The public sharing and understanding of scientific data

——with the illustrations of weather terms

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- Background

It is a consensus of the world in recent years that the public has the right to know the scientific data, and at the same time many countries' governments are doing their best to share the data with the public by various means.

- Problem

whether the provided scientific information and the gradually popularized science knowledge can satisfy the need of the public on scientific data.

- To investigate

- made a questionnaire
- how well people understand the weather condition terms which they check almost every day.

- designing the questionnaire

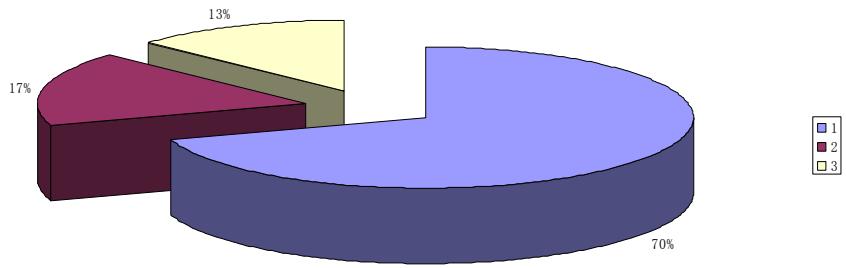
choose several weather condition terms which is frequently mentioned in newspaper, website, TV and radio

such as: ‘humidity’, ‘ultraviolet radiation’ and ‘weak cold air’

- totally 60 questionnaires
- three groups – citizens, farmer-workers, post graduate students, with 20 questionnaires respectively
- questionnaires are filled randomly in Beijing

Result

1、How many people can understand the meaning of ‘humidity’

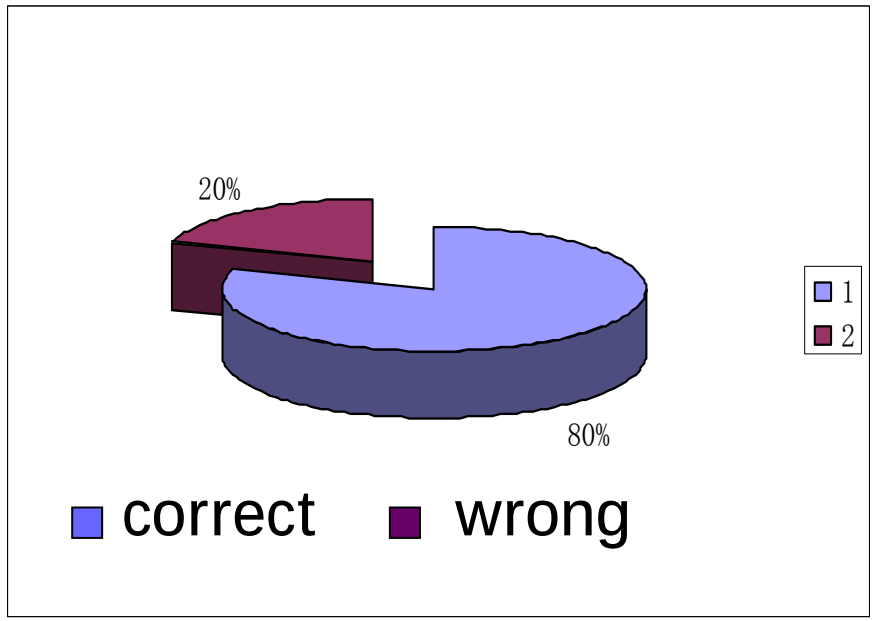


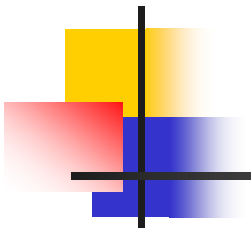
correct wrong

- 70 % people can correct understand the meaning of ‘humidity’
- 13 % people choose the disturbing option
- 17 % people do not understand its meaning

- 80 ％people consider the ‘humidity’ as the ‘comparative humidity’

