APPLYING THE CONCEPTS OF QUALITY IMPROVEMENT TOOLS AND METHODS IN RETRAINING COURSES OF THE HIGHER EDUCATION MANAGERIAL STAFF IN UZBEKISTAN

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ABSTRACT

Retraining of higher educational managerial staff in Uzbekistan is one of the major concern of current educational policy reform of Uzbek government. Therefore, on June 12, 2015, the government's new legislation on "About further developing the retraining and quality improvement system of management staff in higher educational institutions" introduced. According to this legislation 144 hours compulsory auditorium training course is required to attend in every three years by the managerial staff in higher educational institutions. The retraining courses are organized at the Head of Scientific Methodic Center which is the central retraining institution under the Ministry of Higher and Secondary Specialized Education of Uzbekistan. However, the courses and subjects in this center are yet to be enhanced and strongly needs for improvement. In this article, applying the concepts of international best practices of quality improvement methods and tools in retraining courses of higher educational managerial staff is discussed. The international quality improvement tools and methods mainly focused on concepts such as benchmarking, tuning methodology, total quality management, strategic management, internal and external quality assessment, quality control, and quality assurance. The survey method and mathematical analyses widely used in order to disclose the opinions and views of course attendees. By the result of the survey the positive opinions of course attendees determined and discussed.

Keywords: quality assurance, benchmarking, tuning methodology, retraining management staff, higher education reform.

INTRODUCTION

The recent political reform in education system of Uzbekistan demonstrate that higher education system in Uzbekistan can no longer stay a side from global changes and trends. Quality assurance and competitiveness are remaining as one of the important aspect in Uzbek higher education. In this regard, the latest updates and best practices of Quality Assurance, Quality Improvement Methodologies in Europe and other parts of the world need to be introduced and analytically explained. Since the above-mentioned tools are already in practice and used by some universities in foreign countries, the best practices and recent developments should be applied in Uzbek higher educational institutions too. In our point of view, the questions such as, "How can best practices enrich or impact on the Uzbek higher education system ?", "What can be learned or what are the components of best practices that can we adapt in the Uzbek higher education system?" should be the central concern of every practitioner and management staff in the higher education system. Therefore, the major concepts and theoretical understanding about the quality improvement tool must be absorbed in teaching materials and lesson contexts during the higher educational management staff retraining courses. On June 12, 2015, the government's new legislation on "About further

developing the retraining and quality improvement system of management staff in higher educational institutions" introduced. According to this legislation 144 hours compulsory auditorium training course is required to attend in every three years by the managerial staff in higher educational institutions. The retraining courses are organized at the Head Scientific Methodic Center which is the central retraining institution under the Ministry of Higher and Secondary Specialized Education. However, the courses and subjects in this center are yet to be enhanced and strongly needs for improvement. In what extend the above mentioned tools are applicable and adoptable in teaching process of retraining courses is main focus of this research.

Moreover, on July 18, 2017, by the presidential decree 515, the State Educational Quality Inspection established under the Cabinet of Ministries of the Republic of Uzbekistan (Decree of Cabinet of Ministers, July 18, 2017). The description of the functions of this inspection also have to be delivered to the higher educational managerial staff during the retraining sessions.

LITERATURE REVIEW

The quality improvement tools such as benchmarking, tuning methodology, total quality management, business process reengineering, balanced scorecard are adopted from business and economy into higher education (Appleby, 1999). Effectiveness of benchmarking in higher education described and justified (Lutfullayev, 2007). Total quality management also showed itself as one of the effective quality improvement tool in higher education (Macro, 2007). Quality assurance in higher education also considered useful in higher education (Rosa and Amaral, 2007, Lenn, 2004, Brookes and Becket, 2007). Several concepts of quality assurance tools are discussed and recommended for Uzbek higher educational practitioners within the Erasmus+ capacity building projects (Publications of Higher Education Reform experts, 2016, 2017). Definition and concept of quality in higher education discussed by P.Lutfullayev (Lutfullayev, 2013), A.Magrupov (Magrupov, 2017), N.Ahmedova (Ahmedova, 2017), M.Yuldashev (Yuldashev, 2016). However, applying the concepts of quality improvement tools and methods in retraining courses of higher education managerial staff in Uzbekistan has never been researched. Tuning methodology learned and discussed during the TUCAHEA Tempus project (TUCAHEA project team, 2018). Applicability of tuning methodology in Uzbek higher education was discussed and justified (Lutfullayev, 2017).

