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Rating the Importance of Structural Units of Prose Passages: A Problem of Metacognitive Development

Ann L. Brown
University of Illinois at Urbana-Champaign

Sandra S. Smiley
Western Washington State College

Brown, Ann L., and Smiley, Sandra S. Rating the Importance of Structural Units of Prose Passages: A Problem of Metacognitive Development. Child Development, 1977, 48, 1–8. 20 subjects at each of 4 age levels (8, 10, 12, and 18) rated the linguistic units of prose passages in terms of their importance to the structure and theme of the passages as a whole. There was considerable agreement among independent groups of college students and seventh-grade children concerning these importance ratings, but third- and fifth-grade subjects were unable to differentiate items in terms of their relative importance to the text. Recall of the text material was determined by the adults’ ratings of structural importance. At all ages, the units judged most important dominated recall attempts, while the least important units were rarely recalled. The failure of the younger children to identify the important elements of the text suggests a problem of “metacomprehension” that could be a contributing factor to their poor study habits.

Metacognition refers to the individual’s knowledge concerning his own cognitive processes, and the development of such self-awareness in children has become a topic of considerable interest. It is thought that with increasing age and experience the child becomes more and more aware of himself as an active agent in knowing (Bransford, Nitsch, & Franks 1977; Brown 1975, 1977a) and gradually achieves an increasingly realistic picture of his abilities and limitations as a problem solver.

The majority of studies concerned with the development of metacognition have been restricted to the general topic of metamemorial development (Brown 1977a, 1977b; Flavell & Wellman 1977), although some interest in metalinguistic (Gleitman, Gleitman, & Shipley 1972; Osherson & Markman 1975) and metaproblem solving (Bransford et al. 1977; Collins 1977) has been shown. Furthermore, within the domain of metamemorial development, attention has focused largely on the child’s growing awareness of his limited capacity to rote learn laboratory materials. Yet knowledge concerning one’s ability to study and remember need not be restricted to assessing and monitoring reproductive recall capacity for relatively meaningless materials. Indeed, one could argue that the utility of such knowledge would have a limited range of applicability (Brown 1975). For much of what we must learn requires us to recall the gist of connected discourse, where common mnemonic techniques used to ensure rote recall of word lists may no longer serve a useful function.

Although we are beginning to identify effective strategies used by adults for comprehending

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and remembering prose (Anderson & Biddle 1975; Frase 1975), we know little about the development of these abilities in children. We know even less about the self-awareness needed for efficient control of such comprehension strategies. Parker (1962) failed to find compelling evidence that college freshmen were aware of potentially useful organizational features of passages they were required to study, and it is by no means certain that spontaneous use of a general class of mathemagenic skills (Rothkopf 1972; Smiley, Note 1) for enhancing recall is a reliable feature of study behavior even in high school and college students who have not been specifically trained in their use. Yet it is a common educational practice to instruct children to make outlines and concentrate on the main points of study materials to the exclusion of nonessential details. If children have difficulty isolating the main events they would not find such instruction informative.

We are aware of only three prior studies with children where appreciation for organizational or structural features of prose passages was examined. Smirnov (1973) found that children below sixth grade had difficulty answering questions concerning their study habits when learning from texts, and young children even experienced some problems in distinguishing between organized and disorganized passages in terms of ease of learning. Otto, Barrett, and Koenke (1969) found only 29% of second graders able to state the main idea of simple passages. Danner (Note 2), however, was more successful in that the majority of second-grade children could distinguish between organized and disorganized texts and could abstract the main idea to some extent, although even in the Danner study it was not until sixth grade that the majority of children could select appropriate sentences (e.g., topic sentences) as retrieval cues for subsequent recall.

The present study was an initial attempt to assess one factor that has been found to influence adults' recall of prose passages—the structural importance of an idea unit to the theme of the story. Johnson (1970) devised an objective method for dividing complex verbal material into linguistic subunits (pausal units) and then had independent raters judge the importance of these units to the story theme. Recall scores of further independent samples of college students were determined by the rated structural importance of the units.¹

