ED 382 625   TM 022 993

AUTHOR   Thompson, Sharon; Iran-Nejad, Asghar
TITLE   Altering Cultural Bias through Authentic Cultural
              Simulation.
PUB DATE   Nov 94
NOTE   35p.; Paper presented at the Annual Meeting of the
              Mid-South Educational Research Association
              (Nashville, TN, November 9-11, 1994).
PUB TYPE   Reports - Research/Technical (143) --
              Speeches/Conference Papers (150)

EDRS PRICE   MF01/PC02 Plus Postage.
DESCRIPTORS   Attitude Change; *Bias; Camping; *Cultural
              Differences; Day Camp Programs; *Elementary School
              Students; Elementary Secondary Education; Females;
              Foreign Countries; *High School Students; Knowledge
              Level; *Simulation; Teaching Methods
IDENTIFIERS   *Authenticity; Mexico

ABSTRACT
              There is much research suggesting that cultural
biases or attitudes are difficult to change. This study assumes that
the reason for the difficulty is that such biases are deeply rooted
in a variety of situational and individual sources that must work
simultaneously for change to occur. In searching for a way to conform
to this requirement, a situational authentic cultural simulation (or
culture camp) was developed. Subjects in an experimental group (198
predominantly white females aged 8 through 17 at a residential camp)
spent 2 days in a simulated Mexican village. Those in a control group
were taught about Mexican culture using traditional teaching
methodology, including hands-on experiences. Both groups showed a
similar increase in their knowledge of Mexican village culture, but
only the experimental group showed a significant reduction in
cultural bias. Four tables and four figures present study data.
(Contains 54 references.) (Author/SLD)

Altering Cultural Bias through Authentic Cultural Simulation

Sharon Thompson and Asghar Iran-Nejad

The University of Alabama

October 1994

Mailing Address: Asghar Iran-Nejad

Program in Educational Psychology

The University of Alabama

Box 870231

·Tuscaloosa, AL 35487

Phone: 205 348-1183 Fax: 205 348-0683 E-mail:airan-ne@ua1vm

Abstract

There is much research suggesting that cultural biases or attitudes are difficult to change. This study assumes that the reason for the difficulty is that such biases are deeply rooted in a variety of situational and individual sources that must (be made to) work simultaneously for change to occur. In searching for a way to conform to this requirement, a situational authentic cultural simulation (or culture camp) was developed. Subjects in an experimental group spent two days in a simulated Mexican village. Those in a control group were taught about Mexican culture using traditional teaching methodology, including hands-on experiences. Both groups showed a similar increase in their knowledge of Mexican village culture; but only the experimental group showed a significant reduction in cultural bias.

Altering Cultural Bias through Authentic Cultural Simulation

As nations of the world move toward a global society, the problem of cultural bias gains new levels of significance. Education must prepare today's children to live and to lead well in the increasingly global society of the future (Toffler, 1991). For this to occur, we must understand the conditions under which cultural bias develops, persists, and changes. In particular, it is vital that we find ways of helping children to reduce their cultural biases and develop greater understanding and appreciation of other cultures.

Belief Perseverance

The research on belief perseverance points to the difficulty of attitude change. Much evidence is reported to suggest that individuals cling to their beliefs, even after having been debriefed about the inaccuracy of those beliefs. In one study by Anderson, Lepper, and Ross (1980), Stanford undergraduates were presented with "empirical" information showing a positive or negative relationship between success in the occupation of firefighting and risk-taking tendency. In a subsequent debriefing, subjects were told that the reported empirical data was actually fictitious. Then, the subjects completed a set of dependent measures concerning the relationship between risk taking and success in firefighting. The data showed that subject persevered in their initial beliefs despite the debriefing information pointing to the contrary. Based on the results of two such experiments, the authors concluded that (a) people often cling to their beliefs to a greater extent than is logically warranted, (b) initial beliefs may persevere in the face of explicit evidence contradicting them, and (c) belief perseverance may be enhanced by the generation of causal explanations.

Lepper, Ross, and Lau (1986) examined the perseverance of erroneous beliefs about oneself. High school students were shown a highly ineffective instructional film on how to solve a math problem (failure condition). They then attempted to solve four math problems. A

comparable group of subjects viewed a highly effective instructional film (success condition). As expected, the subjects in the failure condition performed more poorly than those in the success condition. In a subsequent debriefing manipulation, subjects were informed and acknowledge that the film they had viewed had been ineffective. In a disguised measure of academic perceptions three weeks later, students failed to attribute their poor performance to the ineffectiveness of the instructional film and continued to persist in their initial beliefs about their own math performance.

