DOCUMENT RESUME

ED 269 143 PS 015 767

AUTHOR Adams-Price, Carolyn E.; Reese, Hayne W.
TITLE An "Emic" Study of Children's Memory in the Nursery School.
PUB DATE Apr 86
NOTE 18p.; Paper presented at the Conference on Human Development (Nashville, TN, April 3-5, 1986).
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Classification; *Memory; *Participant Observation; *Preschool Children; Preschool Education; *Research Methodology
IDENTIFIERS Context Effect; *Emic Etic Analysis

ABSTRACT

The "emic" research method used in cultural anthropology is described and its usefulness in developmental psychology is illustrated. A distinction is made in cultural anthropology between "etic" and "emic" research methods. In etic research observers employ established categories, such as prior definitions of constructs and variables, to interpret data. In contrast, researchers using an emic approach record behaviors and "work through" protocols until they discover what the observations mean to the persons who are observed. Participant observation, cultural anthropology's emic method, involves the: (1) collection of descriptive field notes and derivation of tentative categories; (2) refinement of tentative categories; and (3) testing hypotheses about refined categories in controlled research. The emic method was used in a study of classes of 3-, 4-, and 5-year-olds in a day care center. Observations of 127 behavioral events that seemed to involve "memory" were recorded. Memory instances were found to be classifiable in a taxonomical matrix of 2 sources by 10 categories: child or adult initiator across naming, rhymes and songs, what happened before, anticipation, appropriate behavior, forms/functions/sounds, persons, place memory, academic, and answering requests. Memory was found to be embedded in behavioral events that rarely had memory as a major goal. Thus, the study of memory may require a holistic theoretical approach, such as those of Piaget and Jenkins. (RH)

An "Emic" Study of Children's Memory in the Nursery School[1]

Carolyn E. Adams-Price and Hayne W. Reese

West Virginia University

The purpose of this paper is to describe a research method used in cultural anthropology--the "emic" method--and to illustrate its usefulness in developmental psychology by reporting an application of it to the study of children's memory.

Etic and Emic Methods

A distinction is made in cultural anthropology between etic and emic research methods. Fry and Keith (1980) put it this way:

> Data are not just plain data and facts are not simple facts. Culture filters out what is important and has meaning. But, whose culture are we using? "Etic" refers to the culture of science, e.g., of anthropology or gerontology. "Emic" is the inside view of another culture. (p. 6)

That is, in the etic method the researcher interprets observations on the basis of an a priori theory; and in the emic method the researcher attempts to discover what the observations mean to the persons who are observed.

The terms were derived from the linguistic terms phonetic and phonemic (e.g., Fry, 1980, p. 102). The difference between the linguistic terms can be illustrated by noting that t is phonetically (acoustically) different in pit, stop, and tip but that native speakers of English do not respond to the phonetic differences and therefore that t is phonemically the same in these words (Funk & Wagnalls, 1974, p. 950). Another example is the k in

---

[1]Paper presented at the meeting of the Conference on Human Development, Nashville, TN, April 1986.

key, ski, and caw (Dale, 1976, pp. 201-202).

The Etic Method

In the etic method, which is the usual method in psychology, observers use a priori categories, such as prior definitions of aggression, cooperation, memory and other target behaviors. A study is etic if the behavior observed is interpreted or classified on the basis of an a priori theory. For example, using an etic approach to study memory in real life outside the experimental laboratory, a researcher might classify observed instances of memory performance on the basis of Brown's (1975) taxonomy of memory tasks as episodic versus semantic and strategic versus nonstrategic. However, imposing an a priori taxonomy of any kind may be unwarranted; and as Nelson and Brown (1978) pointed out, making inferences about memory processes on the basis of a taxonomy of memory tasks is not necessarily warranted.

For example, a free-recall task certainly seems on a priori grounds to be a test of memory, to psychologists at least; but it is not necessarily interpreted this way by nonpsychologists. Labouvie, Frohring, Baltes, and Goulet (1973) found that in a multi-trial free-recall task, performance correlated more with memory ability than with intelligence on early trials, and vice versa on later trials. The meaning of the task for the research participants evidently changed from a memory task to a problem-solving task. Hultsch, Nesselroade, and Plemons (1976) found that such changes varied across adult age groups.

