Comparative Analysis of Quality of Student Teachers’ Performance in India and Latvia

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Abstract

Problem Statement: For modernisation of teacher education and training, teachers’ efficacy, effectiveness and efficiency of educational process, classroom management including classroom discipline, etc have been analysed. Against this background, quality of student teachers’ performance in the classroom is essentially required as it determines the destiny of their future classrooms as well as teacher education and training. However, in the era of education industrialisation, application of such a method as the six sigma DMAIC method, which is well-known in industrial units, to the analysis of quality of student teachers’ performance in the classroom has not been widely practised.

Purpose of the Study: This analytic paper is aimed at depicting the quality of student teachers’ performance in the classroom which is of prime concern for the purpose of enhancing the academic quality via the six sigma DMAIC method.

Methods: The meaning of the key concepts of six sigma DMAIC analysis and quality of student teachers’ performance in the classroom are studied. A comparative study was used in the present contribution. This comparative study checked the relevancy of the six sigma quality method which has been widely used in the industrial units and its use in academic research which is very sparse. The empirical studies were conducted at Dr. Sivanthi Aditanar College of Education in India and University of Latvia in Latvia in 2014.

Findings and Results: The research findings allow drawing the conclusions on the quality of student teachers’ performance in the classroom in India and Latvia.

Conclusions and Recommendations: Theoretical findings based on the analysis of scientific literature allow drawing the conclusions on the relevancy of use of the DMAIC method of the six sigma methodology in teacher education as the six sigma methodology and quality are inter-connected (Lakshminarayanan & Ramanakumar, 2014). Advantages of use of the DMAIC method of the six sigma methodology are identified. Directions of further research are proposed.

Keywords

Teacher Education and Training; Quality of Student Teachers’ Performance in the Classroom; Teaching Quality; Six Sigma Methodology; DMAIC Method

Introduction

The 2030 horizon requires teacher training reform in order to facilitate teachers’ creation of new products, new patents, new entrepreneurial activities and new jobs as prospective teachers succeed harder to find a job in the light of enormous socio-economic and unprecedented demographic challenges (Hariharan, Zaščerinska & Swamydhas, 2013). In order to achieve the objectives of the 2030 horizon, teacher education and training require that teaching quality in teacher education and training is emphasised. For modernisation of teacher education and training, teachers’ efficacy, effectiveness and efficiency of educational process, classroom management including classroom discipline, etc have been analysed. Against this background, quality of student teachers’ performance is essentially required as it determines the destiny of their future classrooms as well as teacher education and training. Considering this view, the present study has been undertaken and is entitled “Six sigma based analysis of quality of student teachers’ performance in the classroom in India and Latvia”. The importance of this kind research is highly realized now due to the global demand on the outstanding educational outcome of teacher educative...
Comparative Analysis of Quality of Student Teachers’ Performance in India and Latvia

Theoretical Framework

In the present contribution, student teachers’ performance means teaching. Teaching in formal higher education was defined as a purposefully organized process of educator’s sharing experience (knowledge, skills and attitudes) with student teachers (Author 2 & Ahrens, 2013). Teaching quality was regarded as the improvement of student teachers’ teaching knowledge, skills and attitudes (Zaščerinska, 2011) as shown in Figure 1 by Ahrens, Bassus and Zaščerinska (Ahrens, Bassus & Zaščerinska, 2012).
The improvement of student teachers’ teaching knowledge, skills and attitudes proceeds via those student teachers’ learning.

Teaching quality is analysed by either adopting Six Sigma as a metric in controlling variation or a methodology in improving the process or product quality or a management system to implement initiatives like change management (Lakshminarayanan & Ramanakumar, 2014). It should be noted that Author 1 and Mohanasundaram (2013) have defined the academic six sigma as a comprehensive and flexible system of achieving, sustaining and maximizing the process outcome through adopting the societal needs, efficient use of facts, statistical quality control principles and effortful consideration to manage, improve and reinventing the educational process.

The Six Sigma methodology comprises two methods (Lakshminarayanan & Ramanakumar, 2014) as shown in Figure 2:
- the DMAIC method,
- the DFSS method.

DFSS is leveraged in new product development and or when the process entitlement has been achieved in existing process, calling for design changes to achieve higher level of performance or defect reductions (Ramanan, Kumar & Ramanakumar, 2014).