The persistence of initial impressions was also investigated by Tutin (1983). Subjects were provided with "a case history," consisting of background information about a patient and information about a critical event that "occurred" later in the patient's life. They were asked to serve in the role of clinical psychologists and come up with an explanation for the later critical event based on the patient's background information. Subsequently, during a debriefing period, subjects were informed that there was actually no case history information at all. In spite of this debriefing, subjects persevered in the initial beliefs they held about the relationship between the "case history" and the "critical life event."

Much research has focused on the relationship between self-efficacy, causal attributions of success or failure, and outcome expectancies (Bruning, Shell, & Murphy, 1987; Hiebert, Winograd, & Danner, 1984; Nicholls, 1979; Shell, Murphy, & Bruning, 1989). This research has shown that belief systems often supersede true or potential ability. For instance, Murphy and Shell (1989) demonstrated that the beliefs of students about their reading and writing abilities persevered even when those beliefs were disproved and that the effect was significantly greater in ethnic than caucasian students.

The Development of Bias

A study by Boulton and Smith (1990) dealt with how bias manifest itself in young children.

The purpose of the study was to assess dominance hierarchies in children's groupings using their perceptions of strength (or toughness) of themselves and their peers. Children were taken individually from their classrooms and presented with individual pictures of each person in their class. Each child was then asked to sort his or her classmates into groups of "strong," "in-between," or "weak" and into groups of "like," "in-between," or "dislike." Each child also ranked the individuals within each category from strongest to weakest. Although children agreed as a group on a hierarchy, they showed significant bias as individuals based on how much they liked their classmates. They tended to overrank themselves, their friends, and those most like themselves.

Clark, Hocevaer, and Dembo (1980) explored children's understanding of the origin of race and the way in which they develop a preference toward skin color. Children's ability to understand the origin of race correlated significantly with their performance on tasks of physical conservation, physical causality, and social identity, suggesting that physical conservation and physical causality might be acquired prior to understanding of the origin of race. Interestingly, the researchers also found that pro-white bias was significantly lower for children with higher levels of cognitive development when the experimenter was black.

Pillow (1991) examined children's understanding of how bias affects interpretation of social events. Kindergartners and second graders heard stories describing a person observing (the observer) someone else (the actor). They were told that the observer held a negatively or positively biased perspective. The children's task was to identify what actions the observer believed the actor was performing. A significant number of second graders surmised that a negatively-biased observer would label the actor's action as intentional as opposed to accidental. In a second experiment, children correctly identified what action the observer believed that the actor was performing. The researchers concluded that young children have an understanding of

bias as it affects one's perspective.

One of the most widely known theories of the development of racial bias attributes negative intergroup attitudes to an authoritarian personality structure. Adorno, Frenkel-Brunswick, Levinson, and Sanford (1950) proposed that prejudice is developed in a child by harsh, rigid, and insecure parents who perceive social relationships in terms of power. Harris, Gough, and Martin (1940) administered attitude inventories to 240 fourth, fifth, and sixth graders and their parents. Their results showed that mothers of high-prejudice children tended to be more authoritarian and parents of low-prejudice children more permissive in their parenting styles. Similar findings have been reported by Hart (1957) and Weatherly (1963).

The research concerning the relationship between parents' racial beliefs and that of their children is quite inconsistent. Radke-Yarrow, Trager, and Miller (1952) found that white parents with liberal attitudes towards black persons had children with more negative attitudes towards black persons; Harris et al. (1940) found positive correlations; and Pushkin (1967) found no relationship at all.

A number of studies have focused on identifying the stages of the development of racial bias. Goodman (1964) suggested a three-stage theory of racial bias involving ethnic awareness, (ages 3-4 years), ethnic orientation (ages 4-7), and ethnic attitudes (ages 8 and above). Porter (1971) cited three different stages including awareness of color differences (age 3), incipient racial attitudes (age 4), and strong social preferences backed up by reasons (age 5). Katz (in press) identified eight stages beginning with early observation of racial cues (ages 1-3) and ending with attitude crystallization (ages 10-12).

The research on the development of racial bias points to several important issues. First, it suggests racial attitudes evolve during the preteenage years. Thus, after fourth grade, children are somewhat fixated in their attitudes concerning race and will not rethink them unless placed in a

situation that requires it (Brigham, 1971).

