



Learning R - the students' lense

Workshop "Using R in empirical research and teaching"

University of Natural Resources and Applied Life Sciences,
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Design

- Mixed methodology design (2 steps)
- Qualitative step:
 - focus group (tutors)
 - expert interviews (teachers)
 - ✂️➔ inductive composition of questions & categories
- Quantitative step:
 - Students survey

Sample (step 2)

- n=121 students
- predominantly 3rd semester
- attending course statistics I
- first time contact with R
- 3 months experience with R



Results - Interviews

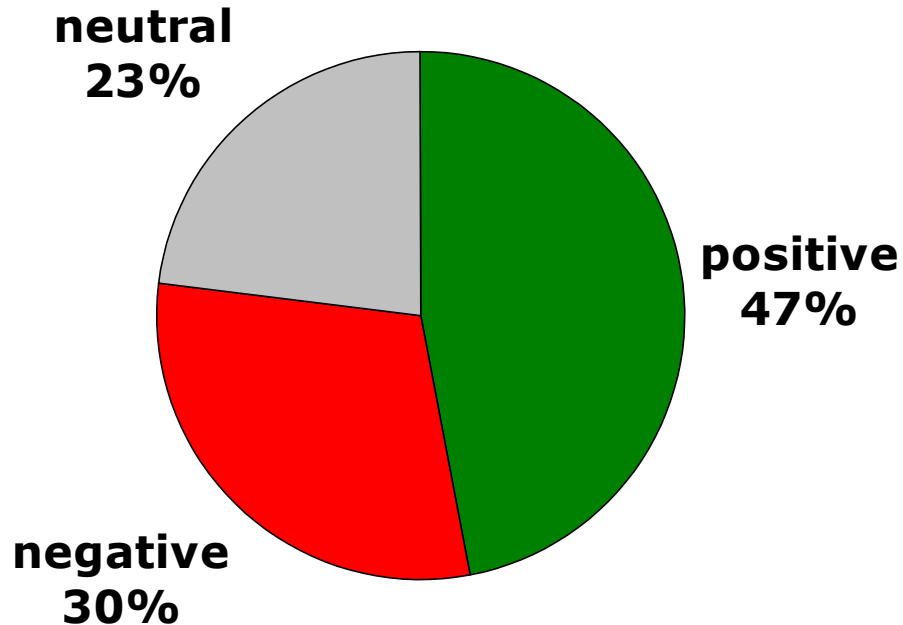
Some statements:

- Internet sources very helpful
- It's a new *logical* approach (programming)
- Equivalence to computing steps helpful
- Start as early as possible – BUT –
- Cannot substitute computing „by hand“