METHODOLOGY

Cresswell's (Creswell, 2008) purposeful sampling of population and questionnaire survey method is chosen for this research, surveys have been used in education for many years. Head Scientific Methodic Center (Head Scientific Methodic Center, 2018) has chosen as an organization where the survey conducted for higher educational managerial staff who were attending the 144 hours retraining courses. The target subjects such as "Modern approaches of quality assurance", "Indicators in educational quality assurance system", "Innovative management in educational quality provision", "International best practices of quality improvement tools" were chosen as a target subjects to apply the best practices of quality improvement tools' concepts and theoretical knowledge. The survey conducted for 120 retraining course attendees and it was organized in two stages. The first stage called analytical and the second called educational. In the analytical stage, the questionnaire distributed and received the result. In Educational stage, the teaching materials, above mentioned authors' articles distributed, presented presentations, conducted lectures during the

courses in order to deliver them the major concepts and theoretical understanding of international best practices of quality improvement tools.

Respondents were vice-rectors, deans, deputy deans, and head of departments from different higher educational institutions in Uzbekistan, who were attending the retraining courses in Head of Scientific Methodic Center. After collecting the filled questionnaire, the results analyzed using statistical analyses method.

RESULTS
Table 1. The results obtained in analytical stage
Total number of respondents is 120.
2, 3, 4, 5 levels of awareness.

		2	3	4	5
		I have less knowledge	I have satisfactory knowledge	I have good knowledge	I have very good knowledge
1	Major description of quality concepts in foreign higher education	30	52	26	12
2	Quality provision indicators in foreign higher education	35	51	27	7
3	Quality provision components in foreign higher educational institutions	30	63	20	7
4	Differences of State Educational standards and academic standards	39	51	21	9
5	Quality management, quality assessment, quality monitoring	31	43	36	10
6	Concepts of quality assurance and its application	41	39	29	11
7	Concepts of benchmarking and it usage in foreign higher educational institutions	29	51	32	8
8	Types and advantages of benchamarking	28	62	21	9
9	Usage the tuning methodology in International level. Applicability of tuning methodology in Uzbek higher educational institutions.	31	48	31	10
10	Mechanisms of creating the competitive environment in foreign higher educational institutions	51	52	10	7
11	The importance of ISO certificate in foreign higher educational institutions	40	61	11	8
12	The advantages of internal and external quality assessment in higher education	35	39	34	12
13	Function of the newly established State Educational quality inspection in Uzbekistan	38	48	24	10
14	Types and peculiarities of accreditation in international level	32	41	33	14
15	Major factors and driving forces of quality in foreign higher education	53	47	11	9
16	Impacts of globalization in higher education	31	48	28	13

17	Differences between globalization and internationlization	30	40	38	12
18	Peculiarities of transnational education	26	46	36	12
	Total	630	882	468	180
	Average value	35	49	26	10

As you can see, the respondents' answers are not satisfactory which we also didn't expect to. Some of the respondents showed their awareness about the major concepts. The concepts such as benchmarking, tuning methodology, audit and ISO were new concepts in somehow. At the second stage we conducted seminars and presentations, distributed the articles and materials.

Table 2. The results obtained in analytical stage
Total number of respondents is 120.
2, 3, 4, 5 levels of awareness.

