important condition of innovativeness system building and functioning. "Education effectiveness" concept has no unambiguous definition, because considering effectiveness only as correlation of expenses and results taken from economics and based on application of quantitative characteristics may not serve as an indicator of activities in social sphere. Nevertheless, it will be necessary to answer the question: "what is the innovation contribution into ultimate outcome of education?" Probably, it will be necessary to take as a basis the known effectiveness classification composed of purpose-oriented, technological and resource effectiveness. Deeper approach to effectiveness of the process or activities shall be implemented within the management framework. In opinion of T.I. Pudenko (2014), effectiveness is a relative notion which characterizes two groups of relations: result – expenses and result – goals; these parameters are exactly those specifying coordinate system in which effectiveness shall be evaluated. Author himself does not see the effectiveness dependence on achievement of direct activity results, but defines it in relation to goals of these activities. For us, the especial value consists in the author's methodological approach which lies in differentiation between gains in performance as ability to obtain the planned direct results and effectiveness as ability to be, owing to results received, to a greater or lesser extent closer to achievement of final effects, that is, key goals of activities. As we see, the author's approach similarity to our position is observed, when we have attributed the planned result obtaining to education quality indicator, and have accepted education effectiveness as independent innovativeness criterion.

In such a way, systematization of categories, principles and criteria of e-learning innovativeness makes it possible to specify following definition: "E-learning effectiveness is a qualitative and quantitative characteristics of innovation effect on education quality and effectiveness as indicators of the result conformity to the set goals and possibility to achieve the planned effect owing to these results, provided that principles of e-learning implementation methodology are complied with".

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## 4. Discussion

### 4.1 Proof of the definition conformity to the main requirements

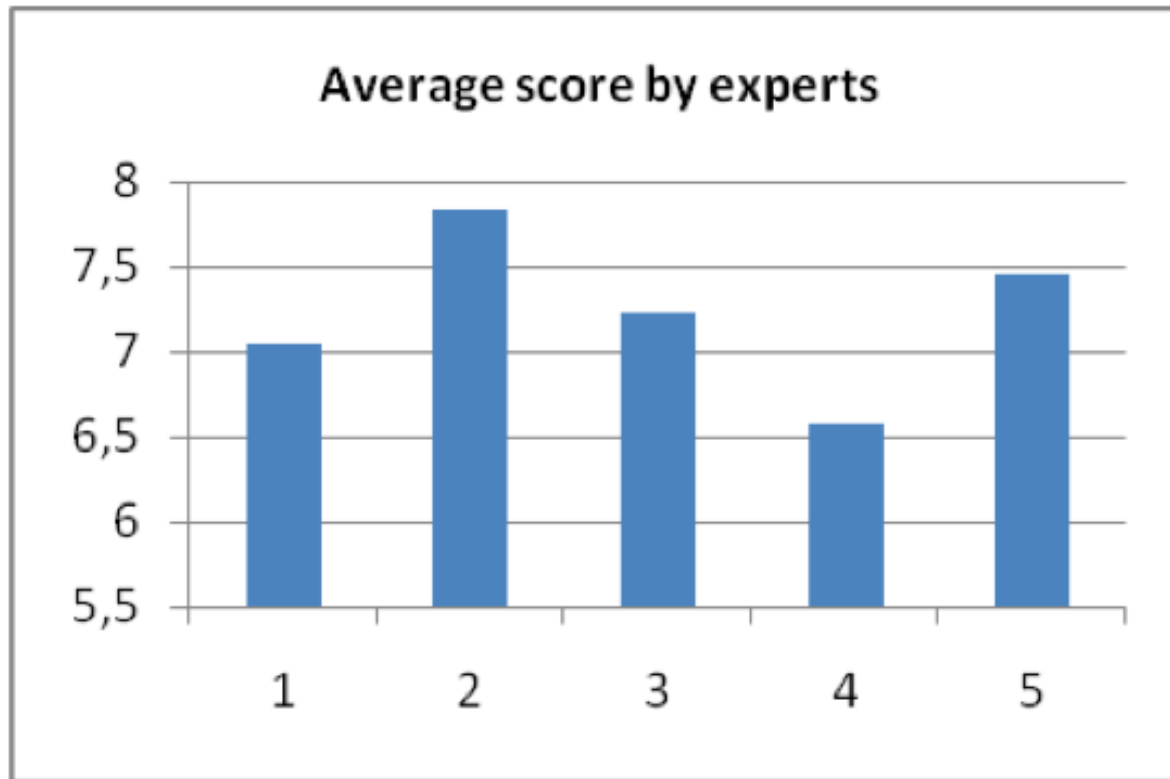
Based on study of the literature concerning requirements to definitions (Azamatova, 2008, Akhmetbekova, 2015, Matveeva T.V., 2010, Kondakov, 1975 et al) we have made it clear that, according to formal logic rules, the definition shall be fair, brief, obvious, accurate and equal to scope of the concept under definition and not contain the logic circle. Fairness is expressed in definition by reflecting the nature of an object itself, arising from development of defined object itself. Obviousness means direct and indirect reference to generic and specific features. What is more, definition shall include only necessary and adequate features.