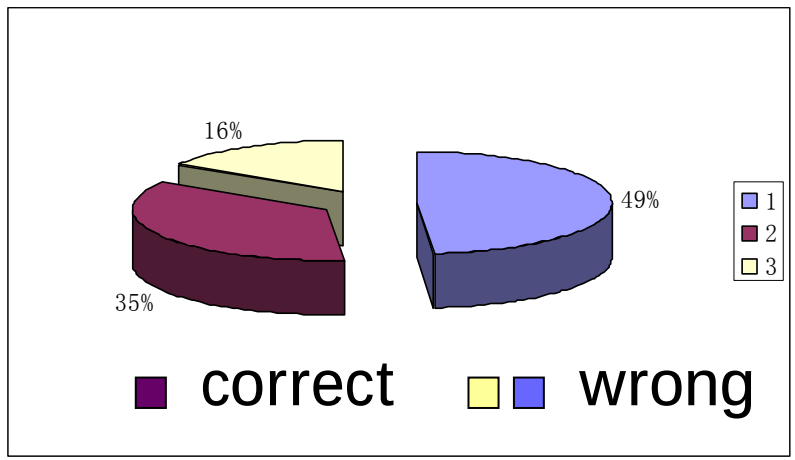
  20 ％people do not know the answer.





- The result contradicts with my original thinking, for 50 %people do not know the exact meaning of the term when the accessing.

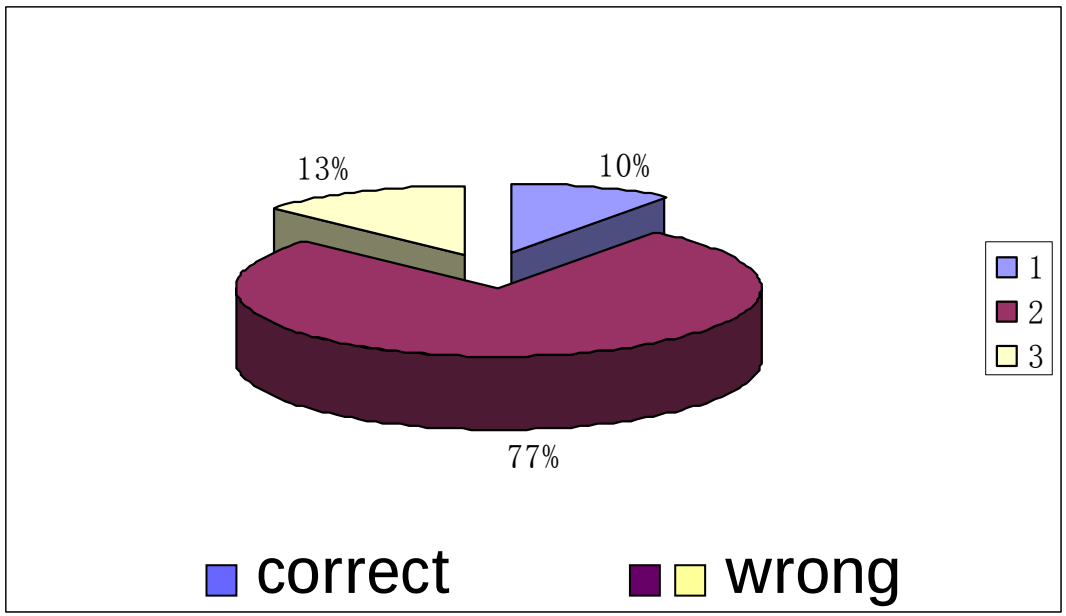
2、10% or 50% humid?



- only 35 %people can give the correct answer

- Thus although most people know the exact meaning of the ‘humidity’, they do not know what is the proper humidity degree for them and accordingly they can not use this frequently mentioned term properly

3、 the understanding about the ’ weak cold air’



- only % people can understand it correctly,
- 77 % people do not know clearly about it,
- 13 % people do not know it at all.