The Emic Method

Using an emic approach to study everyday memory, the researcher would record instances of memory and "work through" the protocols until their meanings to the persons observed began to emerge. When unobtrusive

observation is impossible or is likely to be too labor intensive, this form of observation is rejected and the observer becomes an active participant in the target group. This is the method of participant observation, which is an emic method widely used in cultural anthropology. In this method, as Keith (1980) said, "Rather than using a research instrument, the participant observer becomes one" (p. 9). The participant observer participates in the group in its natural habitat, but the level of participation can vary from fairly passive to highly active. The observer may do little more than watch and take notes, or may become an actual member of the group. The level of participation should be determined on a principled basis. For example, more active participation is likely to be desirable under the following conditions (Keith, 1980): (a) When little is known about the group under observation; (b) when the topics to be covered or the nature of the group are sensitive (examples of such topics are sex and death in a retirement community; examples of such groups are illegal aliens and bag ladies); and (c) when the members of the group are likely to be unable or unwilling to report accurately.

The method involves three stages (Keith, 1980): In all stages, the participant observer tries to avoid cultural biases such as presuppositions as to the meaning of what is observed. In the first stage, the participant observer collects fieldnotes, either with no interpretation of them attempted or with interpretations carefully separated from descriptions. When the participant observer feels that enough fieldnotes have been collected, he or she works through them to derive tentative interpretations or categories. In the second stage, the tentative categories are refined through the collection of fieldnotes focused on the tentative categories. In the third stage, hypotheses about the refined categories are tested in

more controlled research, for example, with questionnaires, card sorts, and tests.

An Application of the Emic Method

The data reported herein are from an emic study of children's everyday memory in a real-life setting. We felt that commonsense knowledge about the meanirg of memory in such a group in such a setting was sufficiently sound to permit skipping early phases of the first stage, or perhaps beginning immediately in the second stage. That is, we entered the study with tentative, commonsense ideas about what "memory" means, and we focused our observations on behavioral events that seemed to reflect this meaning. We also gave a commonsense meaning to "behavioral event"--an instance of behavior complete in itself or part of a larger episode. (We made no etic suppositions about meanings of "event" and "episode." The etic suppositions are complex--e.g., Brown, 1975, footnote 7, p. 135; Coulter, 1983, p. 79.)

We used participant observation with a relatively low level of participation. The observer's role in the target groups was that of a friendly adult, usually passively observing but sometimes participating in the children's activities and sometimes seeking information through conversation. (More active participation would sometimes be desirable, but in the present study it was deemed unnecessary. It would also have disrupted the groups and would have violated the protocol approved by the Institutional Review Board.)

The Setting

Classes of 3-, 4-, and 5-year-olds were observed in a day-care center serving a heterogeneous population. All three class-groups included black and oriental as well as white children, and children of students, low-

income families, and middle-income families. The 3-year-old group had an enrollment of 22 boys and 13 girls; the 4-year-old group, 20 boys and 21 girls; and the 5-year-old group, 14 boys and 17 girls. However, daily attendance ranged from 18 to 26 children per group, with varying gender ratios.

The observations were done during a summer session. All activities except lunch, nap, outdoor free play, and bathroom were observed. The observations were recorded in running protocols of all behavioral events that seemed to involve "memory" in any way, whether initiated by a child or an adult. ("Memory" is in quotation marks to indicate that the observer used a commonsense meaning.) The results to be reported are based on examination of 127 protocols.

The generalizability of our findings is unknown because we observed at only one time of year in only one day-care center and in only one class-group per age level, each with particular children and one particular head teacher. However, assessment of generalizability of findings is a task for the third stage of emic research; the present study is in the second stage, in which tentative categories emerge and are refined.