Analysis of our definition shows that it is:

- fair, since the innovativeness is considered as independent innovation characteristics derived from its essence which consists in the fact that novation will become innovation only upon its implementation;
- obvious, because the quality and quantity categories are reflected in it (generic feature), at that the education quality and effectiveness entirety is referred to as specific feature of innovativeness (specific feature).
- accurate, because of the specific feature identifying as indicator of the result conformity to the set goals and possibility to achieve the planned effect owing to these results.

Necessary and adequate feature consists in requirement of compliance with principles of e-learning implementation methodology. **All aforesaid makes it possible to avoid logic circle though in prejudice of briefness.**

Due to need in specifying the methodological milestones which we based on, the expert assessment was used. Personal opinion is given by Professor Karlygash Sarbassova who has noted the definition content-richness and its conformity to requirements of fairness and clearness though at that she believes that the principles indication is unnecessary, **as, in her opinion, any definition should rely on principles (bases) of methodology.** Results of the group expert assessment of significance of the e-learning innovativeness principles by 10-score scale (from 0 to 9) are presented in figure 3.



**Figure 3.** Results of the group expert assessment: 1 – principle of change in essence of academic information interaction under conditions of e-learning implementation; 2 - principle of scientific-pedagogical and methodological support for e-learning implementation; 3 - principle of methodological training of teachers for work under conditions of e-learning implementation; 4 - principle of mitigation of negative consequences resulted from information and communication technologies using in education through use of the health-saving technologies; 5 - principle of continuous evaluation of pedagogical product quality.

As we see, the lowest grade amounts to 73.1% of maximum.

Results of evaluating the indicators of education quality and effectiveness are presented in table 1. Data were obtained as a result of interviewing the large group of scientists from various education institutions of Kazakhstan; 10.6 % of interviewed scientists are Doctors of Science. All experts have experience in assessment of scientific reports, training programs and other documents.

**Table 1. Expert assessment of quality and effectiveness indicators**

Quality and effectiveness indicators	Quality as the result conformity to set goals	Education effectiveness as achievement of the planned effect
Experts' opinion	agree, completely - 25.9 % agree, incompletely - 59.2 % disagree - 14.9 %	agree, completely - 27.9 % agree, incompletely - 52.3 % disagree - 19.8 %

As it is seen from the table, our position concerning quality and effectiveness indicators fails to gain complete support. This is due to the fact that the terms themselves constitute complex formations and have not sufficiently clear definition.

Share of those who pointed out to fuzziness of link between quality and effectiveness in



definition amounts to just 11.8 %, while the majority of the experts have noted the “clear” and “sufficiently clear” link. This is a strong result.

## 4.2 Discussion of issue concerning additional value gaining

“Additional value gaining” presented above in the innovation transformation scheme has dropped of our radar so far. Indeed, innovations are created and used by people, in this case, by the educational process subjects; that is why this phenomenon may not be left without attention. It may not be confused with innovativeness. We believe that this phenomenon shall contain reflection of ability, skills and readiness for innovations, i.e. personal competencies of those who use innovation products and gain additional value. Due to the abovementioned we suggest to apply the tentative “innovative know-how” term. There is no such term in English dictionaries that is why we apply semantic translation. In Russian literature there are certain definitions given to it, for example: “By innovative know-how we understand the ability to generate innovations supported in expanded cycle of their reproduction...” (G.D.Boush, 2010). A.A. Poskryakov (1999, 2011) equals ‘innovative know-how’ with creativeness and emphasizes that ‘innovative know-how’ has special psychology.