Educational institutions like deemed universities, autonomous institutions etc., which have opportunities to design or make changes to their curriculum can adopt the DFSS model, to design curriculum either for a new program, or to delight the customer in its existing programs which have achieved process entitlement through DMAIC models (Ramanan, Kumar & Ramanakumar, 2014). Institutions which do not have opportunities to make changes to curriculum, can embrace the DMAIC model of the six sigma methodology and still make an impact on teaching quality (Ramanan, Kumar & Ramanakumar, 2014). However, as the teaching quality as observed from scientific literature, is an issue across institutions, regions and continent, it can be concluded that the process entitlement has not been achieved even by the institutions of higher learning which have opportunities to make changes or design their curriculum (Ramanan, Kumar & Ramanakumar, 2014). Hence, the discussions in this work are restricted with DMAIC method of the six sigma methodology.

The essence of the DMAIC method is to reduce variation in a process and to achieve high conformance quality in customer’s terms. The DMAIC principles are revealed by Author 1, Author 2 and Swamydhas (Hariharan, Zaščerinska & Swamydhas, 2013) in Table 1.

<table>
<thead>
<tr>
<th>DMAIC Principles</th>
<th>Element’s Definition</th>
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<tbody>
<tr>
<td>D</td>
<td>Define the instructional process with learning objectives and outcomes</td>
</tr>
<tr>
<td>M</td>
<td>Measure teaching sessions of student teachers in their respective classrooms of by a tool</td>
</tr>
<tr>
<td>A</td>
<td>Analyse the teaching sessions of student teachers in the classroom by statistical process</td>
</tr>
<tr>
<td>I</td>
<td>Improve student teachers based on the data analysis in the analyse phase</td>
</tr>
<tr>
<td>C</td>
<td>Control plans that institutionalize the improvements for the future to ensure that student teachers stay at a desired level</td>
</tr>
</tbody>
</table>

In turn, the DFSS method comprises the following elements:
- Define,
- Measure,
- Analyse,
- Design,
- Optimise,
Empirical Study

The present part of the contribution demonstrates the design of the empirical study, survey results and findings of the study.

Study Design

The design of the present empirical study comprises the question and purpose, samples and methodology of the present empirical study.

The guiding question of the present empirical study is: Is there a difference between the quality of student teachers’ performance in the classroom in India and Latvia?

The main objectives of this study are

- to measure the sigma mean of the defective factors if any while in the teaching sessions,
- to compare the significance of the difference between the student teachers of the two countries with respect to the dimensions of the teaching quality.

The present empirical study involves four independent groups. In India, totally 70 student teachers of Dr. Sivanthi Aditanar College of Education, Tiruchendur, Tamilnadu, India, were purposively selected and allotted in two groups, namely—control group with 35 students and experimental group with 35 students. In Latvia, totally 28 prospective teachers of the Faculty of Pedagogy, Psychology and Art of the University of Latvia were involved and allotted in two groups, namely—control group with 14 students and experimental group with 14 students. Thus, the prospective teachers are from different countries, namely India and Latvia. Therefore, the samples are multicultural and multilingual as the respondents with different cultural backgrounds and diverse educational approaches were chosen. Thus, the groups’ socio-cultural context (age, field of study and work, mother tongue, etc.) is heterogeneous.

The empirical study consisted of the following stages (Ahrens, Bassus & Zaščerinska, 2014, 53):

- exploration of the quality of teachers’ performance in the classroom in India and Latvia through the six sigma DMAIC method and data collection,
- data processing, analysis, comparison and data interpretation,
- analysis of the results,
- elaboration of conclusions and directions of further research.

The methodology of the study was based on the analysis of two levels to measure the deficiency factors:

- pre level (1- 4 weeks),
- post level (4- 8 weeks).

The tool of quality teaching (TQT) was constructed and validated by the investigators, was the check list used to measure the frequency of the teaching defects (critical to quality). These critical to quality (CTQ) were derived from the brainstorming sessions conducted to the student teachers. Based on assertions made by the student teachers, the affinity between the various elements was drawn, and the dimensions of the study were determined as shown in Figure 3.

![Tool of Quality Teaching](image-url)
The intellectual quality dimension includes

1. Inherent knowledge: It concerns the central idea or concept of a topic, subject is evident when either the student teacher provides information, reasoning or arguments that address the centrality or complexity of a key concept or idea, or when relatively complex relations are established to other central concepts.

