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A Brief Look at Experiential Learners

Let us begin by saying that the students who will benefit most from the lessons in this book may be either male or female. They are the experiential learners in your classroom, the ones who need to interact with information in an active way and probably in more than one way. These students are more likely to be boys, for the reasons outlined in this chapter, but many girls are also experiential learners and will respond similarly to the iconic or kinesthetic methods underlying the lessons in this book.

THE ACTIVE BRAIN: MALE OR FEMALE

There is a growing body of evidence that reveals that the brains of very young girls and boys are different—both structurally and developmentally. When we say that boys and girls differ, we mean that the average girl and the average boy are different, but some girls learn more like a typical boy and some boys learn more like a typical girl. Characteristic sex indicators such as hormonal levels do not show absolute differences, although average levels of hormones are very different between men and women (Kimura, 2004). That means that individual men may have the same levels of hormones as do individual women, but for most people, hormonal level is a clear indicator of sex differences. Individuals who are genetically female or male may show variations in the expression of typical sexual markers. For example, although all of the authors of this book are women, one of us is as tall as the average male. That does not make her male, just taller than the

average female. So, while we refer to the male or female brain, please remember that we are referring to behavior or responses which are typical for the majority of males or females, but certainly not for all.

One of the authors has been asked why she still refers to the boy brain if not all boys fit the description and some girls actually do fit the description. The problem is that male and female brains do not present a simple dichotomy. Some differences are due to biology, such as the differences in the structure of the ear that result in hearing differences and the hemispheric differences in brain development. If boys don't listen to directions is it due to hearing differences or due to their slower acquisition of language because their left hemisphere is a bit slower to develop? It may be that they don't always understand what is said or it may be due to their lack of interest in the subject. Since parents talk to infant boys less often than to infant girls, the problem may be that boys don't have a lot of practice in listening (Whitehead, 2006). The variations in how girls and boys learn begin with differences in brain development, which are shaped by the differences in how children are treated beginning in the minutes following birth, but since the majority of boys fit the model, it makes sense for teachers to think in terms of a gendered approach to the classroom.

All teachers are aware that there are many different avenues to learning and that to group students by any variable means that there will be a wide range of differences. Knowing that, we traditionally group children in school by age. Even though 10-year-old children can vary a great deal, most children in a fifth-grade class are 10 years old. As much as we would like to do so, it is impossible for a teacher to tailor instruction for each individual child in a class. So teachers focus on the most obvious groupings of students, and sex is one way to sort children. Preparing a lesson to include boy-style learners will meet the needs of many of the boys in a class, but not all. Additionally, the academic needs of some girls, especially girls who are experiential learners, will be met by lessons framed for boys.

Having apologized for the fact that children do not fit neatly into sex-defined learning groups, we still maintain that sex-specific lessons and even classes help a great many children. Simply saying that boys are more varied compared to each other than when compared to girls does not mean that the differences between the sexes do not exist. Of course they exist; what we do not want is for children to be limited in their school experience because they belong to one group or another. Providing lessons aimed only for boys or for girls is akin to teaching a sport only by reading a description of how to play the game without seeing how the game is played.

Structural Differences

Male and female brains do not develop in the same way. By the time we become adults, however, the male and the female brain function more similarly than they did when we were infants. The active approach to teaching is based on the belief that helping children use their cognitive strengths to learn will lead them to focus on academic strengths rather

Lesson 8

WHETHER WEATHER

Level: Can be adapted for many levels (enrichment: math, science, geography)

Purpose: To introduce the concept of spread sheets, data collection, and graphical representation of data

Time: About 30 minutes per session over several weeks

Materials:
- Computer with spreadsheet software
- Graph paper
- Data collection forms and/or access to Internet
- Map of the United States

Procedure:

Basic students

1. Students will use data collection forms to gather data on local weather conditions. This exercise can be done in collaboration with a science unit on weather; a math/science joint project will make a bigger impact on students. If you like, you can have students select other areas of the world to collect weather data for the given period of time. Students will need to decide if they are going to collect data for 10 consecutive days, which will mean they need to collect data at home over the weekend, or if they want to collect data for two weeks at school only. You may want for some students to do one process and others to do the other and compare results.

2. Students will find the mean, median, and mode of all classes of data. Where appropriate, students will investigate the variability of results and calculate the standard deviation for those results.

3. Students will graph the data by hand and then use the spreadsheet software to do the same thing. The reason for doing the exercise first by hand is to give students a feeling for how data will look when graphed. *For experiential learners, this step is essential.* If you let the students only analyze the data by computer alone, they will punch the buttons and never pay attention to whether the results make sense or not.

4. Students will post their graphs and compare their results.

5. Where appropriate, students should be shown how to do this on a TI-83 calculator.

Advanced students

1. Students will use data from the Internet to locate all the tornadoes that were detected in the United States in a given year. You may want to give each group of students a different year so that they can compare their data at the end.

WEATHER DATA COLLECTION CHART

Name: _____

	Hi Temp C/F	Low Temp C/F	Precipitation	Humidity	Barometric Pressure	Wind Direction	Average Wind Speed
Day 1							
Day 2							
Day 3							
Day 4							
Day 5							
Day 6							
Day 7							
Day 8							
Day 9							
Day 10							