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ABSTRACT

This study examined 4- and 6-year-old children's understanding of the causal relation between the use of a rehearsal strategy and increased recall. In Session 1, children were given two study-recall trials and, on the second trial, were asked to describe their study behavior. In Session 2, children viewed videotaped models and made judgments concerning "how good" the model was at remembering, and "how hard" the model tried to remember. For Session 1 there were age differences in recall but not in overt labeling. In Session 2, children made both outcome and effort judgments based on the recall level of the model. Models who remembered more were judged to be both better at remembering and trying harder, regardless of strategy use. These data contrast with earlier findings of a developmental increase in awareness of the role of strategy use. It is hypothesized that sampling differences may have contributed to these differing findings. (JPB)

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Young Children Focus

1

Young Children Focus on Recall Level, Not Strategy Use,
in Judging Memory Performance

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Abstract

Four- and six-year-olds' understanding of the causal relation between the use of a rehearsal strategy and increased recall was examined. In Session 1 children were given two study-recall trials and, on the second trial, were asked to describe their study behavior. In Session 2 children viewed videotaped models and made judgements concerning (1) "how good" the model was at remembering, and (2) "how hard" the model tried to remember. For Session 1 there were age differences in recall, but not in overt labeling. In Session 2 children made both outcome and effort judgments based on the recall level of the model. That is, models who remembered more were judged to be both better at remembering and trying harder, regardless of strategy use. These data contrast with earlier findings of a developmental increase in awareness of the role of strategy use. It is hypothesized that sampling differences may have contributed to these differing findings.

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To understand the causal relationship between strategy use and recall level, a child must realize that there is a relation between effort, as reflected in strategy use, and the number of items recalled on a memory task. Nicholls (1978) described an early level of understanding causal relations in which effort and outcome are not perceived as causally related (Level 1), with a subsequent awareness of the relation between effort and outcome (Level 2). A study by Justice, Baker-Ward, Gupta, and Jannings (in press) with children between four and eight years of age found a developmental change from a focus on recall level, to a focus on strategy use, and finally awareness of the relation between the two. The current study further explored children's understanding of the causal relation between strategy use and recall by eliciting separate judgments of the role of each in performance.

Method

A total of 47 four- and six-year-olds participated in two sessions separated by approximately four weeks. Session 1 involved two study-recall trials. Prior to recall on the second trial children were asked to describe their study behavior using a series of probes. During Session 2 children viewed videotapes of models in which strategy use (labeling vs. no labeling) and recall (10 items vs. 2 items) were varied orthogonally (see Table 2 for trial types). Videotapes featured two tasks: a vacation task and a standard task. For each strategy use/recall level combination

children made judgments of 1) performance level, ("how good" the model was at remembering) and 2) degree of effort ("how hard" the model had tried to remember) and were asked to explain their judgment.

Results

As illustrated in Table 1, there were developmental increases in recall, but not in overt labeling in Session 1. This is consistent with a "utilization deficiency" for the youngest children in that the same amount of strategic behavior resulted in a higher level of recall for older children. Few of the four-year-olds could explain their strategic behavior; six-year-olds identified a range of behaviors including labeling, thinking, and looking.

Session 2 mean judgments of performance level and effort for each trial type are shown in Table 2. Judgments of performance outcome were consistent across the two tasks. Children judged models who recalled ten items as being better at remembering than those recalling two items. Strategy use did not affect judgments for either performance level.

Judgments of effort were also consistent, although mean differences across trial types were significant only for the standard task. However, the pattern of means indicated that the judgments were again made on the basis of recall performance. Across age children judged models who remembered more items as trying harder than those remembering fewer items.

These data indicate that children made both outcome and effort judgments based on recall level. There were no age or task effects for judgments of either effort or outcome.

Discussion

Session 1 data demonstrate the presence of a utilization deficiency among the younger children. Age differences were found for recall but not for overt rehearsal.

Judgments in Session 2 indicated that children in both age groups focused on performance outcomes in judging memory and showed little sensitivity to the relation of strategy use to recall level. These data contrast with those of Justice, et al. (in press) who found a developmental increase in awareness of the role of strategy use in recall outcomes. One possible explanation for these differing findings concerns the samples obtained in the studies. Justice, et al. (in press) drew subjects from suburban preschools serving primarily middle and upper-class families; the current study drew from urban area childcare centers serving families from a broad range of socioeconomic background. Further research will examine the role of family variables in developmental changes in understanding causal relations between strategy use and recall performance.

Table 1

Session 1 Overt Rehearsal and Recall Collapsed Across Trial for
Each Age Group

	Four-Year-Olds	Six-Year-Olds
Mean Frequency	6.70	8.73
Of Overt Labeling	(8.09)	(9.99)
Mean Recall	3.52	4.89*
	(2.18)	(2.22)

* $p < .05$.

Note: standard deviations are in parentheses.

Table 2

Session 2 Judgments of Performance Level and Effort for Each Task and Trial Type Collapsed Across Age.

Performance Level	Trial types			
	Strategy/ High Recall	No Strategy/ High Recall	Strategy/ Low Recall	No Strategy/ Low Recall
	Standard Task	5.83 ^a (1.58)	5.70 ^a (2.14)	4.23 ^b (2.24)
Vacation Task	5.79 ^a (1.57)	5.60 ^a (1.84)	4.26 ^b (2.50)	4.72 ^b (2.38)
Effort				
Standard Task	5.09 ^a (2.37)	5.34 ^a (1.96)	4.17 ^b (2.42)	4.38 ^b (2.42)
Vacation Task	5.72 ^a (1.47)	5.49 ^a (1.91)	4.81 ^a (2.19)	4.38 ^a (2.25)

Note: standard deviations are in parentheses. Means with different superscripts are significantly different, $p < .05$.

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