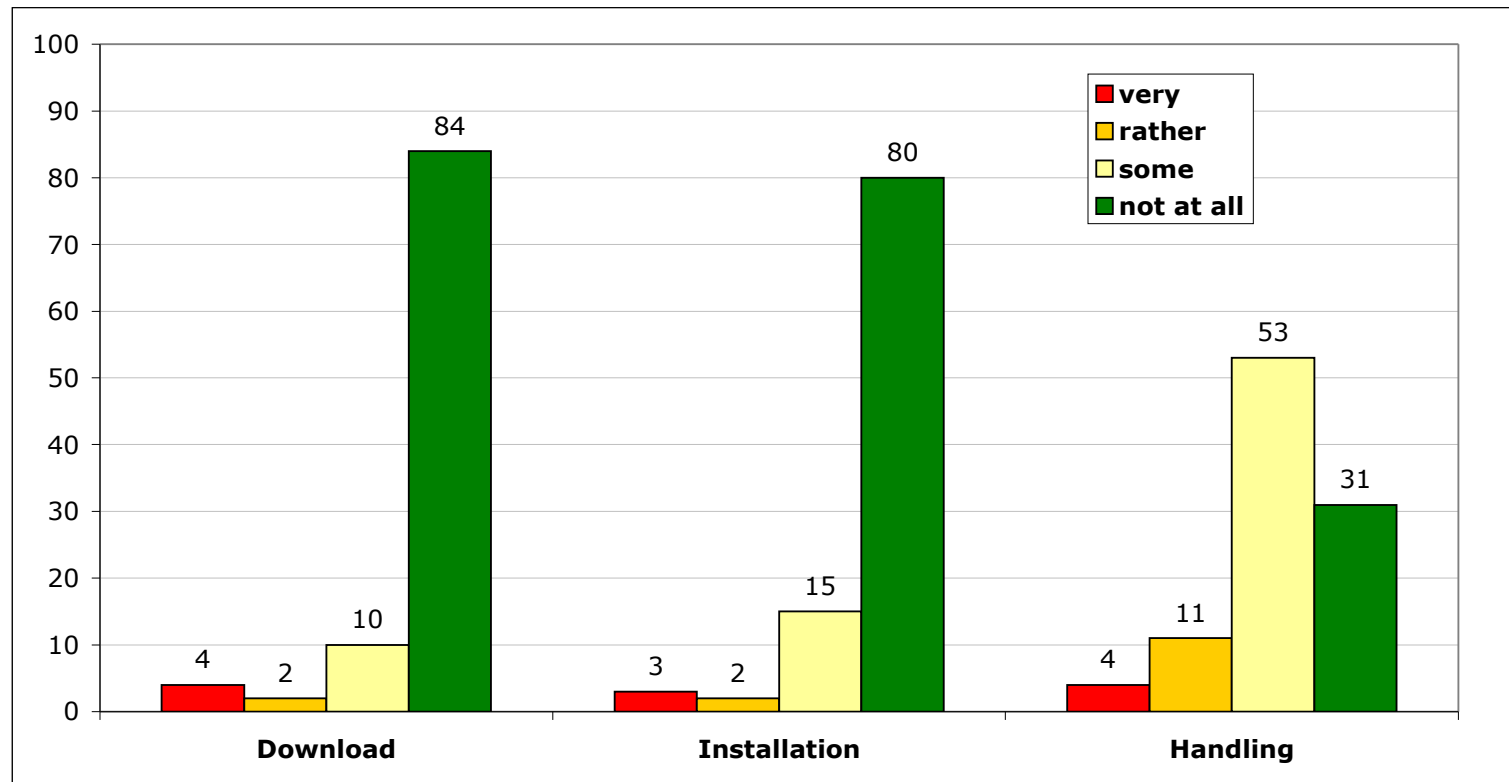
Results

- First impression:



Results

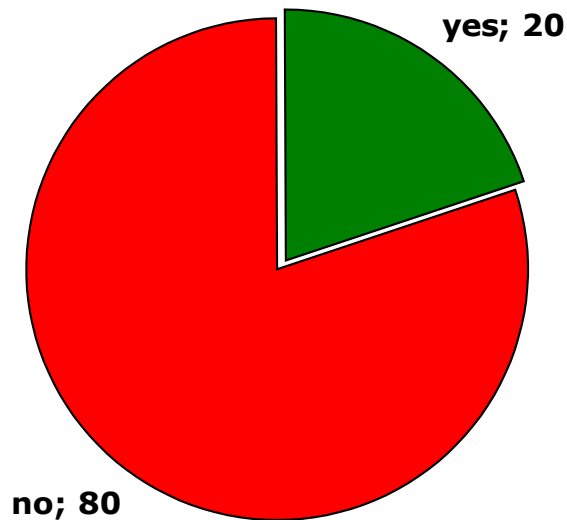
- Difficulties with...:



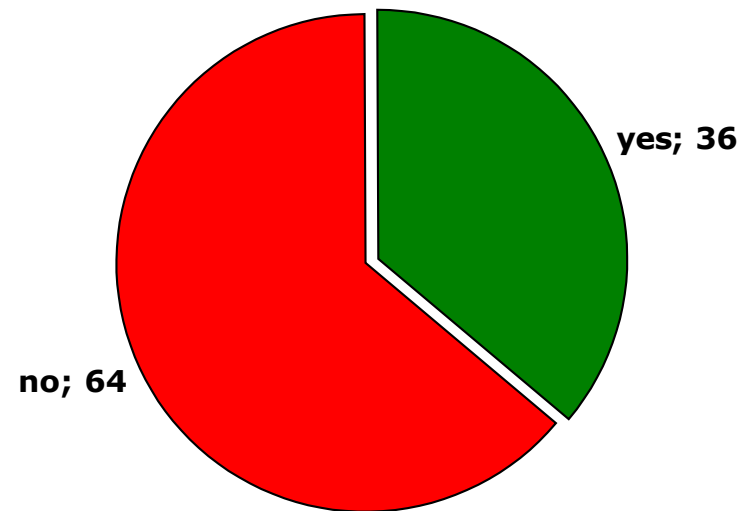
Results

- Previous experience with...

statistical software



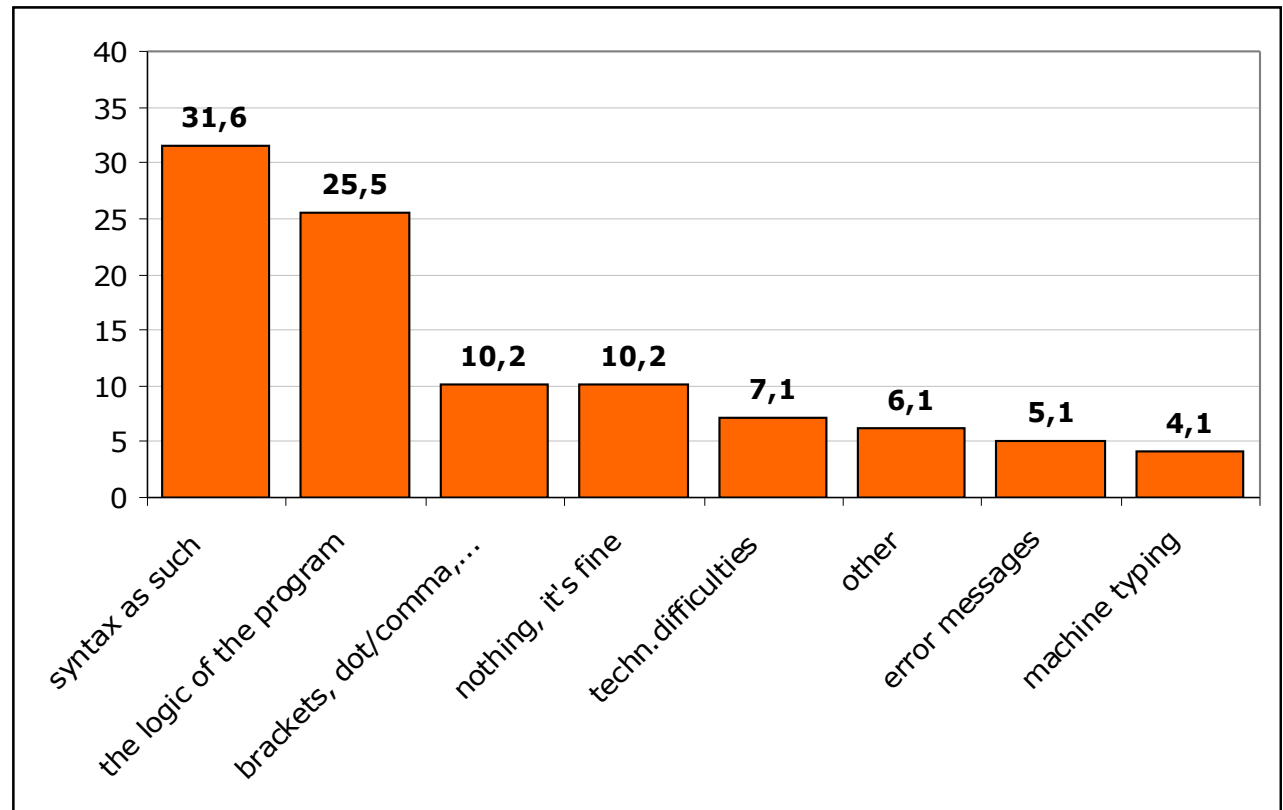
programming language



Note: includes graphical software, HTML as well as C/C#/C++/JAVA/PHP,...

