

## INVESTING IN SKILLS AND INNOVATION – NEW STRATEGIC TASKS FOR PUBLIC ADMINISTRATIONS

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**crossref** <http://dx.doi.org/10.5755/j01.eis.0.8.5241>

*Evidence shows that in the labour market the most demanded specialists are those with high-level vocational skills, implying also their competence for innovation. The latest EU policy initiatives explicitly call for innovation in vocational education and training (VET) systems. This is a relatively new VET policy development. At the same time, it is not yet sufficiently discussed how innovation in VET systems could be best translated in practical terms. Traditionally innovation has been related to the research and development domain, and little routine practices exist regarding the VET system. The present paper will explore the opinions and estimations by public administrators and experts regarding the value and importance of approaches and institutional mechanisms to promote innovation in VET.*

*The focus of the research is on the training need of innovation competent labour force in the VET system, and on the existing and needed co-operation and institutional mechanisms to secure such training. The aim of the research is to study the opinions and views of education policy makers and experts regarding the relevance of co-operation among various stakeholders in the training of innovation competent labour force, as well as and regarding the suitability and effectiveness of the existing and potential institutional mechanisms to secure such co-operation.*

*In order to carry out the research, the following tasks were set – 1) to analyse of scientific publications in order to identify relevant policy approaches and academic discourse regarding the research topic; 2) to carry out empirical study – expert survey of public administrators and data analysis of the survey results; 3) to analyse the empirical findings against the background of the current policy and academic trends.*

*Research methods: textual and literature analysis were based on study of policy and legal documents, and research articles. The empirical study was based on the survey of opinions and interviews with policy makers, administrators and experts in higher education, research and vocational education and training, representatives of the employers' organisations. To carry out the empirical research, a questionnaire was developed and tested among high level experts. Based on the material obtained from the survey, analysis was carried out. Qualitative analysis has been complemented by quantitative analysis through applying the indicators of central tendency or location (arithmetic mean, mode, median), as well as indicators of variability (variance, standard deviation, standard error of mean, range). Based on the textual analysis and empirical study, conclusions have been made.*

*The research shows that the current developments in EU VET policy regarding the training of innovation competent labour force finds reflection also in the present academic discourse. However, in practice the attitudes of relevant stakeholders are still relatively conservative regarding innovation in VET, and innovation is still primarily seen as pertaining to the domain of higher education, research and development. At the same time, politically and academically, there are not yet clear guidelines available as to practical measures how public administrations could address the new challenges. For this reason studies on the implementation of innovation by VET systems should be continued, involving in empirical studies a wider spectrum of relevant stakeholders.*

**Keywords:** vocational education, innovation, labour force, tasks, public administration.

### Introduction

Vocational education and training (VET) is increasingly becoming a top priority in European policy making. This proves evident through the analysis of recent EU policy documents on education and training, e.g. ET2020 (Council Conclusions, 2009), the Bruges Communiqué (The Bruges Communiqué, 2011), Rethinking Education: Investing in skills

for better socio-economic outcome (Communication from the Commission, 2012) and other. For example, the Europe 2020 Flagship Initiative (Europe 2020, 2010) claims that the starting point for further successful economic developments is to create excellent and modern education systems in all member states. The Report, Global Governance of Science'

(Report of the Expert Group, 2009) shows that research and training processes are more than ever linked to the global and societal developments. The various European case studies, for example, like OECD/CERI Study of Systemic Innovation in VET (OECD/CERI Study, 2008) clearly indicate to the new trends in VET developments in relation to innovation.

Consequently also the overall research on VET obtains more priority and relevance. One of the reasons for the interest of governments and other bodies to commission such studies is the belief that VET holds key to economic prosperity of the country (Winch, 2012, p. 55). If to assume that educated human resources are the key progress factor in the European context, the national training function deserves special attention (Iatagana et al. 2010, p. 5144), and this refers also to VET. Thus, varied aspects of training and assessment in vocational education and training - involving educators and public administrators - have been researched - seeking the best balance, best approach and best results (Breauer, K., *et al.*, 2006). Lot of attention of researchers is devoted to the effect of training on vocational education students and their professional development (Emir, O., 2013). Academic research is devoted also to the priorities in development of vocational skills (Hassal, T., *et al.*, 2005), also in course development strategy aspects (Lee, S.F., Lo, K.K., 2003). Under the particular circumstance when the role of VET has been increasingly acknowledged and promoted, and given the reported evidence of the positive relationship between innovation and measures of performance (Hashi and Stojčić, 2012), it is clear that “different capabilities of firms to generate and implement new knowledge” determine their relative position in the industry (Hashi and Stojčić, 2012). Thus, the links between VET and innovation are becoming more prominent if compared to the previous tradition where innovation had been primarily linked to the higher education and research systems and the training of high level specialists in technologies alone.