Secondly, reductions in cultural or racial bias may be more readily achieved during the formative stages of the development of bias. Although the developmental research has focused on the establishment of bias, as opposed to its reduction, there is some evidence that the same factors that contribute to the formation of bias may be used to reduce it. A study conducted by Katz and Zalk (1976) suggests the set of factors involved in perceptual elaboration or differentiation may be an example. In their study, second and fifth graders were shown slides of made-up models representing different races. The slides varied along the following dimensions: color of makeup (brown or pink-tan), the absence or presence of glasses, smile or frown, and type of wigs (two different kinds). Children were familiarized with four different made-up faces for eight trials, in which the examiner told the child the name for each race. For the next 48 trials, the child learned to associate race names with correct faces. Then the children were shown the same faces in sets of two and asked to judge the second slide as being the same as or different from the first. Children were also shown slides of black faces mixed with blank slides in groups of eight and asked to count the black faces. This perceptual differentiation manipulation was effective in causing a short-term as well as a long-term reduction in prejudice.

Finally, overall the developmental research seems to be compatible with the belief that racial bias appears to be caught (from context), as opposed to taught (by content), from the preteenage experience (Allport, 1954). For instance, parenting styles appeared to have a more consistent influence than contents of parental beliefs on the formation of racial bias. This is compatible with the research suggesting that contextwise aspects of one's experience determine learning (by osmosis, so to speak), whereas the role played by contentwise aspects in isolation (e.g., through direct instruction) is much more limited (Iran-Nejad, 1994). This was also the central theme of Polanyi's (1967) statement that much of what we know absorbed tacitly from

context, as opposed to being explicitly handed over by the direct instruction of content.

The Multisource Nature of Learning

The literature on belief perseverance suggests that attitudinal biases are highly immune to change. The findings seem to support the long-standing notion that once an individual has adopted a perspective, he or she is unlikely to change that perspective, even when presented with information that challenges that perspective. As Bacon (1920) put it, "the human understanding when it has once adopted an opinion draws all things else to support and agree with it" (p. 50). The conclusion that people's beliefs are immune to change has been generally based on the effectiveness of a single source to motivate change, namely, the (persuasive) content of externally-provided verbal information.

Consider the Anderson et al.'s (1980) perseverance study. There was an experimenter-provided initial impression and a later experimenter-provided debriefing. The content of the initial impression was that there was a positive or negative empirical relationship between success in the occupation of firefighting and risk-taking orientation. The content of the debriefing was that the empirical evidence was fictitious. As assumed by the experimenters, the contents of these two types of experimenter-provided information were contradictory, hence the expectation that subjects should have abandoned their newly-formed initial impression once they heard the debriefing. However, this reasoning makes good sense in the closed framework of the single-source theory of impression formation and change, in which the content of the experimenter-provided verbal information is the one and only source of learning. The single-source impression formation theory involves the assumption that subjects come to the lab with their minds as clean slates equally impressionable with either positive or negative information about the relationship between firefighting and risk-taking tendency. Moreover, either of these two kinds of impressions, once made, is immune to change.

The multisource hypothesis implies that factors outside the single-source framework of the content of experimenter-provided information may be responsible for the findings. Such factors include situational as well as individual sources, on the one hand, and contextwise in addition to contentwise effects, on the other. Thus, subjects who already believed tacitly that a correlation existed between firefighting as a profession and risk-taking tendency responded to the dependent measures according to their own preexperimental tacit beliefs. For these subjects, the fact that the previously-asserted empirical information was later pronounced fictitious was simply irrelevant (as opposed to contradictory) to their beliefs, hence no belief change. Similar multisource explanations can be identified for subjects who heard that a negative relationship existed between firefighting and risk-taking.

In the context of the multisource theory, one would expect the content of the externally-provided input alone to cause attitude change no more than one could expect, by analogy, a tree to grow in pure water. Tree growth requires the contributions of multiple independent sources, such as minerals, water, sunshine, a suitable temperature range, oxygen, and so forth. Each of these contributors is an independent source of growth in the sense (a) that availability of one does not automatically mean availability of others and (b) that all of the sources must be available more or less simultaneously for the process of growth to continue (tree growth stops in the absence of a suitable temperature range even if all of the other sources are operating). The multisource learning hypothesis implies that this is exactly the sense in which learning is multisource in nature-and-that this is exactly why the content of externally-provided verbal input alone cannot affect people's attitudes. Therefore, our task in changing cultural attitudes is to somehow cause a radical shift in a person's tacit knowledge, to use Polanyi's (1967) terminology, under the same multisource conditions that operated when those attitudes were originally established developmentally.