2. Reflective Understanding: Students demonstrate deep understanding when they explore relationships, solve problems, construct explanations and draw conclusions in relatively systematic, integrated or complex ways.

3. Higher-Order Thinking: Higher-order thinking requires student teachers to manipulate information and ideas in ways that transform their meaning and implications. This transformation occurs when student teachers combine facts and ideas in order to synthesise, generalise, explain, hypothesise or arrive at some conclusion or interpretation. Employing information and ideas through these processes allows students to solve problems and create new (for them) meanings and understandings. It can produce ideas and products which can take the learning in new directions.

4. Multi lingual ability: Lessons high in metalanguage have high levels of talk about language and about how texts work. Student teachers frequently take the opportunity to draw attention to particular aspects of texts (e.g. words, images and symbols) either at a key point in the lesson or when students are obviously having difficulties in interpretation. Use of Tamil or Telugu language (South Indian Languages)

5. Sustained Interaction: This element identifies the quality of communication (oral, written or symbolic) required to promote coherent shared understanding. Encourage students to generate questions about the topic for research and discussion and use these as a basis for lesson development.

The dimension of progressive learning system is characterised by

1. Learning resources: It provides annotated exemplars, work samples or models that illustrate high quality concept formation. These exemplars could be work from past students and other sources.

2. Active Engagement: These behaviours include constant interest and attentiveness, individual focus on work, showing enthusiasm for the work, and taking the work seriously. High engagement may also be evident when students take the initiative to raise questions, contribute to group tasks and help peers.

3. Supportive learning: Classrooms high in collective support for student learning encourage all students to try hard and risk initial failure in a climate of shared respect. Classrooms high in social support are characterised by teacher and student behaviours, comments and actions that encourage and value effort, participation, and the expression of one’s views in the pursuit of learning.

4. Self-structured learning: High self-regulation is evident when the lesson proceeds without interruption and when student teachers demonstrate autonomy and initiative in relation to their own behaviour in ways that allow the class to “get on” with learning. There is virtually no time spent, or need for time to be spent in the lesson, on disciplining students’ behaviour or regulating student movements.

5. Self-Responsibility: When student teachers accept responsibility for the activities in which they involve, and/or how they complete them, the activities are likely to be student-centred (e.g. group work, individual research and practical investigation projects).

The adaptive instructional process dimension comprises

1. Specialised Skills: It denotes the all the essential skills of teaching that one student teacher must attain. The more skills the student teacher possess, the more their communicative outcome in terms of set induction, illustrating, narrating, reinforcing the learning.

2. Inclusive cultural awareness: Cross Cultural knowledge is essential when there is an understanding, valuing and acceptance of the traditions, beliefs, skills, knowledge, languages, practices and protocols of diverse social groups exists.

3. Knowledge connectivity: Making the student teachers get involved in the various discourses of eminent personalities so as to make them to attain the knowledge connectivity. This connectivity makes them to attain
4. Digital connectivity: Making the student teachers get involved in the digital connectivity. This connectivity makes them to attain correctness in teaching as well as they attain virtualised learning skills.

Each sub-dimension such as Inherent Knowledge, Reflective Understanding, etc, includes a number of elements to be measured. The number of elements in each sub-dimension is different due to the assertions made by the student teachers during the brainstorming sessions. For example Multi lingual ability, comprises such elements as

- talk about language,
- talk about how texts work,
- words as a particular aspect of texts,
- images as as a particular aspect of texts,
- symbols as a particular aspect of texts,
- text interpretation, etc.

The evaluation scale of five levels for each element in each sub-dimension was given such as

- very negative “1”,
- negative “2”,
- neither negative nor positive „3”,
- positive “4”,
- very positive “5”.

The evaluation scale was transformed into the level system as illustrated in Table 2.

<table>
<thead>
<tr>
<th>Sub-Dimension</th>
<th>Elements of the sub-dimension</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multi lingual ability</td>
<td>talk about language</td>
</tr>
<tr>
<td></td>
<td>talk about how texts work</td>
</tr>
<tr>
<td></td>
<td>words as a particular aspect of texts</td>
</tr>
<tr>
<td></td>
<td>images as as a particular aspect of texts</td>
</tr>
<tr>
<td></td>
<td>symbols as a particular aspect of texts</td>
</tr>
<tr>
<td></td>
<td>text interpretation</td>
</tr>
</tbody>
</table>

