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Foreseeing Foresight Laboratory – Kazakhstan participatory Experience in Creating humanitarian Hub

Abstract. *The creation of the virtual foresight laboratory (VFL) in A. Baitursynov Kostanay regional university has resulted in intensifying the process of stakeholders' involvement in the modernization procedures in terms of educational programs in the humanitarian sphere. The article deals both with the analysis of the employment of HEI graduates in the humanitarian sphere using foresight technology and the creation of VFL as a tool for stakeholder involvement in this process. VFL is considered as both the tool and a means for developing the digital hub for all of the participants of the modernization process in updated education. Remote participatory experience is gained via a survey that took place among 124 stakeholders of the Kostanay region. The questions concerned the necessity of the participatory involvement of stakeholders in the process of modernization of educational programs. Positive intrinsic motivation was uncovered based on the in-depth interviews with stakeholders of the Kostanay region. The article dwells upon the elaboration processes in terms of the architecture of VFL, its composition, the perspectives of the utilization of the cards of the future (aimed at foreseeing the processes in decade template), session areas dedicated to training for the further participatory involvement into the reshaping the meta-competencies of specialists of the humanitarian sphere. The preliminary results demonstrate the need to have a stable hub for stakeholders to trigger their active participation in the process of forming the updated image of the specialist in any humanitarian sphere.*

Keywords: *employment, foresight, foresight laboratory, hub, participation, stakeholders.*

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Introduction

Foreseeing the future has been under a certain consideration as a 'natural desire' [1] since the early decades of human existence. Foreseeing the consequences of modern actions in every sphere of human activity has always been relevant due to the following reasons: the desire to see the long-term outcomes of the activity, the urge to fill in the knowledge gap, the intention to update the methods, tools, approaches, mission, and vision of the activity.

Employment in the humanitarian sphere of HEIs has undergone various changes that were influenced by the alterations in the requirements of the stakeholders. The skills that are in demand by stakeholders can result in the low level of employment of HEIs graduates in the humanitarian sphere.

The statistics of A. Baitursynov Kostanay regional university - BKRU (2020) indicates the following outcomes in terms of employment of graduates in the humanitarian sphere (literature, languages, art, design, etc.):

1. The lowest result of the employment has been shown in foreign philology (53 percent employed from the total amount of graduates in 2020);

2. The highest result of employment has been identified in pedagogy and psychology, the Russian language in schools with State Language of instruction, primary education – 100 percent of graduates got the labor position in 2020.

Retrospective analysis (2015-2020) of the employment among graduates of HEIs in the humanitarian sphere in BKRU demonstrates the following results (see Graph 1):

1. The lowest employment rate (overall rate per specialties - 88) was associated with the pandemic situation and change in the digital competencies of employees;

2. The high peak of employment is seen in Music Education and the Kazakh Language and Literature (up to 100 percent) due to high application of skills of employees (both educational and non-educational sphere);

3. The stable progress in employment can be observed in the Russian language and Literature specialty that relates to the low entrance process resulting in the same employment rate (the student's dropout process is less than 5 percent).

The connection between the employment and the stakeholder's requirements is obvious due to the interviews and surveys of both employers and employees in the educational sphere.

Consequently, education as the sphere of human development is being under the vast influence of all of the social processes and changes that happen in our life. Education as a massive part of social life also reflected 'the covid-19 pandemic that has been affecting the wellbeing of societies' [2].

