

## Brief Reports

### Children's Recall of Television Material: Effects of Presentation Mode and Adult Labeling

Bruce Watkins

University of California, San Diego (La Jolla)

Sandra Calvert, Aletha Huston-Stein, and John C. Wright

University of Kansas

Children from preschool, kindergarten, and Grades 3 and 4 viewed an edited prosocial cartoon in one of four viewing conditions that changed program features and introduced viewing information to aid subjects in recognizing and structuring central plot information. Children's recall of central and incidental program content was assessed. Older children recalled more total information; participants who had viewed with an adult experimenter recalled more material than did children in other viewing conditions. Visual presentation enhanced central recall.

Television presents visual and verbal messages in a linear stream, imposing its own structure on them and thereby making comprehension difficult for the young viewer. Children have difficulty in recognizing and differentiating central from incidental material (Newcomb & Collins, 1979), in relating antecedents to consequences (Collins, 1973), and in preserving the temporal nature of the presentation (Leifer et al., 1971).

Television's structure and form are in part responsible for problems in abstracting and processing important and meaningful content. For example, central content is often presented verbally, whereas much of what is visually salient is also incidental to the main plot message. Moreover, when children do attend to verbal material they often find it abstract and lacking in concrete cues that facilitate processing or recall. The speed and linearity of presentation may interfere with such effective processing skills as pausing, verbal labeling, or rehearsal, shown to improve integration and recall of tele-

vision content when used (Stein & Friedrich, 1975).

In the present experiment, recall of central versus incidental television material was assessed as a function of presentation mode and labeling assistance.<sup>1</sup>

#### Method

Eighty males and 80 females from preschool and kindergarten ( $M$  age = 5.3 years) and Grades 3 and 4 ( $M$  age = 9.8 years) were randomly assigned to one of four treatment conditions.

Children were taken from their classrooms in same-sex pairs to a mobile viewing laboratory. The room contained a television set against one wall; opposite it were two chairs and a table that held a variety of playthings.

Children in all conditions saw an edited prosocial cartoon. Those in the control group (*no pause*) viewed this program with no interruptions. Children in the three experimental conditions viewed an identical tape, but with three 30-sec camera freezes inserted in the stimulus tape at points just after illustrative examples of the program theme had been presented. In the *pause only* condition, children

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Requests for reprints should be sent to Bruce Watkins, who is now at the Department of Communication, University of Michigan, Ann Arbor, Michigan 48109.

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<sup>1</sup> Only recall results are presented here. A more detailed report, available from the first author, presents recall, attention, and seriation results.

received no further aid in the selection of important content. Children in the *audio label* condition heard the experimenter's voice dubbed onto the audio track of the presentation tape. He explained the importance of the most recent event and its thematic and temporal relationship to earlier events. In the *adult label* condition, the experimenter viewed the program with the children. At each of the three pauses, he presented the same summary information but spoke directly to the children.

Recall was assessed with 60 questions chosen to represent mutually exclusive content types of central versus incidental material. Central questions assessed recall of events, inferences, and character behaviors directly related to the program theme. Incidental questions involved content peripheral to the plot. The questions covered material presented by either verbal or visual means.

### Results

Three of the 60 items were eliminated due to low or inconsistent correlations with subscale totals following preliminary item analysis. The number correct for each of the four question types was divided by the final number possible, and these scores were analyzed with a 4 (condition)  $\times$  2 (age)  $\times$  2 (sex)  $\times$  2 (presentation mode)  $\times$  2 (content type) analysis of variance.

Main effects were obtained for condition,  $F(3, 144) = 5.11, p < .01$ , age,  $F(1, 144) = 405.28, p < .001$ , and presentation mode,  $F(1, 144) = 42.34, p < .001$ . Means are presented in Table 1.

Children in the adult label group correctly recalled more items than did children in the no pause or audio label conditions. Older children performed better than did younger subjects. Material presented visually was recalled better than material presented verbally. A Presentation Mode  $\times$  Content Type interaction,  $F(1, 144) = 41.94, p < .001$ , indicated that visual presentation was superior to verbal for central content.

A significant interaction was present for Content Type  $\times$  Age,  $F(1, 144) = 10.28, p < .01$ . Central recall was greater than incidental for older children, incidental recall better than central for younger subjects. An interaction for content type and condition,  $F(3, 144) = 2.92, p < .05$ , indicated that the central and incidental scores were relatively comparable for subjects in the no pause, audio label, and adult label groups, whereas in the pause only condition incidental scores were higher than central scores.

Table 1  
*Mean Percentage of Correct Recall as a Function of Content Type and Age, Condition, and Presentation Mode*

Variable	Content type		
	Incidental	Central	Combined
All conditions			
Younger	.59 (.15)	.55 (.13)	.57 (.12)
Older	.86 (.11)	.89 (.07)	.87 (.07)
No pause	.70 (.18)	.71 (.19)	.70 (.17)
Younger	.58 (.14)	.54 (.12)	
Older	.82 (.17)	.87 (.07)	
Pause only	.76 (.15)	.70 (.20)	.73 (.16)
Younger	.65 (.12)	.52 (.09)	
Older	.87 (.09)	.88 (.07)	
Audio label	.68 (.20)	.71 (.22)	.70 (.20)
Younger	.51 (.11)	.53 (.16)	
Older	.85 (.11)	.90 (.06)	
Adult label	.77 (.20)	.76 (.20)	.77 (.19)
Younger	.63 (.19)	.60 (.15)	
Older	.92 (.08)	.92 (.06)	
Presentation mode			
Verbal	.73 (.21)	.65 (.23)	.69 (.22)
Visual	.73 (.21)	.78 (.21)	.76 (.21)

Note. Figures in parentheses are standard deviations.

### Discussion

As expected, labeling and elaboration facilitated recall performance. The effects were confined, however, to those subjects for whom the content had been structured by an adult co-viewer. Recall of both central and incidental material was high in the adult label condition; central recall in this condition was higher than for any other group, and this pattern was evident at both age levels. The additional information furnished by the adult, though it consisted only of short summaries, apparently furnished the children with a structure that they then used to better elaborate and encode the meaningful program material. In addition to the verbal interactions, the adult also gained the attention of the children, providing additional situational cues for the encoding and recall of plot information.

The absence of an interaction for age and viewing condition indicated that children at both age levels profited from having the material labeled and integrated.

Presentation mode was clearly related to content recall. Although incidental recall was equivalent for content presented visually or verbally, visual presentation of central content enhanced its recall over verbally presented material. This pattern was especially true for the youngest children.

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