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<tr>
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</tr>
<tr>
<td></td>
<td>words as a particular aspect of texts</td>
</tr>
<tr>
<td></td>
<td>images as as a particular aspect of texts</td>
</tr>
<tr>
<td></td>
<td>symbols as a particular aspect of texts</td>
</tr>
<tr>
<td></td>
<td>text interpretation</td>
</tr>
</tbody>
</table>

After having measured each element of each sub-dimension, the matrix of the data of the measurement of each element of each sub-dimension is prepared. This matrix also includes average coefficient of each sub-dimension in each group of students, namely a group of 35 student teachers from India as well as Latvia. For example, Multilingual ability in the group of 35 student teachers from Latvia is scored as 16.3 and from India 27.1. Then, average coefficient of each sub-dimension is standardized as demonstrated in Table 3.
Hence, the multilingual ability of the 35 student teachers from India is of a higher level in comparison to the 35 student teachers from Latvia. It can be explained by the fact that English is one of the national languages in India while in Latvia there is one national language, namely Latvian.

**Survey Results**

The results of the survey carried out at Dr. Sivanthi Aditanar College of Education in India and University of Latvia in Latvia in 2014 are reflected in Table 4. In the Table, by Total mean, the sum of mean in the pre- and post-score are meant. Thus, Total mean differs from the simple mathematical mean (average).

It should be noted that in the volume LV is used for Latvia. The survey results shown in Table 4 reveals the higher sigma values of student teachers of Latvia than their counter parts in India as far as the intellectual dimension but not in the progressive learning system and in adaptive instructional process. The study illustrates that the intellectual quality differs and this may be due to the academic influence of western educative system adopted in Latvia. If the same quality is sustained in India, the student teachers may maximise their teaching quality more authentically.

**Findings of the Study**

Table 5 shows the significant differences between the mean values that determine the variations between the student teachers of the two countries in the intellectual dimension but not in the progressive learning system and in adaptive instructional process. The study illustrates that the intellectual quality differs and this may be due to the academic influence of western educative system adopted in Latvia. If the same quality is sustained in India, the student teachers may maximise their teaching quality more authentically.

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**TABLE 4 SHOWING THE SIGMA VALUES AND PROCESS YIELD OF QUALITY OF TEACHERS’ PERFORMANCE IN INDIA AND LATVIA**

<table>
<thead>
<tr>
<th>Teacher quality Dimensions (A, B &amp; C)</th>
<th>Total mean (post score-pre score)</th>
<th>Norm fit value</th>
<th>DPMO</th>
<th>Sigma value</th>
<th>Process yield (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LV</td>
<td>India</td>
<td>LV</td>
<td>India</td>
<td>LV</td>
<td>India</td>
</tr>
<tr>
<td><strong>A. INTELLECTUAL QUALITY</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Inherent knowledge</td>
<td>23.8</td>
<td>34.6</td>
<td>0.238</td>
<td>0.346</td>
<td>119000</td>
</tr>
<tr>
<td>2. Reflective Understanding</td>
<td>25.3</td>
<td>15.9</td>
<td>0.141</td>
<td>0.253</td>
<td>70500</td>
</tr>
<tr>
<td>3. Higher-Order Thinking</td>
<td>27.9</td>
<td>30.9</td>
<td>0.227</td>
<td>0.299</td>
<td>113500</td>
</tr>
<tr>
<td>4. Multi lingual ability</td>
<td>27.1</td>
<td>16.3</td>
<td>0.163</td>
<td>0.271</td>
<td>81500</td>
</tr>
<tr>
<td>5. Sustained Interaction</td>
<td>41.1</td>
<td>31.9</td>
<td>0.319</td>
<td>0.441</td>
<td>159500</td>
</tr>
<tr>
<td><strong>Mean value</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>B. PROGRESSIVE LEARNING SYSTEM</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Learning resources</td>
<td>22.1</td>
<td>31.9</td>
<td>0.221</td>
<td>0.319</td>
<td>110500</td>
</tr>
<tr>
<td>2. Active Engagement</td>
<td>24.3</td>
<td>27.9</td>
<td>0.243</td>
<td>0.279</td>
<td>121500</td>
</tr>
<tr>
<td>3. Supportive learning</td>
<td>15.8</td>
<td>16.2</td>
<td>0.158</td>
<td>0.162</td>
<td>79000</td>
</tr>
<tr>
<td>4. Self-structured learning</td>
<td>30.1</td>
<td>36.6</td>
<td>0.301</td>
<td>0.366</td>
<td>150500</td>
</tr>
<tr>
<td>5. Self-Responsibility</td>
<td>27.9</td>
<td>34.7</td>
<td>0.279</td>
<td>0.347</td>
<td>139500</td>
</tr>
<tr>
<td><strong>Mean value</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>C. ADAPTIVE INSTRUCTIONAL PROCESS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Specialised Skills</td>
<td>19.6</td>
<td>24.4</td>
<td>0.196</td>
<td>0.244</td>
<td>98000</td>
</tr>
<tr>
<td>2. Inclusive cultural awareness</td>
<td>15.9</td>
<td>11.1</td>
<td>0.159</td>
<td>0.111</td>
<td>79500</td>
</tr>
<tr>
<td>3. Knowledge connectivity</td>
<td>14.2</td>
<td>17.8</td>
<td>0.142</td>
<td>0.178</td>
<td>71000</td>
</tr>
<tr>
<td>4. Digital connectivity</td>
<td>11.3</td>
<td>11.9</td>
<td>0.113</td>
<td>0.119</td>
<td>56500</td>
</tr>
<tr>
<td><strong>Total mean</strong></td>
<td></td>
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</tbody>
</table>

