

Misdirecting Labels

For use with statistics classes.

Frequently statements made about statistical data are both misleading and inaccurate. Sometimes these errors occur from the speaker/writer's ignorance, or other times from the attempt to make something sound different than reality. Let's see what should have been said and whether we should attribute this to ignorance, or attempt at deception in the next two examples.

At a year end school board meeting, when all the departments were giving results of the year's activity, the manager of the cafeteria reported, "This year we fed 216,000 students at lunch, 2% more than last year." This statistic is quite remarkable since the student population at this school totaled 1876 individuals. Ask your students to consider the accuracy of this statement. Ask them to compose a more appropriate statement, such as "We served 216,000 lunches to students this year, 2% more than last year."

Would you give this department head the benefit of the doubt and say he just made a mistake?

In an effort to show how they were growing, a small airline ran a newspaper advertisement stating, among other things, "This year we have flown over one million passengers." Think about that for a minute. What does it mean?

Points to consider. If Mrs. Sanchez boards in Chicago, and changes planes in St. Louis to fly to Little Rock, do we count her as one passenger or two? Does this represent one trip or two trips?

On another day, if Ms McCovey takes the early flight from St. Louis to Chicago, finishes her business, and takes the late flight home to St. Louis, do we count her as two passengers?

And what if Ms McCovey does this five days a week.

And what about Mr. Tyson, a football scout, who leaves Chicago, flies to Green Bay, then on to Kansas City, then to St. Louis, and back to Chicago. How many passengers does he represent?

Then again, just what is the thing we call a 'passenger'.

Ask your students to try to come up with an answer that covers every situation, and still gets the point across. The interesting point of this exercise is the lack of a really good answer. Do they think that the person who created the advertisement understood this difficulty? If so, why do you think he/she decided to run it anyhow? Do you think someone was counting upon our ignorance?

Moral of this story: When people quote statistics to you, be suspicious. Check their labels.