10

Thus, the reason change seems impossible is that researchers have assumed that learning relies on one and only one source--the content of the verbal input provided by the textbook, the teacher, or the investigator. It would follow, then, that assigning readings, talking to students by lecturing in the classroom, or debriefing them about contradictory evidence, ought to be enough to change their beliefs and attitudes. The problem is that people's beliefs and attitudes are deeply entrenched in authentic (contextwise) experiences and form under the influence of multiple sources (Bereiter, 1985) that must contribute to learning simultaneously (Iran-Nejad, McKeachie, & Berliner, 1990). The multisource theory also implies that we must revise our definition of learning. Learning can no longer be viewed as internalizing the content externally-provided input. Rather, it must be viewed as the reorganization of one's own knowledge. Such reorganization would be expected to occur most effectively in authentic real-world-rich contexts (Bartlett, 1932; Garner, 1990; Iran-Nejad, 1990; Schon, 1987), where the essential multiple sources are most likely to be contributing simultaneously.

There is much evidence that multisource authentic learning is superior to single-source academic learning. Miller and Gildea (1987) found that the average seventeen year old has learned his or her vocabulary at a rate of 5,000 words per year for about sixteen years. Only about 100-200 of these words per year were estimated to have been learned in the classroom. Greenblat (1988) gives four reasons for the meager contribution of conventional classroom learning. First, as passive recipients of teacher-provided lecture information, students have difficulty concentrating (Sarason, 1971). Secondly, learners have difficulty grasping the nature of the whole of the topic because of the linear (information-lean) fashion in which material is presented. Third, verbal descriptions of social systems or cultures often suffer from over-simplification. Finally, information-lean (single-source) presentations tend to cause misunderstanding.

In traditional methods of teaching, the content of teacher-provided (or textbook-provided) input is often the only source of learning. Thus, the transfer of abstract, decontextualized, formal content has been the concern of schools. Brown, Collins, and Duguid (1989) noted this problem, stressed that knowledge is situated in context (Bransford Johnson, 1972; Jenkins, 1974), and proposed cognitive apprenticeship as a way of engaging the activity of the learner, context, and culture into learning environments. Situated experiential learning may be encouraged through the use of cultural episodes such as the making of maize (Heinz, 1984) and other hands-on opportunities such as constructing a model colonial town (Hammond, 1988). However, experience with individual customs of a culture is unlikely to stimulate change in holistic attitudes that are rooted in whole-culture experiences requiring the simultaneous contributions of multiple sources essential for authentic attitude change.

Whole-culture experiences may be more readily manipulated through the use of cultural games or simulations (Crookall, 1990; Greenblat, Stein, & Washburne, 1970; Lederman & Stewart, 1983; Petranek, 1991; Petranek, Corey, & Black, 1992; Ruben & Lederman, 1990; Thiagarajan, 1992; Webber & Fisk, 1981). Greenblat, Langley, Ngeva, Luyumba, Mangesho, and MacBailey (1987) used a cultural simulation to train development agents in a rural African village. In this simulation, one room was set up as a village and another as the regional market town and headquarters of the Development Agency. Participants played the role of villagers or development agents. Each villager tried to make life better for himself or herself based on his or her belief system, impressions from development agents, work, needs, and so on. Development agents interacted with villagers and among themselves to improve the quality of life in the village. This is potentially a very effective simulation for understanding village life. Unfortunately, the effects were not examined statistically.

The cultural simulation of the Mexican village in this study differs in that it involves the

construction of an actual village, rather than allowing rooms to represent the village. Therefore, in term of situational authenticity and multisourceness, it was designed to be the closest to real life in a Mexican village that could be achieved outside Mexican village culture itself. It was assumed that the Mexican village culture could be made to thrive in a simulated Mexican village in the United States much in the same way, by analogy, that tropical plants could thrive in a greenhouse in a nontropical climate. It was further assumed that as children grew in their understanding of Mexican village culture, a corresponding spontaneous reduction would occur in their cultural bias.

Method

Subjects and Design

Two hundred four girls, ages 8-17, were randomly chosen from a population of 1,300 campers who attended a residential girls' camp; and were randomly assigned to an experimental cultural simulation condition or a control traditional teaching condition. The girls were predominantly white middle class children involved in missions organizations in southern Baptist churches. Six subjects from the experimental groups became ill and left the study. There were no significant differences in age between the two groups and the age groups were approximately normally distributed.

The design of the experiment was a 2 x 2 repeated measures with treatment (cultural simulation, traditional teaching) as a between-subjects factor and test time (pretreatment, posttreatment) as a within-subjects factor. Cultural studies were a part of the normal program for the residential camp and thus an expected aspect of camp life for subjects in the experimental and control conditions.