**TABLE 5 SHOWING THE ‘T’ VALUE OF THE SIGMA MEAN OF THE DIMENSIONS OF QUALITY OF TEACHERS’ PERFORMANCE**

<table>
<thead>
<tr>
<th>Dimensions of Quality of Teachers’ Performance</th>
<th>Country</th>
<th>N</th>
<th>Sigma Mean</th>
<th>S.D</th>
<th>Standard error</th>
<th>Y value</th>
<th>P value (0.05)</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>INTELLECTUAL QUALITY</strong></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>India</td>
<td>5</td>
<td>2.499</td>
<td>0.148</td>
<td>0.063</td>
<td>2.34</td>
<td>0.04*</td>
<td>S (p&lt;0.05)</td>
<td></td>
</tr>
<tr>
<td>Latvia</td>
<td>5</td>
<td>2.750</td>
<td>0.187</td>
<td>0.089</td>
<td></td>
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<tr>
<td><strong>PROGRESSIVE LEARNING SYSTEM</strong></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>India</td>
<td>5</td>
<td>2.564</td>
<td>0.198</td>
<td>0.0887</td>
<td>1.08</td>
<td>0.15</td>
<td>NS (p&gt;0.05)</td>
<td></td>
</tr>
<tr>
<td>Latvia</td>
<td>5</td>
<td>2.684</td>
<td>0.147</td>
<td>0.0657</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>ADAPTIVE INSTRUCTIONAL PROCESS</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>India</td>
<td>4</td>
<td>2.91875</td>
<td>0.1957</td>
<td>0.0978</td>
<td>0.20</td>
<td>0.84</td>
<td>NS (p&gt;0.05)</td>
<td></td>
</tr>
<tr>
<td>Latvia</td>
<td>4</td>
<td>2.89475</td>
<td>0.137</td>
<td>0.0689</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Conclusions

Theoretical findings based on the analysis of scientific literature allow drawing the conclusions on the relevancy of use of the DMAIC method of the six sigma methodology in teacher education as the six sigma methodology and quality are inter-connected (Lakshminarayanan & Ramanakumar, 2014).

Advantage is identified as any situation, circumstance, opportunity, state or means specially favourable to one’s success, interest, or any desired result. An advantage of use of the DMAIC method of the six sigma methodology is that the application of the DMAIC method of the six sigma methodology

- widens opportunities for each student teacher to construct teaching quality or, in other words, student teachers’ teaching knowledge, skills and attitudes that is a significant aspect of student teachers’ performance in the classroom,
- promotes opportunities for each student teacher’s self-realization.

Empirical findings of the present study carried out through the DMAIC method of the six sigma methodology allow drawing conclusions on the significant difference between the quality of teachers’ performance in the classroom in India and Latvia.

Validity and reliability of the research results have been provided by involving other researchers into several stages of the conducted research. External validity has been revealed by international co-operation as following:

- the research preparation has included individual interdisciplinary consultations given by other researchers,
- the present contribution has been worked out in co-operation with international colleagues and assessed by international colleagues,
- the research has been partly presented at international conferences.

Therein, the findings of the present research are validated by other researchers.