As claimed in the report “Taking European Knowledge Society Seriously” (Taking European..., 2007), an important change in the governance of innovation would be strategic development of improved European institutional capacity to deliberate and resolve normative questions concerning the prior shaping of science and innovation, also recommending structured ways of appraising the projected benefits of innovation. The Innovation Union European Innovation Partnerships, announced by the Europe 2020 Flagship Initiative calls for mobilising actors across the innovation cycle and across sectors around an overarching target in order to speed up innovative solutions to societal challenges (Europe 2020, 2010), thus indicating the focus of policy initiatives concerning the implementation of innovation. These factors are especially important for the present research, since it concentrates on new forms of approaches and stakeholder alliances in public administration to facilitate VET innovation in the context of labour force training. Relevant policy discussion has been devoted also to the issue of ‘demand-side’ and ‘supply side’ in innovation policies. This indicates to the growing awareness amongst policy makers for the need to better exploit the power of public spending for innovation and the emerged focus on searching solutions to societal challenges (Trends and Challenges, 2011).

As indicated by previous research, there is supportive evidence for arguments that there is a continuing need for policy prescriptions that encourage the building of institutional framework and organisational capabilities to better connect to National Innovation Systems (Dodgson et al, 2011, p. 1153). As mentioned above, it has often been claimed that the most obvious innovation-related human capital issue relates to the sufficient number of such technological specialists as scientists and engineers. Although vital to the so called technological innovation, this is, however, not the only aspect of the innovation process (Bennett et al, 2004, p. 72-73). This bears a particular relevance to the present study, as according to our observations (which we will further attempt to substantiate also by our empirical study) the innovation process is still being primarily associated with the ‘technological innovation’ whereas the concept of innovation in VET to a much higher degree should be viewed in the context of the overall innovation process as such. Due to the rate of introduction of new technologies, the skill sets required of the broader labour force are growing and also changing with ever greater rapidity (Bennett et al, 2004, p.74). Consequently, the ‘broader labour force’ needs to be involved in the innovation process, and under such circumstances the previous institutional approaches may prove to be obsolete or ineffective. The culture of innovation, among other things, must be increasingly based on openness and diversity (Kearney, 2004, p. 61). The question arises on the attitudes of still existing mental models and institutional mechanisms – should they be reviewed, challenged or reformed to allow space for new developments to respond to the new demands in implementing the process of innovation. In our opinion any reform needs to be carefully prepared and preceded by relevant studies or surveys. To this end, in the research we have attempted to study the attitudes of relevant stakeholders in Latvia regarding the existing and potential implementation of innovation process in VET. The novelty of the research is in its approach to link the VET system in Latvia with the processes of innovation and the training of innovation competent labour force at all levels. This issue according to our knowledge has not yet been addressed in research in Latvia.

To carry out the empirical research on the above indicated issues, apart from the textual analysis consisting of the analysis of relevant policy documents and academic discourse regarding the research problem, also an empirical study in the form of a survey has been carried out.

For the implementation of the empirical study, a questionnaire was developed and experts were asked relevant questions to evaluate the current situation. Before the implementation of the survey the questionnaire was tested among proved professionals in the above mentioned fields and corresponding amendments made. The questionnaire was developed in such a way that the relevant opinions of stakeholders could be analysed in a detailed way and from several perspectives.

In order to carry out the research, the following tasks were set – 1) through textual analysis to identify relevant policy approaches and academic discourse regarding the research topic; 2) carry out empirical study and data analysis among public administrators and experts based on a pre-prepared questionnaire; 3) analyse the empirical findings against the background of the current policy and academic trends and

draw relevant conclusions. Our intention was to find out if the education policy makers and experts saw it relevant in the training of innovation competent to secure co-operation between various relevant stakeholders and if the existing and potential institutional mechanisms are relevant and important for this.