Cultural Simulation

The experimental treatment setting was the simulated village, Esperanza. Designed based

13

on the villages in the southern part of the central plateau of Mexico, this setting did not represent

any one village, but the characteristics of several villages to form a typical village in that part of

Mexico. The village was organized in a rotating star pattern typical of Mexican villages (Petersen,

1992). The church, the school, and the market were in the middle and the homes and farms of

the villagers rotated around them. The buildings were constructed using a simulated adobe

substance and wood frames. Clothing, cooking utensils, and decor were actual items purchased in

Mexico. Imitation Mexican bills were used as currency for purchasing items from the market.

Subjects were provided with a dictionary of basic Spanish words (actually a list of essential terms)

to facilitate their communication in Spanish.

Campers were assigned various roles such as mother, priest, beggar, school child, vendor,

teacher, and farmer. Based on their assigned role and social position, subjects were given

simulated Mexican currency. With the assistance of camp staff, campers carried out daily living

activities during their two-day camp experience. Campers bargained for food consisting of corn,

tortillas, beans, rice, peppers, onions, and spices at the Mexican market. Here, they also

bargained for clothes or other supplies that their family deemed necessary. Campers prepared

and ate Mexican food in the traditional way, slept in a simulated typical Mexican home and

celebrated a festival day. No electricity, running water, or bathroom facilities were available in

Esperanza, which caused subjects to build fires, carry water, and so on, to survive. Only Spanish

words were allowed in culture camp, except in the case of an emergency. Campers also

experienced the time orientation o: ie Mexican culture: The fiesta, church services, and other

activities started later than were announced and meals were served within the time frame of

Mexican culture, with a larger meal at lunch and a very late, small supper meal. In addition, the

Mexican tradition of afternoon siesta was observed. Throughout the simulation, various campers

"incurred" illness. If they were ill, campers chose, based on their role and their family's belief

system, whether to go to the "curandero," village medicine man, or the Baptist clinic. Campers

also attended a Mexican church service and those who were eligible, based on their role, attended

a Mexican school.

Traditional Teaching

During their camp experience, subjects in the control condition were taught about

Mexican village life in a variety of ways. The instructor, who was a staff member other than the

experimenter, presented the Mexican cultural information through lecture and hands-on activities.

Subjects made table-top models of villages, moroccos, pinatas, Mexican toys, Mexican flags, and

posters about Mexican village life. Campers also learned Mexican songs and dances to enhance

their learning experience.

Instrumentation

The Katz-Zalk opinion questionnaire (or K-Z index) was used to assess cultural attitude

change (Katz & Zalk, 1970; Katz, Zalk, & Sohn, 1975). This instrument consists of 55 slides

depicting children in ambiguous situations. Of the 55 slides, 38 are racial choice items which

show children of different races but the same gender; 13 items show children of different races

and different gender; and four buffer items show children of the same race and gender. For each

item, after hearing a verbal description of the situation, subjects choose the child credited for the

positive event (e.g., winning a contest) or the negative event (e.g., scribbling on the wall).

Two other measures of racial bias, which were designed for this study, were also used.

- -There was an activity choice (AC) measure for which individual subjects were asked to choose to

play either an unfamiliar American game or an unfamiliar game from another culture. There was

also a socialization choice (SC) measure for which subjects were individually asked to choose

either a Caucasian American girl to join their cabin for a week or a girl from another race and

culture.

15

A final instrument used in this study was a cultural knowledge test designed for the purpose of this study. This instrument was examined by a panel of experts on Mexican culture, which affirmed its correctness and its representativeness of the broad knowledge base of Mexican village culture.

To determine the reliability and validity of the new instruments, they were administered to 50 subjects, ages 8 to 13, who did not participate in the main study. Subjects were given the AC, the SC, and the cultural knowledge instruments, along with the K-Z index, a total of three times. Table 1 shows the Pearson product-moment correlation coefficients. A correlation from one trial to another serves as a test-retest measure of reliability and the correlation with K-Z suggests that the three cultural bias instruments measure the same underlying construct.

Insert Table 1 about Here

Procedure

Both groups were given pretreatment tests, consisting of the three measures of cultural bias and the cultural knowledge test, on Day 1 (Table 2). Then, on Days 2 and 3, the experimental treatment group participated in the cultural simulation and the control group in the traditional teaching methodology. On Day 4, both groups were given all four posttreatment measures and on Day 5 a debriefing in which they were able to express their feelings about their culture camp experiences and their experiences of learning about the Mexican culture through the traditional teaching method. Subjects were informed that the culture camp simulated a Mexican village and not all Mexicans lived in this manner. To enhance the comprehension of this, information about life in Mexican cities was also provided. Campers were asked to keep a journal of their camp experiences, thoughts, and feelings.

