More About Curriculum Integration

In the E-Hint, "Subject Integration Starts with Coherently Written Intentions, Not Just "Merged Activities", we learned that curriculum integration can save precious instructional time, and also allow students to make connections between subjects. For those two reasons, it makes sense that we should try to integrate as often as possible. However, we also learned there are some pitfalls to be avoided. For one thing, we can't *integrate* curriculum until we *have* curriculum. In the first cycle of curriculum development, each subject is prepared independently, so that we are very clear about our intentions for student learning in that discipline. Once this has been done, then we can see where specific skills and concepts from two (or more) subjects can be taught at the same time without sacrificing student learning intentions from any one subject.

Along these same lines, we know that many teachers — particularly at the elementary level — believe that, even in the first cycle, they are integrating curriculum through their instruction. Usually this is done by planning instruction around a "theme." But as the above mentioned E-Hint cautioned us, simply "merging activities" is not true integration, and can lead to vague results. If we're not careful, the theme *itself* becomes the focus, rather than the specific results required in each discipline. Let us look at a specific example of this problem.

A group of third-grade teachers worked together and decided to develop a thematic unit on transportation. They felt they could use this medium to accomplish outcomes in virtually all subjects. For example, students could:

- read fiction and nonfiction about transportation and people associated with it;
- write factual reports, creative stories, and poetry about transportation;
- practice speaking and listening skills as they share what they've read and written;
- conduct science research and experimentation about how vehicles work;
- apply math concepts about weight, mass, movement, speed, etc.;
- view famous art pieces about modes of transportation/create their own artwork;
- describe how transportation expanded our country geographically, as well as the economic and social impacts;
- and participate in physical activities centered on ambulatory & cycling skills, as well as games with a vehicle theme.

This was an admirable and ambitious project. But here are some problems that resulted.

- They spent a great deal of time on how the railroad contributed to westward expansion — which was a fifth-grade outcome, and therefore they created a redundancy.
- They spent so much time researching and experimenting how machines work (a fourth-grade outcome and thus another redundancy) that they were unable to complete all the third-grade science outcomes — and thus they created a huge gap.

- The third-grade listening outcome said students would demonstrate listening comprehension by summarizing what was orally reported or read to them. In the transportation unit, students asked questions after oral reports, but they didn't ever *summarize* what they'd heard — so they didn't really accomplish the outcome.
- A similar problem occurred with the math outcome about measurement. Most of the outcome was completed when students measured simulated vehicles, distances, and areas, but the outcome stated that such data was to be collected, interpreted, and used for *predictions* — a strand overlooked in the transportation focus.

This is not to discourage teachers from using thematic instruction. It can be a wonderful way not only to save time by overlapping subject outcomes, but also to make learning authentic — ***if*** teachers can show direct links to their outcomes and that they are indeed achieving the expected results — according to both the concepts and verbs — for those outcomes.

Here is an example of a teacher who was successful in this endeavor.

A second-grade teacher in northern Michigan perused her curriculums and decided she could integrate the following outcomes.

- Students will read and write about people, objects, and events in their daily lives.
- Students will distinguish the three states of matter and identify given examples of each.
- Students will estimate and measure length (using standard units to the nearest inch) and weight (using nonstandard units).

Since it always snows in her town each year, she decided a "snow" unit would be the perfect vehicle. But rather than start with the *idea* of snow and find activities related to it, she started with her *outcomes* and decided how they could be accomplished through a "snow activity." Here are the results.

- Students read stories, poems, and nonfiction passages about snow. They wrote their own stories and poems about snow, and during the big snowfall when this unit took place, they kept a journal about how the snow affected them each day.
- They went outside and built a variety of snowmen, of various sizes. They brought a very small one inside and placed it in a tub. Students identified the state of matter of the solid snowman, and then named the state and described the difference after it melted. The teacher then demonstrated with a hot plate what happens when the melted snow was heated. Again students named the new state of matter and told how it was different from the others. A few days later the teacher brought in a large icicle and had students *individually* (with written words and pictures) identify each state when the cold/melting/heating activities were repeated, and tell something that made each state different from the others.
- Students took rulers, pencils, and note cards outside. Together they measured one of the snowmen they had made earlier. Students then had to (individually) write down their estimations of the measurements of several other selected snowmen, verify their predictions with actual measurements, and record their measurements to the nearest inch. Next, students made snowballs of various sizes. These were put in a plastic sack and kept in the school's freezer. Students experimented using a scale with various nonstandard measuring objects (blocks, ball bearings, etc.). Then each was given a couple of solidly frozen snowballs. Students had to estimate the weight of each according to a selected nonstandard weight object, and then verify the weight.

This teacher planned a number of other activities related to snow as they progressed through the ones described above. They did snow art projects, kept a weather calendar, and so forth. But she made sure her activities didn't simply *cover* several subjects, but instead *fully met* the selected outcomes in each of those subjects.