



The
University
Of
Sheffield.

Teaching the teachers

Statistics workshops for non-science staff

Mathematics & Statistics Help Centre (MASH)
University of Sheffield

Overview



- **Maths and Statistics Help (MASH)**
- **Statistics for School of Linguists – academic staff**
- **Learning Programme**
- **Feedback**
- **Advantages and Disadvantages**
- **Our Challenges**

Maths and Statistics Help



MASH Remit

- Maths and Statistics support for students
- One-to-one, small groups, workshops, online, self-help
- UG and PG
- Foundation and basic level
- Stretching the individual
- Learning resources
- Diagnostic resources



Statistics for School of Linguists

Non-science department need for statistics

- Research and publications
- Interpreting and understanding statistical analysis
- Preparing for, supervising and marking students research projects

Background

- Self-taught, peer assisted and reading group
- MASH approachable

Learning Programme



Initial meeting to select topics

- Software – R
- Statistical test – high level and complex (rarely taught at Masters level)
- Resources for tutors:
 - Linguistics papers containing statistics
 - Statistics for linguists textbooks
- Session style: drop in, seminars, hands on, guest speakers, interactive/discussion



Learning Programme

Statisticians Interpretation of topics to cover

- Basic statistics
- Fundamentals of statistics
- Software basics in R
- Some higher level topics

Learning Programme



Workshop Series

- Weeks 1- 3 Basic Concepts **SEMINAR STYLE**
- Week 4 Introduction to R **DEMONSTRATION/HANDS ON**
- Weeks 5 & 6 ANOVA **SEMINAR STYLE**
- Week 7 Drop in ANOVA/R session
- Week 8 – 11 Supported Self Study Sessions
- Week 12 Multivariate exploratory techniques **DISCUSSION/INTERACTIVE SESSION**
- Week 13 Guest Speaker, Multivariate techniques (2) **SEMINAR STYLE**
- Week 14 Correlation and regression **SEMINAR STYLE**

Feedback



Feedback from attendees

- “Content too complex”
- “Too much to teach R and statistics at the same time”
- “I missed the introductory sessions which I later realised I needed to have gone to”
- “Longer sessions with more follow-up and hands on sessions on real data”
- Contrasting views on the use of R rather than other packages
- “Admittedly I could have put more effort into studying on my own”
- “I think we are much more aware of the gaps in our own knowledge and skills now”



Advantages and disadvantages

Staff Learner

- Exposure to statistical software
- Contextual – better understanding and engagement
- Discipline specific - building on contemporary research
- Preparation for staff research and interpreting other research
- Not easy to transfer learning to varying situations and analysis
- Breadth at cost of depth

Their Student

- Clearer presentation of Students' research projects
- Better guidelines to carry out statistical analysis



Challenges

- Time and timing
- Lack of knowledge of their own knowledge
- Complexity of the data
- Complexity of techniques required
- Lack of perceived applicability
- Teaching statistics and R
- Interaction between tutors and tutees
- Follow-up

Any Questions?



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