_____

Insert Table 2 about Here

_____

Results

Quantitative Analyses

A separate 2 x 2 univariate Anova was computed on the data from each of the four instruments with treatment group (experimental, control) as a between-subjects and test time (pretreatment, posttreatment) as a within-subjects factor. Table 3 summarizes the results. As predicted, all measures of cultural bias revealed a significant interaction. Cultural knowledge showed no significant interaction but the two main effects were significant, even though only the main effect for test time was predicted because it represented the influence of the interventions.

Figures 1 to 3 show the nature of the significant interactions for the three measures of cultural bias. Whereas cultural bias tended to increase (surprisingly) from pretreatment to posttreatment for control subjects, the experimental subjects showed a significant decrease, as predicted. Moreover, as Figure 4 reveals, both groups of subjects increased their cultural knowledge similarly.

Qualitative Data

Not all parents agreed to release the journals subjects kept of their culture camp experience. Therefore, systematic qualitative analysis of these data could not be performed. For the purpose of illustration, Table 4 presents excerpts from the journal entries of subjects from the experimental group. These excerpts illustrate increased appreciation for and understanding of various aspects of Mexican village life such as gender bias, hygiene difficulties, celebrations, priorities of village life, and religious issues. Consistent with the quantitative data, the journal entries suggest a shift in subjects' feelings about Mexican people during their simulation

17

experience. These data suggest an enhanced appreciation of what it takes to live a Mexican village.

Summary, Discussion and Conclusions

The purpose of this study was to determine if participation in an authentic cultural simulation affects cultural bias in older elementary and secondary school children. The effect of simulation on cultural knowledge was also examined. The study predicted a significant interaction with subjects in the authentic cultural simulation to show significantly lower levels of cultural bias in their posttreatment scores, as compared to their pretreatment scores. No such reduction was predicted for subjects participating in the traditional teaching condition. The study produced a highly significant reduction in children's cultural bias as a result of participation in the simulation; whereas for subjects who participated in the traditional teaching methods, the data revealed an increase in cultural bias. Data from the cultural knowledge test showed an increase in cultural knowledge for both traditional and simulation treatments, while overall the treatment group performed better than the control group on pretreatment as well as posttreatment measures.

The finding that the control group showed an increase in cultural bias from pretreatment to posttreatment time seems surprising from the perspective of the traditional teaching methodology. This, however, is exactly what the multisource theory of learning might predict for traditional teaching. What is it about listening to a lecture, doing craft activities, performing small group exercises like making a video or salt map of Mexico, or learning Mexican songs and dances that might cause a child to become more biased against persons of other cultures? According to the multisource hypothesis, the focus on contentwise aspects of the Mexican village culture--that is, trying to learn about things Mexican directly and intentionally--tends to isolate those contentwise aspects from the contextwise aspects of day-to-day living. In doing so, it makes learning about Mexican culture hard work and boring, hence an increase in bias. Moreover, the

focus on the contentwise aspects of the Mexican culture tends to place these aspects in a contrastive relationship with the contentwise aspects of our own culture, magnifying even further the differences between Mexicans and Americans. Mexicans become "they" and Americans become "we" on diametrically opposite cultural as well as motivational poles. It is natural, then, to find ourselves inside the trap of experiencing a deeper (or biased) liking or superiority for whatever that is American and "ours" and, by contrast, an even deeper (more biased) dislike for whatever that is Mexican and "theirs." Living in a culture, on the other hand, tends to pull together the contributions of the (incidental) contextwise as well as (intentional) contentwise samenesses of human life simultaneously including our common needs, emotions, and passions. It is experiencing the culture from the first person point of view with the appropriate pronouns being "I" and "we." It is intriguing to note that this is exactly how the subjects talked about themselves in the excerpts shown in Table 4. In this view, reduction in cultural bias as a function of authentic cultural simulation is tantamount to the "they" becoming a "we" and persons of other cultures becoming our people, their needs becoming our needs; their pain becoming our pain, and their family becoming our family. It stands to reason, then, if we have established an identity, a oneness, with another cultural group, we will be less biased against that group.

Children in both conditions showed a significant increase in their cultural knowledge after their learning experience. Although this is certainly what was predicted and deemed logical, there is the unexpected finding that the pretreatment scores of the two groups also showed a significant difference in cultural knowledge. Why would the experimental group know more about Mexican culture than the control group before either group had participated in a learning experience? It would not be informative to speculated about this difference. However, we believe, it is important to note that the difference in cultural bias between the two groups is unlikely to be responsible for the diverging pattern of results for the two groups from pretreatment to

posttreatment.

