DOCUMENT RESUME

ED 159 713 CS 204 381

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TITLE The Effect of Program Context on Childrens' Learning from a Television News Story.
PUB DATE Aug 78
NOTE 18p.; Paper presented at the Annual Meeting of the Association for Education in Journalism (61st, Seattle, Washington, August 13-16, 1978)

EDRS PRICE MF-$0.83 HC-$1.67 Plus Postage.
DESCRIPTORS *Age Differences; Behavioral Science Research; Childrens Television; Elementary Education; Elementary School Students; Journalism; *Learning Processes; Learning Theories; News Media; *News Reporting; *Perception; *Programing (Broadcast); *Television; Television Research

ABSTRACT

To test the assumptions that children's perceptions of a news program affect their learning and that their perceptions are in turn affected by age and program context, a study was undertaken involving 435 third through seventh graders. The specific independent and perceptual variables examined were: believability, liking the story and program, story function, age, story context, and age/context interaction. The children were assigned to one of two viewing conditions and shown a ten-minute videotape in which the story context had been manipulated. In the first condition a news story was presented surrounded by cartoon segments and commercials, while in the second condition the story was embedded in a regular news show. Following the tape, the students completed a brief multiple choice quiz about the news story. The results showed that the variables accounted for a significant portion of the variance in learning while the manipulation of the story context had no independent effect on learning beyond that accounted for by the perceptual variables. Age, however, had a very strong effect on learning through the variables of story function and liking the program. An analysis of the age/context interaction indicated that while younger children learned more from the story embedded in the newscast, older children learned more from the story in the cartoon context. (FL)

Radio-Television Journalism Division

THE EFFECT OF PROGRAM CONTEXT ON CHILDRENS' LEARNING FROM A TELEVISION NEWS STORY

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Presented to the Radio-Television Journalism Division
Association for Education in Journalism
Annual Convention, Seattle, Washington, 1978

Substantial numbers of children watch television news programs. Nearly one-third of the kindergarten through fifth grade students surveyed by Atkin (1978) said they watch a national television news program "almost every day", while about the same number claimed they watch a local news program daily. Nearly one-half of the sample said they watch "In the News", a series of news stories for children aired Saturday morning on CBS, "a lot". Atkin found also that older children were more likely than younger children to report watching national news and "In the News".

Broadcasters and educators are showing increased interest in this youthful audience. Broadcasters air a number of news and public affairs programs such as "In the News" that are designed for child audiences, and CBS plans to add even more journalism to its Saturday morning entertainment schedule. It will produce a program called "30 Minutes" that will feature CBS correspondents reporting about stories of special interest to young people ("CBS and NBC", 1978). Educators, meantime, seem to be increasingly interested in teaching children to become knowledgeable consumers of television entertainment and news. They often use television news and public affairs programs for outside assignments or topics for discussion inside the classroom.

Although a major goal of broadcasters and educators is learning from news and public affairs programs, few researchers have turned their attention to this area. The research that has been done deals primarily with manipulation of production variables and the effects on recall. Murphy (1976) found that children were able to recall stories with film more frequently than stories that consisted of a "talking head". Cohen, Wigand, and Harrison (1975) suggest that children are better able to recall stories that contain "emotional" components.

These studies do not, however, add a great deal to our understanding of the underlying process through which children learn from television news. Without an understanding of this process, the researcher faces a myriad of content variables that could be manipulated (e.g. verbal complexity, visual complexity, story structure) and that may interact with perceptual variables.

For this reason, the present study focuses on the process by which children learn from a television news story. The project assumes that learning from the news is dependent on a mediating process of interpretation and perception (McLeod and Reeves, 1977), and, therefore, examines a number of perceptual variables including: liking the content; believing the content; and perceiving the function the content is designed to serve.

A major interest is the effect of news story context on learning. Children view news stories that are placed in a number of different contexts. Some stories designed especially for children, (e.g. "In the News") are shown in the context of Saturday morning cartoons and fantasy drama, while similar stories, designed for adults, are presented in the context of more serious public affairs formats. It's possible that the differing contexts alter perceptions of the stories and that this affects learning.

