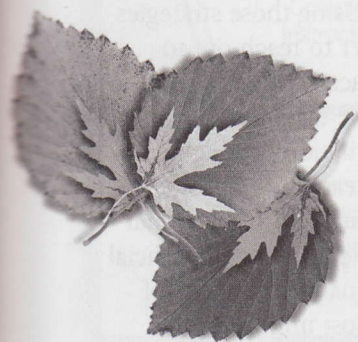


Differentiating Process



Process means sense-making or, just as it sounds, opportunity for learners to process the content or ideas

and skills to which they have been introduced. When students encounter new ideas, information, or skills, they need time to run the input through their own filters of meaning. As they try to analyze, apply, question, or solve a problem using the material, they have to make sense of it before it becomes “theirs.” This processing or sense-making is an essential component of instruction because, without it, students either lose the ideas or confuse them.

In the language of school, process is often spoken of as an activity. It’s probably wisest to use the term “sense-making activity” to remind ourselves that an activity achieves maximum power as a vehicle for learning only when it is squarely focused on a portion of something essential that students need to know, understand, and be able to do as a result of a particular study.

Students who already understand how to convert fractions into decimals don’t need to do an activity designed to help them make sense of the underlying principles; they have already processed and made sense of those ideas. Students who are foggy about fractions aren’t ready to benefit from a sense-making activity on converting fractions into decimals; they need an activity that helps them further clarify the conceptual notion of whole and part that is the underpinning of fractions.

Any effective activity is essentially a sense-making process, designed to help a student progress from a current point of understanding to a more complex level of understanding. Students process and make sense of ideas and information most easily when their classroom activities

- are interesting to the students,
- call on the students to think at a high level, and
- cause the students to use a key skill(s) to understand a key idea(s).

Good differentiated activities are first good activities—those that have the characteristics noted above. What makes them differentiated is that the teacher offers more than one way to make sense of what's important. In fact, one way of thinking about the relationship between a good activity and a good differentiated activity is this:

A GOOD ACTIVITY is something students will make or do

- using an essential skill(s) and essential information
- in order to understand an essential idea/principle or answer an essential question.

A GOOD DIFFERENTIATED ACTIVITY is something students will make or do

- in a range of modes at varied degrees of sophistication in varying time spans
- with varied amounts of teacher or peer support (scaffolding)
- using an essential skill(s) and essential information
- to understand an essential idea/principle or answer an essential question.

As is the case with content, process or sense-making can be differentiated in response to student readiness, interest, and learning profile:

- Differentiating process according to student *readiness* means matching the complexity of a task to a student's current level of understanding and skill.
- Differentiating process according to student *interest* involves giving students choices about facets of a topic in which to specialize or helping them link a personal interest to a sense-making goal.
- Differentiating process according to student learning profile generally means encourag-

ing students to make sense of an idea in a preferred way of learning—for example, exploring or expressing what they learn kinesthetically, or spatially, or verbally, or creatively; or deciding to work alone versus with a partner; or sitting on the floor to do work versus sitting in a straight chair.

Other chapters in the book more fully explore differentiation according to readiness, interest, and learning profile.

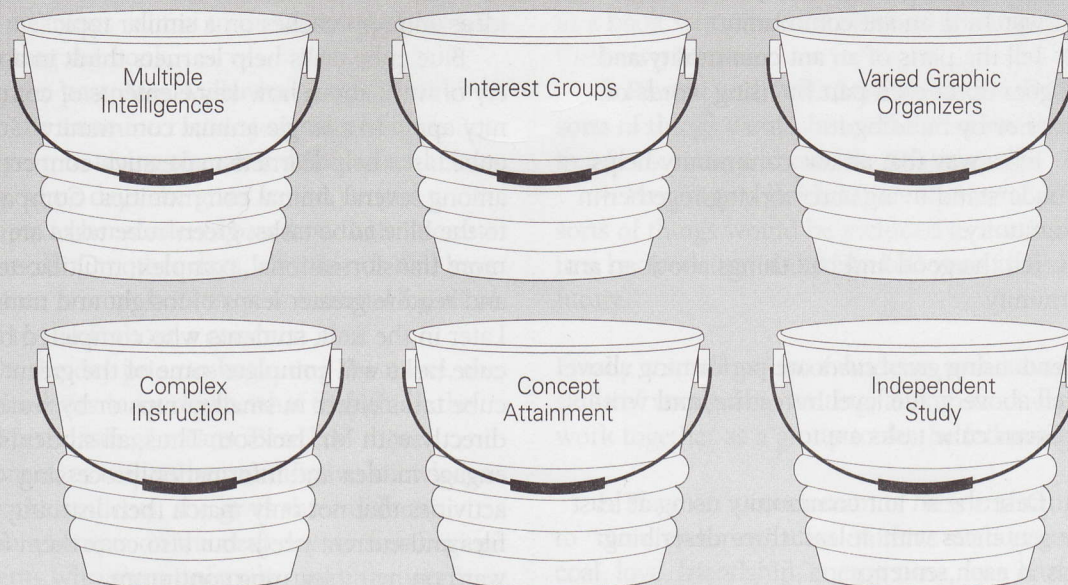
Strategies That Support Differentiated Processing