Textual and literature analysis were based on the study of policy and legal documents, and research papers. The empirical study was based on the survey of opinions and interviews with policy makers, administrators and experts in higher education, research and vocational education and training, representatives of the employers' organisations. To carry out the empirical research, a questionnaire was developed and tested among high level experts. Based on the material obtained from the survey, analysis was carried out. Qualitative analysis has been complemented by quantitative analysis through applying the indicators of central tendency or location (arithmetic mean, mode, median), as well as indicators of variability (variance, standard deviation, standard error of mean, range). Based on the textual analysis and empirical study, conclusions have been made.

The research shows that the current developments in EU VET policy regarding the training of innovation competent labour force finds reflection also in the present academic discourse. At the same time, politically and academically, there are not yet clear guidelines available as to practical measures how public administrations could address the new challenges. A wide range of approaches exist, however, most policy makers and academics agree that innovation and training have close links and they need to be viewed in the context of labour market activities and the competitiveness of the particular economy in question. In practice the attitudes of relevant stakeholders are still relatively conservative regarding innovation in VET, and innovation is still primarily seen as pertaining to the domain of higher education, research and development.

### **Theoretical framework**

The problem of innovation and training, and the link between them has been much discussed in academic discourse from various perspectives. Even though it is not always explicitly discussed in the VET context, in many cases it can be easily attributed to the VET domain, as the borderline between education types and levels in the context of current labour market developments is becoming increasingly blurred. The design of public-sponsored training programs, for instance, may benefit from knowledge on which attributes are consistently associated with better labor-market outcomes Galdo, J. & Chong, A., 2012).

Policy co-ordination for technological innovation and for training is usually under the supervision of different ministries or departments which is a complicated issue even in the case of higher education, not to speak about VET which by tradition formally and also conceptually is not linked to innovation and development. At the same time, in the context of latest developments in national economies and labour market, strengthening co-operation between these fields might have a potential for growth. The potential gains from complementarities are enough to justify a serious effort of policy co-ordination in the areas of technology adoption and training (Boothby, D., Dufour, A. & Tang, J., 2010).

There is an increasing awareness that innovation and technologies alone do not produce the desired results unless complemented by respective training component. This is really crucial, as well as the choice of models for the training of labour force to implement technological innovation. In order to successfully adopt new technologies and integrate them within an organization, firms have to obtain new skills and/or to upgrade the skill level of their existing workforces, but this usually asks also for organisational change (Boothby, D., Dufour, A. & Tang, J., 2010). Consequently, the revision of the existing institutional mechanisms has to be done, in order to evaluate their correspondence to the needed change. Another issue is to review if the existing approaches are systemic enough, in order to secure an integrated set of institutional mechanisms. This is challenging in itself, since new situations may arise continuously, often without clear context and forecast, and all this has to be addressed by formalized means.

One of the most striking features of innovation policy discussions in national governments and international policy organizations has been the adoption of the terminology of systems thinking and in particular the language of National Innovation Systems (NISs) (Dodgson M., Hughes, A., Foster, J. and Metcalfe, S. 2011). At the same time Dodgson et al point to the limitations of the NIS approach and speak about the high level of overall uncertainty when implementing certain entrepreneurial schemes or policies. Their research indicates that success may depend upon what market conditions and internal configurations actually emerge. Their implication is that an illusion might be created about optimal outcomes of rational decision-making, but in the reality these survivors are the outcome of a vast experiment in which failures are inevitable) (Dodgson M., Hughes, A., Foster, J. and Metcalfe, S. 2011). These factors by all means have to be taken into consideration when developing national innovation and training schemes, but nevertheless it does not interfere with overtaking the good practice even if it has emerged by chance and not as a result of well-designed public policy.

At the same time, various contradictory factors, including regulatory factors should be taken into consideration when discussing the labour force developments, not only at national but also at European level. Thus, according to European employment policy analysis, starting in 2001, the EU Council recommendations for the individual countries did mention the need to adapt employment regulations with a balance between flexibility and security for the labour force (Alessandria, G. and Delacroix, A., 2008). The implication here is that by such policies, where the security of the labour force is being addressed as an important social issue, the labour market flexibility is being restricted, which in fact hinders proper labour market developments. Consequently, the governments and public policies have to make difficult choices when deciding on their employment models, especially during the crisis periods. This is also the case in Latvia, and balance is to be continuously sought, weighing out optimal and needed solutions when taking decision on VET policies.

