

Statistical education and its related topics in Japan

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Dec. 5-7 2006 / MTE2006

- 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

- **National Universities are reconstructed at April 2004.**
- To enter the university, the Center Examination is required.
- Wide variety of curriculum rather than private schools.
- University Fees(Tuition fee/per year):
 - Undergraduate students: 535,800 yen
 - Graduate students(Master's): 535,800 yen
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- Chiba University Charter:
always aim higher
9 Faculties, 9 Graduate Schools, 4 Institute, 1 Law School, etc.
- Number of staff: 2568
(President, Professor, Associate Pro., Technical Staff, etc. including)
- Number student:
Undergraduate 11,359
Graduate 3,671

Degrees Awarded:

- Master (Arts, Education, Econommics, Science, Engineering, etc) in Total 15041 as of March 3, 2006, (980 in Year 2005).
- Doctor (Arts, Education, Econommics, Science, Engineering, etc) in Total 2,590 Old system until June 1991, 5,857 New System after July ,1991 (305 in Year 2005).

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Proposition and request for the next guidance on a course of study:
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Recently MSJ are discussing the following two topics.

- (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.

Symposium are held at the annual conference: March 25, 2003 at The University of Tokyo, September 27, 2003 at Chiba University, March 30, 2004 at University of Tsukuba.

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CCE: Central Council for Education:

In FY2004, the Central Council for Education submitted three reports, concerning University Entrance Qualification Tests, pre-school education, and higher education respectively, and currently it is conducting vigorous deliberations concerning a variety of topics. In addition, in February 2005 the Compulsory Education Special Working Group established under the general committee began intensive deliberations on the ideal form of compulsory education overall and it plans to produce its conclusions by autumn 2005. MEXT is endeavoring to promote educational reform taking into account the reports submitted by the Central Council for Education.

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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)

No.5 Math A:

Section(2) Sets and Logics.

Item 1. Counting a set and its element.

Item 2. Statement and Proof.

Section(3) Counting and Probability.

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1. Arrangement of datas.
2. Analysis of datas.

Section(4) Numerical calculation and computers.

1. Simple programming.
2. Several algorithms.
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Section(3) Probability distribution.