We have only anecdotal evidence that children's recall would be similarly sensitive to the importance of the constituent units. Korman (quoted in Yendovitskaya 1971) did find that preschool children, required to reproduce fairy tales, omitted minor nonessential happenings and concentrated on the central ideas. Yet Smirnov (1973) did not find such organization in the recall of older children. The one study that published details of procedure and materials (Christie & Schumacher 1975) found that even children as young as 6 years recalled more relevant than irrelevant units. The problem with the story used was that the distinction between relevant and irrelevant units was a crude dichotomy, with the irrelevant units clearly unrelated to the main theme. The provision of two very distinct classes of units—the story and obvious filler—not only produced an unnatural reading flow but may also have provided a deceptively easy test of the dominance of relevant units in recall. The Christie and Schumacher text was also unfortunate inasmuch as the relevant units consisted of 73% actions and only 27% descriptions, while the proportions for the irrelevant units were reversed (73% descriptions). Differential salience of actions compared with descriptions would also explain their findings. Therefore, one aim of the present study was to provide a more stringent test of whether children's recall of prose passages is related to fine gradations of structural importance.

The Johnson (1970) procedure was also selected because of its “metacomprehension” qualities. For not only is it possible to ascertain whether the child's recall is similar in pattern to a mature model, but it is also possible to see whether the child has sufficient knowledge of text material or task variables (Flavell & Wellman 1977) to determine what the important units are. Without such knowledge, it would be difficult for the child to select important units for strategic study. In order to be an advanced organizer (Ausubel 1968) the child must have some knowledge concerning the importance of sections of the text he is required to study.

Procedure

Subjects.—Twenty college students taking an introductory child psychology course at the University of Illinois served as subjects together with 20 children at each of grades 3, 5, and 7 attending grade school and junior high school at Troy, IL-

¹ We are aware that the Johnson method, while providing a practical rating of importance, leaves open the intriguing question of what “structural importance” is. For our purposes here the practical method is both simple and sufficient, but more detailed analysis of what kind of information is extracted from prose must await the perfection of story grammars which attempt to provide some psychological reality to measures of importance or hierarchical depth scores.
Children identified by their teachers as below average in reading ability were not included. There were approximately equal numbers of boys and girls at each age level. The schoolchildren had no prior experience as experimental subjects. The mean chronological ages of the groups were 8-5 (third grade), 10-9 (fifth grade), 12-6 (seventh grade), and 18-10 (college students).

Stimulus materials.—Four fairy stories were selected as stimulus materials; all were unfamiliar to the subjects and judged on the basis of pilot testing to be interesting for children younger than those used in the present study (Brown 1976). The two target texts, “The Dragon’s Tears” and “How to Fool a Cat,” were both Japanese children’s stories of comparable readability levels (Dale-Chall readability scores of 5.2287 and 5.3682, respectively). These were of approximately the same length (300 and 403 words, 34 and 28 lines) and the same number of pausal units (59 and 54). The stories had been divided into pausal units and these units rated for structural importance to the story by independent groups of college students (following the Johnson procedure) prior to the onset of this study. This prior rating was conducted at Western Washington State College. Twenty-one college students were asked to read the stories thoroughly and then to divide the text into individual units by placing a vertical line at a division point. An individual unit was defined as one which contained an idea and/or represented a pausal unit, that is, a place where a reader might pause. Agreement concerning the divisions into independent units was achieved by 11 or more raters for each unit. After division into independent units, each story was retyped with one unit per line, and a second group of college students was asked to rate the importance of each unit to the theme of the story using a four-point scale. First they were asked to eliminate one-quarter of the units which they judged to be least important to the theme of the passage. This procedure was then repeated twice more until only one-quarter of the units remained. These last remaining units were judged the most important of the theme, while the set eliminated first were the least important.

Twenty-seven students rated the Dragon story and 34 rated the Cat story. On the basis of these importance ratings the structural (pausal) units of each story were rank ordered from least to most important and divided into four levels of importance in such a way as to ensure that the number of units at each level was approximately equal. The number of units and range of importance ratings for each level of structural importance are shown in table 1. The resultant four sets of units, corresponding to the four levels of importance, were used as the measure of rated importance against which the experimental samples were compared.

In light of our criticism of Christie and Schumacher’s text, we also considered our four levels of importance in terms of the type of units they comprised. The same, albeit crude, dichotomy was made between actions (including stated desires and speech) versus descriptions, settings, and fillers (such as, “and so,” “what do you know,” “well I never,” etc.). As in the Christie and Schumacher study the majority of units rated important (level 4) were actions (.93 and .85 for the Dragon and Cat stories, respectively). However, the division was more equitable across the other three levels (proportion of actions in level 1 = .54 and .46; in level 2 = .38 and .50; and in level 3 = .60 and .57). Thus dominant recall of level 4 units could be due to the fact that these units represent action sequences, but differential recall of the remaining units would be relatively uncontaminated by this factor. There was no way to control fully this factor, as raters reliably select actions which further the story as the most important units. Only rare critical descriptions or settings are so rated. Units rated at each level occurred approximately equally often in each section of the text; therefore, recall of important units was not contaminated by primacy or recency effects.

