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ABSTRACT

This study evaluates and examines teaching strategies used by Project DARE (Drug Abuse Resistance Education), a program developed by the Los Angeles Police Department and the Los Angeles Unified School District. Through a planned curriculum, uniformed law enforcement officers present information to fifth- and sixth-grade students on substance abuse, resistance to peer pressure, decision making skills, and alternatives to substance abuse. The officers, trained in presentation and questioning techniques, are skilled in cognitive strategy techniques and use of various information processing strategies to enhance lessons. The research accompanied two DARE officers employed by the City of Knoxville Police Department in Knoxville, Tennessee. Qualitative logs were kept on the officers' classroom dialogues for 3 months in six Knox County (Tennessee) elementary schools. Categories of information processing strategies, such as exemplars and advance organizers, were noted. Findings indicated: favorable student perceptions; better student comprehension of information due to the quality of the officers' presentations; a successful program because it is taught by uniformed police officers; and positive relationships that developed between students and officers. An information processing model being utilized by DARE officers in addition to the planned curriculum is appended.  
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Qualitative Analysis of Teaching Strategies in the  
D.A.R.E. Program (Drug Abuse Resistance Education)  
Taught in Fifth Grade in Knox County Schools by  
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### Abstract

This study sought to determine teaching strategies used by D.A.R.E. officers in fifth grade classes. The purpose was not to ascertain a correct or incorrect teaching strategy but to create a sharing of strategies among officers teaching D.A.R.E. By utilizing various information processing strategies, officers may enhance lessons for a class to assist student processing of information to deter substance abuse. Qualitative logs were kept on the officers' classroom dialogues for three months in six Knox County elementary schools. Categories of information processing strategies such as exemplars and advanced organizers were noted. Students perceptions were very favorable in that students seemed to better understand information due to D.A.R.E. officer presentation. Results suggest that D.A.R.E. is successful in teaching substance abuse because it is taught by uniformed police officers. Law enforcement officers who already have been previously trained in presenting and questioning to facilitate organizational structure in information processing as a part of their professional training. Not only are positive relationships built with students and officers but, law enforcement officers are already skilled in cognitive strategy that many professional educators are only beginning to put into practice.

## Introduction

Project D.A.R.E. (Drug Abuse Resistance Education) developed by the Los Angeles Police Department and the Los Angeles Unified School District, is an approximately 17 week course in substance abuse prevention. It is particularly targeted towards fifth and sixth graders before they encounter the pressures in middle school. Uniformed officers through a planned curriculum teach students the skills necessary to resist peer pressure. Students are presented with information regarding substance abuse and alternatives to substance abuse. Decision-making skills are taught to students, along with ways modeled on how to resist peer pressure.

To assist students in resisting peer pressure, lessons in D.A.R.E. focus on self-esteem. D.A.R.E. is structured to help students develop decision making capabilities that can be used in other situations (U.S. Dept. of Education, 1991).

### Information Processing Strategies of Instruction

Information processing strategies of instruction are ways that human learning is facilitated through organization and acquiring of data. Various techniques

of information processing help one to be more effective at concept attainment, to engage in reasoning, to provide cognitive structure for ideas and to help assimilate information.

This study seeks to determine how such strategies are naturally being utilized by D.A.R.E. officers to facilitate processing of information and how the process may be enhanced to strengthen a very promising substance abuse program.

Project D.A.R.E.

The State Department of Education in Hawaii, the Honolulu Police Department, City, and County of Honolulu conducted an evaluation of Project D.A.R.E. in their area. Using a two-group, post-only design, surveys were conducted with approximately 1,400 students. While results were not conclusive as to the long-term impact of reducing substance abuse, there was support that the program had preventative potential (Hawaii State Department of Education, 1989).

In a D.A.R.E. Longitudinal Evaluation Report submitted before a congressional hearing on substance abuse, results showed statistically significant differences between D.A.R.E. and non-D.A.R.E. students

in categories of substance abuse. During the five year study period frequency level percentages were lower in D.A.R.E. students. However, significant differences were not found concerning attitudes or self-concepts. This report was prepared by the Evaluation and Training Institute for the Chief of Police, Los Angeles Police Department in 1987-88 (U.S. Department of Education, 1991).

Dare contains within it's program many of the goals of a model drug prevention program reviewed in a U.S. Department of Education about what methods work to prevent substance abuse. An important point is that the booklet mentions that instructors be skilled at eliciting participation by students (U.S. Department of Education, 1986).

