This presentation defines and describes pedagogical focus in futures studies.

- The research is focused on analysing the particularities of the generated educational models and methods, concepts and tools for the developing futures/foresight thinking as a part of a worldview
- as well as the problems and opportunities there are for the modern theory and practice of education in Finland and Russia in the light of using the concepts of time and future in the formation of the “futures/foresight literacy” concepts and the futures thinking development.
Particularities of educational practice for developing futures thinking and foresight literacy in Finland and Russia (comparative analysis)

• The idea of this comparative research had come from the analysis that is based on the experience of the educational projects “Open Foresight-laboratory” in Siberia and in the Arctic area.

• The experience of educational project and educational technology “Open Foresight-laboratory of students: Key Technologies and Profession skills for Future +20” developed by cooperation of Tomsk State University and high schools and colleges on Siberia (Tomsk, 2012-2017, Russia) and Arctic area (Yamal, Russia, 2017).

Experience of future-oriented educational practices “Open foresight-laboratory” as series of regular educational foresight-events (EFE)

Model 1. Open foresight-laboratory of high school students (Tomsk, TSU & high schools, 2012 - 2017)
2012: 1 EFE – 5 experts, 70 high schools students, 18 teachers from Seversk gymnasium (Tomsk region)
2013: 1 EFE - 12 experts, 150 high schools students, 34 teachers from 11 regions of Russia and Tomsk and Seversk
2014: 2 EFE - 17 experts, 290 high schools students, 41 teachers from Seversk, Tomsk region and 10 regions of Russia
2015: 2 EFE - 16 experts, 310 high schools students, 46 teachers from Seversk, Tomsk region and 13 regions of Russia
2016: 2 EFE - 22 experts, 305 high schools students, 46 teachers from Seversk, Tomsk region and 10 regions of Russia
2017: 1 EFE – 10 experts, 145 high schools students, 21 teachers from Seversk, Tomsk region and 13 regions of Russia

Model 2. Open foresight-laboratory of region (Yamal, Yamalo-Nenets Autonomous District, high schools & colleges, 2017)
March 2017: 1 EFE - 18 experts, 60 high schools and colleges students, 16 teachers from 6 towns of Yamal
April 2017: 1 EFE – 23 experts, 60 high schools and colleges students, 21 teachers from 5 towns of Yamal

Model 3 (project since September 2017). Open foresight-laboratory for interdisciplinary researches and projects (Tomsk, TSU, 2017)
Example: Model 2. Open foresight-laboratory of region

(Yamal, Yamalo-Nenets Autonomous District, for high schools & colleges)

March 2017: 18 experts, 60 high schools and colleges students, 16 teachers from 6 towns of Yamal

«Arctic Generations & Arctic Skills + 20»
(3 days = 3 stages and 1 month before as prepared stage)

I. Key Technologies for Arctic Lifestyle +20: Threats and Opportunities
   I. Digitalization. IT
   II. Robotics
   III. New materials. 3- and 4-D printing
   IV. Power Engineering
   V. Biotechnology

II. Arctic Lifestyle & Arctic Generations +20

III. Arctic skills + 20: Occupations Top - 15 for Our Generation

Experience of future-oriented educational practices:
“Open foresight-laboratory”
as series of regular or educational foresight-events (EFE)

Types of materials:

- Programs
- Foresight-essays (prepared or distance stage)
- Presentations of teams of Open Foresight-laboratory (3 days=3phases)
- Questionnaires
- Interviews
- Comics
This part of presentation summarises the evolution of these pedagogical approaches in our work, and depicts case studies. We discuss cases based on our previous theoretical work and pedagogical practice:

- **Case 1. Tomsk, West Siberia – Scientific-education centre (6 universities)**
- **Case 2. Yamal, Arctic area, Yamalo-Nenets Autonomous District – Russia’s strategic oil and gas region**

**Experience of future-oriented educational practices:**
“Open foresight-laboratory” as series of regular or educational foresight-events (EFE)

**Particularities of educational practice for developing futures thinking and foresight literacy:**
**TYPE I.** Future-oriented educational practice depend from particularities of the region

**PARTICULARITIES TYPE I.**

**Future-oriented educational practice** depend from the particularities of the region related to:

**Education (E): Educational Policy:** agents, approaches, programs, projects for Future-oriented educational practices

**Communities (C):** Future-oriented communities: groups interested in Future-oriented educational practices

**Visioning (V):** Visions about Future: youths versions about own futures and futures of the territory
Particularities of educational practice for developing futures thinking and foresight literacy:
TYPE I. Future-oriented educational practice depend from particularities of the region

