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On the Role of Official Statistics in Business Study Programmes

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IASE Satellite, Macao, August 22nd, 2013

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Motivation (1)

Educational goals of a business statistics **course**:

- provide general knowledge on typical introductory statistics topics
- demonstrate use of data to support informed decision-making in the face of uncertainty

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Motivation (2)

- Educational goals of a business statistics **study programme**?
- Informed decision-making based on **business intelligence**
- **Official statistics** an important part of business intelligence

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Research Challenge

To find out

- if
- where
- how

is official statistics placed in the framework of business study programmes?

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Research Framework

BLUE-ETS Project: http://www.blue-ets.istat.it/

Online survey with 35 questions

Target Population:

5,274 faculty of 70 European EQUIS-accredited business schools

EQUIS = quality improvement system of the European Foundation for Management Development (EFMD)

Sample: 228 usable responses from 64 schools

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Research Questions

- Do European EQUIS-accredited schools perceive quantitative literacy and statistics education as important?
- Do European EQUIS-accredited schools include official statistics into their study programmes? If yes, where and how?
- What are the predominant characteristics of a teaching style in classes using official statistics?

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Respondent Characteristics

- 69.6% males and 30.4% females
- 93.7% respondents with a doctoral degree
- More than one third full professors, 28.9% associate professors, 24.2% assistant professors
- 94.7% of respondents full-time employees
- Average number of respondents' professional experience 17.1 years (min. 0, max. 50 years, SD 10.8)
- Average number of years spent teaching at a higher education institution 15.1 years (min. 1, max. 44 years, SD 9.6)
- Primary focus of teaching: business (71.7%), economics (20.8%), statistics (4.0%), econometrics (3.5%)

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Importance of Quantitative Literacy and Statistics Education

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General Focus

Levels of (dis)agreement with the statement *"Generally, the emphasis in our study programme is not on development of quantitative literacy"*

Response Category	Frequency	Percent
Completely disagree	47	23.2
Disagree	74	36.5
Neither disagree nor agree	43	21.2
Agree	34	16.7
Completely agree	5	2.5
Total	203	100.0

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Mathematics vs. Statistics

Levels of agreement with the statements *"Knowledge of mathematics is deemed unnecessary for student career development"* and *"Knowledge of statistics is in my opinion deemed unnecessary for student career development"*

Response Category	Statement for mathematics		Statement for statistics	
	Frequency	Percent	Frequency	Percent
Completely disagree	74	36.5	93	46.0
Disagree	86	42.4	81	40.1
Neither disagree nor agree	30	14.8	19	9.4
Agree	11	5.4	5	2.5
Completely agree	2	1.0	4	2.0
Total	203	100.0	202	100.0

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Inclusion of Official Statistics in Business Study Programmes

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General Characteristics

Official statistics is predominantly included:

- at the graduate level
- in the courses for full-time students

- More than half of respondents include official statistics into non-statistics courses they teach within business study programmes

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How are official statistics used?

- Interpretation (98.0%)
- Conceptual understanding (84.5%)
- Data visualization (76.0%)
- Secondary data search (57.7%)
- Facts about methodology (51.9%)
- Statistical computing (49.0%)
- Secondary data quality assessment (41.0%)