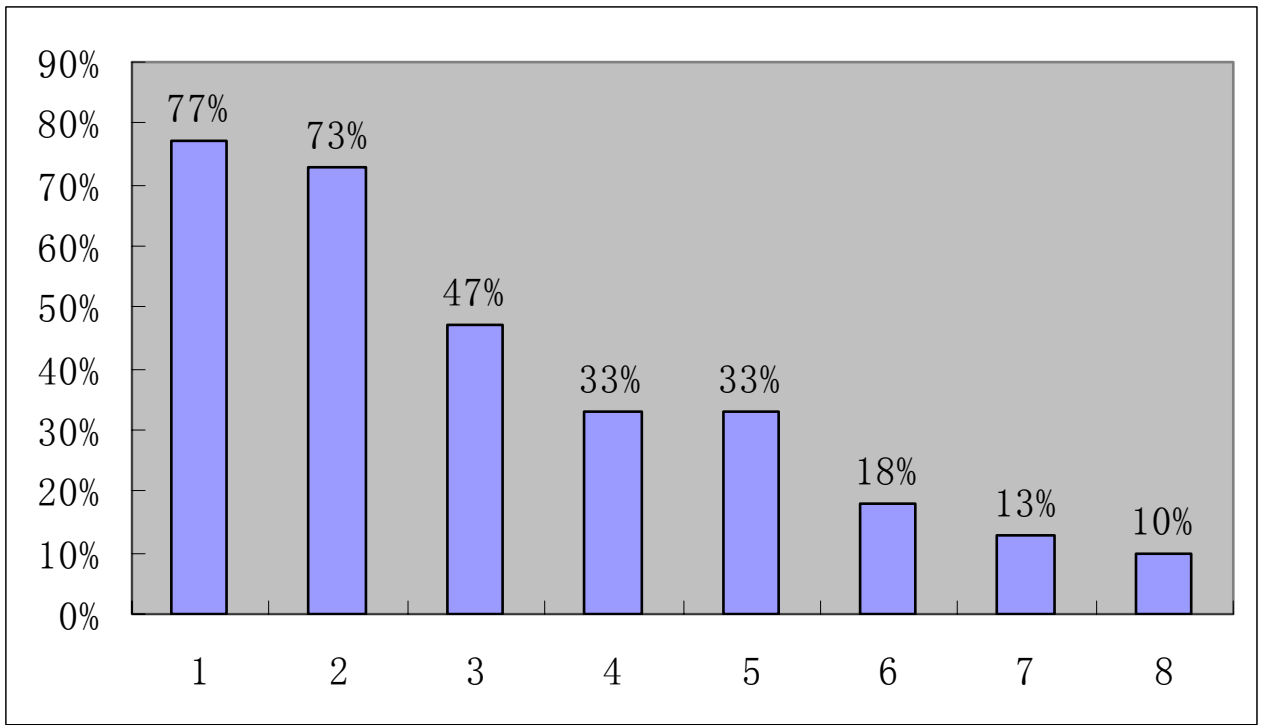
- 3、When I list several terms that are frequently used in the weather forecast

such as:

weather condition\air temperature\wind direction\wind power\UV\air quality\humidity\precipitation frequence\weak cold air

- only 13 % people chose ‘humidity as their most careful weather term, lower than the number of 33 % choosing ‘precipitation frequency’ and ‘air quality’.

- The most unpopular term is the ‘wind direction’, about which only 10 % people cared