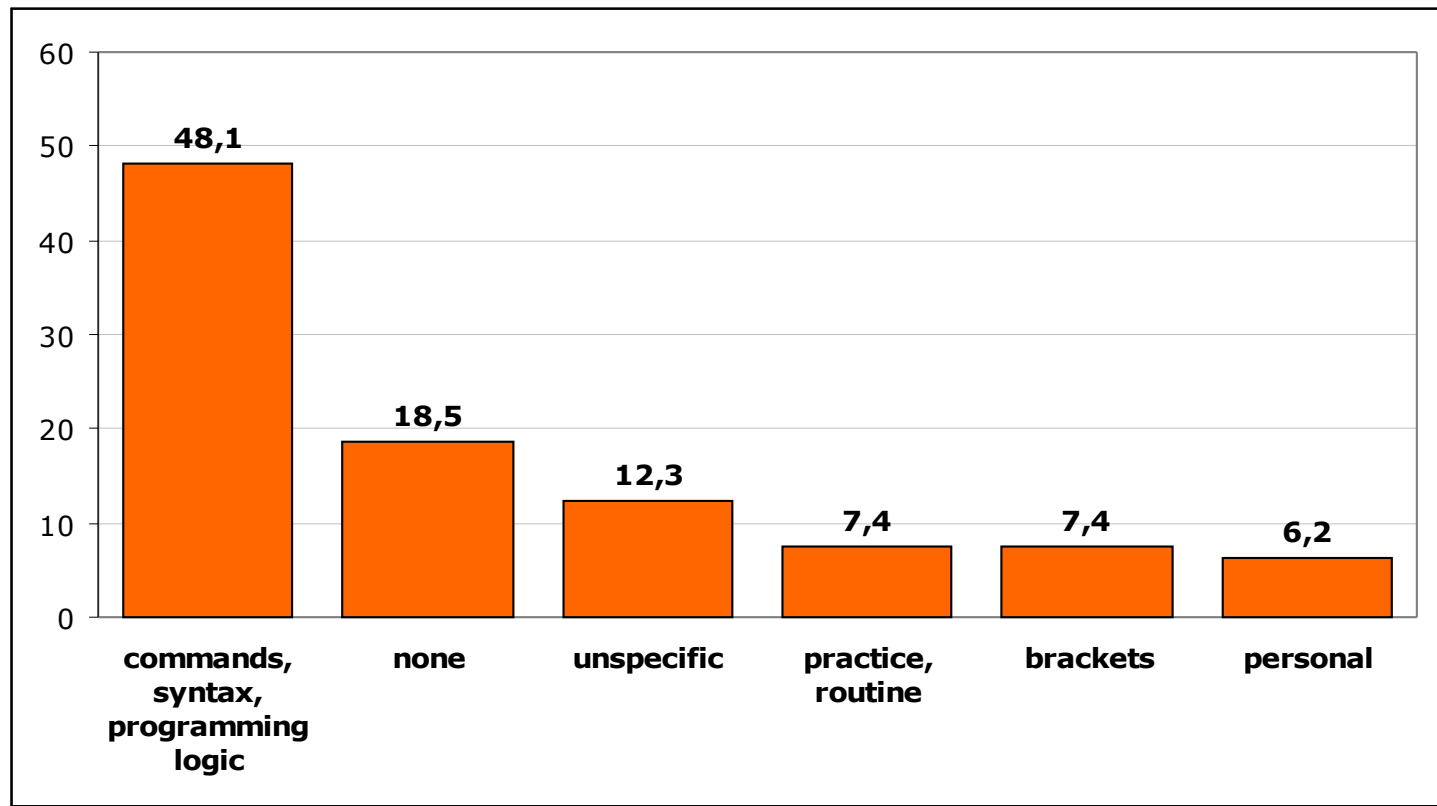
Results

- What was the greatest hindrance at the beginning?



