Introduction

Using Education Statistics acquired from the World Bank Open Data (Kaggle), we analyzed two different studies:
1) PISA (Programme for International Student Assessment) results in science, mathematics and reading (from the 2006 to 2015 in three-year intervals).
2) Wittgenstein report results in highest level of educational attainment (from the 2010 to 2050 in five-year intervals).
We analyzed 50 various countries all over the world to find the ones that Estonia is most similar to.

Conclusion

Our findings showed that similar countries are not geographically similar places: cluster analysis showed, that Estonia is most similar with countries like Austria, Canada, Finland, Germany, Hong Kong, Japan, Korea, Latvia and USA.
We also compared Estonia with Latvia and Finland (neighboring countries), Denmark and Australia (countries with highest Education Index (data collected by UN)) and Korea (country, that cluster analysis showed that Estonia is similar to). All the data was based on the year 2015. The analysis showed, that Estonia is similar to all of these mentioned countries (depending of the measurement).

PISA - cluster analysis
Using the PCA to reduce dimensionality, four different clusters were made - science, reading and math proficiency distributions by attained levels and the mean scores of the same three subjects.

<table>
<thead>
<tr>
<th>Countries</th>
<th>Clusters</th>
<th>Science</th>
<th>Reading</th>
<th>Math</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estonia</td>
<td>Cluster 1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Cluster 2</td>
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</tr>
<tr>
<td></td>
<td>Cluster 3</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Cluster 4</td>
<td>4</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

Highest level of educational attainment - cluster analysis
PCA was used to reduce the dimensionality of the features. After that the data was clustered using Agglomerative Hierarchical Clustering. Based on that Estonia is most similar to United States, Germany, Austria, and Latvia.

Overview of year 2015, sorted by the percentage of the total population by post secondary educational attainment. Estonia ranks quite high here.

Comparing with various countries
Plot in the right shows data about Estonia, percentage of the total population by highest level of educational attainment, also including predictions about future. Other plots use the same features to compare Estonia with other countries.