This study tests the assumption that a child's perceptions of the program affect learning, and the child's perceptions are in turn affected by age and program context. It also tests the assumption that age has a direct effect on learning. (See Figure 1.)

FIGURE 1 ABOUT HERE

RESEARCH QUESTIONS

The independent and perceptual variables listed above were included in this study because they appear to be logically related to the dependent variable, and some have been useful predictors of effects in research dealing with television entertainment programs. Although these predictors appear frequently in mass communication literature, they have been tested with dependent variables other than learning and have been used with adults rather than children. This leaves a paucity of empirical and theoretical support for firm predictions about the direction of effects in this study. Also, the absence of related research makes it easy to put forth conflicting predictions for nearly all of the independent and perceptual variables used here. For this reason, the present study is exploratory in nature and deals primarily with a series of research questions rather than hypotheses. The rationale for exploring these predictors follows.

Believability. One component of a child's perception of television news would seem to be believability. In the journalistic setting believability might be defined as the receiver's perception of the accuracy of a media representation of a real-world event. Although numerous studies have dealt with credibility, they used adults as subjects and some measure of attitude change as a dependent variable (McGuire, 1968), providing little guidance for this project. The research question posed here becomes: What is the effect of childrens' perceptions of believability of a news story on learning?

Liking the program and story. A search of message and learning literature sheds little light on the relationship between liking the message content and learning. One could argue that liking the message increases

attention which in turn enhances learning. Or it could be argued that liking distracts from the informational content and reduces learning. This study separates the content of the news story from the content of the program, because it is possible a child will like one and not the other. This poses two research questions: What is the effect of liking the program on learning from the news story and what is the effect of liking the story on learning from the news story?

Story function. There is probably a great deal of variance in childrens' perceptions of functions the news media try to serve, and this may be related to the effect of a news story. Because news can serve both entertainment and information functions, the individual's perception of the Communicator's motivation may help determine the amount of learning that takes place. Perhaps those who think the story was included to serve an information function learn more from it than those who believe it was included as entertainment because the former is consistent with the learning process. This seems to be related to the area of uses and gratifications of the mass media, but the uses and grats research deals with the way audience members use the mass media to meet their goals and values, rather than receiver's perception of source intent (Katz, et. al., 1974). Thus, the research question becomes: Does the child's perception of the communicator's purpose for including a news story in a newscast affect learning from that news story?

Age. The child's age should have both a direct and indirect effect on learning from a television news story. Older children should have more effective cognitive skills than younger children, and, therefore, should learn more from a news story than younger children. While there is no theoretical basis for prediction, age may affect learning through the perceptual variables. For example,

it is possible that older children like the news more, believe the news more and understand the intended function of the news better than younger children and, for these reasons, learn more from it. This study predicts a positive relationship between age and learning while controlling for the perceptual variables and asks the question: does age affect learning through the perceptual variables? Age is operationalized in this study by using grade.

Story context. The context in which a news story is placed should have an indirect effect on learning through the perceptual variables listed above. Youngsters who see the news story embedded in a cartoon context may like the program and story more and learn more than those who see it in the newscast context. On the other hand, children who see the news story embedded in the newscast might be more likely to think it serves as information function and rate it higher in believability than those who see it in the cartoon context. This could result in greater learning in the newscast condition. Because of these conflicting possibilities, the question becomes: How does the manipulation of news story context affect the child's perception of the program and learning from it?

Age/Context Interaction: No prediction is made about the age by context interaction because there is no theoretical basis for one. The possibilities, however, are interesting. It's possible that the older children will be bored by the cartoons and learn more from the newscast while younger children do the opposite. It's also possible that younger children will be less able to distinguish between the fantasy content of the cartoons and the reality content of the news story and this could affect learning. The final research question: Is there an interaction effect of age and context on children's learning from a television news story?

METHOD

The study was conducted with 435 third through seventh grade students in Janesville, Wisconsin in spring of 1977. Each student was asked to fill out a questionnaire that asked questions about television and news viewing. The children were then asked to watch a 10-minute videotape containing the manipulation of viewing context. Four classes in each grade were randomly assigned to the two viewing conditions. After watching the videotape all children answered the same multiple-choice questions about factual material in the story and their perceptions of the story.