#### Information Processing Strategies

A review of the literature supports utilization of cognitive enhancers to facilitate learning. A basic structure of using appropriate exemplars with their applications assists in learning. Using analogical transfers helps the student to build one instance upon another instance. By instructors utilizing, thus modeling inductive reasoning students recognize general

rules that help to identify attributes and relations of objects. The student is taught to compare analytically between objects rather than as a whole. This modeling by the instructor facilitates the students' transfer to new tasks using inductive thinking (Klaver, K. J. (1989).

For cognitive theory to be successful in instructional design, instructional decisions must be made during the instruction process. Due to instructional objectives being derived from cognitive task analysis, schematic representations of content with procedures of application is needed to process information (Winn, 1990).

A constructivist viewpoint of education sees instructional facilitation as interactive and dynamic, utilizing a matrix of ideas. In the past instructors have tried to manage curriculum and run activities. For information to be cognitively processed, instructors and students need to engage in exploring ideas through intellectual inquiry (Prowat, 1992).

#### Method

A graduate student in curriculum and instruction trained in information processing models of instruction

was a participant observer for three months in six Knox County elementary schools. Students were in fifth grade classes with varying socioeconomic levels. These levels ranged from middle class neighborhoods to inner city neighborhoods. The researcher accompanied two D.A.R.E. officers employed by the City of Knoxville Police Department in Knoxville, Tennessee.

The D.A.R.E. officers acted as consultants regarding all aspects of the D.A.R.E. program and D.A.R.E. lesson plans. To protect against observee bias, officers were not informed about the specifics of instructional models.

A multi-instrument approach was employed. Classroom observations of the D.A.R.E. officers, as well as student/officer interactions at D.A.R.E. functions were observed. Information interviews were conducted with the students and the D.A.R.E. officers.

Classroom observations were originally approached to ascertain which instructional families of teaching were being employed by D.A.R.E. officers. The researcher was familiar not only with Information Processing models, but also with the Personal, Social and Behavioral models of instruction.

After a period of a month patterns began to emerge in the instructional techniques of both D.A.R.E. officers, supporting that the officers were very familiar/comfortable with the components of information processing. Since both the D.A.R.E. officers employed these techniques in addition to the planned curriculum, the researcher did see some short term reliability of findings. Further long term observations will be conducted in the future to better determine the reliability of such conclusions.

Researcher bias of the findings are minimal in that the study was originally approached to determine exactly what was going on that made Project D.A.R.E. so popular with students, educators, and parents. A qualitative analysis to determine what the D.A.R.E. program was representative of seemed to be the most appropriate strategy. By observing representative patterns, the researcher could then determine what individual D.A.R.E. officers are doing to make D.A.R.E. so apparently effective.

#### Classroom observation

Observing in thirteen different classes, the researcher kept logs of the officers' classroom

instructional dialogues. Log entries were coded according to categories of information processing models of instruction.

### Results

The components observed were exemplars, non-exemplars, attributes, attribute values, concepts, subordinate concepts, advance organizers, analogies, eliciting questions, and inductive reasoning strategies. Deductive reasoning strategies which strengthened the students' existing cognitive structure was also observed, but to a lesser degree. The D.A.R.E. officers had not been specifically trained in these instructional strategies.

### Informal Student Interviews

The researcher also accompanied the D.A.R.E. officers during lunch time, which they ate with their students. Over the three month period, informal discussions were conducted with the students regarding their perceptions of D.A.R.E. objectives and the D.A.R.E. officers.

Due to the instructional strategies utilized by the D.A.R.E. officers, students' appear to be processing the curriculum content and using it to make

applications to their daily lives. These instructional strategies from student discussions seem to be more than those applicable to the planned curriculum.

An unplanned benefit is that law enforcement officers are modeling their skills of organizational processing of information to students. This application of processing the content is enabling students to apply it to their daily lives more successfully.

Students frequently referred to how the D.A.R.E. officers explained a concept, how they interacted with students during instruction, and described in detail how they, the students would apply it in their daily lives. Whether or not the students will really apply these strategies to their lives could not be determined. It is important to note that due to the professional structuring of information by the D.A.R.E. officers, the students are cognitively beginning to structure the content of D.A.R.E. lessons. This cognitive structuring enables the students to create a personal ownership of strategies, enhancing self-esteem.

An added part of the curriculum is the D.A.R.E. box. This allows students to anonymously drop in questions for the D.A.R.E. officers to respond. This facilitates cognitive processing of information in that the D.A.R.E. officers use their professional organizational strategies to cognitively structure the answers to the students' questions. Frequently, the researcher observed advance organizers of deductive reasoning being employed by D.A.R.E. officers as instructional strategies to answer D.A.R.E. questions. This effective technique allowed students to link new information to their own existing concepts. Other questions were answered using law enforcement training in the strategies of inductive reasoning. This was very beneficial to students in that they saw a positive role model, utilizing strategies to cognitively assess and process information. This technique would enable the students to enhance self-concept through increasing their own skill level utilization of strategies.