Analytic Procedures

As a first attempt at developing the categories of children's memory in the nursery school, we used an etic approach in which we assessed the usefulness of a priori categories derived from experimental research. The memory components of the behavioral events were sorted on each of the dichotomies shown in Table 1: Strategic versus nonstrategic (i.e.,

---

Table 1 about here

---

deliberate versus involuntary) and episodic versus semantic are from Brown's (1975) taxonomy; reproductive versus reconstructive and comprehending versus retaining are from Piagetian theory; and means versus end is from Soviet theory. We found that about 65% of the memory instances could not be categorized.

Next, we categorized the behavioral events on the basis of the task in which they occurred--another etic classification scheme. The tasks were clear-cut: arrival, departure, snack time, academic tasks, story-telling, games, exercise, arts and crafts, and free play. As might be expected, the behavioral events were not classifiable into unique categories in this scheme.

Finally, we used the emic approach. The 127 memory instances were found to be classifiable in a taxonomical matrix of two sources by ten categories. The taxonomy is shown in Table 2. "Source" refers to whether the behavioral event was initiated by the child or by an adult. Some behavioral events, such as academic work and story-telling, were almost always initiated by the teacher; some behavioral events, such as playing "Concentration," were designed by the teacher or a toy manufacturer but were initiated by either the teacher or the child; and some behavioral events, such as during free play were almost always initiated by the child. In the corpus of events under consideration, 49.4% were child-initiated and 60.6% were adult-initiated.

The categories are tentatively defined as shown in Table 2.

Table 2 about here

Naming means emitting the name of a person, a story character, or an

object in any task, including academic tasks, story-telling, games, and exercises.

Memory for rhymes and songs includes performing appropriately in academic work such as the sing-song recitation of the alphabet as well as play and exercise. It is usually verbatim for short and frequently repeated rhymes and songs, but not for long and less frequent ones.

Memory for what happened before is evidenced in responses to questions about what happened in real life (e.g., "How did you hurt your knee?") or in a story, and in spontaneous comments about past events in real life or about a story.

Anticipation means evidencing knowledge of what happens next, for example in a familiar story or at snack time.

Memory for appropriate behavior means exhibiting the accepted behavioral routines for activities, such as snack time and story-telling.

Memory for forms, functions, or sounds of things is evidencing knowledge of the shape of a thing, what it does or how it is used, or what sound it makes. An example is picking up a toy airplane and "flying" it around while making an "airplane sound." Another example, is knowing how Lego blocks go together.

Memory for persons means recognizing that a person is familiar; but unlike performance scored as "correct" in formal recognition tasks, it varies widely in certainty or clarity.

Place memory refers to remembering assigned cubicle for personal gear, assigned seat at the snack table, locations of play materials, and usual places for regular activities. Except with respect to seat and cubicle, the category was often hard to score. For example, play materials were stored on open shelves and were therefore visible; furthermore, the

activity "putting away the toys" was closely supervised by the teacher. Also, memory for large-scale places, such as rooms, was ambiguous because the children were always accompanied by the teacher or a parent when they moved from room to room.

Academic memory occurs in academic tasks such as learning to read clocks and calendars, learning how weather varies with the seasons, and learning about holidays.

Fill-in-the-blank includes the standard form, as in "Now the season is ___?" It also includes answers to direct questions, such as asking for information just before it is given in a story being read. For example, "What did the third little piggie build his house of?"

Results

The results are summarized in Table 3. Collapsed across categories,

---

Table 3 about here

---

the percentages of child- and adult-initiated behavioral events were about the same in all three age groups; but for some specific categories, the percentages were not the same. The relative frequency of behavioral events declined with age in two categories (Naming; child-initiated Rhymes & Songs) and increased with age in two categories (What Happened Before; child-initiated Anticipation). Both child- and adult-initiated behavioral events had fairly high frequencies within two categories, though with one source relatively more frequent than the other in both categories (Appropriate Behavior; Forms/Functions/Sounds). Within two categories the events were virtually all child-initiated (Persons; Place Memory), and within two categories they were virtually all adult-initiated (Academic;

Fill-in-the-Blank).

The categories can be grouped on the basis of the patterns of relative frequencies exhibited. On this basis they divide roughly into five pairs, shown in Table 4. Using an etic approach, we interpreted the pairs as follows:

Table 4 about here

(a) The pair Naming and Rhymes & Songs involves verbatim recall, at least ideally.