Independent Variables. The news story context was manipulated by showing children in the two viewing conditions the same one-and-one-half minute long news story about a new fine arts museum in Paris, France that was taken from a Saturday morning "In the News" program. In the first condition the story was surrounded by typical Saturday morning programming--two cartoon segments and five 30-second commercials along with the original "In the News" open and close. In the second condition, the same story appeared with an introduction by Hughes Rudd as the fourth item in a "CBS Morning News" segment. The newscast also contained commercials, and the story appeared at the same time in each viewing condition.

The other independent variable, grade, and the perceptual variables were measured by questionnaire items that the children answered after they had seen the tape.

Dependent Variable. The dependent measure was a 10-item multiple choice quiz that asked factual questions about the stimulus news story. The story described a controversy about the construction of the new art museum so the questions covered factual material such as the location of the new building, its appearance, and the reason for the controversy. Children were given a score of one for each correct answer and the items were summed

for a measure of learning. The measure of test reliability using Chronback's Alpha was .77.

RESULTS

The data were analyzed in two stages, each using hierarchical regression. The first set of regression equations predicted learning from the television news story using all of the independent and perceptual variables in the study. The second predicted the perceptual variables using the two antecedent variables: grade and context. The analysis procedure was designed to indicate whether the antecedent variables affect learning directly and/or indirectly through the perceptual variables.

The first regression analysis, predicting learning, is shown in Table 1. The five perceptual variables were entered as a block because they were expected to have main effects on learning, and there was no theoretical reason for ordering. Grade and context were entered in the equation next to see if they predicted any additional variance not accounted for by the perceptual variables. The interaction between grade and context was added last.

TABLE 1 ABOUT HERE

The first equation in Table 1 shows that the four perceptual variables--like program, believability, story function, and like story—had significant main effects on learning. Story function was the best predictor of learing while believability accounted for the least amount of variance.

The second equation in Table 1 indicates that the manipulation of the context in which the story appeared had no independent effect on learning beyond that accounted for by the perceptual variables. Grade, however, produced

a very strong direct effect on learning. The addition of grade substantially decreased the regression coefficient for liking the program by making it statistically insignificant. It also decreased somewhat the Beta weight for function of the story, indicating that age did affect learning through these two intervening variables.

The data in Table 1 also show a statistically significant grade by context interaction. A closer look at the means shows that children in the third, fourth and fifth grades learn more from the news story imbedded in the newscast than they did from the story in the cartoon context. On the other hand, the sixth and seventh graders learned more from the story in the cartoon context. (See Figure Two.)

FIGURE 2 ABOUT HERE

The regression equations for the second stage of the analysis are shown in Table 2. Grade and context were regressed against the four perceptual variables to see if either accounted for any of the variances of the perceptual variables.

TABLE 2 ABOUT HERE

Although context was expected to affect a number of the perceptual variables, it accounted for a significant portion of the variance in only one, liking the program. As might be expected, children liked the stimulus tape with the cartoon more than they liked the one with the newscast. It is interesting to note, however, that context did not affect how much they liked the news story itself.

Grade predicted two of the perceptual variables--liking the program and story function. This means that the older children liked the entire stimulus

package less than the younger children, and the older children were more likely to perceive the story function as being one of information rather than entertainment.

Because context did not have a main effect on learning, and it predicted only one perceptual variable--liking the program--which did not affect learning, it appears that context had neither a direct nor indirect effect on leaning from a news story. Grade also predicted liking the program, which did not affect learning, and story function, which had a positive relationship with learning. Thus, it appears that Grade acted on learning directly and indirectly through story function.

The grade by context interaction did not predict any of the perceptual variables.

DISCUSSION

The variables in this study account for a significant portion of the variance in learning (37 percent) considering that no intelligence measures were used. Believability, liking the story, and understanding the function of the story all predicted learning. The strongest and most interesting predictor was function of story, indicating that those who understood that the news story was presented for information rather than entertainment learned the most from it.

