Statistical education and its related topics in Japan

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1. Introduction

2. Data source: Survey from 1983 to 1993

3. Academic Society

4. Learning in High school of Japan

5. Survey results in Chiba University
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Wide variety of curriculum rather than private schools.

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- (1) Basic Mathematical Education in University and the continuation from the studies in the High School.
- (2) A course of study by MEXT and the entrance examination for the universities.

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  **Section(3) Statistics around our life.**
  Item 1. Arrangement of datas.
  Item 2. Grasping a tendency.

- **No.2 Math I (none) No.3 Math II (none) No.4 Math III (none)**

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Section(3) Statistics and Computer.
1. Arrangement of datas.
2. Analysis of datas.

Section(4) Numerical calculation and computers.
1. Simple programming.
2. Several algorithms.
   (1) Numerical calculation.
   (2) Approximation.
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2. Probability distribution.
   (1) Random variable and distribution.
   (2) Binominal distribution.

Section(4) Statistical Data treatment.
1. Normal distribution.
   (1) Continuous type random variable.
   (2) Normal distribution.
2. Statistical Inference.
   (1) Population and samples.
   (2) Notion of statistical inference, Estimation.
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Survey results in Chiba University:
Examination on the statistical words from 1984 to 1988, and 1989 to 1993 are summarized in the following graphs.
## Between students and teachers

Compare student’s side and teacher’s side:

<table>
<thead>
<tr>
<th></th>
<th>Incomprehensible</th>
<th>not ready to drill</th>
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<tbody>
<tr>
<td>Permu/Combi</td>
<td>11.1</td>
<td>11.1</td>
</tr>
<tr>
<td>Cond. Prob</td>
<td>18.9</td>
<td>26.0</td>
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<tr>
<td>Expectation</td>
<td>21.5</td>
<td>28.4</td>
</tr>
<tr>
<td>Binomial distri</td>
<td>29.3</td>
<td>36.5</td>
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<tr>
<td>Normal distri</td>
<td>33.6</td>
<td>42.8</td>
</tr>
<tr>
<td>Random Sampling</td>
<td>36.6</td>
<td>44.1</td>
</tr>
<tr>
<td>Para Estimation</td>
<td>47.9</td>
<td>56.6</td>
</tr>
<tr>
<td>Hypoth Testing</td>
<td>49.8</td>
<td>57.4</td>
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• To understand the technical words, it should be develop a good material; books, computer programs etc..
• To assist a teacher in the high school, open workshops and accept them as trainee more frequently.
• Concern always with a new curriculum, improvement of examination methods etc.
• Reform or remedy them after graduated.
Discussion

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