#### Discussion

In a review of research of instruction that really works (Bellon, Bellon, and Blank, 1986) the authors found several effective components for instructional

interaction. Structure to connections and relationships, as well as being very organized were important. Clarity of instruction to communicate objectives, strategically moving the lesson from step to step enable the learner to see content in a meaningful way. Cognitive Organizers such as categorizing or advance organizers help the learner see relationships, enabling them to make rational decisions. Most importantly an effective instructor is skillful at questioning structure. By questioning eliciting answers, then more questions a feedback cycle has been created to enable the learner to cognitively process and structure content that is meaningful to them.

This study has sought to ascertain the effective underlying components of instructional strategies utilized by D.A.R.E. officers in teaching D.A.R.E. lessons. Qualitative analysis of observations found D.A.R.E. officers to be skilled professional at enabling learners to cognitively structure the content of D.A.R.E. lessons. Especially relevant were the observations of instructional strategies employed by D.A.R.E. officers while answering D.A.R.E. box

questions or in relating their own law enforcement experience in the field. Such techniques were frequently employed by D.A.R.E. officers as advance organizers or to inductively link concepts together. Stories of their experiences served to model cognitive structure to the learner. A lasting impression is created upon the learner by the D.A.R.E. officer. The learner and the instructor become friends because of continuous interaction. A positive relationship is developed between the students and law enforcement. Students see the police as a friend, since the officer has empowered the student with strategies to resist peer pressure, resist substance abuse, and build self-esteem.

For this empowerment of students to be successful, content must be processed with structure. Due to the skilled professional training of law enforcement officers, trained D.A.R.E. officers bring special instructional skills to their D.A.R.E. classes. Their professional training in presenting and questioning to facilitate organizational structure through information processing, models for the learner cognitive structuring of information. D.A.R.E. officers bring to

D.A.R.E. lessons skills in cognitive strategy that many professional educators are only beginning to put into practice. Due to this specialized training of law enforcement that D.A.R.E. officers have received, they bring a skill level to the strategies of decision-making that enable students to resist substance abuse.

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**Appendix A****Information Processing Instructional Model  
Components Observed Being Utilized by D.A.R.E. Officers  
In Addition to the Planned Curriculum****Concept Attainment****1. Present Data/Identify Concept**

- \* Present examples
- \* Compare attributes by using positive and negative examples
- \* Generate a hypothesis
- \* Give a definition from the attributes

**2. Concept Attainment Testing**

- \* Have the learner recognize other examples
- \* Instructor agrees on hypothesis, gives concept a name, defines concept
- \* Have learners give other examples

**3. Analyze Thinking Strategies Utilized**

- \* Have the learner describe their thoughts
- \* Did the learner focus on one attribute or several?

**Provides concept building strategies**

## Inductive Reasoning

### 1. Concept Formation

#### Strategy

- \* Identify
- \* Grouping by similarity
- \* Develop categories for groups

#### Eliciting Questions

- "What did they do?"
- "What else?"
- "What do you call that technique?"

### 2. Interpretation of Data

#### Strategy

- \* Identify Relationships
- \* Explore cause/effect
- \* Arrive at conclusions from  
more than the data

#### Eliciting Questions

- "Do you notice anything?"
- "What are some ways?"
- "What do you think?"

### 3. Apply Principles

#### Strategy

- \* Predict consequences
- \* Tell why the learner has  
predicted those consequences
- \* Identify conditions

#### Eliciting Questions

- "What happens?"
- "Who does that?"
- "How does it happen?"
- "How many have experienced  
that?" "Why?"

Instructor monitor the learner's processing of information.

Ask eliciting questions

## Deductive Reasoning

### 1. Advance Organizer

- \* Clarify aims
- \* Give organizer
- \* List attributes/give examples
- \* repeat

### 2. Presentation

- \* Present learning material
- \* Organization of content must be explicit
- \* Use a logical order

### 3. Anchor Material in Cognitive Structure

- \* Integrative reconciliation
  - remind of larger picture
  - summarize
  - repeat definitions
  - question how material supports concepts
- \* Use eliciting questions regarding the subject
  - ask for descriptions
  - ask for examples
  - have the learner use their own frame of reference
  - ask the learner to make inferences
- \* Instructor clarification
  - give new information
  - repeat information
  - new applications/situations

LINK FACTS TO KEY IDEAS