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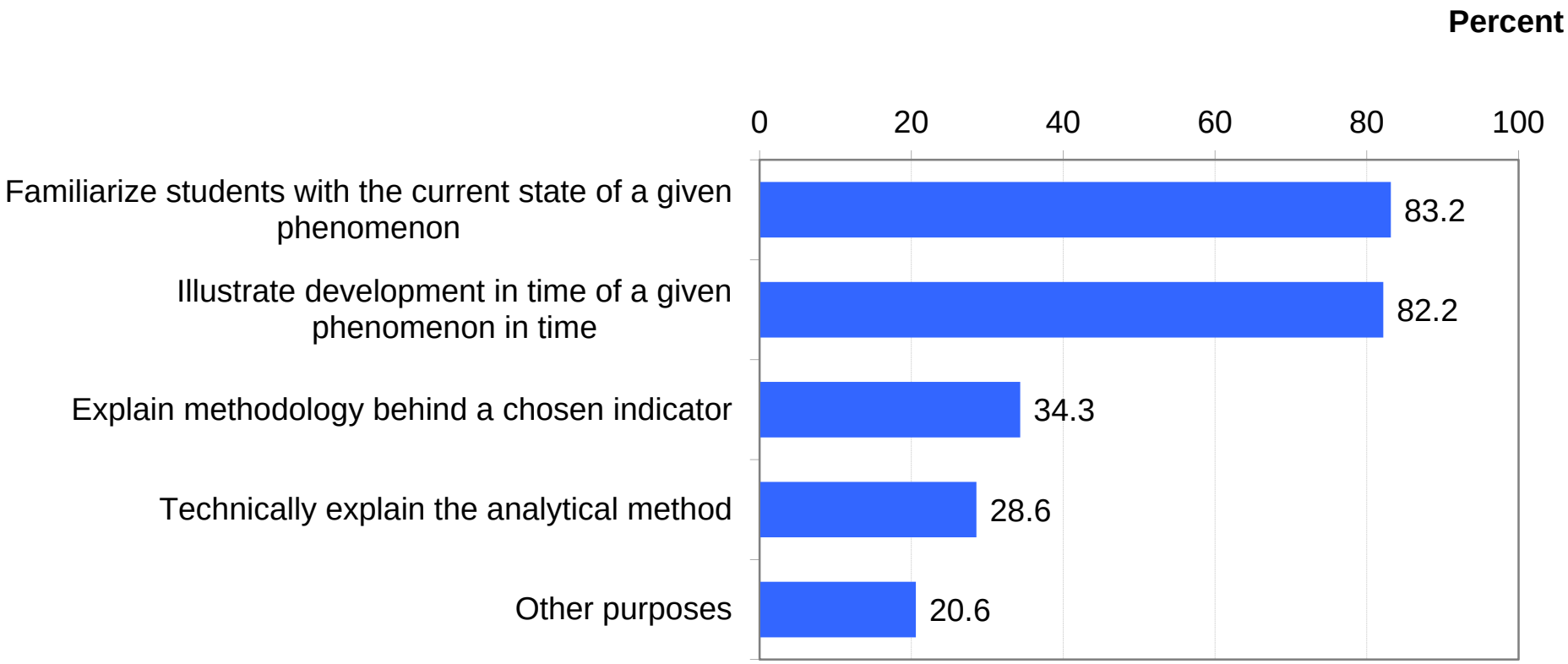
Mode of Implementation (1)

