How To: Use Massed vs. Distributed Practice

DQ3: HELPING STUDENTS PRACTICE AND DEEPEN THEIR UNDERSTANDING OF NEW KNOWLEDGE

Element 19
Strategies for Practicing Skills, Strategies, and Processes

The teacher must provide opportunities to practice with the content so the students continue to move along the procedural knowledge learning continuum. Initial practice sessions should be highly structured, spaced closely together and monitored closely by the teacher. As they strengthen their procedural knowledge, students will be able to work independently with the ultimate goal working toward fluency and automaticity. At this point, the practice sessions can be less structured and more diverse. Let's discuss these three characteristics of effective practice in a little more detail.

Structured Practice Spaced Closely Together
When students are learning a new skill they need frequent structured activities to correct misunderstandings and errors. The teacher should first provide a clear demonstration of the skill then allow the students to practice the skill while coaching and monitoring their progress. These practice sessions should be close together and each one should focus on a small part of the overall strategy to reinforce success with the skill.

Assume for a moment that during a critical-input experience a teacher provides a clear model for sounding and blending when trying to read new words. The model has three steps. First she tells the students to look at the first few and the last few letters of a word to guess the word. Second she says, if that didn’t work look for a familiar pattern with the letters in the middle of the word. If that doesn’t work, then third, the teacher says to skip the word unless you can’t understand the passage without understanding the word. If that is the case she tells the students to look up the word in the dictionary or ask someone about the word.

During the first practice session, the teacher models the procedure again and provides the students specifically selected vocabulary that is easily decodable by looking at the first and last letters of the word. The students focus on the first part of the process and have a high rate of success with the initial practice. The next day the teacher might continue the process by incorporating words that can be easily decoded using the second step of the procedure and finally will add in more difficult words to challenge the students that might require the use of a dictionary. At the end of the practice session, volunteers are asked to describe how they used the strategy with the new words. Following this methodology, the students will experience a high level of success and deepen their skills.

Less Structured and More Varied Practice
As time goes on, practice sessions continue but the examples begin to become more complex. This type of practice shapes and deepens the process. Students should still experience success but are required to work harder, perhaps with more steps that they did initially. Students should be encouraged to monitor their progress and begin to identify their strengths and weaknesses. At the end of the practice session, the students should be asked to share their new awareness that occurred when working with the strategy or
process. Students may need to change, add or delete elements of the process as they encounter more complex situations. This shaping of the procedure or skill is required before a student can move to the level of automaticity. Cooperative grouping can provide support to the learning and could be useful in less structured practice sessions.

In a computer class, when learning new software or an application, the students initially learn to use the application by modeling and duplicating essential steps in a process. As they progress toward the shaping stage, the teacher provides more complex scenarios and might even incorporate cooperative learning strategies so the students can discuss their thinking with a peer. The teacher continues to monitor to make sure the procedure is executed effectively.

**Practice Sessions to Develop Fluency (Automaticity)**

Once students are comfortable with the skill and have experienced success with a wide variety of situations or scenarios, they should be ready to practice independently. Practice sessions can be now be assigned as homework. The practice should consist of a wide array of problems at varied levels and the students should consider their accuracy and speed at solving the problems or performing the procedure. The teacher might ask the students to complete a chart of their progress that details their speed and accuracy as seen in the figure below taken from *The Art and Science of Teaching* on page 82.

Figure 3.14 Example of Student Progress-Tracking Chart

<table>
<thead>
<tr>
<th>Progress Measurement</th>
<th>Practice Session</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Number of items in my practice set</td>
<td>5</td>
</tr>
<tr>
<td>Number of items performed correctly</td>
<td>2</td>
</tr>
<tr>
<td>Number of minutes to complete the items</td>
<td>3</td>
</tr>
</tbody>
</table>

This chart was completed over a series of practice sessions and allows the student to track his or her progress or growth over time. He or she can then determine where he/she needs to focus – accuracy, speed or both. With the exception of practice session four, the above student appears to be getting more accurate the more that he/she practices this skill.

Teachers should incorporate real world problems as a culminating performance task. To extend the computer example from the last section, the teacher might ask the students to use the application in a simulated business presentation. When the students present their products, they might be asked to share their learning journey with this particular application and highlight any difficulties or aha moments they encountered along the way.

**Other Examples:**

To develop fluency in a typing class, the teacher has the students chart their speed and accuracy for a week. The speed is counted in total words typed during a two minute period and the accuracy is determined by the percent of errors made during that time frame (misspelled words/total words). The students can easily track their progress and compare it to the learning goal that was developed at the beginning of the unit of study.
A physical education teacher can teach his students how to throw a baseball overhanded. The procedure is modeled and the teacher offers structured practice sessions for three days. After that, the practice sessions are based further apart.

A science teacher goes over the safety procedure for experiments the first few days of school. She models the procedure and monitors the students as they practice multiple times. When the students can perform the procedure without help, to ensure fluency, the teacher has the students chart their speed and accuracy performing the task.