		2	3	4	5
		I have less knowledge	I have satisfactory knowledge	I have good knowledge	I have very good knowledge
1	Major description of quality concepts in foreign higher education	0	11	66	43
2	Quality provision indicators in foreign higher education	8	8	69	35
3	Quality provision components in foreign higher educational institutions	10	8	66	36
4	Differences of State Educational standards and academic standards	4	8	64	44
5	Quality management, quality assessment, quality monitoring	8	11	62	39
6	Concepts of quality assurance and its application	8	10	59	43
7	Concepts of benchmarking and it usage in foreign higher educational institutions	5	9	68	38
8	Types and advantages of benchamarking	11	8	63	38
9	Usage the tuning methodology in International level. Applicability of tuning methodology in Uzbek higher educational institutions.	7	10	61	42
10	Mechanisms of creating the competitive environment in foreign higher educational institutions	9	7	64	40
11	The importance of ISO certificate in foreign higher educational institutions	9	9	61	41
12	The advantages of internal and external quality assessment in higher education	8	11	62	39
13	Function of the newly established State Educational quality inspection in Uzbekistan	11	11	62	36
14	Types and peculiarities of accreditation in	8	13	59	40

	international level				
15	Major factors and driving forces of quality in foreign higher education	10	10	61	39
16	Impacts of globalization in higher education	10	12	62	36
17	Differences between globalization and internationlization	9	10	65	36
18	Peculiarities of transnational education	9	14	60	37
	Total	144	180	1134	702
	Average value	8	10	63	39

To mathematically analyze the table 1 and 2, we create the table 3 which shows the average value.

Table 3. the average value of the results

	Number of respondents				
		2	3	4	5
The first stage	n=120	n_1=35	n_2=49	n_3=26	n_4=10
The second stage	m=120	m_1=8	m_2=10	m_3=63	m_4=39

Graph 1. The diagram vision of both results
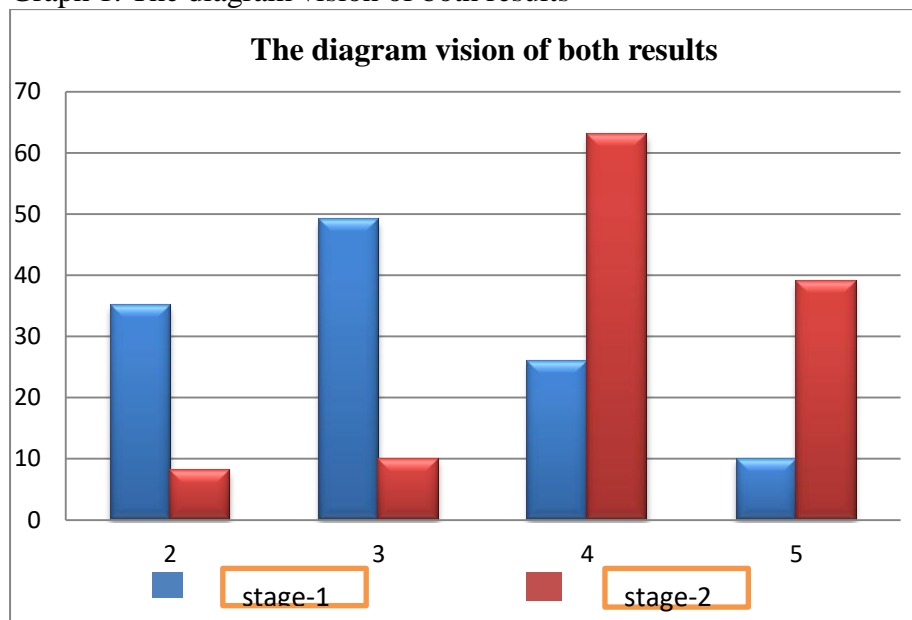
Table 4. The results from the first stage

X_i	2	3	4	5
n_i	35	49	26	10

Table 5. The results from the second stage

Y_i	2	3	4	5
m_i	8	10	63	39

Through these two variation straw $p_i = \dfrac{n_i}{n}$ ва $q_i = \dfrac{m_i}{m}$ inputting the statistical probability, the following statistic straws are composed:

Table 6. Statistic sampling taken for the first stage results

X_i	2	3	4	5
P_i	0.29	0.41	0.22	0.08

Table 7. Statistic sampling taken for the second stage results

Y_i	2	3	4	5
q_i	0.07	0.08	0.52	0.33

In above given analyses show that we achieved 20,5 % raise of the results in the second stage. Now, we check H_0 : $a_X = a_Y$ hypothesis by using the Student's t-test in order to clarify the equality of theoretical average value of both statistic samples. For this purpose, we choose the appropriate statistics:

$$T_{n,m} = \frac{\left|\overline{X} - \overline{Y}\right|}{\sqrt{\dfrac{S_X^2}{n} + \dfrac{S_Y^2}{m}}} = \frac{\left|3{,}1 - 4{,}11\right|}{\sqrt{\dfrac{0{,}7600}{120} + \dfrac{0{,}7343}{120}}} = \frac{1{,}01\%}{0.11} = 9{,}18$$

Student's t-test 95% critic point is $t_{kp}(0,95) = 1,96$ the statistic value is big enough:

$$T_{n,m} = 9.18 > 1.96 = t_{kp}(0.95)$$

So, we cancel the H_0 hypothesis, taking account the $\overline{Y} > \overline{X}$ and (1) correlations $a_y > a_x$, i.e. after the research, we can make conclusion that always average mastering indication bigger than previous indications. At the end, in order to check $K : F_x = F_y$ hypothesis with the equality of X_i and Y_i statistic variations we use Pearson method.

$$\chi^2 = \frac{1}{N \cdot M} \cdot \sum_{i=1}^{k} \frac{(n_i M - m_i N)^2}{n_i + m_i}.$$

For this purpose we compose the following table 8.

Table 8.

Marks / Groups	2	3	4	5
The first stage	35	49	26	10
The second stage	8	10	63	39

We calculate with Pearson correlation coefficient:

$$\chi^2 = \cdot\left(\frac{(35-8)^2}{35+8} + \frac{(49-10)^2}{49+10} + \frac{(26-63)^2}{26+63} + \frac{(10-39)^2}{10+39} \right) = 63{,}75$$

Pearson correlation coefficient's degree of freedom 1 less from the marks: k=4-1=3, this k=3 fit with 95% critic point $Z_{kp}(0{,}95) = 7{,}82$.

But, $X^2_{n,m} = 63{,}75 > 7{,}82 = Z_{k,p}(0{,}95)$

So, K hypothesis also cancelled. This indicates that first step and the second stage survey has their own significance. The inputs always give their effect at the end. The above given statistical analyzes prove the productivity of the conducted survey.

DISCUSSION

The survey result which was conducted at the Head Scientific Methodic Center, proved its effectiveness and productivity. The materials could be taught in similar courses and trainings. Especially, in a short term retraining courses, the course materials and lecture sources should be updated very often. Most of the respondents are well aware of the Quality assurance tools such as "Quality control", "Strategic planning", "Strategic management", "Total Quality Management", "Tuning", which they learnt during their participation in the projects where those topics were relevant. For instance, tuning methodology was introduced within the TuCAHEA (TUCAHEA project Team, 2018) project and this tool is discovered as one of the effective and productive tools to benchmark the best practices in the field for educational standards and academic competences. Despite the fact that the tools are considered important for higher education, the scope of practical usage has not widened. Moreover, the managerial staff showed great interest to learn more about the best practices in quality improvement tools.

CONCLUSIONS

Building a legal democratic state requires to implement the application the effective mechanisms and raise the level of quality in every public sector as well as in private. Volume of issues is widening while reformation process accelerates. For instance, in 2018 year and the next upcoming years, the number of student admissions to higher educational institutions will be raised dramatically. Nevertheless, how the current scientific potential and curriculum can respond to these demands is remaining problematic. How the quality and competitiveness can be achieved? Of course, application the international best practices can play major role at this moment. Therefore, higher educational institutions must adapt the international best practices in the field of quality improvement and quality assurance.

The learned opinions and views of the current higher educational practitioners and teaching staff disclose that the academic environment in Uzbek higher education are quite open for constructive changes and applying best practices.

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