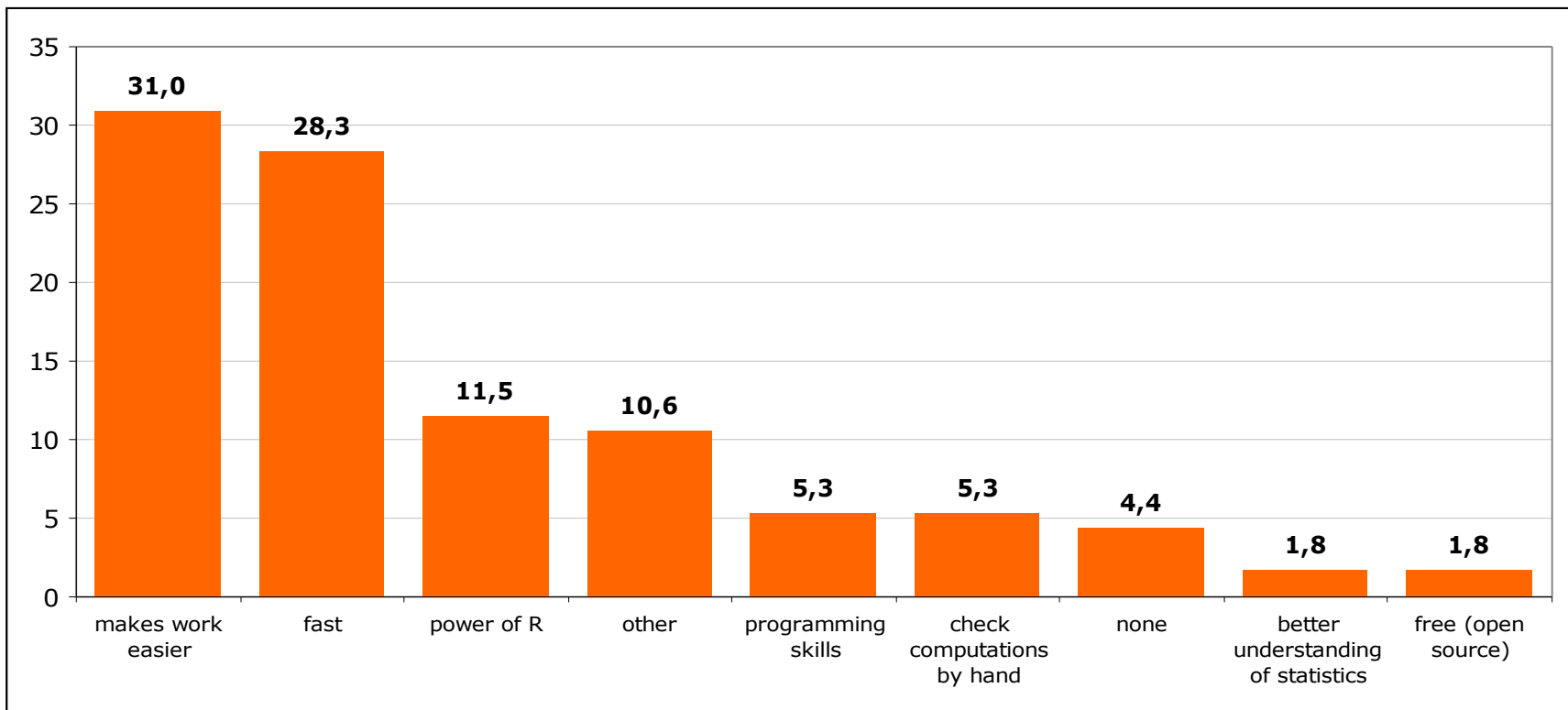
Results

- What are the greatest difficulties now?