Still, it is evident that there are considerable differences in performance, measured by levels of productivity, among innovators and non-innovators (Hashiab, I. & Stojci, N., 2012). It is also clear that national economies have to make

conscious choices as to the innovation policies, i.e., in what ways they obtain and implement innovations and how their workforce is being trained in this respect. The role of and importance of local technological developments as the most suited for the specific national economy (although in the context of developed and developing economies) has been pointed out by researchers, stressing that the need for foreign technology to be appropriate to the specific socio-economic and technical context of a developing country implies that developing countries cannot rely on foreign technology for technological upgrading and that local innovation is of crucial importance (Fu, X. and Gong, Y., 2011). Absorptive capacity of domestically owned firms increases the effects of the spillovers, but foreign investment influences the economic development of the host country only in the case of sufficient absorptive capability of the advanced technologies available in the host country (Eryigit, N., Demirkay, H. and Ozcure, G., 2012). Although in a different context, this presents a challenge also for Latvia – as in a small country (economy) this may be a crucial decision which influences the direction of national economy and the investments in research and respective labour force. Consequently, in the present day context of the global economic development, none questions that human resources represent the essential element of the competition, both on national and international level. Moreover, in the global competition of the computerized economy, the quality and the inventive human resources would be the main factors that make the difference between the countries of the World (Iatagana, M., Dinua, C. & Stoica A. M., 2010). Consequently, today's education and training sector has come much closer to the traditional labour market organisations than it was in the previous decades. Therefore also new respective institutional mechanisms have to be put in place as a response to these new challenges.

One of the reasons is the fact that many countries due to the economic crisis cannot any more afford to fund ineffective VET systems, especially regarding the competence and innovation capacity of the trained labour force. Thus, they have to enhance the co-operative approaches between their training and labour market sectors and invent mechanisms that make such co-operation possible and effective. The role of labour market institutions and organisations, such as state employment services, employer's organisations and sectoral associations, is increasing. Labour market institutions have significant effects on the structural features of the economy, and changes in labour market institutions alter the deep structure of the economy (Zanetti, F., 2011). Thus, the new tendencies to bring together the training and employment systems through corresponding institutional mechanisms, in our opinion, if used appropriately, can enhance the effectiveness of education and training systems to promote innovation and improve its ability to influence the overall economic developments.

Moreover, they indicate to the importance of the sense of property that social partners share, e.g. regarding the dual approach for work and education, stressing that in some cases this shared property brings along the appearance of some groups of regional knowledge that makes the transfer of technology and innovation easier (Iatagana, M., Dinua, C. & Stoica A.M., 2010).

Andergassen et al have researched and proved the impact of innovation investment basically in human resources, on the structure and long-term growth of an economic system. According to their studies, a long-term growth rate straightforwardly results as a positive function of employment devoted to innovation generation, and flows of expected profits are dependent on the size of innovation-oriented employment (Andergassen, R., Nardini, f. & Ricottilli, M., 2009). DeVaro et al use the term innovation regarding workers adapting a product to changing market demand with innovation being directed by a manager or instigated by the worker, as in the case of delegated authority. In their opinion specialized workers have a productivity advantage over multi skilled workers, since their expert knowledge of a given product makes them better at adapting a product to changing consumer demand. Their implication distinguishes between product innovation with adaptation of a product in response to changing market signals, and process innovation, such as occurs when workers suggest cost-cutting measures. They argue that specialists are better at product innovation (DeVaro, J. & Farnham, M., 2011).

Given the multiple existing approaches toward innovation and training in scholarly discourse, it should be noted that there is no uniform preferred or dominant approach, rather the overall uncertainty and non-predictability is being stressed. At the same time, the need for original and entrepreneurial attitudes becomes evident, and the needed link with the world of labour is self-evident. For this reason it becomes clear that innovative and entrepreneurial approaches have to be integrated into the training systems, regardless of the level of training, and that, training systems should integrate interactive learning that fosters creativity and innovation, based on the experience of entrepreneur models, where there need to be networks and links also with local businesses and the labour market (Llorent, V. J., 2012).

Consequently, according to relevant academic discourse, multiple approaches can be considered for translating innovative approaches in VET into practice. Therefore the research approach was to find out the present opinions of VET and research experts regarding the role and potential of innovation in VET in Latvia, to what extent closer co-operation between policy makers, administrators and research experts at various levels could contribute to the effectiveness of innovation in VET, as well as to analyse the opinions of experts concerning the existing and potential institutional mechanisms to secure the training of competent labour force.