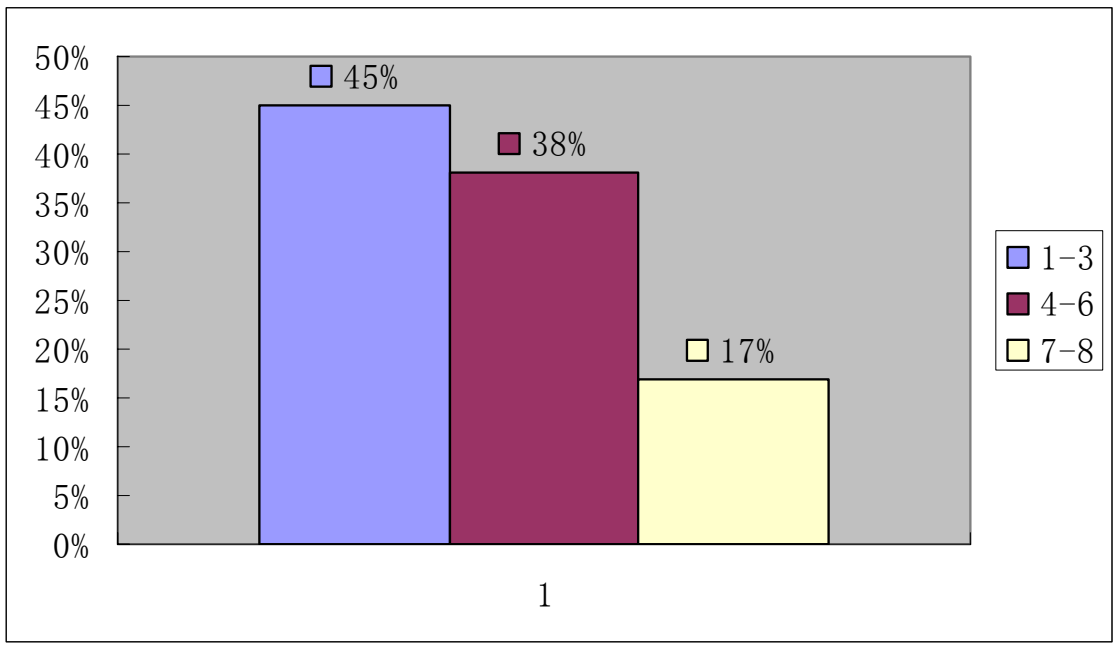


1、weather condition 2、air temperature 3、wind direction
4、wind power 5、UV 6、air quality
7、humidity 8、precipitation frequence

- the most popular weather terms are considered to be ‘weather condition’, ‘temperature’, ‘wind power’and ‘ultraviolet radiation’

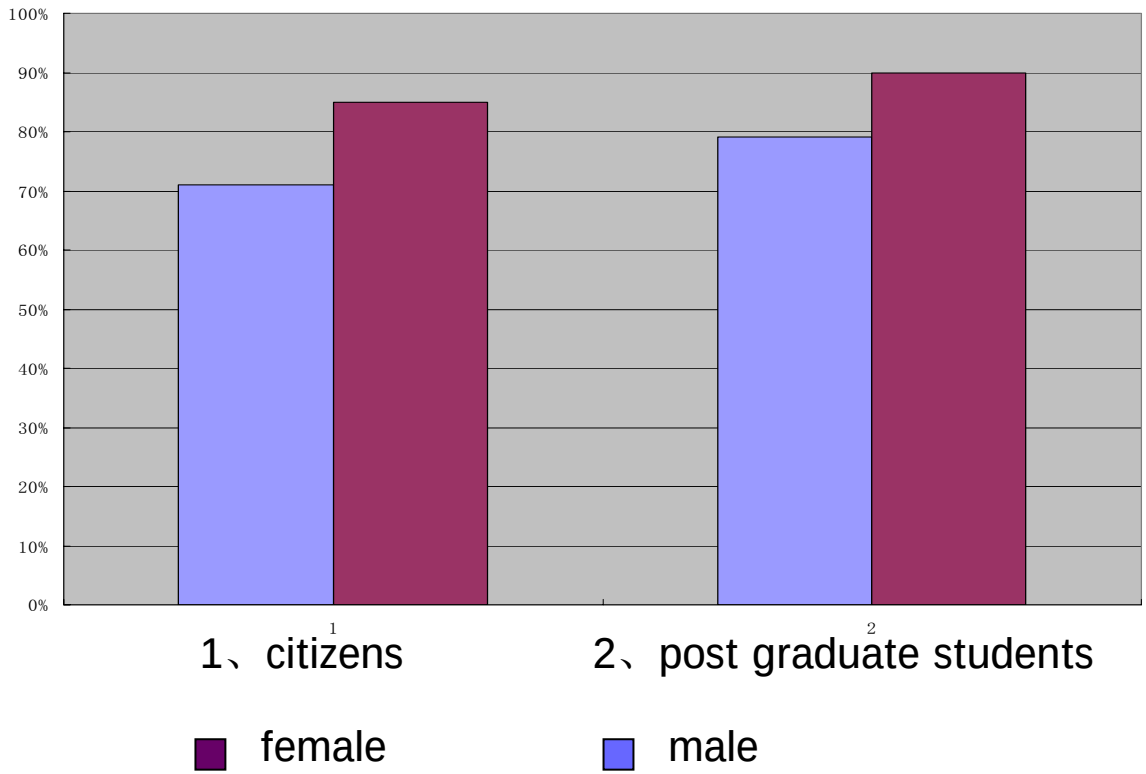
- However, the unpopular terms ‘humidity’ and ‘wind direction’ are mentioned frequently in the weather forecast of various newspapers, TVs, radios and websites, which most people care nothing about and are not capable of using them.

4、It is worth mentioning that only 17% people knew all of these eight indexes, and 45% people knew the exact meaning of 4-6 of them, and 38% knew less than 3 kinds of indexes



- 5、It is very interesting that the female's correct rate is far higher than the male's, especially in the graduate group.

