

Wednesday, June 30th 2:45pm-3:30pm ET

USCOTS 2021 P&B Session

PUTTING THINGS IN ORDER WITH MEAN, MEDIAN, AND MODE

A FAIRY TALE ON INDICES OF CENTRAL TENDENCY FOR PRIMARY-SCHOOL



Spreading the added value of Official Statistics among young generations: a challenge for Istat

Communicate statistics to children and teenagers
with new languages

One of Istat's primary aims is
to raise awareness among young generations
of the importance of using
Official Statistics in **Data Science**

From the research question... to the goals

Which strategy could
be the best one?



... to the idea

Promoting statistical literacy through
unconventional instruments
and **non-specialized languages**



first **“Grasp the Content”**
out of the forms of technical languages
and then
introduce formal approach

⊕ To be taught
Statistics doesn't necessarily need
a formal mathematical approach

⊕ Kids can learn Statistics
thanks to **unusual means**
such as fairy tales



⊕ Statistics helps **solve problems**
and kids can experience that
through **practical activities**
enriched with **creativity** and
imagination

The method → Stat Fables

Transferring statistical contents
into non-technical domains

- while maintaining scientific rigor
- without simplifying the level of initial complexity
- through an effective synthesis process

**Statistics can be narrated,
stories are engaging,
and playful hands-on activities**

help kids to learn



What is an animated fable?

fables can be **animated**

kids can **play roles**

and learn by immersing themselves in stories



convey statistical methods using **fables**

the stories evolve
through events and decisions
based on data and Statistics

An example: three little sisters

It's a story on three different and well determined sisters who quarrel over a messy house inhabited by 100 children. Will they find a compromise?

The answer lies in **three measures of central tendency**

Let us start listening to the beginning of the tale ...



Quarrels among sisters

Once upon a time, there was a large family with many, many children. There were a **hundred** of them. Naturally, there was **disorder** and **confusion** in the house, with all those kids, but also much **joy**.

Mode, **Mean**, and **Median**, three of the many brothers and sisters, loved to put things in order.

So, one morning they searched for lost T-shirts and found twenty-five. The twenty-fifth was in the fridge!

Their favorite part of the game could finally start:

ordering and creating groups!



*Three neaty little sisters
hunting for missing things,
move quickly like three twisters
sorting each and every thing!*

*They count, order, and measure
then group and synthesize,
having sometimes the pleasure
to be sudden allies!*

How can you classify T-shirts?

You will need only... a **bunch of t-shirts**
of different color, size, weight, length, and shape

Real bit.ly/fable-sd

Virtual bit.ly/handsonstat

Size



color

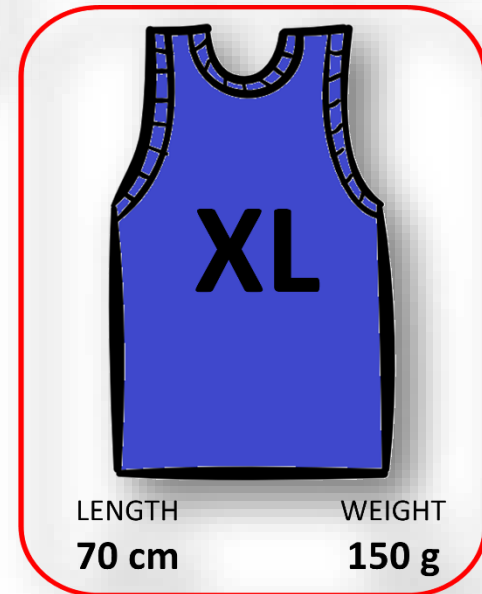


WEIGHT



sleeve length

shirt length



Building the frequency table is easy



Color	Freq.
Green	10
Yellow	6
White	5
Blu	3
Other	1
Total	25

Concluding remarks



Fables can **convey [complex] statistical concepts** in an appropriate language for young people



Children can **learn by doing** using Official Statistics and the statistical method



a **friendly approach to Statistics** to promote the idea that data is not dull, and the study of Statistics can be exciting and not so difficult



a **first approach to Official Statistics** stimulates the interest in the quantitative dimension of reality



Our fairy tales (in Italian)

Books:

- ✓ The witches of Bayes and other stories
- ✓ The rain peacock and other stories

bit.ly/stat-fables

Audiobooks:



Some fairy tales are available
in Spanish and English

If you would like to receive a copy
please e-mail us:

culturastat.veneto@istat.it

All materials presented are available
bit.ly/stat-sisters

Thank you!

Are you curious about our work?

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