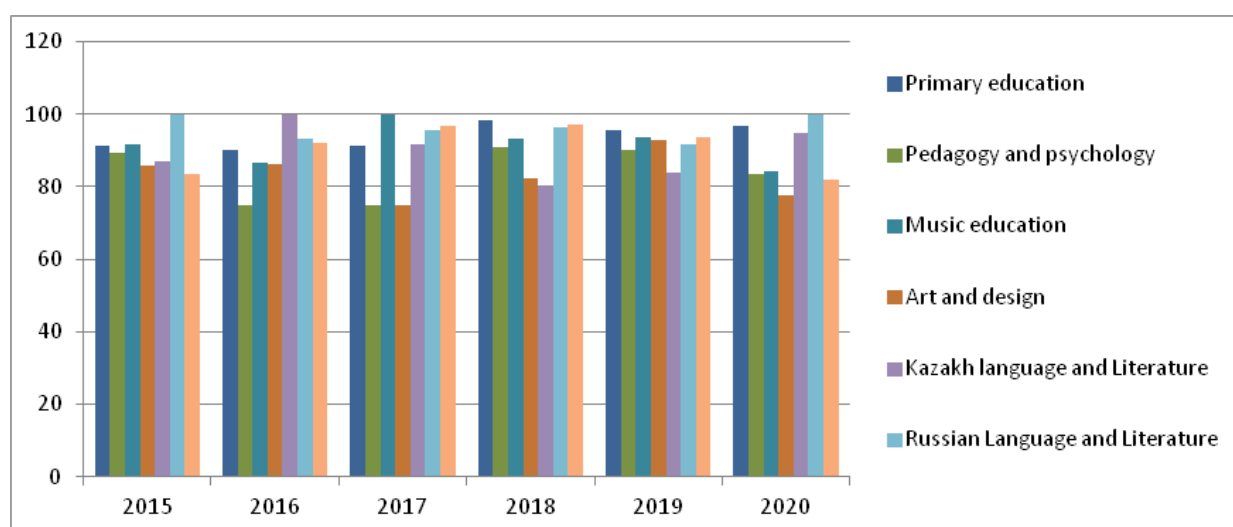
Foresight must become one of the major aspects in applying the 'inbound and outbound strategies' [3] in education when it comes to predicting, planning, shaping the image of the future student, worker, or administrator.

The creation of the special area encompassing the requirements of stakeholders (both students, teachers in-service, heads of schools, colleges, other HEIs, etc.) has become the solution to the issue on the gap between the expectations of mentioned above stakeholders and the real level of competences of university graduates.

Methods of the research

The *hypothesis* of this research lies in the following supposition: Foresight Laboratory can contribute to the new level of stakeholders' participatory involvement via session training dedicated to the modernization of the educational programs in the humanitarian sphere by the 'atlas of professions' [4] in the Republic of Kazakhstan.

The stated hypothesis can be decentralized into the following two sub-hypotheses (H1-H2):



Graph 1. The statistical data on employment of BKRU graduates – retrospective analysis (2015-2020)

H1 – foresight laboratory in virtual format is the specialized hub that promotes the interconnection between stakeholders;

H2 – the creation of the virtual foresight laboratory cannot be strictly based on the one already existing in the technical sphere in the Republic of Kazakhstan.

The methods that are being under thorough consideration include the following:

1. The method of content analysis of the level of stakeholders' involvement in the education process;

2. The method of survey and in-depth interviews that can give the realistic image of the process of stakeholders' involvement in the modernization of the educational process;

3. The method of design and IT programming (creation of the interface of the site, its piloting);

4. The methods of feedback analysis and operational reflection of the gained results;

5. The contractive method (analysis of the gained results with the foreseeing results in perspective);

6. The statistical analysis of the employment rate based on retrospective analysis as well as foresight technology application.

The stages of the experimental work on the preliminary level include the survey creation, the survey conducting, gathering raw data, analysis of data, synthesis, design, piloting application of VFL, primary elaboration analysis, interim analysis, modifications, final analysis, reflection, sustainability procedures.

To begin with, it was necessary to gather preliminary data on the process of stakeholder involvement in the sphere of humanitarian knowledge. The anonymous survey was organized among 124 stakeholders of the Kostanay region. The scope of questions (named 'the map of survey questions') included the following aspects directed to the stakeholders (see table 1 below):

Table 1. The map of survey questions for stakeholders involvement in to modernization of the educational programs in the humanitarian sphere

The survey question		The impact of the answer		
		Tactic aim (short-term)	Competences existed (in disposal)	Strategic aim (long-term)
1.	Would you like to have/do you have an impact on the choice of disciplines to be studied in Minors of EP in HEIs?	+		
2.	Do you have sufficient competencies to modernize the educational programs in HEIs?			+
3.	Is that possible to create the 'ideal image of the profession'?		+	
4.	Would you like to be trained on how to modernize the educational program in HEIs?	+		
5.	Do you foresee any changes in the map of competencies in the humanitarian sphere?			+
6.	Can you have an influence on the choice of the workplace by students upon graduation?			+
7.	Are there any drawbacks in the process of stakeholders' participatory involvement in the modernization of the educational programs?		+	

The results demonstrated the following ideas and problems of the research to be furtherly scrutinized:

1. 75 % of the stakeholders stated the low level of the formal aspect of participatory involvement in the modernization of the educational programs in HEIs;
2. 81 % of stakeholders mentioned the insufficient level of competencies in need of modernization of the educational programs in HEIs;
3. 90 % of survey participants are positive about the creation of the image of the profession that is to be ideal, but skeptic about its realization;
4. 87 % of stakeholders have the stable desire to take part in the training process in terms of modernization educational programs in any HEIs;
5. 65% of respondents mention the change in the professional sphere as well as in the competencies (ICT-based, specific versus globalized training);
6. 73% of stakeholders can see their role in the choice of the workplace as a part of employment with its marketing space;
7. All of the participants of the survey mentioned the drawbacks in the process of stakeholders' participatory involvement in the modernization of the educational programs in HEIs due to the weak time management, low feedback analysis, and unstable professional bonds between all of the subjects of the educational space.

The results gained from the analysis of the survey demonstrated the necessity of developing a special tool for minimizing the risk of formal stakeholder participatory involvement in the modernization of the educational programs in HEIs.

Design and Discussion

The creation of the VFL aims to develop the scope of meta-competencies of specialists of the humanitarian sphere based on the stakeholder's participatory involvement.

The objectives of the research in terms of the creation of VFL include the following ones:

1. To give the preliminary analysis of the process of stakeholders involved in the modernization of the educational process;
2. To elaborate the mechanisms of effective stakeholder participatory involvement based on the creation of VFL;
3. To design, structure, and fill in with relevant content the VFL mediated online;
4. To analyze the piloting of the VFL;
5. To implement and monitor the work of VFL;
6. To provide the sustainable development of the process of modernization in VFL from the viewpoint of stakeholders' participatory involvement.

The solution to the problem stated above can be realized through the creation of the new hub in the form of the virtual foresight laboratory (here and after refer to as VFL) for the humanitarian sphere.

Virtual foresight laboratory is the tool that can integrate "the discovery of change, interpretation, and triggering managerial responses" [5] that became the solution to the issue of stakeholder participatory involvement into the process of modernization of educational programs in any HEIs.

So, 3 steps were taken before the actual implementation of VFL into the process of modernization of educational programs:

- 1) Survey conducting (the results have been presented above – stakeholder participatory involvement analysis);
- 2) Architecture of the VFL creation (content, design, ethic issues);
- 3) Piloting and implementation (approbation of the VFL, reflection, monitoring, feedback collecting, modernizing, and reshaping practices).

The stage of the VFL development includes the design and content aspects.

The format of VFL elaborated on the platform of A.Baitursynov Kostanay Regional University contains the following categories:

- general description (vision, mission, aims, objectives of VFL);
- participants of VFL (stakeholders);