Case 1 (Tomsk, West Siberia) and case 2 (Yamal, Arctic area)
Case studies are presented of the analysis:

- **Education (E):** Who are the agents and what kind of approaches, programs, projects for Future-oriented educational practices they needs?
- **Communities (C):** Are these and who are the future-oriented groups who interested in Future-oriented educational practices
- **Visioning (V):** What kind of visions of future there are on the territory. How influence and impact visions of future on the Future-oriented educational practices.

<table>
<thead>
<tr>
<th>Case 1. Tomsk, West Siberia</th>
<th>Case 2. Yamal, Arctic area</th>
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<tbody>
<tr>
<td>Scientific-education centre (6 universities)</td>
<td>Yamalo-Nenets Autonomous District</td>
</tr>
<tr>
<td>Siberian Technical-Innovation region</td>
<td>Russia’s strategic oil and gas region</td>
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</tbody>
</table>

**E: Educational Policy:**
- Universities groups: oriented on the high-technological professions and competencies educational projects for the schools
- Industrial groups: profession-oriented educational projects for the needs of industrial HR-programs

**C: Future-oriented communities:**
- High – technological scientific and entrepreneurial communities
- Universities communities
- Region administration for innovation and economic development
- Parents groups
- Technological groups of the oil and gas industry
- Parents groups

**V: Visions about Future:**
- Visions about own futures is positive and constructive
- Futures through education at the Tomsk universities or in Russia
- Visions about own futures is uncertain
- Own future vision through migration from the territory for living and studing at other regions of Russia
Hypothesis: 4 versions about the comparative analysis of future-oriented educational practice Finland and Russia (cases 1-4):

FINLAND: The experience of the using of futures studies in education policy by Finnish National Agency for Education: since 2003 educational foresight has become as an important task. We discuss cases about the educational practice included approaches and opportunities for the futures thinking and foresight literacy developing at the Finnish universities and as well as at schools and high schools in connection with Curriculum reform (since 2014-2016).

RUSSIA: the experience in area of futures/foresight literacy has been initiated as some new educational projects after 2010s by Agency for Strategic Initiatives (the autonomous non-profit organization established by the Government of Russia)
**Discussion and Conclusions:**

* Future-oriented educational programs: the particularities of creating and realization

<table>
<thead>
<tr>
<th>FINLAND (New Curriculum 2016)</th>
<th>RUSSIA (Tomsk 2012-2017, Yamal 2017)</th>
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<tbody>
<tr>
<td><strong>E: Educational formats</strong></td>
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<td>Lessons</td>
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<tr>
<td><strong>C: Future-oriented communities participation into EFE</strong></td>
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<td>? ....</td>
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<tr>
<td>- Finland Futures Research Centre, Finland Futures Academy, the Finland National Foresight Network</td>
<td>- Foresight Network: Agency for Strategic Initiatives, SKOLKOVO, regions, universities and so on.</td>
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<tr>
<td>- High – technological scientific and entrepreneurial communities</td>
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<tr>
<td>- Universities communities</td>
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<td>? .... Visions about own futures is positive and constructive</td>
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<td>? .... Visions about own futures is uncertain</td>
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Conclusions: Hypothesis of the comparative analysis of educational foresight events (EFE) as future-oriented educational practice

PARTICULARITIES TYPE II.

Future-oriented educational practice depend from the particularities of creating and realization educational foresight-events (EFE) in region related to:

- Education (E): Educational format EFE
- Communities (C): Future-oriented communities participation into EFE
- Visioning (V): Rethinking visions about Future (versions about own and region futures)

Concept of “educational foresight-event” (EFE)

- Core of the educational technology “Open Foresight-laboratory of students” (Tomsk, TSU) is specific format of educational activities and teaching frameworks - “educational foresight-event”, which goes beyond “futures” as isolated lessons through the empirical, interpretive, critical, and action learning modes of futures studies.