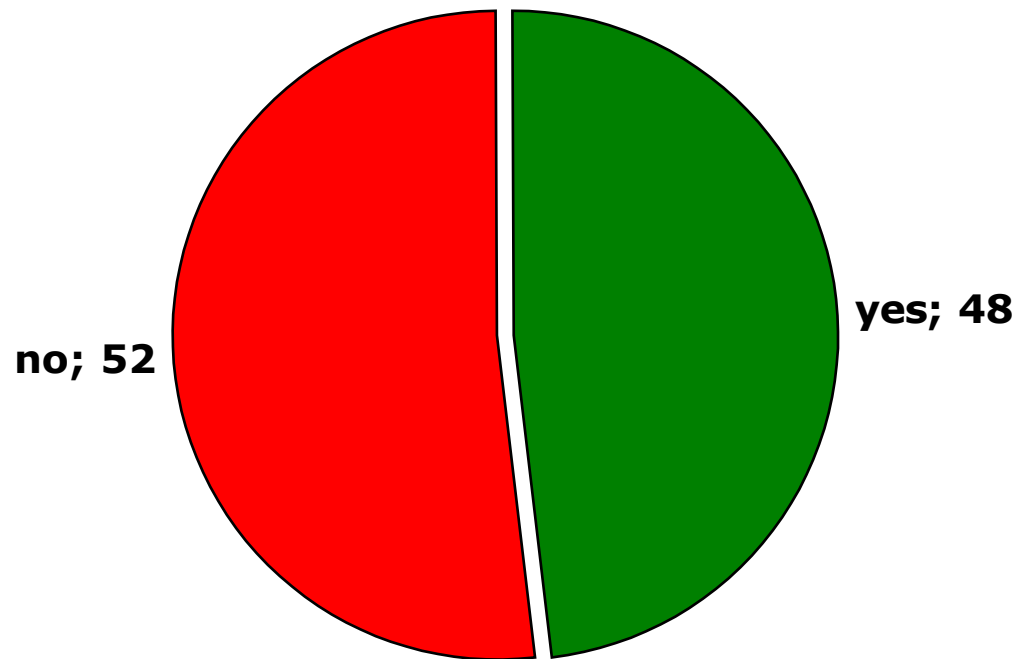
Results

- What did you gain from using R?



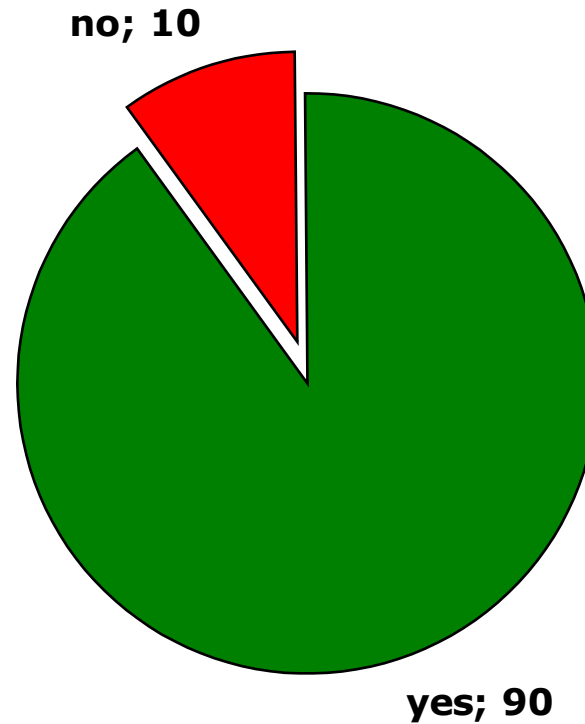
Results

- Have you ever experienced despair (with R)?