### **Research approach**

To carry out the research on the above indicated issues, apart from the textual analysis consisting of analysis of relevant policy documents and academic discourse regarding the research problem, also an empirical study in the form of a survey has been carried out.

For the implementation of the empirical study, a questionnaire was developed and experts were asked relevant questions to evaluate the current situation. Before the implementation of the survey the questionnaire was tested among proved professionals in the above mentioned fields and corresponding amendments made. The questionnaire was developed in such a way that the relevant opinions of stakeholders could be analysed in a detailed way and from

several perspectives. As the research interest primarily lies in the training of competitive labour force at all levels and the role of VET system for preparing such labour force, also the questions were formulated accordingly. Evaluations had to be made in scale 1 – 10, where 1: fully disagree; 10: fully agree. Based on the material obtained by the questionnaire, the primary analysis of the opinions of the various target groups has been conducted and the results compared.

By the empirical study the opinions of relevant stakeholders regarding the respective research problems have been analysed. The target group for the empirical study (sample) were a relatively limited number of high and medium level public administrators in education and research, as well as research experts from various research institutions (practically all relevant experts were approached at the start of the survey). The approach to the selection of the target group was pre-determined by the relatively controversial nature of the research questions, in the context of the currently predominating traditional opinions regarding innovation, VET, higher education and research, as will be shown later on.

Thus, exclusively such public administrators and experts were selected who have a significant experience in education and research, and who apart from their major field of competence are highly aware of the priorities and processes in the overall education system and therefore would have an informed and well considered opinion. The selected group also performed the initial expertise of the developed questionnaire (which will be described further on). Around 35 high and medium level administrators and experts were addressed (asked to participate) in the survey. Due to several reasons around 15 experts finally could not participate in the survey (in some cases due to business and non-availability during the time of the survey, however in some cases the possible reason for non-participation might have been reluctance of experts to give opinions on potentially controversial or politically sensitive issues; this is only our assumption, given the high administrative or political position (status) of the expert approached – regardless the explicit statement in the questionnaire that the results will be analysed and applied anonymously and in a generalised way.

Nevertheless, the representation included: Ministry of Education and Science (MoES) civil servants of the Department for Policy co-ordination, Department of Vocational training, Department of Higher Education, Department of Research, Study and Research Administration, ex-officials currently implementing EU VET projects, Latvian Technology park. The survey was carried out at the beginning of 2012, and it should be noted that due to the reorganisation of MoES in the middle of 2012, the names of departments have changed. Such a concentrated choice of high level professionals, in our opinion, was a precondition for obtaining a well considered professional opinion as a focus point for our overall research, despite the relatively limited number of experts. Our aim at this stage of the research was not to secure quantitative representation. Instead, we concentrated on the opinions of a limited number of high level experts. Especially given the fact that the intention of is to survey several other types of target groups and to compare the opinions between them. The qualitative analysis has been complemented by quantitative analysis by applying the indicators of central tendency or location (arithmetic mean, mode, median), as well as indicators of variability (variance, standard deviation, standard error of mean, range, etc.) as well as cross-tabulations. This has enabled us to draw conclusions regarding the research problem based on which further practical recommendations for possible steps in policy making could be prepared and taken.

### Empirical study

The overall empirical study carried out by the research team concerns a wide variety of issues. However, the present paper is devoted to particular aspects of the study concerning the importance of co-operation between various stakeholders, e.g. in higher education (HE), vocational education and training (VET) in research policy making and in public administration regarding the training of competent and innovation capable labour force and the corresponding institutional mechanisms to train such labour force. Also the respective institutional mechanisms have been at the centre of attention in the present research. Analysis of answers has been presented regarding the following research specific questions/ statements:

**Table 1. Statistical indicators of expert evaluations on statement “Competent and innovation oriented labour force training need closer co-operation”**

Statistical indicators	Policy makers of			Administrators of		
	higher education and research	professional education and research	higher and professional education	higher education and research	professional education and research	higher and professional education
Valid	20	20	20	19	19	19
Missing	1	1	1	2	2	2
Mean	7,80	6,35	7,35	7,79	5,37	6,53
Std. Error of Mean	0,49	0,61	0,47	0,37	0,57	0,49
Median	8	7,5	8	8	5	7
Mode	10	8	8	8	7 and 8	8
Std. Deviation	2,19	2,74	2,08	1,62	2,48	2,12
Variance	4,80	7,50	4,35	2,62	6,14	4,49
Range	8	9	7	5	8	6
Minimum	2	1	3	5	1	3
Maximum	10	10	10	10	9	9

Source: Author's calculations of expert survey results, Evaluation scale 1-10, where 1 – not important; 10 – very important.

