

Teaching Fractions and Percentages

Summary: Fractions and percentages are often taught together, but can still be difficult concepts for students to grasp. In an article for *Teaching Children Mathematics*, a pair of Wayne State University instructors discuss methods for teaching fractions and percentages in a way that maximizes student mastery of both ideas.

Practical Applications

The authors discuss several principles for teaching fractions and percentages together, going into great detail about a task they did with 5th graders investigating the content of cereal commercials on television (students were provided with data on the different types of food commercials, and also data on which family member makes decisions about cereal buying). The overarching principles discussed are:

- “Offer students experience in estimating across several different representations at the same time – here, both numerically and visually.” For the cereal task, students looked at data about the number of different types of food commercials on TV and then created an estimated pie graph and estimated numerical percentages for each part of the graph.
- “Use familiar contexts that relate” to student interests. In this case, cereal commercials on TV are something familiar to most every child.
- “Plan mathematical experiences that allow students to connect various skills—such as rounding, estimating, and comparing—with the concept of part-whole relationships involving fractions and percentages.” By creating pie charts that utilized both visual representations of data as well as percentages and fractions for that same data, students were able to answer many different kinds of questions with the same basic information.
- “Allow time for children to share their data” with peers and adults, not only keeping them motivating but providing opportunities for rich discussion. Students were highly engaged in wrestling with questions of how to deal with un-simplified fractions or fractions that needed to be rounded, how to adjust their pie graphs to make them more accurate, drawing conclusions from the data, etc.
- “Encourage students to solve their own problems and explain their thinking.” This advice is especially important when students are dealing with somewhat abstract and difficult concepts like fractions and percentages; it’s critical with topics such as these that students are guided to true understanding rather than given rules to follow.

Conclusion and Citation

Fractions and percentages are tough concepts, but when taught together in meaningful contexts and with comprehensive tasks, students are much more able to connect the information together and forge a deep mastery of the ideas.

Whitin, D. & Whitin, P. “Making Sense of Percentages and Fractions.” *Teaching Children Mathematics* (Apr. 2012), pp. 489-496. <http://bit.ly/HXf9LJ> (subscription only).