Even though program context had no effect on three of the perceptual variables in the study, it did predict liking the program, as it should have. Children liked the cartoon program more than the news program. Although this did not affect learning in this study, it may have a strong impact in a non-experimental setting. Children in this study had little alternative to watching the television program the experimenters presented, even though

they could have been inattentive. In their own living rooms, they might have watched the "In the News" programs and ignored regular news programs. In this case, context would have been important.

The data do not really explain the weak age by context interaction on learning shown in Figure 2. We suspect that most of the children perceived the news as being serious, but the older children were more bored by it than the younger children. The younger children may have paid more attention to the newscast because they thought it was serious and, therefore, learned more from it. The older children may have been bored by the newscast to the extent that it interfered with learning.

The multiple R reported in this study (.61), produced by regressing perceptual variables on the learning scores, is much larger than that reported in a number of television entertainment effects studies using these variables singly. This may indicate that there is value in using an actual programming in the classroom to establish a specific referent for measuring children's reaction to television. For example children's perceptions of source motivation was a particularly strong predictor of learning. It may have been much easier for the children to react to a specific message rather than answer a question about a category of messages.

The data about perceived source motivation are also interesting in terms of uses and gratifications research. Effects may be dependent on consistency or inconsistency between the use of the message by the receiver and the intent of the source. Perceived intent of the source may influence the use that people make of a message.

The data also indicate that anything a program producer can do to enhance either liking the news story or believing the story would improve learning. It may be, however, that these perceptual variables are not that

easily manipulated by content. It's interesting to note that liking the program does not predict learning while liking the story does, and there is a positive relationship between liking the story and liking news in general ($r=.25$, $p<.001$). Believing the story also tends to be related to believing television news in general ($r=.33$, $p<.001$).

In other words, it might be more effective to try to improve learning by altering children's perceptions of the media rather than manipulating content variables. If CBS wants to increase learning for its "In the News" series, it might be able to do this best by designing instructional materials for schools that explain the function of the television news media.

These findings should also support educators in their efforts to teach children to become knowledgeable consumers of the news media. If teachers can encourage children to like the news, believe the news, and understand its intended functions children may learn more from news and public affairs programs.

FIGURE I

Categories of Variables Used as Predictors of Learning

Independent Variables	Perceptual Variables	Dependent Variable
Age	Believability	Learning
Story Context	Liking the program	
Age/Context	Liking the story	
	Perceived function	

TABLE 1

Heirarchical Regession Analysis of Seven Predictors of Childrens' Learning from a Television News Story. (N=435)

Predictor Variables	Regression 1	Regression 2	Regression[a] 3
Like Program	.15 **	.04	
Believability	.10 *	.11	
Story Function[b]	.39 ***	.29 ***	
Like Story	.25 ***	.21 ***	
Context[c]		-.04	
Grade		.30 ***	
Context/Grade Interaction			
Multiple R	.546 ***	.609 ***	.615 ***
Increment in R		.073 ***	.006 *