Many instructional strategies (see Figure 12.1) invite teachers to have students work in small groups or independently. Using those strategies makes it easier for a teacher to reach out to individuals and to match activities or process to needs of individuals. Whole-class instruction does not issue such an invitation. Though it's both fun and useful for a teacher to become comfortable with a wide range of instructional strategies that invite flexible teaching, it's crucial to remember that it's the quality and focus of *what* students do that is most important.

The following are among the scores of strategies educators have developed that invite more flexible and responsive sense-making: learning logs, journals, graphic organizers, creative problem solving, cubing, learning centers, interest centers or interest groups, learning contracts, Literature Circles, role playing, cooperative controversy (in which students argue both sides of an issue), choice boards, Jigsaw, think-pair-share, mind-mapping, PMI (listing pluses, minuses, and interesting points about a topic under consideration), model making, and labs.

Tiered assignments or parallel tasks at varied levels of difficulty are also powerful vehicles for differentiating process. Each strategy engages your students in a different thinking or processing response. Sense-making activities are most effective for students when that response

Figure 12.1
Instructional Strategies: Buckets for Delivering "The Stuff"



But it's still the quality of "the stuff" that predominately affects student understanding!

matches their learning needs, as well as specified learning goals.

These instructional strategies are ideal for offering differentiated sense-making or processing options for students in mixed-ability classrooms. The following two scenarios show how teachers use some of these strategies to help their students process and "own" key ideas in ways that work best for them.



Mr. Jackson and Cubing

Students in Mr. Jackson's 2nd grade class are studying communities. Right now, they are examining ways in which animal communities

are like and unlike human communities. Last week, students viewed a video about ants. Yesterday, they read about bees and individually selected one other animal to learn about from a list Mr. Jackson provided. Today, as they proceed with their study, Mr. Jackson makes sure his students understand the elements of a community and how they might apply to animals. To help his students think about and make sense of these ideas, he uses cubing. Each six-sided cube carries these instructions for students: describe, compare, tell your feelings about, tell the parts of, use, and tell the good and bad things about.

Mr. Jackson assigned each student either a blue or green cube. Students using blue cubes are performing at or below grade level in reading and writing. Blue cube tasks are to

1. Describe an ant community in pictures or words.
2. Compare an ant community to your community in pictures or words.
3. List words that describe your feelings about watching an ant community.
4. Tell the parts of an ant community and what goes on in each part by using words or pictures or by building it.
5. Tell a way that an ant community helps you understand living and working together in a community.
6. Tell the good and bad things about an ant community.

Students using *green cubes* are performing above or well above grade level in reading and writing. Green cube tasks are to

1. Describe an ant community using at least three sentences with at least three describing words in each sentence.
2. Use a Venn diagram to compare an ant community with the community of the animal you selected.
3. Pretend that ants think like people. Write and cartoon what you think an ant feels like as it goes through a day in its community. Do the same thing with another kind of animal from a different sort of community.
4. Make a diagram of an animal community with parts labeled and tell what each part is for.
5. Write a rule for living together in a community and tell how it would be useful in two different communities.
6. Write a song or draw a picture that tells what you think is best and worst about being part of a community.

Students begin cubing by sitting at a table with other students using cubes of the same color. Students take turns rolling their cube. If the first roll turns up a task the student doesn't want to do, a second roll is allowed. As they

work on their own task, students can also help one another. When their tasks are complete, Mr. Jackson rearranges the seating so that groups of four to five students who did a same-colored cube task can share with each other their varied ideas and approaches on a similar topic.