Teachers' use of materials produced by institutional data providers



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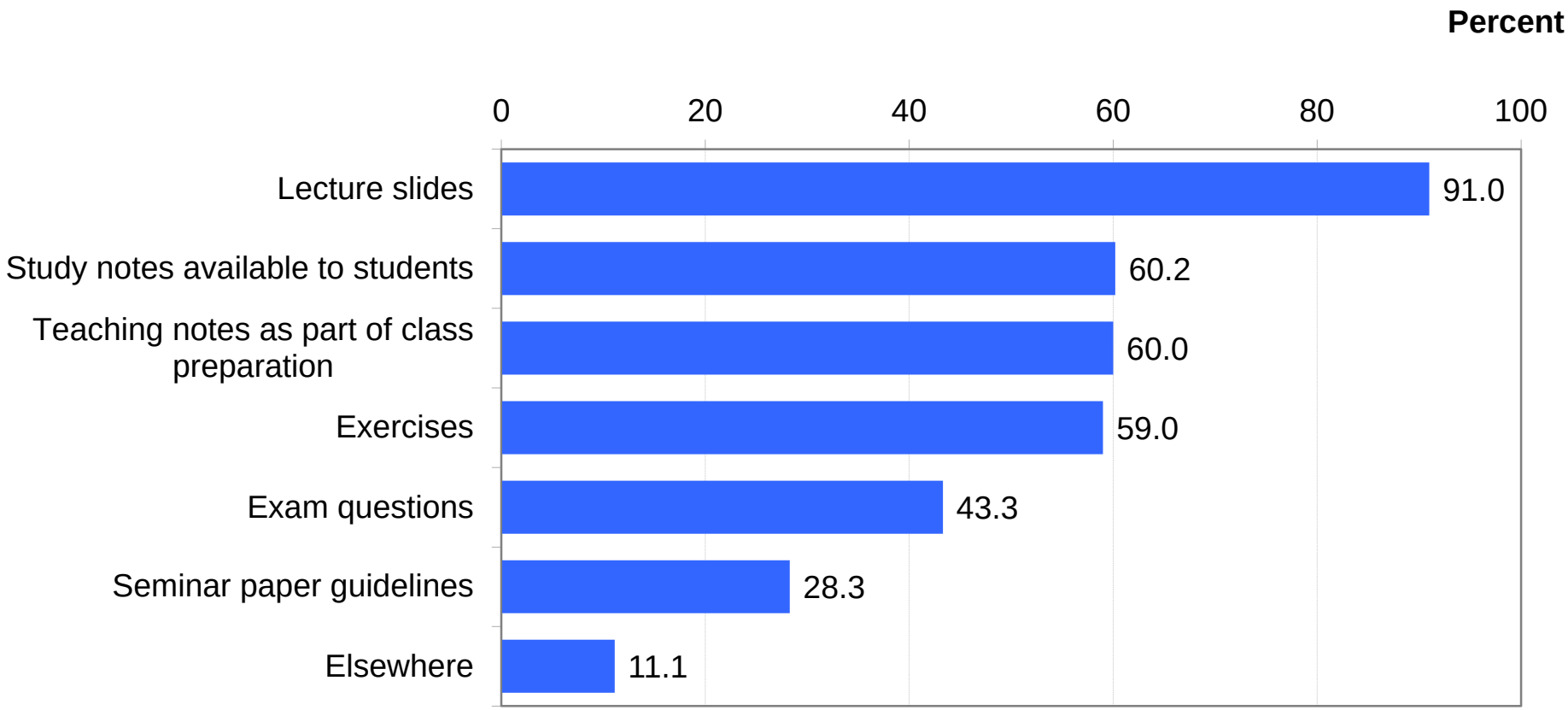
Mode of Implementation (2)