  One of the possible reasons is that ladies who are instinct for loving beauty pay more attention on the weather.

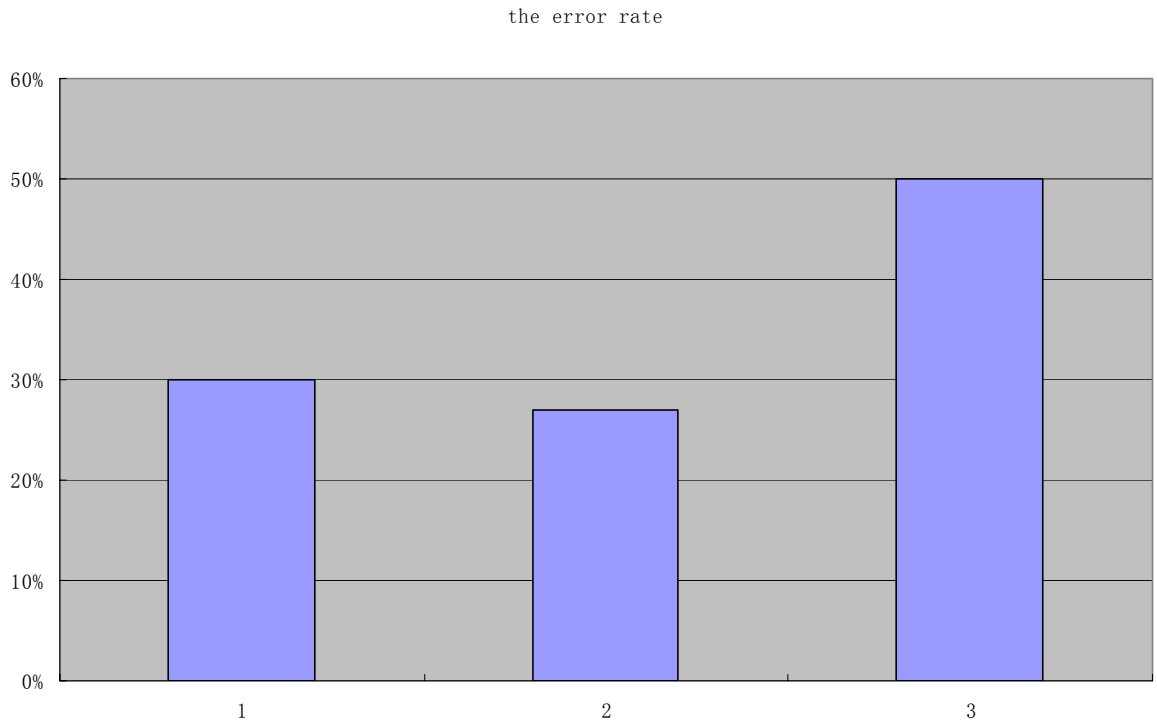

100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
1
2
1、citizens
2、post graduate students
female
male

- 6、According to the result, the group of post graduate students obtains the highest accuracy rate.

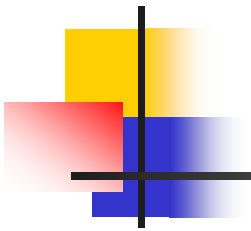
  However, the accuracy rate of farmer-workers is higher than that of Beijing citizens, which is different with my original thinking, and many people are surprised by the result too.

- 7、While, according to citizens' and farmer-workers' answers, the correct rate does not have a significant relation with the educational level.

One person with bachelor degree had an error rate up to 40%, while a junior answered all questions accurately.



1、18-30　　2、30-50　　3、above 50



- The error rate is about 50% to the old whose age is above 50,
- The error rate 30% to the young people whose age is between 18-30,
- The error rate 27% to people whose age is between 30-50.

8、conclusion

- the public’s demand and understanding to scientific data in weather forecast is not consistent with the degree of popularization of scientific data, even sometimes those data is not what the public want.

- And this phenomenon does not only lie in weather forecast. For example, those professional terms such as GDP, GNP may not be understood by the public exactly
- Although it is a normal phase in the process of popularizing scientific data

- we have to pay special attention on some problems, such as the approach and methods of popularization, which means that whether the public can understand and apply these data exactly.
- Of course, now I just provide this question, and more research should be made to get a powerful conclusion.

That is all of my report.

Thank you for your attention!