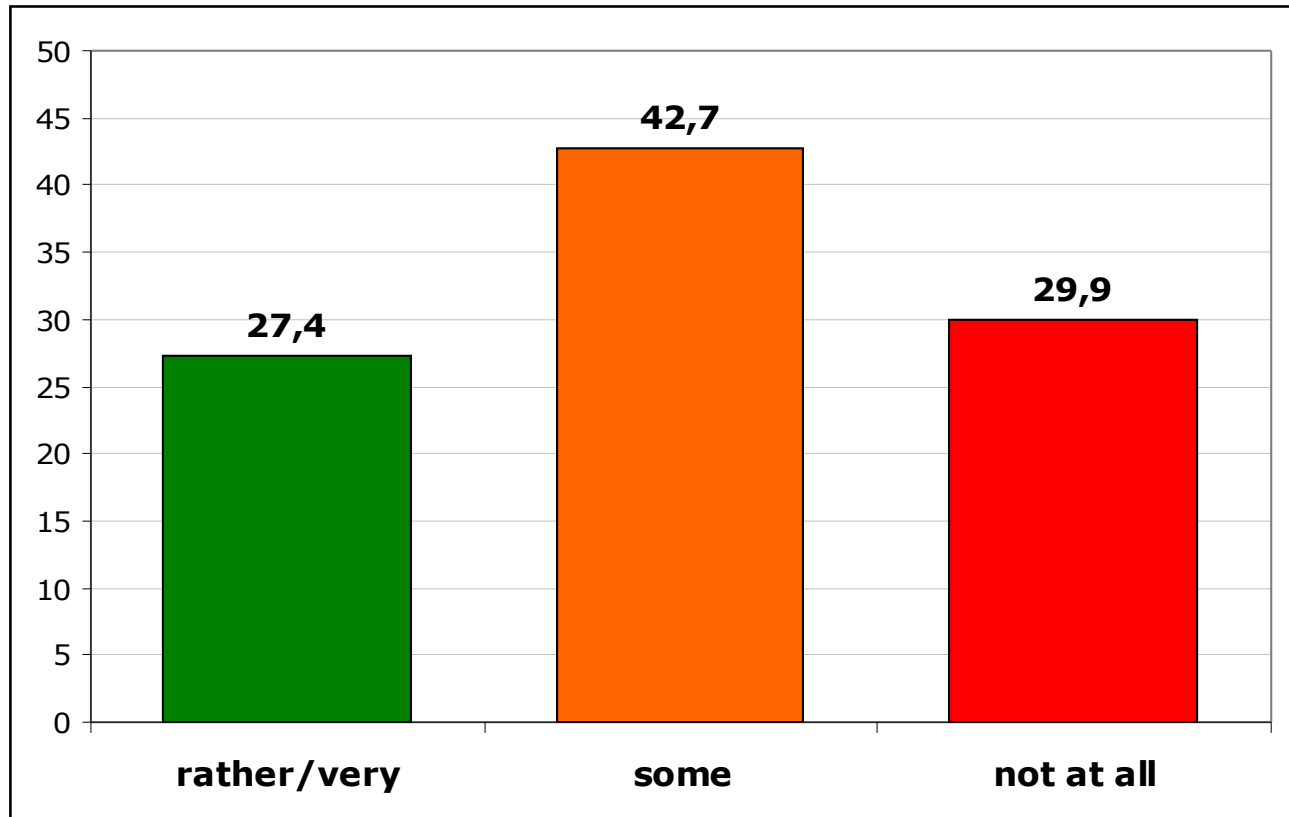
Results

- All in all, do you find R an enrichment?



Results

- Want more R?



Conclusion

- Syntax a nuisance, some would prefer menu driven graphical interfaces („point and click“)
- Gain outweighs difficulties (for the majority)

...SO:

- Start early and proceed little by little
- Be aware that you introduce „a new kind of thinking“ (programming logic) to novice users
- Anyway, causes despair (~50%) – we have to face up with that!
- Supports sloppy programming style
(no strong typing, implicate type casting (coercing), vector length adaption, ...)