The two nontarget passages, “The Rabbit’s Revenge” and “Plop,” were both Chinese folk tales and were of comparable style, length, and readability as the target passages. The nontarget passages were also broken into pausal units, following the Johnson procedure, by a further independent group of 27 University of Illinois college students.

Method

Ratings.—The general procedure for rating the importance of each pausal unit of the stories was taken from Johnson (1970). All subjects rated two stories in the first phase of the study, the first a nontarget practice story and the second a target story. The procedure for seventh-grade and college students was similar to the Johnson procedure. The subjects were seen in groups and first

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2 Copies of the stories, with the corresponding pausal units and rated importance values, are available on request.

3 All stories used were taken from Florence Sakade, ed., Japanese Children’s Stories (Rutland, Vt., and Tokyo: Tuttle, 1957), and Folk Tales from China, Ser. 2 (Peking: Foreign Languages Press, 1958).
4 Child Development

TABLE 1

INDEPENDENT RATINGS OF STRUCTURAL IMPORTANCE FOR THE TWO TARGET STORIES

<table>
<thead>
<tr>
<th>Importance Level</th>
<th>Units (N)</th>
<th>Mean Rating</th>
<th>Rating Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;The Dragon’s Tears&quot;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 (least)</td>
<td>13</td>
<td>1.43</td>
<td>1.15–1.70</td>
</tr>
<tr>
<td>2</td>
<td>16</td>
<td>2.08</td>
<td>1.82–2.41</td>
</tr>
<tr>
<td>3</td>
<td>15</td>
<td>2.77</td>
<td>2.44–3.11</td>
</tr>
<tr>
<td>4 (most)</td>
<td>15</td>
<td>3.49</td>
<td>3.19–3.85</td>
</tr>
<tr>
<td>&quot;How to Fool a Cat&quot;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 (least)</td>
<td>13</td>
<td>1.48</td>
<td>1.06–1.91</td>
</tr>
<tr>
<td>2</td>
<td>14</td>
<td>2.08</td>
<td>1.97–2.29</td>
</tr>
<tr>
<td>3</td>
<td>14</td>
<td>2.93</td>
<td>2.44–3.21</td>
</tr>
<tr>
<td>4 (most)</td>
<td>13</td>
<td>3.61</td>
<td>3.24–4.00</td>
</tr>
</tbody>
</table>

listened to a tape recording of the story as they simultaneously read the passage through. The stories were printed with one previously identified pausal unit on each line. After a second reading the subjects were told that the individual units differed in their structural importance to the whole story, and some of the less important units could be eliminated without destroying the main theme. They were instructed to eliminate N units (approximately one-fourth) which they judged to be the least important by crossing them through with a blue pencil. They were then requested to eliminate the next N (one-quarter) by crossing them with a green pencil. Finally they were asked to remove a further N (one-quarter) items by crossing through with a red pencil, thus leaving one-quarter (approximately) of the original units exposed. It was made clear to the subjects that the remaining units should correspond to the most important elements of the story. This procedure resulted in four levels of judged importance, with the items eliminated first (the least important) given a rated importance score of 1 and those left exposed at the end (the most important) given a score of 4. Following practice in the procedure on the first passage, the subjects rated the target passage in the same manner.

The procedure for the younger subjects was somewhat different. They were seen twice and individually. Prior to receiving the practice story they read brief, two-sentence passages with the experimenter and received practice indicating the important words or phrases. All subjects were then given a copy of a practice story (broken into units) and told to read the story as they listened to a tape recording. The reading along with the tape was repeated. Next the subjects were told that some of the sentences were not important to the story and some were very important. The subject and the experimenter read the story through again together, and with a blue pencil the experimenter took out the N units judged to be the least important by college students. Throughout this procedure the experimenter explained why she was removing a particular unit and why the story "still made sense without it." The subject was given the green pencil and told to remove the N next items and then the third quarter was removed with the red pencil, exactly like the older subjects. However, during the entire session the experimenter aided the subject and made suggestions and corrections to ensure that the subject understood the procedure and what was meant by important.