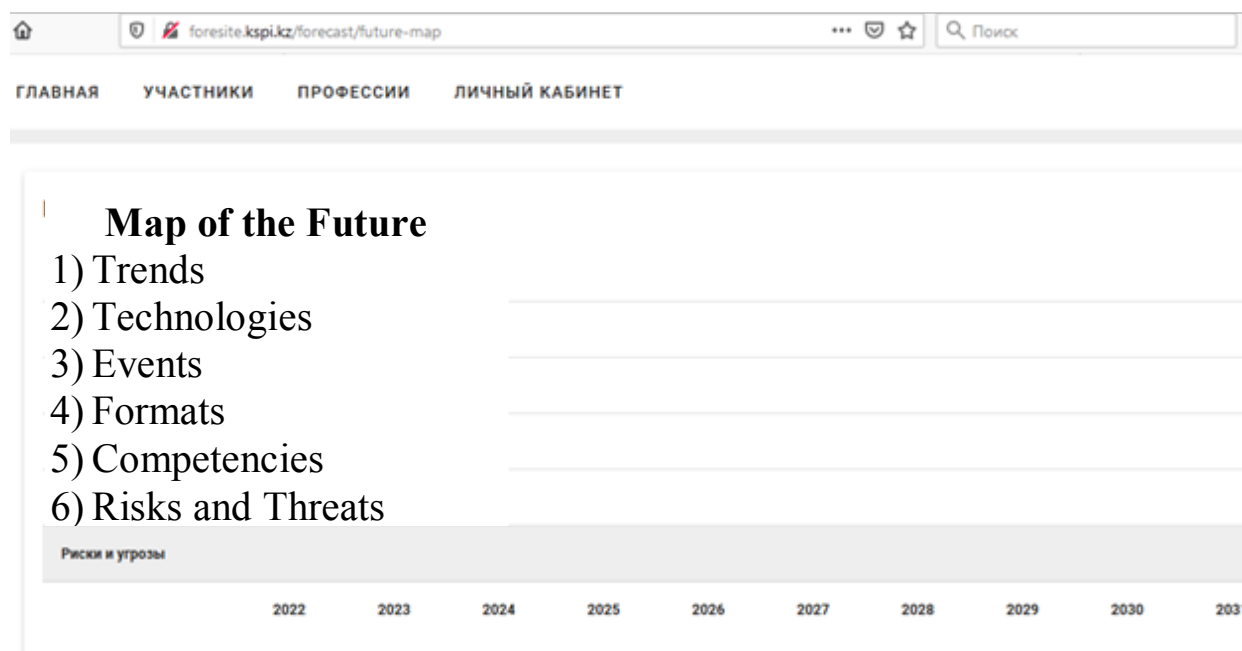


Fig.1. The vision of the future map of stakeholder participatory involvement into modernization processes in HEIs

- overview on meta-competencies of professions in the humanitarian sphere (see at <http://foresite.kspi.kz/forecast/future-map> [6]).

The unique approach to stakeholder involvement is realized through the adding of the map of the future that encompasses the following aspects:

- 1) Trends
- 2) Technologies
- 3) Events
- 4) Formats
- 5) Competencies
- 6) Risks and Threats.

The period of a decade (2022-2031) can demonstrate the change in stakeholder participatory involvement into modernization processes in HEIs in trends as well as the alternations in competencies and technologies used. The illustration below demonstrates the vision of the VFL future map being filled by the stakeholders during the training sessions (see Fig.1):

The functions of the VFL can be seen through the scope of objectives of the VFL creation. The objectives of the given VFL incorporate:

1) Organization of virtual foresight infrastructure via the creation of the laboratory as a means of developing meta-competencies in the humanities sphere.

2) Information support of a virtual foresight laboratory as a means of developing meta-competencies in humanities studies.

3) Carrying out research and analytical work on the development of meta-competencies among students in the humanities profile.

4) Public discussion of the results of the virtual foresight laboratory and the dissemination processes.

Consequently, the functions of VFL include organizational and managing function (objective 1), scaffolding function (objective 2), analytical and reflecting function (objective 3), dissemination and exploitation functions (objective 4).

Results

Preliminary results of the creation of virtual foresight laboratory demonstrated the increase in the motivation (the intrinsic positive one) of stakeholders to be the participants of the

modernization process in higher educational institutions.

It must be stated that the comparison based on the results gained from the previous experience on involving the stakeholders in the educational process showed the following differences:

1. The interaction was based on face-to-face format resulting in the great delay in modernization due to the high busy character of the stakeholders;
2. Modernization of the educational program had the fragmentary character due to the insufficient level of stakeholders design competencies;
3. The demand-based character of modernization was not fully relevant for modernization and carried the traces of locality.
4. The stakeholder participation was formal and not deep in terms of mission, vision, and requirements of the specialist professional and universal skills and competencies.

Thus, the in-depth interviews with 16 stakeholders who were eager to express their desire to share expectations from the creation of virtual foresight laboratory uncovered the following aspects:

1. The creation of VFL will result in mobile reflection from the stakeholders;
2. VFL will demonstrate the real situation of the stakeholder's involvement timely;
3. VFL can record the presence of stakeholders digital tracks via 'cards of the future' completion;
4. Stakeholders will have digital bonds among their community;
5. Training areas (session delivery) will contribute to mastering the analytical competencies of all of the participants of VFL.

The results gained so far can demonstrate the need for digitalization of the process of stakeholder participatory involvement in the modernization of educational programs in the region of Kostanay.

The experience will be disseminated into other regions of the Republic of Kazakhstan.

All the information gained from the creation of the VFL in BKRU is to be analyzed, properly

rethought, and presented in the dissemination format.

Conclusion

As a technology of digital learning, the VFL is considered to be "the inevitable part of the educational process" [7, p.81] that is to be associated with modern approaches to both teaching and learning.

Thus, the creation of the virtual foresight laboratory in Kostanay regional university will have an impact on various levels in terms of intensifying the stakeholder participatory involvement into the modernization processes: national, institutional, and individual.

The national level of the impact providing further sustainability can be realized through the inclusion of all universities into the training sessions organized by the coordinating university – BKRU.