Several factors inherent in the investigation must be mentioned that limit its generalization. The study was limited to children who reside in the southern United States. Other areas of the United States might facilitate greater contact or exposure to persons of other races. Another limitation was that the study used only female subjects. The age range of this study was limited from 8 to 17 years. Finally, this study was limited to all Caucasian subjects. Further investigation beyond the limitations of the study would be the next logical extension of the present findings. Meanwhile, the conclusions of this study should not be generalized to individuals of the other gender, states, ages, or ethnic groups.

The results of this study carry promising implications for teaching in the areas of social science and global understanding. If we wish to prepare our children to live in a global society, we must equip them to relate well to persons of other cultures. It is certainly easier for the instructor and less cost-prohibitive for the institution to teach culture using traditional methodology. This research suggests, however, that this is not the most effective way to teach culture. It further indicates that traditional methodology is ineffective in helping students to reduce their cultural bias and, in fact, might even be associated with an increase in cultural bias.

Simulation of another culture is an effective means of helping individuals to experience another culture without the cost of actually traveling to another country or area of the world. In functioning as an active participant rather than a passive learner, subjects are able to become regulators of their own learning. They are empowered to utilize their own strengths and learning styles, through simultaneous multisource learning to enhance their learning experience.

Regardless of how we explain the data, the fact remains that this research contributes to the body of literature by providing quantitative, in addition to qualitative, data on the relative effectiveness of cultural simulations, as compared to traditional teaching. Although there are

many simulations available, few of these document their outcomes quantitatively. In addition, this research paves the way for the development of simulations as tools for attitudinal change.

If we are to indeed set before us the goal of global understanding and peace for our children, we must move them from a "they" to an "us" mindset towards people of other cultures reflecting joint membership in a global society. If we fail to do this, we may be faced with a future framed by a warring humanity instead of a new age of world peace.

Also noteworthy are implications of this study for research in the area of attitude and belief change. Available research supports the view that attitudes and beliefs are inordinately difficult to change. We reviewed the evidence and noted that a possible reason for the difficulty in bringing about change is the almost exclusive reliance of the existing research on verbal information as the one and only source (or means) of facilitating change. So the finding may only support the hypothesis that attitudes and beliefs are very difficult to change by means of providing verbal information or telling subjects about counterattitudinal evidence. In fact, this is precisely what the mulisource theory of learning predicts. For change to occur, multiple sources must contribute to learning simultaneously; and this is precisely how the authentic cultural simulation differed from the tradtional teaching methodology employed in the present study.

REFERENCES

Adorno, T. W., Frenkel-Brunswick, E., Levinson, D. J., & Sanford, N. N. (1950). The Authoritarian Personality. New York: Harper.

Allport, G. W. (1954). The Nature of Prejudice. Reading, Mass: Addison-Wesley.

Anderson, C. A., Lepper, M. R., & Ross, L. (1980). The perseverance of social theories: The role of explanation in the persistence of discredited information. Journal of Personality and Social Psychology, 39, 1037-1049.

Bacon, F. (1920). The New Organon and Related Writings. New York: Liberal Arts Press.

Bartlett, F. C. (1932). Remembering: A study in experimental and social psychology. Cambridge, England: Cambridge University Press.

Bereiter, C. (1985). Toward a solution of the learning paradox. Review of Educational Research, 55, 201-226.

Boulton, M. J., & Smith, P. K. (1990). Affective bias in children's perceptions of dominance relationships. Child Development, 61, 221-229.

Brigham, J. C. (1971). Views of white and black school children concerning racial personality differences. Paper presented to the Midwestern Psychological Association.

Brown, J. S., Collins, A., & Duguid, P. (1989). Situated cognition and the culture of learning. Educational Researcher, 18, (1), 32-42.

Bruning, R. H., Shell, D. F., & Murphy, C. C. (1987). Development of self-efficacy and outcome expectancy for reading and writing: A regression and causal modeling approach. Paper presented at the National Reading Conference, St. Petersburg, FL.

Clark, A., Hocevaer, D., & Dembo, M. H. (1980). The role of cognitive development in children's explanations and preferences for skin color. Development Psychology, 16, (4), 332-339.

Crookall, D. (1990). International relations: Specific purpose language training. In D. Crookall
and R. L. Oxford (Eds.), Simulation Gaming and Language Learning, (pp. 151-159). New
York: Newbury House, Publishers.

Garner, R. (1990). When children and adults do not use learning strategies: toward a theory of
settings. Review of Educational Research, 60, 4, 517-524.