The practice passage was followed on the next day, where possible, by the target passage. Again subjects were seen individually and first listened to two repetitions of the story, following on their printed version. They were then reminded of the procedure and told to read it through and then take out N units (with a blue pencil), etc., exactly like the older children, until the four levels of importance had been indicated. The only difference between the practice and target stories was that the experimenter did not give any information concerning importance of the units on the target passage. She did, however, help with any reading difficulties (rare) experienced by the younger children, ensured they read and rated every line, and eliminated the correct number of lines at each phase (i.e., if the subject crossed 11 units in blue when instructed to cross out 13, the experimenter counted the units and asked for two more).

Recall.—All subjects received two passages to recall, one practice and one target. The passages the subjects recalled were the two remaining texts
they had not previously rated. Half the subjects at each age range recalled before they rated, and the reverse was true for the remainder. To reduce problems due to differential reading ability, the recall procedure was changed from that adopted by Johnson. All subjects heard tapes of the stories (rather than read them) and then attempted recall. For the college students, seventh-grade, and half of the fifth-grade students the procedure was identical. All subjects were tested in groups. They heard two repetitions of the practice story and attempted immediate recall by writing the gist of the story. Following this they listened to the target story twice and again attempted to reproduce the gist of the story. The remaining subjects (all third grade and half of the fifth grade) also listened to two repetitions of each story and attempted immediate recall; however, these younger subjects were seen individually and their attempt at recall was oral. Following the second reading of the story, they recorded their version of it. When they indicated that they could recall no more, their recall attempt was played back to them, and they were again given the opportunity to add or change anything they wished. No time limit was placed on recall attempts under either procedure. Although they were told to try to remember as many details as they could, all subjects were told that they could retell the story in their own words.

Results

Ratings.—The two target passages were already divided into pausal units and these units rated for importance to the story (see table 1). Two methods were used to compare the importance ratings of our subjects with the previously determined units. The mean importance rating for each child for each level of importance was computed and entered into a $4 \times 2 \times 4$ (age x story x structural importance) mixed analysis of variance. The mean ratings for each level of importance are shown in table 2, where it can be seen that the younger subjects did not differentiate structural importance but older subjects did. The main effect of importance level was reliable, $F(3, 456) = 120.53$, $p < .001$, with the rated importance increasing as a function of importance level (2.12, 2.33, 2.59, and 2.97, for levels 1–4, respectively). No other main effects were reliable, but the grade x importance level interaction reached an acceptable level of significance, $F(9, 456) = 27.53$, $p < .001$. This interaction is illustrated in table 2. Because of this interaction, separate analyses of variance were conducted at each age level. The mean importance ratings across levels were not significantly different for third-grade subjects, but at all other ages the effect of importance level was reliable, $F(3, 114) = 7.84$, $p < .001$. Scheffé follow-up tests were conducted with each grade level other than the third. For fifth-grade children the difference between importance level 4 and all other levels was reliable, $S^2(3, 114) = 10.41$, $p < .05$, but all other levels did not differ from each other. Fifth graders could differentiate only the most important units from the remaining text. Seventh graders showed greater sensitivity. The difference between level 1 and level 2 was reliable, $S^2(3, 114) = 13.37$, $p < .01$, as was the difference between level 3 and level 4, $S^2(3, 114) = 24.61$, $p < .001$, but the difference between levels 2 and 3 was not reliable, $p > .10$. Seventh graders can distinguish low importance and high importance units but have difficulty with fine gradations at medium levels of importance. Finally, the college students demonstrated the greatest degree of importance sensitivity. All pairwise comparisons were significant, $S^2(3, 114) \geq 24.00$, $p < .001$. Apparently, sensitivity to importance units develops gradually over the entire age range sampled. College students can distinguish each level of importance, and seventh graders can separate low, medium, and high levels. Fifth graders are only able to isolate the most important units, while third graders make no reliable distinction between levels of importance.