- Concept of “educational foresight-event” develops a significant focus within pedagogy in futures studies by the examination and adopting methods of the educational foresight and narrative foresight approaches, theory of extreme events (concept Black Swan, N. Taleb) and problems with probability, randomness, as well as model “transformative action” and fundamental models from Vygotsky's Sociocultural Theory.
Particularities of educational practice for developing futures thinking and foresight literacy:

**TYPE II. Future-oriented educational practice depend from particularities of creating and realization educational foresight-events (EFE) in region**

**Education foresight-events through experience of “Open foresight-laboratory” (Tomsk, 2012 - 2017)**

<table>
<thead>
<tr>
<th>Concept of Education foresight-event is based on:</th>
<th>Concept of Education Foresight-Event (EFE) through experience of “Open foresight-laboratory”</th>
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</thead>
<tbody>
<tr>
<td><strong>Ideas from Philosophy:</strong> Theory of extreme events (Black Swan) (N. Taleb)</td>
<td>Educational foresight-events (EFE) as series of regular future-oriented educational practices.</td>
</tr>
<tr>
<td>Issues: extreme event, problems with probability, randomness, human error, the philosophy of knowledge and so on.</td>
<td>EFE goes beyond “futures” as isolated lessons through the empirical, interpretive, critical, and action learning modes of futures studies.</td>
</tr>
<tr>
<td><strong>Ideas from Futures studies:</strong> Educational foresight and Narrative foresight pedagogy:</td>
<td><strong>E: Educational formats</strong></td>
</tr>
<tr>
<td>Analysis: new technologies; impacts to economic, social-cultural, educational, changes of competencies and professions; possible, probable and preferred futures; versions of the own choice of educational scenarios and professions, possibilities of desired presents and futures.</td>
<td>Students and future-oriented communities participation into transforming action through education foresight and narrative foresight:</td>
</tr>
<tr>
<td><strong>Ideas from Psychology:</strong> Vygotsky’s Sociocultural Theory: “zone of proximal development”, thiking and speech as verbal tool to guide thinking and actions and other ideas.</td>
<td>✓ analysis from a focus on new technologies to the question of effects and impacts to economic, social-cultural, educational, changes of competencies and professions,</td>
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<td></td>
<td>✓ to an exploration of the worldviews and myths that underlie possible, probable and preferred futures</td>
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<td>✓ and, finally, towards versions of the own choice of educational scenarios and professions in line with the possibilities of desired presents and futures</td>
</tr>
<tr>
<td><strong>Ideas from training technologies of social innovation:</strong> Transformativie Action Institute’s (TAI): transformative action as a model for personal and social change</td>
<td><strong>V: Rethinking visions about Future</strong></td>
</tr>
<tr>
<td></td>
<td>Rethinking versions about own futures (educational, professional) and futures of the territory: from uncertain visions about own futures to the positive and constructive.</td>
</tr>
</tbody>
</table>

**Concept of “educational foresight-event” (EFE)**

- By educational foresight-event is established links between the future and past and present that teaches skills for personal and social transformation and can lead to meaningful change and development for individuals and groups within a learning environment in the connection with the issues of formation of image of the future.

- The “open Foresight-laboratory of students” moves thinking from a focus on new technologies to the question of effects and impacts to economic, social-cultural, educational, professional changes, to an exploration of the worldviews and myths that underlie possible, probable and preferred futures and, finally, towards versions of the own choice of educational scenarios and professional in line with the possibilities of desired presents and futures.
Discussion and Conclusions:
Particularities of educational practice for developing futures thinking and foresight literacy in Finland and Russia (comparative analysis)

Particularities TYPE I. Future-oriented educational practice depend from the particularities of the region related to:
- **Education (E):** Educational Policy: agents, approaches, programs, projects for Future-oriented educational practices
- **Community (C):** Future-oriented communities: groups interested in Future-oriented educational practices
- **Visioning (V):** Visions about Future: youths versions about own futures and futures of the territory

Particularities TYPE II. Future-oriented educational practice depend from the particularities of creating and realization educational foresight-events (EFE) in region related to:
- **Education (E):** Educational format EFE
- **Communities (C):** Future-oriented communities participation into EFE
- **Visioning (V):** Rethinking visions about Future (versions about own and region futures)

References

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- Milojević, Ivana – Inayatullah, Sohail. *Narrative foresight*. Futures, Volume 73, October 2015, Pages 151-162
- Transformative Action Institute’s (TAI) What is transformative action? *Transformative action is a model for personal and social change*. [http://transformativeaction.org/understanding-transformative-action/](http://transformativeaction.org/understanding-transformative-action/) retrieved 05.06.2017