Teaching Fractions: A Few Cautionary Notes

By Lucie DeBlois

Key message of this article:

In math, students learn natural numbers and their operations, and often create rules by observing patterns. However, these patterns can deceive them, especially when they "transfer" what they know about natural numbers to fractions. Educators can understand the errors that students make, but, above all, they can take certain precautions to help students make smooth transitions when new concepts are introduced.

Example:

Learning natural numbers

"When I add two numbers, the result is always bigger!"

However, when students transfer this knowledge to fractions, students sometimes treat the numerator and denominator as if they were natural numbers.

Learning fractions

"2/8 + 2/8 cannot equal 4/8, because the denominator needs to be bigger. Isn't the answer 4/16?!"

For operations of fractions to have meaning, students must develop an understanding not only of the *role* of the numerator and the denominator, but also of the *relationships* between the numerator, the denominator and the unit of reference.

Precautions to Take

Educators can take certain precautions when planning how they will teach fractions by asking themselves questions, such as:

- Do **the numbers chosen** help to develop the students' thinking so that they recognize the relationship between the numerator and the denominator?
- Do **the situations proposed** allow students to grasp the various meanings of fractions?
- Do **the counterexamples proposed** help students to develop a solid understanding of fractions and prevent them from making generalizations out of context?

To find out more about this infographic, read the LD@school.ca article entitled:
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