1. Calculation of Probability.
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 - (1) Random variable and distribution.
 - (2) Binomial 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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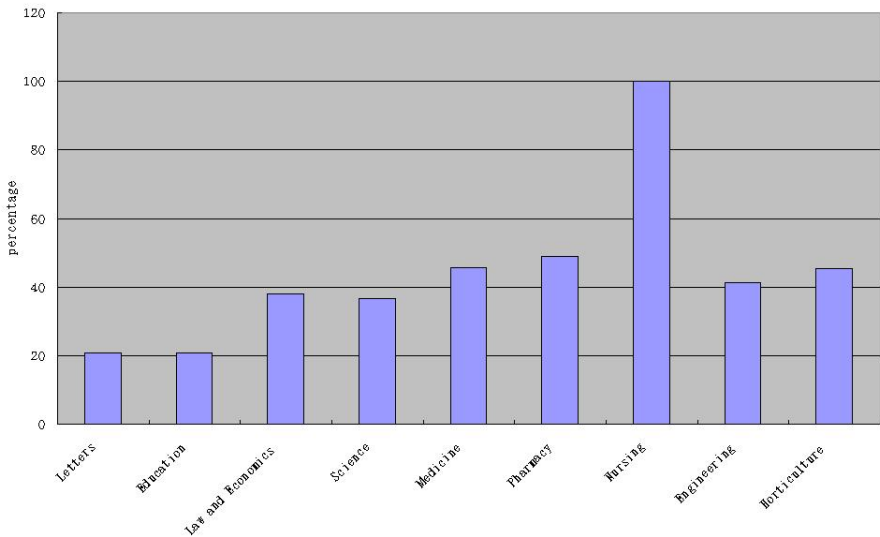
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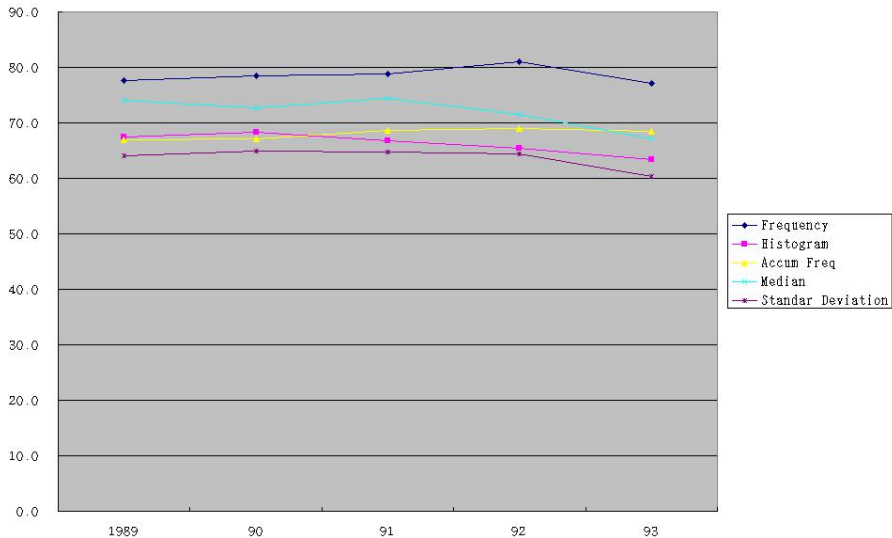
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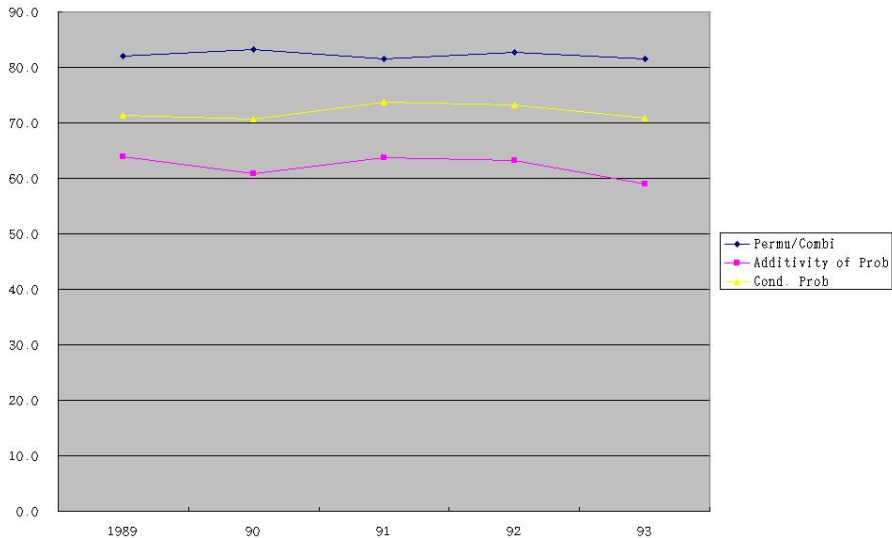
How much students understand?

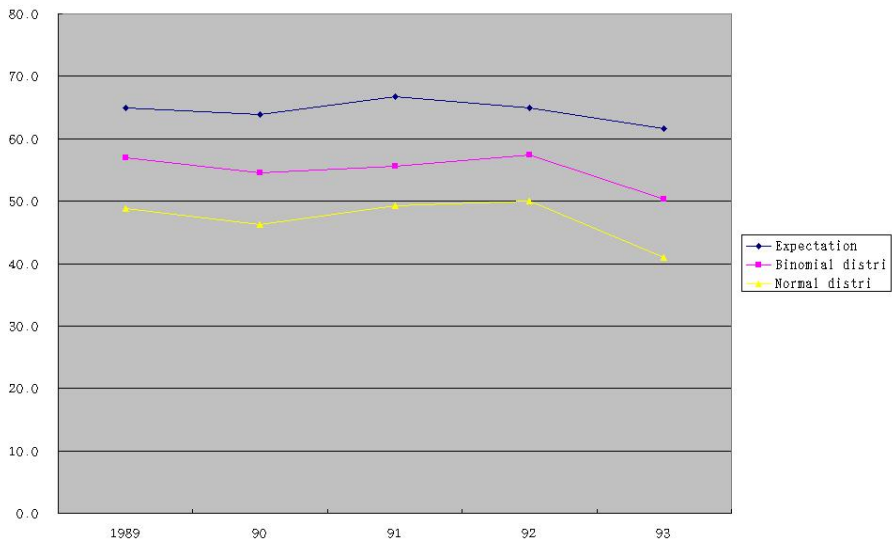
Survey results in Chiba University:

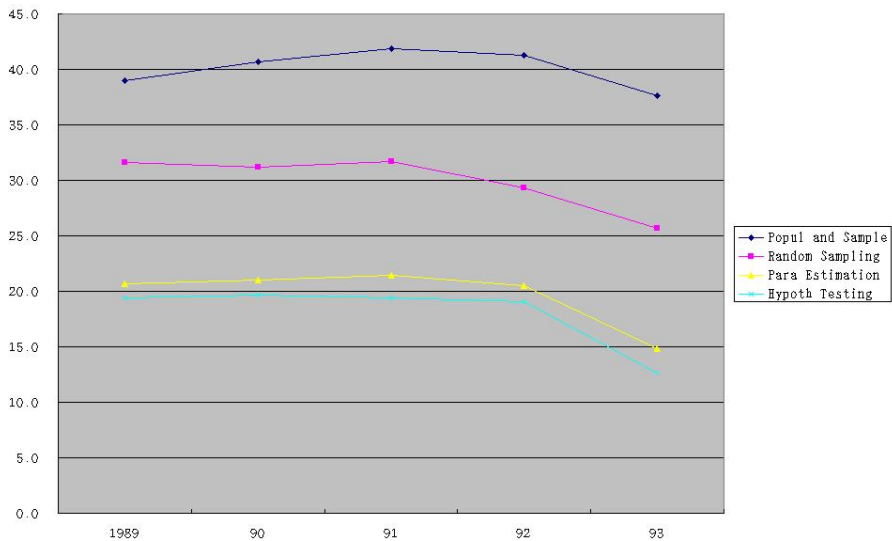
Examination on the statistical words from 1984 to 1988, and 1989 to 1993 are summarized in the following graphs.







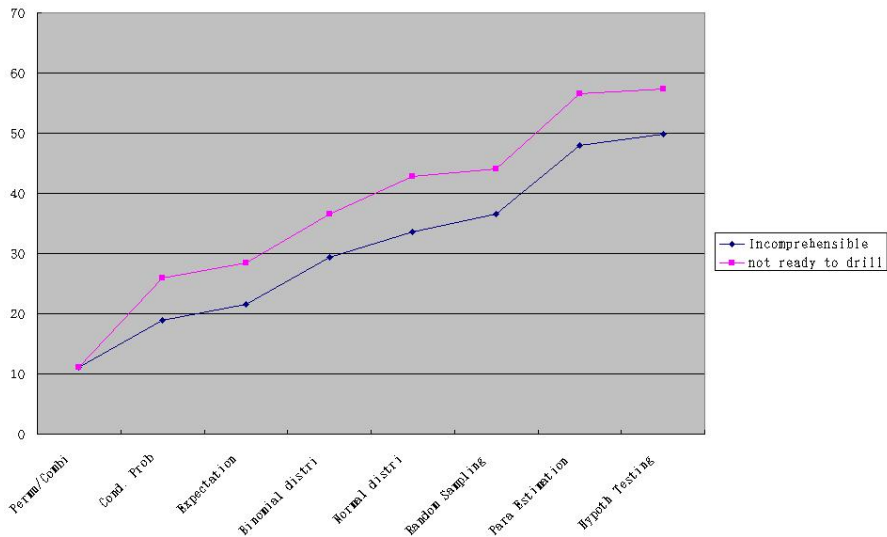




Between students and teachers

Compare **student's** side and **teacher's** side:

	Incomprehensible	not ready to drill
Permu/Combi	11.1	11.1
Cond. Prob	18.9	26.0
Expectation	21.5	28.4
Binomial distri	29.3	36.5
Normal distri	33.6	42.8
Random Sampling	36.6	44.1
Para Estimation	47.9	56.6
Hypoth Testing	49.8	57.4



- **Inspire the necessity to learn statistics, math, etc...**
- 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.

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