The institutional level of the impact of VFL can be emphasized by the actual modernization of 6 existing educational programs in the field of humanitarian studies (Art, Languages, Pedagogy and Psychology, Methods of pre-school education, Music, Methods of primary school education).

Individual-level of the VFL utilization impact might be observed in the horizon in the process of feedback collection from all participants of VFL (stakeholders, partner-universities, coordinating team members of BKRU).

Concluding, it must be stated that a virtual foresight laboratory is the first step to involving stakeholders in the process of modernization of the educational program.

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Э.К. Наурызбаева, В.В. Бежина

А.Байтұрсынов атындағы Қостанай өңірлік университеті, Қостанай, Қазақстан

Виртуалды форсайт-зертхана-гуманитарлық бейінде хаб құрудың қазақстандық тәжірибесі

Аннотация. А.Байтұрсынов атындағы Қостанай өңірлік университетінде виртуалды форсайт-зертхана құру гуманитарлық саладағы білім беру бағдарламаларын жаңғырту үдерісіне стейкхолдерлерді тарту жұмысының күшеюіне алып келді. Мақалада форсайт технологиясы тұрғысынан гуманитарлық саладағы жоғары оқу орны түлектерінің жұмысқа орналасуына талдау жасау, осы жұмысқа орналасу процесіне стейкхолдерлерді тарту құралы ретінде ВФЛ құру қарастырылады.

Виртуалды форсайт-зертхана-заманауи білім беруді жаңғырту процесінің барлық қатысушылары үшін цифрлық хабты дамыту құралы және тәсіл-амал ретінде қарастырылады. Стейкхолдерлердің қашықтан қатысу тәжірибесі Қостанай облысының 124 стейкхолдері арасында жүргізілген сауалнама нәтижесінде негізделген. Сұрақтар стейкхолдерлерді білім беру бағдарламаларын жаңғырту процесіне бірлесіп тарту қажеттілігіне қатысты болды. Оң ішкі мотивация Қостанай облысының стейкхолдерлерімен сұхбат негізінде анықталды. Мақалада виртуалды форсайт-зертхана архитектурасын әзірлеу процестері, оның құрамы, болашақ карталарын пайдалану перспективалары (онжылдықтағы процестерді болжауға бағытталған), гуманитарлық сала мамандарының мета-құзыреттерін дамытуға одан әрі бірлесіп қатысуға арналған тақырыптық аймақтар қарастырылады. Алдын ала нәтижелер кез келген гуманитарлық саладағы маманның жаңартылған имиджін қалыптастыру процесіне белсенді қатысуын ынталандыру үшін стейкхолдерлер үшін тұрақты хабтың болу қажеттілігін көрсетеді.

Түйін сөздер: жұмысқа орналасу, форсайт, форсайт зертхана, хаб, партисипация, стейкхолдерлер.

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Виртуальная форсайт-лаборатория - казахстанский опыт создания хаба в гуманитарном профиле

Аннотация. Создание виртуальной форсайт-лаборатории (ВФЛ) в Костанайском региональном университете им. А.Байтурсынова привело к интенсификации процесса вовлечения стейкхолдеров в модернизацию образовательных программ в гуманитарной сфере. В статье дается анализ трудоустройства выпускников вуза в гуманитарной сфере с точки зрения технологии форсайта, создания ВФЛ как инструмента вовлечения стейкхолдеров в данный процесс трудоустройства. ВФЛ рассматривается как инструмент и средство развития цифрового хаба для всех участников процесса модернизации современного образования. Опыт удаленного участия стейкхолдеров основан на результате опроса, проведенного среди 124 стейкхолдеров Костанайской области. Вопросы касались необходимости вовлечения стейкхолдеров в процесс модернизации образовательных программ. Положительная внутренняя мотивация была выявлена на основе интервью со стейкхолдерами Костанайской области.

В статье рассматриваются процессы разработки архитектуры ВФЛ, ее содержание, перспективы использования карт будущего (направленных на предвидение процессов на десятилетие), тематические зоны, посвященные обучению для дальнейшего совместного участия в разработке мета-компетенций специалистов гуманитарной сферы.

Предварительные результаты демонстрируют необходимость наличия стабильного хаба для стейкхолдеров с целью стимулирования их активного участия в процессе формирования обновленного имиджа специалиста в гуманитарной сфере.

Ключевые слова: трудоустройство, форсайт, форсайт лаборатория, хаб, партисипация, стейкхолдеры.

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