Use of materials produced by institutional data providers



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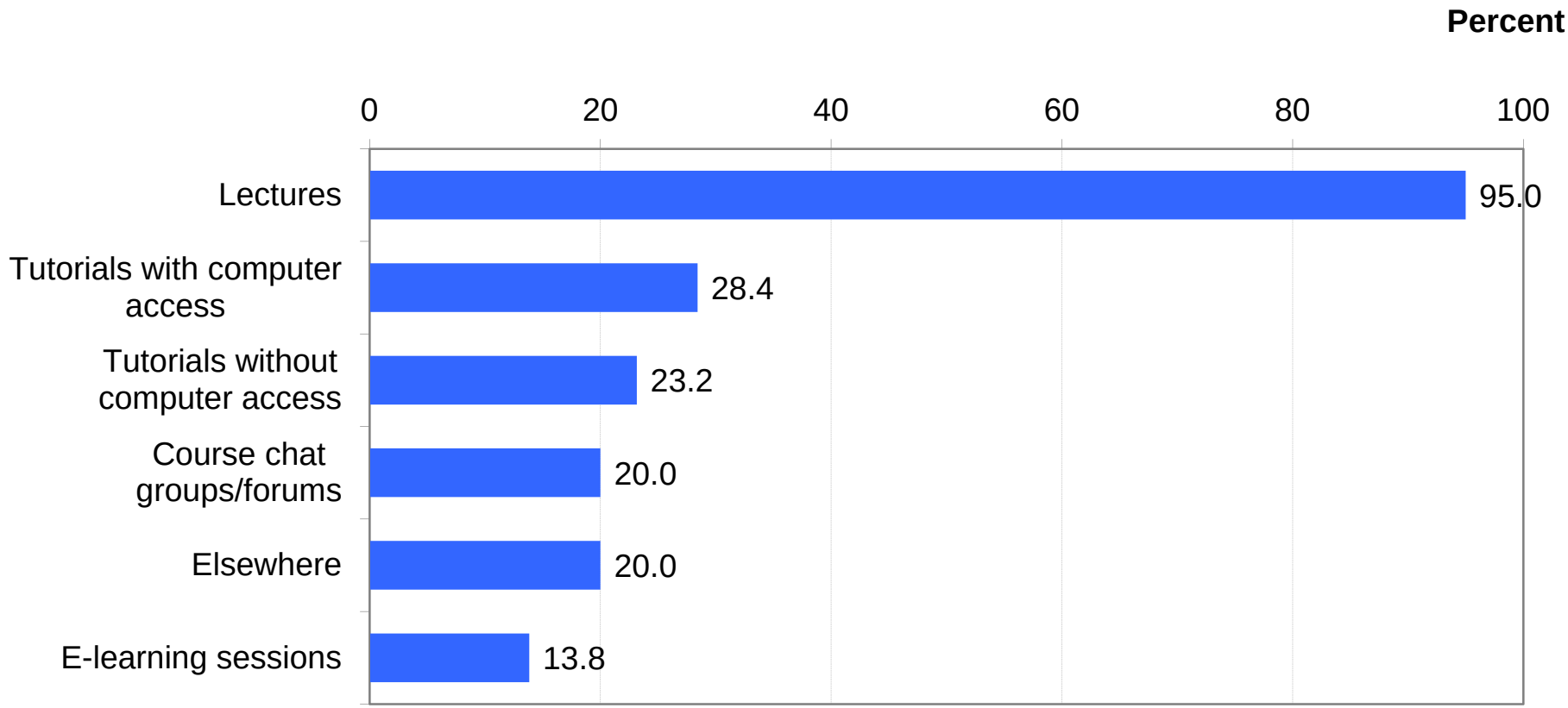
Mode of Implementation (3)