(b) The pair What Happened Before and Anticipation involves memory for sequence.

(c) The pair Appropriate Behavior and Forms/Functions/Sounds involves behaving appropriately either as a person or as a manipulator of objects. Appropriate Behavior means conforming to normative rules, or prescriptions, and Forms/Functions/Sounds means behaving appropriately with respect to normal uses of objects, that is, conforming to norms or descriptions. The common element may be conforming to rules, but without the etic distinction between normative and normal rules, that is, without the etic distinction between "ought" and "is." Maybe young children view "is" as "ought." For example, because an airplane flies and makes a certain sound, maybe young children think they would be immoral if they made a toy airplane do anything other than fly and make the correct sound. From this point of view, functinal fixedness in young children would reflect their morality rather than rigidity or a deficiency in creativity.

(d) The pair Persons and Place Memory involves recognition, but from an etic point of view the stimulus is not the same: Persons vary in

incidental characteristics across occasions, but places of the kinds under consideration have fixed characteristics.

(e) The pair Academic and Fill-in-the-Blank involves episodic recall. From an etic viewpoint, it can be based on memory for gist or verbatim memory; it can be in a learning context or a playing context; and it can be for a useful purpose (e.g., telling time) or for no useful purpose (e.g., remembering what the little piggies used as building material). However, from an emic viewpoint--from the viewpoint of the child--maybe memory for gist is verbatim memory; maybe learning occurs only as playing; and maybe remembering what the little piggies did serves the same purpose as learning to tell time.

Discussion

Memory was found to be embedded in behavioral events that rarely had memory as a major goal. Most behavioral events had multiple goals, or at least multiple outcomes. For example, in one activity the children exercised in a set pattern with an accompanying song naming parts of the body. This activity provides exercise, practice in naming the parts of the body, and experience in following rules, memorizing (the song), singing, coordinating own behavior with the behavior of the group, etc. A behavioral event as a whole may be the appropriate unit of meaning, in that the components seem abstract when separated from the behavioral event and seem not to be generalizable across categories of behavioral events except in an abstract way (i.e., theoretically rather than actually).

However, the unit of meaning may be even more complex. The interpretation of a behavioral event often depended on the context in which the event occurred. For example, many of the tentative categories are differentiated by type of stimuli associated with the event. The social

context was also sometimes important. For example, the 3-year-olds (but not the 4- and 5-year-olds) had assigned seats at the tables at which they worked and had their snacks. Newcomers to the group quickly learned the location of their seats, and only three instances were observed when an old-timer sat in the wrong seat. One might conclude that lapses in memory for this kind of place were very rare. However, in all three instances the errant child was actively interacting with another child in the next seat, and in all three instances the other child was one with whom the errant child interacted very frequently. Therefore, what appeared to be memory lapses can be interpreted to be irrelevant to memory; evidently, memory for this kind of place never lapsed.

An implication of these considerations is that the unit of meaning is the behavioral event as a whole, occurring in a specific context that includes other persons as well as the physical environment. We hypothesize that this unit also includes a specific time, or more precisely, specific developmental, historical, and social times (Neugarten & Datan, 1973). An implication of this hypothesis is that a holistic kind of theoretical approach to memory is needed. One possibility is Piaget's theory, which is well developed; another possibility is Jenkins' (1974) contextualistic theory, which is not well developed.

References

Brown, A. L. (1975). The development of memory: Knowing, knowing about knowing, and knowing how to know. In H. W. Reese (Ed.), Advances in child development and behavior (Vol. 10; pp. 103-152). New York: Academic Press.

Coulter, J. (1983). Rethinking cognitive theory. New York: St. Martin's Press.

Dale, P. S. (1976). Language development: Structure and function (2nd ed.). New York: Holt, Rinehart & Winston.

Fry, C. L. (1980). Cognitive anthropology and age differentiation. In C. L. Fry & J. Keith (Eds.), New methods for old age research (pp. 101-126). Chicago, IL: Center for Urban Policy, Loyola University of Chicago.