1. In the training of competent and innovation capable labour force closer so-operation is needed between various stakeholders: a) HE and VET policy makers; b) HE and VET administrators; c) HE and research policy makers; d) HE and research administrators; e) VET and research policy makers; f) VET and research administrators.

2. The existing institutional mechanisms ensures the training of high level innovative specialists.

3. The existing institutional mechanisms ensures the training of medium level innovative specialists.

4. The existing institutional mechanisms ensures the training of lower level innovative specialists.

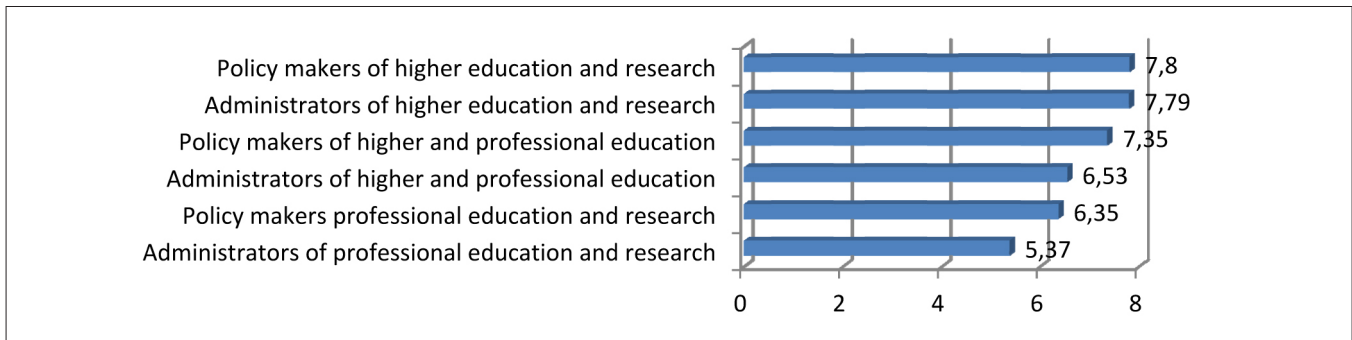
The results of the analysis of the expert answers to the Statements Nr. 1 „In the training of competent and innovation capable labour force closer so-operation is needed between various stakeholders“ are presented in Table 1, Figure 1 and Figure 2.

Data of Table 1 confirm that the evaluations are lower for vocational education. The great variance in responses

confirms that respondents had different views on professional education: higher evaluations of experts were given for policy makers of higher education and research, as well as for administrators of higher education and research.

