

theory is likely to find it necessary to pay close attention to both his instructor and the textbook.

Finally, the ability to control attention, in both a general and specific sense, appears to differ with age, hyperactivity, intelligence, and learning disabilities (Grabe, 1986, p. 66). For example, attention deficit disorder is a condition afflicting a small proportion of preadolescent children. They seem to be unable to focus attention or to turn off irrelevant stimulation. As a result, their school performance typically suffers.

How, then, is attention best managed in instructional situations? To influence attention or alertness of students during the course of a classroom lesson, Good and Brophy (1984) recommended that instructors employ standard signals (e.g., "Let's begin," "Back on task!," turning the lights on or off). A third grade teacher of my acquaintance uses a maraca to gain the attention of all students when they are working in pairs or small groups. Because he has used that signal from the first day of class, students know when they hear it that they are to stop whatever they are doing and look at him for direction.

When it is important to focus students' attention on certain aspects of the instructional materials, stimulus features can be highlighted through the use of color or type of print (in textual materials), voice inflections or gestures (in classroom presentations), and novelty. To emphasize the different sorts of roles that computer consultants often play, for example, a community college teacher wears different hats during his lecture, each one representing a different role.

Finally, Grabe (1986) reviewed ways in which learners themselves may be taught to stay on task and selectively attend to important features of instruction. He indicated that two things appear to be important: (1) Learners should be taught to take more time in responding to a learning task (to reduce impulsiveness), and (2) they should be given a strategy for focusing attention and allowed to practice that strategy (p. 74). Certain games that require attention, e.g., *Concentration* or *Simon Says*, can be used to help students develop better attending skills.

Automaticity

When tasks are overlearned or sources of information become habitual, to the extent that their attention requirements are minimal, **automaticity** has occurred. Driving a car provides a good example of the distinction Shiffrin and Schneider (1977) made between automatic and controlled processing. For the most part, the driving task is automatic, enabling the driver to listen attentively to a radio program, for example. But when traffic is heavy or something unusual occurs to demand the driver's attention, driving shifts to a controlled process. The driver then must pay much closer attention to driving and fails to hear what is being said on the radio.

LaBerge and Samuel
automatic processing in read
automatic for readers that
hearing the meaning of v
Sarah has learned to dec
where it is automatic. As a
culty. Rosemary, on the o
time, but here faces unfa
the meaning difficult. As a
automatic to controlled pro

To develop automatic
plored a number of possi
practice as part of the regul
More recently, researche
computer for providing ma
environment (Perfetti & Cu
clude read-aloud activities.
learners have read silently,
can impair their comprehen
by reading aloud during re

Once reading is auton
and remember from text de
they read. Readers will gen
ments in a text (Anderson,
purpose for which they are
something is important.

As noted in the previou
by typographical cues in the
& Divesta, 1979]], as well as
phrases (e.g., "an important
structure (Kintsch & van Di
ment of main ideas and sup
appear high in the structure
bered than details buried de
texts, then, are well advised
tion to the important, to-be-le

Readers, on their own, a
the purpose for which they
cally involves reading for the
to recount very specific detail
technical manual, on the oth
mind—to locate and learn in
objectives (Klauer, 1984) or in