Presentation of materials produced by institutional data providers



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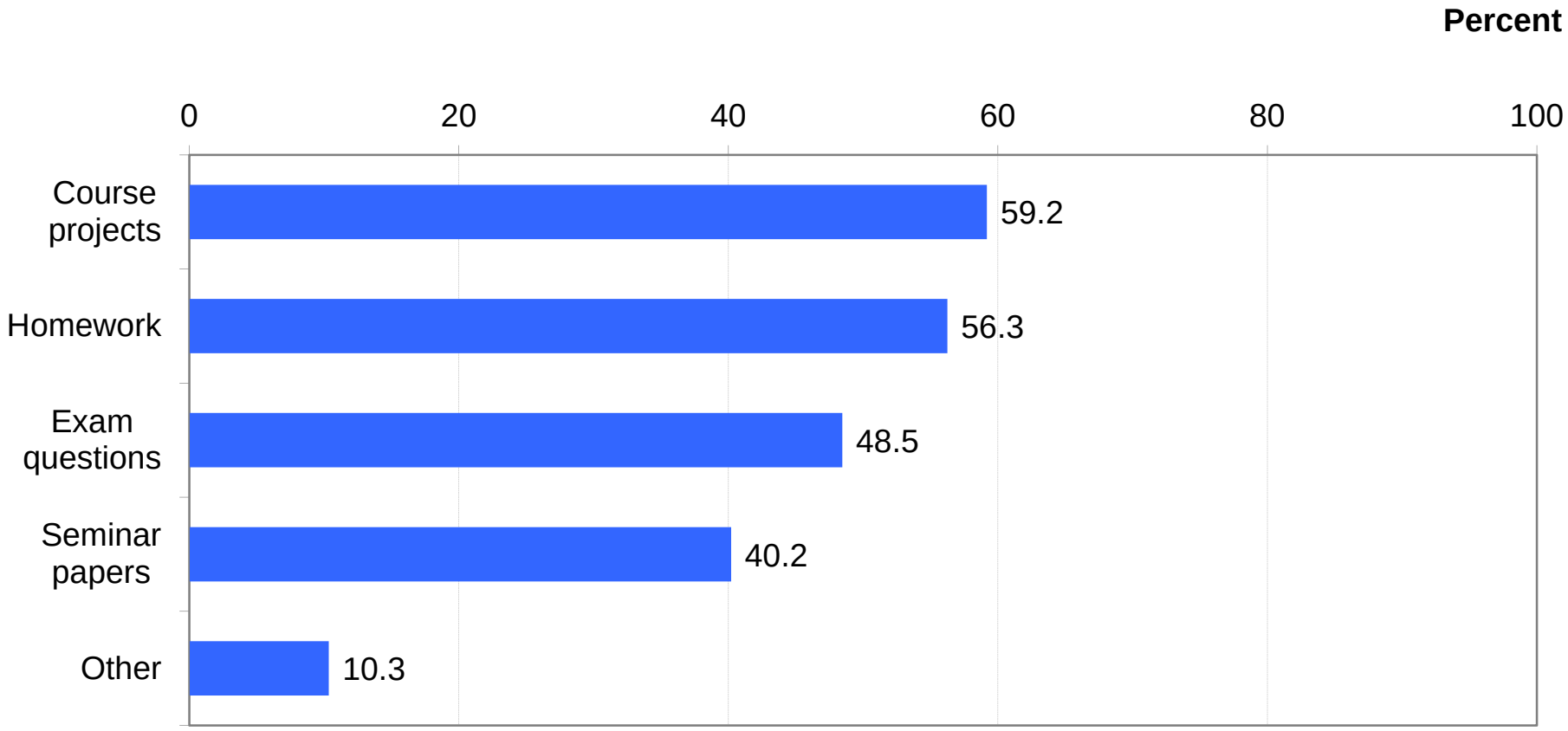
Mode of Implementation (4)

Students' use of materials produced by institutional data providers



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Characteristics of Teaching Style

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General Overview

Statement	Frequency of the teaching style element's use (in %)					
	Never	Some of the time	Half of the time	Most of the time	Always	Not app-licable
My explanations are intuitive rather than technical.	3.0	**35.4**	**28.3**	**26.3**	6.1	1.0
I use the formulae but do not explain how they were derived.	**26.3**	**31.3**	18.2	14.1	0.0	10.1
I tend to use the applied approach – tie technical issues to topics relevant for the discipline my course is servicing.	3.0	14.1	13.1	**38.4**	**21.2**	10.1
I use the case study approach.	10.0	**36.0**	12.0	24.0	10.0	8.0
I illustrate statistical concepts using topical real-life examples.	4.0	19.2	15.2	**34.3**	14.1	13.1

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Instead of Conclusion ...

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Main Qualitative Threads (1)

A more **proactive role** of official statistics wished for by teachers, especially when it comes to:

- development and dissemination of **teaching notes** on conceptualisation and operationalization
- development and dissemination of **pedagogic case studies**
- support of textbook and other study materials' development by continuous **provision of real-life illustrative examples**

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Main Qualitative Threads (2)

Development of support services offered by official statistics:

- beyond technical support
- adding value by facilitating direct contact with experts from a given official statistics topic area

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