Blue cube tasks help learners think in a variety of ways about how key elements of community apply to a single animal community. Green cube tasks help learners make such connections among several animal communities. Compared to the blue cube tasks, green cube tasks are more transformational, complex, multifaceted, and require greater leaps of insight and transfer. Later in the unit, students who completed blue cube tasks will complete some of the green cube tasks either in small groups or by working directly with Mr. Jackson. Thus, all students engage in idea and information processing activities that not only match their learning profiles and current needs but also coax them forward on many learning continuums.



Mrs. Miller and Interactive Journals

Mrs. Miller's 6th graders are all reading the novel *Tuck Everlasting*. She knows that the book is difficult for some of her students and doesn't much stretch some others, but she likes to have the class read some books together, just as she sometimes finds it useful to have several different novels read by her students simultaneously. Because the current novel is not a "best fit" for all learners in her class, she is making a special effort to ensure that she uses a differentiated process strategy that she does vary according to the student's readiness and interest.

By using differentiated interactive journals throughout this novel, Mrs. Miller provides her students with writing prompts that, for example, may encourage them to interact with the

book as they predict what will occur next, reflect on something that has just taken place, apply understandings about elements of literature such as conflict or figurative language, relate to a character or situation, or grapple with meanings central to the authors' purposes in writing the book.

In the past, Mrs. Miller has given all students the same interactive journal prompts. This year, in trying to craft a differentiated classroom, some days she gives varied journal prompts to her students based on their interests and needs. On other days, all students will have the same prompt because it is essential for all of them to think about a common idea.

On the day prior to beginning the novel, she asks students to jot down what they think the word "everlasting" means. Based on those responses, as well as her cumulative knowledge about the students, she gives three different journal prompts on the next day as class begins. Students who seem unfamiliar with the word work in pairs to do the following:

1. Guess what "everlasting" means and write their "best guess" explanation.
2. Find definitions of the word in two dictionaries and use what they learn from the dictionary to write a good 6th grade definition of the word.
3. Write a definition of "everlasting" that would be crystal clear to a 1st grader.
4. Illustrate at least five things that they believe are everlasting, including defending why they think so.
5. Hypothesize what they think a book called *Tuck Everlasting* might be about.

A larger group of students who seemed to understand the word in the brief pre-assessment activity but whose general vocabulary and comprehension are generally within the expected range for 6th graders work either alone or with a partner on these tasks:

1. Hypothesize what a book called *Tuck Everlasting* might be about and explain how they came to their hypothesis.
2. Present and defend their choices of what sorts of things would be included as everlasting in a book written about everlasting things in their own lifetimes.
3. Present and defend their choices of what sorts of things would be included as everlasting in a book written about life 200 years ago.
4. Present and defend their choices of what sorts of things would be included as everlasting in a book written about life 200 years into the future.

Finally, a small group of students with advanced skills of vocabulary, writing, and abstraction work together as a group to do the following:

1. Place on a continuum of "less enduring" to "more enduring" a list of items such as gold, coal, love, friendship, energy, time, fear, happiness, and additional items of their choosing.
2. Write a poem or paragraph that expresses their reasoning in placing the items on the continuum.
3. Hypothesize what a book called *Tuck Everlasting* might be about and be ready to defend their hypothesis.

All students in the class use interactive journals and have a task that causes them to make leaps of thought and insight and to deal with a powerful and central concept in the book they are about to begin reading together. These three interactive journal assignments themselves, however, are increasingly transformational, abstract, open-ended, and require increasingly greater leaps of thought for successful completion.

When class starts on the day they begin the novel, Mrs. Miller accommodates her students' varied pacing needs by distributing their journal assignment sheets, giving the instruction to read at least the first 25 pages of the novel, and then

letting them be free to work as long as necessary in class on the journal prompt and complete the rest at home that night. This attention to pacing allows each student to work at a comfortable pace; ensures that all students have adequate, purposeful work to do during the class period; and offers enough time so that all should be prepared for a short, whole-class discussion at the beginning of class on day two of the novel unit.



Sense-making strategies help students process and “own” ideas and information in ways that work best for them. The next chapter on differentiating products describes strategies that allow students to demonstrate—again, in ways that work best for them—the results of all that processing.