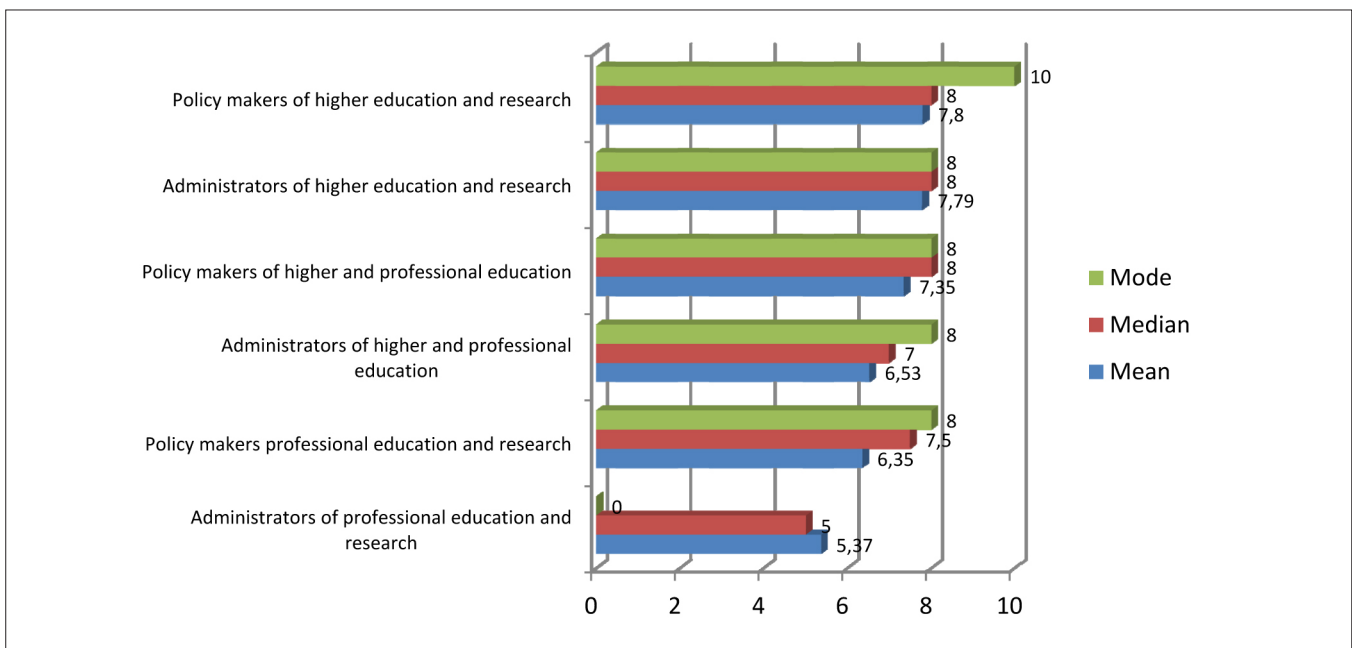
The results of expert survey confirm that experts gave very high evaluations to almost all statements. The lowest evaluations are for the co-operation between administrations of vocational education and research, where arithmetic mean of the expert evaluations was 5.37 with median 5 (half of experts gave higher evaluation than 5, half gave lower than 5). No one of experts gave higher evaluation than 9 for this statement – experts have not found it possible to give the highest possible evaluation. Indicators of central tendency or location of expert evaluations on statement „Competent and innovation oriented labour force training need closer cooperation“ are included in figure 2.

The results of the expert survey have indicated that the highest evaluations are given by policy makers of higher education and research but the lowest evaluations are given



**Figure 1. Arithmetic means of expert evaluations on statement „Competent and innovation oriented labour force training need close co-operation“**

Source: Author’s calculations of expert survey results, Evaluation scale 1-10, where 1 – not important; 10 – very important.



**Figure 2. Indicators of central tendency or location of expert evaluations on statement “Competent and innovation oriented labour force training need closer co-operation”**

Source: Author’s calculations of expert survey results, Evaluation scale 1-10, where 1 – not important; 10 – very important.

by administrators of vocational education. In general average evaluations are around the same (arithmetic mean, mode, median) for almost all evaluated statements.

The results of the analysis of the expert answers to the statement „The existing institutional mechanisms ensures the training of high level, medium level and lower level innovative specialists‘ are presented in Table 2.

**Table 2. Statistical indicators of expert evaluations on statement ‚The existing institutional mechanisms ensures the training of high level, medium level and lower level innovative specialists‘**

		The existing institutional mechanisms ensures the training of		
		high level innovative specialists	medium level innovative specialists	lower level innovative specialists
N	Valid	20	20	18
	Missing	1	1	3
Mean		4,75	4,50	4,28
Std. Error of Mean		0,70	0,56	0,54
Median		6	5	5
Mode		8	5	5
Std. Deviation		3,11	2,52	2,27
Variance		9,67	6,37	5,15
Range		8	8	7
Minimum		0	0	0
Maximum		8	8	7

*Source:* Author’s calculations of expert survey results, Evaluation scale 1-10, where 1 – not important; 10 – very important.

Survey results indicate that experts give rather low evaluations for the statement. Only for the evaluation on training of higher level specialists are higher, but still the arithmetic mean of this evaluations is only 4,75; median is 6 and mode is 8. For all statements no expert gave evaluation higher than 8. The views of experts differ greatly – it is confirmed by the high values of indicators of variability.