The present research has limitations. The inter-connections between teacher education, quality, teaching quality, the six sigma methodology and the DMAIC method have been set. Another limitation is the comparison of the difference between the quality of teachers’ performance in the classroom in India and Latvia. A limitation is the empirical study conducted by involving only the prospective teachers of two educational institutions. Therein, the results of the study cannot be representative for the whole area. Nevertheless, the results of the research – the comparison of the difference between the quality of teachers’ performance in the classroom in India and Latvia and the research design - may be used as a basis of analysis of the difference between the quality of teachers’ performance in the classroom in India and Latvia in other institutions. If the results of other institutions had been available for analysis, different results could have been attained. There is a possibility to continue the study.

Empirical studies in other institutions are proposed to be carried out. Another direction of further investigation is considered as evaluation of the difference between the quality of teachers’ performance in the classroom in other institutions that provide teacher training in India and Latvia. A comparative research of more countries could be implemented as well.

REFERENCES


Ramar Hariharan was conferred Master degree in Marine biology and oceanography from the Centre of Advanced Study in Marine biology from Annamalai University, Tamilnadu, India. Subsequently, he accomplished Master degree in Education from Madurai Kamaraj University, Tamilnadu, India in the year 1996 along with MPhil in Biotechnology in 2006 and MPhil in Education in 2007. He has been given an opportunity to teach since 1999.

Further, He has been given an opportunity to serve as an assistant professor in the Department of Education in Dr. Sivanthi Aditanar college of Education Tiruchendur, India since September 9, 2006. He also serves as an editor of the national level research journal – New Horizons in Educational Research since 2009. Additionally, he has been appointed as a peer group member in Journal of Contemporary Educational Research and Innovation (JCERI) and acted as an external examiner in four universities in Tamilnadu.

His research paper has been accepted by the well learned organising committee of the International Conference on Learning and Teaching (ICLT, 28 – 29, June 2013) conference conducted by Taylor university of Malaysia. Finally, his academic pursuits is moulded by the research topic entitled “Impact of six sigma – DMAIC approach in learning the ICT concepts by the prospective teachers” which was presented before the August presence of the well esteemed organising committee of the prestigious ATEE and well learned European academicians.

He has been acting as a member of Multi media Educational Resource for Learning and Online Teaching (MERLOT) since 2012.

Jelena Zaščerinska was awarded Dr. paed. Degree from the University of Latvia, Riga, Latvia, in 2011.

In January 2012 she became a leading researcher at the Centre for Education and Innovation Research, Riga, Latvia.

Dr. paed. Jelena Zaščerinska has been awarded research grants to carry out interdisciplinary research in the field of higher education. The research results are revealed in a number of scientific publications indexed by a number of widely-recognized
international research publication databases such as Thomson Reuters Conference Proceedings Citations Index, DBLP, Library of Congress and others.

In 2012 Dr. paed. Jelena Zaščerinska was bestowed expert rights by the Latvian Council of Science, Riga, Latvia. In December 2013 Dr. paed. Jelena Zaščerinska was awarded expert rights by Horizon 2020 – the Framework Programme for Research and Innovation, the European Commission, Brussels, Belgium.

Since 2013 Dr. paed. Jelena Zaščerinska has been actively acting as the Editorial Board Member and Reviewer in such international scientific journals as the Journal of Information Technology Research (JITR), International Journal of Modern Education Research (IJMER), International Journal of Learning, Teaching and Educational Research (IJLTER), Journal Current Issues in Education (CIE), International Journal of Modern Education Forum (IJMEF), etc.

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Natalia Andreeva has been working as the director of Resource Centre of Foreign Languages at the Immanule Kant Baltic Federal University, Kaliningrad, Russia.

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Mihails Zaščerinskis has been working as a police officer in the State Police, Riga, Latvia.

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Mihails Zaščerinskis is a member of international research team. He takes part in an international research project, too. The results of his participation in international research projects has been revealed in a number of publications indexed by a number of widely-recognized international research publication databases such as Thomson Reuters Conference Proceedings Citations Index, DBLP, Library of Congress and others.

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Ludmila Aļeksejeva is a member of international research team. He takes part in an international research project, too. The results of his participation in international research projects has been revealed in a number of publications indexed by a number of widely-recognized international research publication databases such as Thomson Reuters Conference Proceedings Citations Index, DBLP, Library of Congress and others.