

OK4R by Walter Pauk—meaning Overview, Key ideas (find them he meant), Read, Recall, Reflect and Review—was published in 1962. Next came Space & Berg's 1966 PQRST (Preview, Question, Read, Summarize, Test), followed by OARWET in 1968 (Overview, Ask, Read, Write, Evaluate, Test). The champion entry was the 1973 PANORAMA which stands for "Purpose (think about why you are reading your text); Adaptability (adapt your reading speed to the difficulty of the material); Need to question (an obvious and painful stretch for the acronym); Overview; Read and relate (that is, relate the main ideas to personal experience); Annotate; Memorize; and (if you still care at this point) Assess."

Walter Pauk—the OK4R man—finally called for an end to this acronym olympics by daring to put into print what everybody had known all along: despite proof that these formulas work, no sane student ever bothers to use one. In an article knocking PANORAMA as silly ("you're reading your text because your professor told you to"), Pauk wrote, "There is no question about the value of converting a title into a question, but I can honestly say that I have never met a single student who has ever used the technique even though he knew about the textbook system incorporating this step."

A shocking confession from a man who has been teaching how-to-study courses most of his academic career.

Student indifference hardly stifled the acrolympics, however. REAP was published in 1976. REAP was different though. REAP looked as if it might have something to do with how people actually study.

Undaunted, Our Heroes Press On

How students actually study is something few researchers have bothered to study. How one *should* study, yes—advice abounds. But *do* study? No. In 1976 Robert Szabo published a sketchy survey (not study) of practices followed by successful students on his campus. Even that survey—incomplete as it was—showed how far from students the acrolympics have been.

For example, most of the top students preferred studying in cycles—working hard for three or four days, then goofing off entirely for the next three or four days. So much for the "study a little bit each day" platitudes vouchsafed by the formulas.

Students also preferred to work in four- and five-hour stretches, kayoing

the formula emphasis on one-hour study sessions. All the formulas stress the importance of frequent rest breaks, but good students say the breaks interrupt concentration.

Like Pauk, Szabo found no student using a formula. He found this meant students rarely remembered the main ideas in a text, remembering instead trivial details and facts. Yet, noted the rueful Szabo, "They manage to obtain acceptable grades."

Did Szabo and colleagues consider this a hint that maybe they should abandon the quest for a perfect formula? Never. Szabo concluded his article with a ringing cry to press on to new acronyms. "We must find a method that reaches students where they are," he said.

R Is for Read

REAP might be the method Szabo was calling for. Published by two University of Missouri professors, it is, first, simpler than all the others. The R stands for read. That's it. No Survey, Question, Preview or Overview. Just sit down and read. That's what students do anyway, so for the first time in a generation the first step of a formula makes sense in human terms.

The next step, E—Encode, is equally simple. Using any method you want, simply close the book and try to phrase what you've read into your own words. Section by section? Chapter by chapter? Book by book? That's your choice. The only requirement of the method is that you actively rephrase the material *immediately*. The other two steps, Annotate and Ponder (upon which the authors elaborate at length) are just refinements of Encode: write down your encoding (for later review?) and then think (think?) about it, they say.

When one examines REAP, it's not so different from earlier formulas in that it calls for an active engagement with the material to be memorized. It is different in that it throws away the hoopla and rigid rulesiness of earlier formulas and states the meat of the matter: *Successful study requires taking time to put things in your own words immediately. Repeat, immediately.*

The Forgetting Curve

Why does study require an immediate Encoding (or Recalling or Reciting or Evaluation or Call It What You Will)? The answer to that is suggested in some classic early research on memorization, such as the 1913 nonsense syllables study by

Ebbinghaus (ah yes, the one you had to memorize for Introductory Psych, remember?). In the Ebbinghaus study, subjects studied a list of nonsense syllables and then were tested repeatedly. After 20 minutes they had forgotten 47 percent—almost half. After a day, 62 percent were forgotten; two days, 69 percent; 31 days, 78 percent. The results were clear: the bulk of forgetting takes place within minutes after study and then tapers off.

A similar study by Spitzer in 1939 which used meaningful material came up with similar numbers—46 percent of the material was forgotten after a day; 79 percent after 14 days. Forgetting is an immediate thing. By tonight you will have forgotten almost 50 percent of this article—unless you try to encode it or put it in your own words the minute you finish.

Spitzer proved that encoding works to counter the brain's awesome and instant forgetting power. In another study he conducted, some subjects merely studied (i.e. read) materials while others recited the information in their own words immediately after reading it. Seven days afterwards, those who had recited remembered 83 percent of what they had read. The others only remembered 33 percent. This shows that encoding works, but for the why of that working you'll have to return to Bruner's concept about structural patterns. Encoding apparently makes you create memorable patterns. It works.

Note-taking, Like Love, Requires You Listen Dearly

Assigned readings are not the only material you must commit to memory. You will also be tested on lectures. Studying lecture notes is a lot like studying a text. First you read, then you encode. But before you can read or encode you must take notes, and that requires listening.

It is a subtle skill, perhaps because it's so human a skill. Professors are not textbooks; they're humans who do not organize themselves into easy-to-grasp chapters and headings and who often talk rapidly, slowly or monotonously.

But listeners are fallible, too. They listen in monotone, racing like a dictaphone to capture every word. Most students listen to a lecture as if every idea had equal weight. Not so. In an hour-long lecture, there will be at most only six or seven main points that you are expected to remember.

The rest of the information is detail, colorful anecdotes, relevant tangents or side dressings of opinion which the