*p≤.05
**p≤.01
***p≤.001

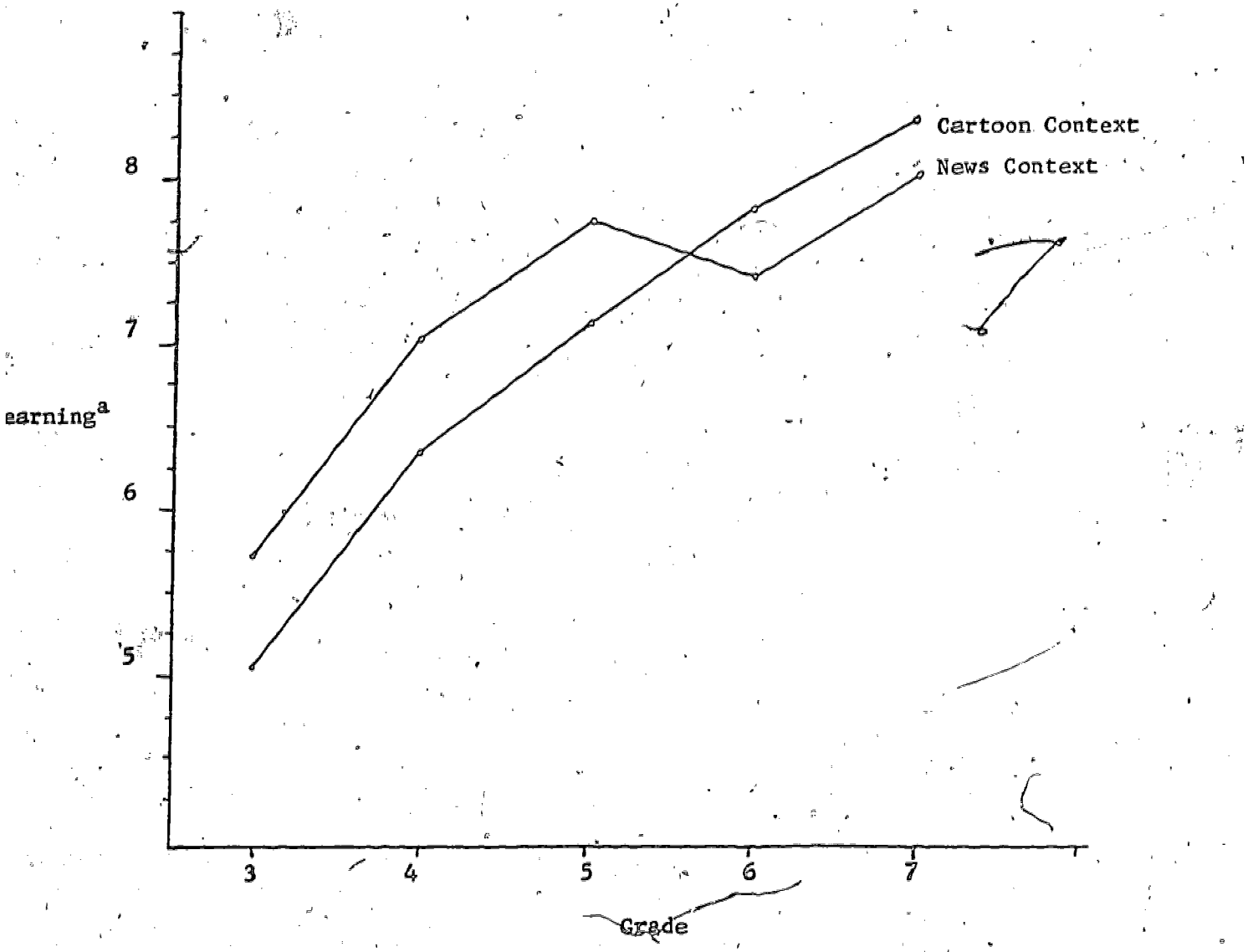
[a]Beta weights are not shown for the equation in which the interaction term is included because they are not empirically meaningful. The best measurement of importance of the interaction term is the increment added to R^2 by the inclusion of the product term (Allison, 1977).

[b]Story function was measured on a four-point scale ranging from no information function (1) to high information function (4).

[c]Viewing Context was coded: news context=(-1); cartoon context=(+1)

FIGURE 2

Plot of the Experimental Condition By Grade Interaction in Relation to Childrens' Learning from a Television News Story



[a]An index representing learning from the news story was created by summing the number of questions out of nine each child answered correctly about the story

TABLE 2

Heirarchical Regression Analysis of Grade and Story Context as Predictors of Childrens' Perceptions of a Television News Story (N=435)

	Regression 1	Regression[a] 2
Dependent Variable: Believability		
Story Context	.05	
Grade	-.02	
Story Context/Grade Interaction		
R	.05	.07
Increment in R		.02
Dependent Variable: Story Function		
Story Context	.00	
Grade	.35 ***	
Story Context/Grade Interaction		
R	.35 ***	.35 ***
Increment in R		.00
Dependent Variable: Like Story		
Story Context	.04	
Grade	.01	
Story Context/Grade Interaction		
R	.04	.09
Increment in R		.05
Dependent Variable: Like Program		
Story Context	.35 ***	
Grade	-.29 ***	
Story Context/Grade Interaction		
R	.45 ***	.45 ***
Increment in R		.00

[a] See footnote "a" in Table 1

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