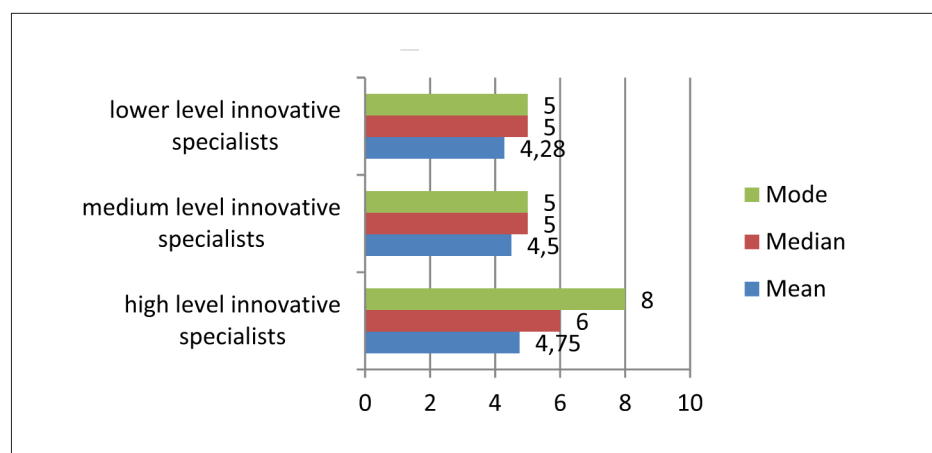
Indicators of central tendency or location of expert evaluations on the statement „The existing institutional mechanisms ensures the training of high level, medium level and lower level innovative specialists“ is included in figure 3.

The results of the analysis of the expert answers confirms that indicators of central tendency or location for those statements are low, except for the statement „The existing institutional mechanisms ensures the training of high level innovative specialists“. Clearly, more relevance is being attributed to the possibility of training of innovation competent specialists at higher level, with traditionally less importance of innovation competence at medium and lower level. It does not comply with the current EU policy priorities, and calls for revision of VET priorities regarding the labour force training. It has implication also to the European Qualification Framework where level 5 qualification refers to highly qualified medium level specialists. It gives the agenda for public administrators to develop the legislative regulation to support training of innovative specialists for all levels: higher level, medium level and lower level specialists.

### Conclusions

As a result of the research the following conclusions can be drawn:

- The EU policy making is undergoing a change with new emphasis on innovation in all education and training sectors and closer links with the labour market developments.
- The academic discourse addresses the issue of innovation and training in a variety of contexts, still without clear indications on best possible paths in future.
- Both – the policy developments and academic discourse stress the need for new approaches and mechanisms to promote links between innovation and training.
- Today’s education and training sector has come much closer to the traditional labour market organisations than it was in the previous decades. Therefore also new respective institutional mechanisms have to be put in



**Figure 3. Indicators of central tendency or location on statements ‚The existing institutional mechanisms ensures the training of high level, medium level and lower level innovative specialists‘**

*Source:* Author’s calculations of expert survey results, Evaluation scale 1-10, where 1 – not important; 10 – very important.

place as a response to these new developments.

- Most policy makers and academics agree that innovation and training have close links and they need to be viewed in the context of labour market activities and with the competitiveness of the particular economy in question.
- In practice the attitudes of relevant stakeholders are still relatively conservative regarding innovation in VET, and innovation is still primarily seen as pertaining to the domain of higher education, research and development.
- Traditional attitudes also prevail regarding the relevance of co-operation between policy makers and administrators in higher education, VET and research concerning the implementation of innovation.
- Revision of the existing institutional mechanisms has to be done, in order to evaluate their correspondence to the needed change. This is extremely challenging, since new situations may arise continuously, often without clear context and forecast, and all this has to be addressed by formalized means.
- Bringing together the training and employment systems through corresponding institutional mechanisms, if used appropriately, can enhance the effectiveness of education and training systems to promote innovation and improve its ability to influence the overall economic developments.
- Innovative and entrepreneurial approaches have to be integrated into the training systems, regardless of the level of training.
- Among public administrators in Latvia co-operation between public administrators and policy makers in higher education and research are seen as relevant, however, co-operation between VET policy makers and administrators with their counterparts in the research sector is being seen as irrelevant.
- According to the opinion of public administrators and experts in Latvia - the existing institutional mechanisms currently cannot ensure the training of medium level innovative specialists, therefore new institutional mechanisms need to be sought.
- Revision of VET priorities regarding the labour force training might be needed in Latvian public administration in VET. It gives the agenda for public administrators to develop the legislative regulation to support training of innovative specialists for all levels: higher level, medium level and lower level specialists.
- Continued research and studies are needed to offer solutions in the Latvian context for improved approaches in the training of innovation competent specialists. Such specialists are needed at all levels.

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The article has been reviewed.  
Received in April, 2014; accepted in June, 2014.