With due regard to complexity of the personal competency investigation we leave this as the subject matter of further scientific developments.

With due regard to complexity of the personal quality investigation we leave this as the subject matter of further scientific developments.

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## 5. Conclusion

It is the first time when the issue concerning e-learning innovativeness study from the methodology position is set in pedagogical science. That is the reason providing novelty of this research. Within the framework of solving problems associated with formulation of scientifically substantiated phenomenon definition, we have systematized the categories, principles, criteria of e-learning innovativeness and have specified the tentative definition. Check of this definition validity showed its receiving sufficiently high assessment from experts. The said is a reflection of the fact that the set objective has been performed. This objective performance sets the more complicated goal consisted in development of scientific bases for e-learning innovativeness.

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## Statement

No potential conflict of interest was reported by the authors.

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## References

- Akhmetbekova, A.M. (2015). *Lexicographical and metatextual characteristics of terminological definition*. Doctoral dissertation (Ph.D.). Al-Farabi Kazakh National University, Almaty, pp. 135.
- Azamatova, A.Kh. (2008) *Meta-language of linguistics*. Almaty: Kazakh University, pp. 308
- Batukova, L.R. (2010) *Innovativeness feature as methodological basis of innovation series concepts*. Science and technologies –V.2/Brief reports of XXX Russian school devoted to 65-

anniversary of Victory. Moscow: RAS, pp. 115-117.

Boush, G.D. (2010). *Innovative know-how of business-clusters in the region development strategy*. Economy of region, 3: 123-126

Danilina, A. (2015). *At what criteria should the innovation in education be assessed?* "Uchitelskaya Gazeta" (Teacher's newspaper) dated March 12, 2015. Date Views 21.11.2012 ug.ru>article/814

*E-learning concept: Kazakhstan approach in general education school*. Monograph. (2011). Almaty: Economy, pp. 95.

Grebenyuk, O.S. (1996) *General pedagogy: Course of lectures*. Kaliningrad, Kaliningrad University, pp. 130 .

"Innovativeness." *Definitions.net*. STANDS4 LLC, 2017. Web. 5 Feb. 2017. Date Views 21.01.2017 <http://www.dictionnaire.com/browse/innovativeness>

Ivanova, S. V. (2012). Criteria of innovativeness in work of supervising teacher and conditions for their actualization. *The world of science, culture and education*, 6(37): 230-234

Kondakov, N. I. (1975) *Logical dictionary – reference book*. 2nd edition, as revised and enlarged. Moscow: Nauka, pp. 722

Korotetz, I.D. (2011) *Innovativeness: configuration problems*. Date Views 21.01.2017 innclub.info>wp-content/uploads/2011/06/.

Matveeva, T.V. (2010) *Unabridged dictionary of linguistic terms*. Rostov-on-Don: Phoenix, pp. 562

Nabi, Y. A. and Tokmagambetov, A.Sh. (2011). Transformative function of the teacher's innovation activities. *Bulletin of Kazakh-British Technical University*, 4: 3-14

Nabi, Y. (2015) Methodology of e-learning inculcation. *European Scientific Journal*, **SPECIAL EDITION: 14-20**

Nabi Y.A., Shaprova G.G. and Buganova S.N. (2016) *Model of innovation activities of the educational process subjects*. Individual, family and society: pedagogy and psychology issues: collection of articles based on proceedings of LXIII International Research-to-Practice Conference. Novosibirsk: Siberian Academy of Science, pp. 41-47.

Naumkina E. (n. d.) *Innovativeness as leading principle of advance training*. Date Views 21.01.2017 <http://www.stattionline.org.ua/pedagog/85.html>

Poskryakov A.A. (1999) *Innovative know-how psychology*. Iljenkov's readings. Moscow - Zelenograd. Date Views 21.01.2017 sociology.mephi.ru> docs/innovatika/html/...

Poskryakov A.A. (2011). *Innovative know-how and creative thinking*. Scientific session of MPhI-2001. Collection of scientific research works. (Volume 6). Moscow: MPhI.

*Professionalization in conditions of modern innovative education system*/Edited by V. Deliya. Moscow: De-Po, pp. 292.

Pudenko T.I. (2014) About the quality, efficiency and effective contract in general education. *Education management: theory and practice*, 1: 43-53

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