Fry, C. L., & Keith, J. (1980). Introduction. In C. L. Fry & J. Keith (Eds.), New methods for old age research (pp. 1-7). Chicago, IL: Center for Urban Policy, Loyola University of Chicago.

Funk & Wagnalls standard dictionary of the English language. (1974). (International ed., Vol. 2.) New York: Funk & Wagnalls.

Hultsch, D. F., Nesselroade, J. r., & Plemons, J. K. (1976). Learning-ability relations in adulthood. Human Development, 19, 234-247.

Jenkins, J. J. (1974). Remember that old theory of Memory? Well, forget it! American Psychologist, 29, 785-795.

Keith, J. (1980). Participant observation. In C. L. Fry & J. Keith (Eds.), New methods for old age research (pp. 8-26). Chicago, IL: Center for Urban Policy, Loyola University of Chicago.

Labouvie, G. V., Frohring, W., Baltes, P. B., & Gouret, L. R. (1973). Changing relationship between recall performance and abilities as a

function of stage of learning and timing of recall. Journal of Educational Psychology, 64, 191-198.

Nelson, K., & Brown, A. L. (1978). The semantic-episodic distinction in memory development. In P. A. Ornstein (Ed.), Memory development in children (pp. 233-241). Hillsdale, NJ: Lawrence Erlbaum Associates.

Neugarten, B. L., & Datan, N. (1973). Sociological perspectives on the life cycle. In P. B. Baltes & K. W. Schaie (Eds.), Life-span developmental psychology: Personality and socialization (pp. 53-69). New York: Academic Press.

Table 1

Percentages per A Priori Category

Dichotomy	
Strategic	Nonstrategic
5.5	0.0
Episodic	Semantic
3.1	1.6
Reproductive	Reconstructive
7.9	3.9
Comprehending	Retaining
3.1	0.8
Means	End
1.6	7.1

Table 2

Tentative Definitions of Inferred Memory Categories

Category	Definition
Naming	Emitting name of any person, character, or object
Rhymes & Songs	Reciting or singing in work or play, verbatim or not
What Happened Before	Remarking about past events in life or story
Anticipation	Remarking about what happens next
Appropriate Behavior	Behaving consistently with accepted behavioral routines
Forms/Functions/Sounds	Using things in ways appropriate to their shape, function, and/or sound
Persons	Recognizing a familiar person
Place Memory	Remembering locations of materials and activities
Academic	Performing appropriately in academic tasks
Fill-in-the-Blank	Providing requested information

Table 3

Percentages in Inferred Memory Categories in 3-, 4-, and 5-Year-Olds

	Sources					
	Child-initiated			Adult-initiated		
Categories	3	4	5	3	4	5
Naming	13.9	6.8	4.3	11.1	2.3	4.3
Rhymes & Songs	8.3	4.5	0	8.3	9.1	4.3
What Happened Before	0	4.5	10.6	5.5	6.8	10.6
Anticipation	0	6.8	6.4	0	4.5	0
Appropriate Behavior	2.8	6.8	4.3	11.1	4.5	6.4
Forms/Functions/Sounds	5.5	6.8	4.3	0	2.3	6.4
Persons	8.3	9.1	10.6	0	0	2.1
Place Memory	5.5	9.1	6.4	2.8	0	0
Academic	0	0	2.1	8.3	4.5	8.5
Fill-in-the-Blank	0	0	0	8.3	9.1	8.5
All categories	44.4	54.5	48.9	55.6	45.5	51.1

Note. The percentages were calculated separately for each age group (i.e., for each age group the percentages sum to 100, within rounding error).

Table 4

Pairs of Inferred Memory Categories

	Age trend	
Categories	Child-initiated	Adult-initiated
Naming	Decrease	Decrease
Rhymes & Songs	"	Invariant high
What Happened Before	Increase	Increase
Anticipation	"	Constant low
Appropriate Behavior	Inverted V	Constant high
Forms/Functions/Sounds	Constant high	Increase
Persons	Increase	Constant low
Place Memory	Constant high	"
Academic	Constant low	Constant high
Fill-in-the-Blank	"	"