As an additional check of the correspondence between the structural importance of the story units as rated by the independent college sample and by the four age groups in this study, a Pearson product-moment correlation was conducted on the mean rating per unit as a function of age. The correlation between the original and new college population ratings was very high (.97 and .98 for the two stories), and this represents an important interrater reliability check similar to the .94 figure

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4 Younger children's ratings could diverge from those agreed upon by adults either because the children judged different material to be important or because they were not consistent in their importance rating patterns. The latter appears to be true. The ratings of the younger children were idiosyncratic with most units receiving the full range of rated importance scores. As children were not asked to rate and recall the same passage, it was not possible to consider whether an individual child's rated importance was related to his own recall selectivity. In view of the close correspondence between the recall patterns of all subjects in this study, it was assumed that the rating patterns shown by the younger children reflected insensitivity to structural importance rather than a different (and consistent) impression of what material was important.
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<table>
<thead>
<tr>
<th>TABLE 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>COMPARISON OF MEAN IMPORTANCE RATINGS OF FOUR EXPERIMENTAL GROUPS ON PREJUDGE LEVELS OF IMPORTANCE</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>GROUP</th>
<th>IMPORTANCE LEVEL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 (Least)</td>
</tr>
<tr>
<td>Third grade</td>
<td>2.41</td>
</tr>
<tr>
<td>Fifth grade</td>
<td>2.42</td>
</tr>
<tr>
<td>Seventh grade</td>
<td>2.02</td>
</tr>
<tr>
<td>College students</td>
<td>1.61</td>
</tr>
</tbody>
</table>

reported by Johnson. The correlations between the college populations and the seventh grade were also very high (.87 and .76), but the two younger groups did not fare so well, with the correlations for the fifth grade being .33 for both stories and for the third grade .09 and .15 for the Dragon and Cat stories, respectively. The correlations with the independent college sample were reliable for the present college ($Z = 7.10$), seventh-grade ($Z = 5.57$), and fifth-grade ($Z = 2.35$) samples but not for the third graders ($Z = 0.56$). Taken together with the analysis of variance, the correlation data provide strong support that the younger children do not distinguish between levels of structural importance in their ratings: fifth graders are beginning to show some evidence of the adult pattern which is apparent in the seventh-grade subjects.

Recall.—All subjects were given instructions which stressed that they should recall in their own words, and therefore a lenient criterion of recall was employed. Two independent readers rated the recall protocols (blind) for the presence or absence of the gist of each pausal unit. A unit was judged recalled if both raters ruled that the main idea was retained, irrespective of the wording. On cases of disagreement a third blind rater was required to rate the unit, and her judgment was accepted as final.

The seventh-grade and college students wrote their recall attempts, while this was not possible for the younger children. To check whether oral versus written recall was a major variable, half of the fifth graders were tested in each condition. No reliable difference between these two groups emerged, and their data were combined for all future analyses. All recalls were typed onto index cards for rating purposes, so the raters were not aware of whether oral or written recall had occurred or the age, etc., of the subjects.

The mean proportions of units recalled as a function of age, story, and importance level were subjected to a $4 \times 2 \times 4$ mixed analysis of variance. Unlike the rating data, where no effects of stories were apparent, both the main effect of stories, $F(1,152) = 9.35, p < .002$, and the stories $\times$ importance level interaction, $F(3,456) = 6.44, p < .001$, were significant. A greater proportion of units was recalled for the Cat story (.46) than for the Dragon story (.40), and this difficulty factor was equally effective across importance levels. The difference between the two stories was not apparent for the two lowest levels of importance (.22 vs. .24, and .32 vs. .34) but was reliable for the two highest levels of importance (.43 vs. .52, and .63 vs. .74). Apparently, the Cat story was slightly easier to recall in that more of the higher importance units were retained. No other effects of stories were apparent, and therefore differences due to stories did not affect the main comparisons of interest.

The mean proportions of units recalled as a function of age and importance level (collapsed across stories) are presented in table 3. The effect of importance level was highly significant, $F(3,456) = 449.43, p < .001$, and all pairwise comparisons were also reliable, $S^2(3,456) \approx 57.14, p < .001$. Recall is determined by the structural importance of the story units. The main effect of grade was also significant, $F(3,152) = 11.16, p < .001$, with older subjects recalling more units than the younger children. Scheffé post hoc tests revealed that the third-grade subjects recalled significantly less than all the other subjects, $S^2(3,152) \approx 10.06, p < .05$, but the remaining groups did not significantly differ from each other.

Discussion

For all subjects recall efficiency was powerfully affected by the structural importance of the story units. While older subjects recalled more units than younger ones the general pattern of results was consistent across the age range of 8–18 years, the least important units were recalled less frequently than all other units, and the most important units were most often recalled. We have
TABLE 3
MEAN PROPORTION CORRECT RECALL AS FUNCTION OF AGE AND STRUCTURAL IMPORTANCE

<table>
<thead>
<tr>
<th>GROUP</th>
<th>Rated Importance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 (Least)</td>
</tr>
<tr>
<td>Third grade</td>
<td>.17</td>
</tr>
<tr>
<td>Fifth grade</td>
<td>.23</td>
</tr>
<tr>
<td>Seventh grade</td>
<td>.28</td>
</tr>
<tr>
<td>College students</td>
<td>.27</td>
</tr>
<tr>
<td>Total</td>
<td>.23</td>
</tr>
</tbody>
</table>

some additional pilot data which suggest that this effect of structural importance may also be found with much younger children. A group of 37 nursery school children and 20 kindergartners were also given the Dragon and Cat stories to recall under a variety of conditions which need not concern us here (Brown 1976). While we had considerable difficulty extracting satisfactory recall protocols, and the total number of units recalled was small, we did find a similar pattern of sensitivity to structural importance as rated by college students. Considering the 32 protocols where at least 15% of the units were recalled, the mean number of units recalled was 0.12, 0.08, 0.22, and 0.42 for the four levels of structural importance. The differences between levels 2 and 3 and levels 3 and 4 were reliable at the .05 level. Again, there is some evidence that the least important units (levels 1 and 2) are seldom, if ever, recalled, while the most important units dominate recall attempts. Thus our data are consistent with those reported by Yendovitskaya (1971) and Christie and Schumacher (1975); children favor the central theme when recounting stories and disregard minor nonessential details. Apparently there is some validity to the folk saying, attributed to Erasmus, that good memory is like a fisherman’s net—it should let in all the big fish but let the little ones escape.

Turning to the rating data, we found a strong developmental trend with a gradual improvement in the sensitivity to degree of structural importance emerging over the entire age range studied. The problems experienced by our younger subjects could be the result of the difficulty of the materials and the length of the passage to be rated. Danner (Note 2) did have greater success with a younger age group when the main themes of short passages were to be extracted, and, indeed, even our younger children could pick out the most important words from very brief passages (pretraining). The task here, however, was both more complex and more representative of the type of text encountered as the child progresses through school. Not only was the main theme to be extracted, but fine gradations in importance ratings for all the units were required. This proved to be a difficult task.

That the ability to rate units of a complex passage in terms of importance to the theme is a late-developing skill has important implications for training study habits and reading comprehension skills, and even for the design of text materials. Children who have difficulty determining the key points of a passage can hardly be expected to select them for intensive study. Of interest in this context is an experiment by Hershberger and Terry (1965) concerned with text learning in eighth-grade students. One variation which improved performance was printing all core or essential contents in red and all nonessential material in black. The improvement was slight, but it would be interesting to see if younger children, who have much more difficulty isolating essential units for themselves (e.g., third and fifth grades), might benefit even more from the help. That is, some form of specific training or cuing in identifying important features of a passage may be needed before efficient study behavior will form a consistent part of the child’s repertoire of cognitive skills.

Finally, it should be emphasized that even without awareness of the importance of constituent units younger children still favor the important units in recall. Apparently we spontaneously abstract the main ideas of an oral or written communication even when no deliberate attempt to do so is instigated. Even in adults the differences in comprehension of prose following intentional learning instruction versus incidental orienting activities is less than dramatic (Postman & Senders 1946). This does not exclude the possibility that deliberate strategies may be used to enhance comprehension and recall of prose materials; indeed, it would seem unreasonable to suppose that the mature individual would not possess a rich variety of such skills. We would suspect that the
mature learner's awareness of his skills and the task at hand would be particularly useful if longer preparatory periods were permitted for the study of material which must be maintained over some period of time, a more typical school learning situation. For example, in the paradigm studied here, we would predict that older children would use their knowledge of the importance of certain pieces of text to study efficiently, thereby enhancing their recall of important material. Younger children, not possessing the necessary metacomprehension skills, would not use any increase in study time to focus on the essential. Thus their recall would improve, if at all, evenly across units. This study is currently being conducted in our laboratory.

Experimentation concerned with the child's ability to evaluate himself as a problem solver is only just beginning. However, it is an exciting development which has the potential for providing basic information of a practical nature. The more we learn about the efficient learner, the more able we become to teach the inefficient how to learn.

Reference Notes


References