Goodman, M. (1964). Race awareness in young children. (2nd ed.). New York: Crowell-Collier.

Greenblat, C. S. (1988). Designing Games and Simulations. Newberry Park, CA: Sage
Publications.

Greenblat, C. S., Langley, P., Ngeva, J., Luyumba, S., Mangesho, E., & MacBailey, F. (1987).
CAPJEFOS: A Simulation of Village Development. (Available from Cathy Stein
Greenblat, Professor of Sociology, Rutgers University, New Brunswick, NJ 08903).

Greenblat, C. S., Stein, P. J., & Washburne, N. F. (1970). The Marriage Game: Understanding
Marital Decision Making. New York: Random House.

Hammond, P. (1988). Using the hands on philosophy daily in a second grade classroom. Hands
On, 13, 14-20.

Harris, D., Gough, H., & Martin, W. E. (1940). Children's ethnic attitudes: Relationships to
parental beliefs concerning child training. Child Development, 21, 169-181.

Hart, I. (1957). Maternal child-rearing practices and authoritarian ideology. Journal of
Abnormal Social Psychology, 55, 232-237.

Harte, D. (1989). Fine tuning learning experience: An information age model for excellence.
NASSP Bulletin, 78, (517), 96-101.

Heinz, E. (1984). Seeing the world: A cartographic route to global perspective. Social Studies
Review, 24, (1), 51-57.

Hiebert, E. H., Winograd, P. N., & Danner, F. W. (1984). Children's attributions for fai'ure and

success in different aspects of reading. Journal of Educational Psychology, 76, 1139-1148.

Iran-Nejad, A. (1990). Active and dynamic self-regulation of learning processes. Review of Educational Research, 60(4), 573-602.

Iran-Nejad, A. (1984). The global coherence context in educational practice: A comparison of piecemeal and whole-theme approaches to learning and teaching. Research in the Schools, 1(1), 63-76.

Iran-Nejad, A., McKeachie, W. J., & Berliner, D. C. (1990). The multisource nature of learning: An introduction. Review of Educational Research, 60, (4), 509-515.

Katz, P. A. (in press). Development of children's racial awareness and intergroup attitudes. In L. G. Katz (Ed.), Current Topics in Childhood Education. 4, Boulder, CO.

Katz, P. A., & Zalk, S. Z. (1970). Katz-Zalk Projective Prejudice Test: A Measure of Racial Attitudes in Children. Paper presented to the American Psychological Association.

Katz, P. A., & Zalk, S. Z. (1976). Katz-Zalk projective prejudice test: A measure of racial attitudes in children. Catalog of Selected Documents in Psychology, 6, 37-38.

Katz, P. A., & Zalk, S. Z. (1978). Modification of Children's Racial Attitudes. Developmental Psychology, 14, (5), 447-461.

Katz, P. A., & Zalk, S. Z., & Sohn, M. (1975). Perceptual concomitants of racial attitudes in urban gradeschool children. Developmental Psychology, 11, 135-144.

Lawrence, V. W. (1991). Effect of socially ambiguous information on white and black children's behavioral and trait perceptions. Merrill-Palmer Quarterly, 37, (4), 619-630.

Lederman, L., & Stewart, L. P. (1983). The SIMCORP Simulation Participant's Manual. Princeton, NJ: Total Research Corporation.

Lepper, M. R., Ross, L., & Lau, R. R. (1986). Persistence of inaccurate and discredited beliefs about the self: Perseverance effects in the classroom. Journal of Personality and Social

Psychology, 50, (3), 482-491.

Miller, G. A., & Gildea, P. M. (1987). How children learn words. Scientific American, 257, (3), 94-99.

Murphy, C. C., & Shell, D. F. (1989). Relationship of self-efficiency beliefs, causal attribution, and outcome expectancy to reading and writing performance for ethnically diverse college freshmen. Paper presented at the American Educational Research Association Annual Meeting; San Francisco, CA.

Nicholls, J. G. (1979). Development of perception of own attainment and causal attributions for success and failure in reading. Journal of Educational Psychology, 71, 94-99.

Peterson, G. W. (1992). Life in a Mexican Town. Chicago: NTC Publishing.

Petranek, C. F. (1991). The Drinking Game. (Available from Department of Sociology, 8600 University Blvd., University of Southern Indiana, Evansville, IN 4712.)

Petranek, C. F., Corey S., & Black, R. (1992). Three levels of learning in simulations: Participating, debriefing, and journal writing. Simulation and Gaming, 23, (2), 174, 185.

Pillow, B. H. (1991). Children's understanding of biased social cognition. Developmental Psychology, 27, (4), 539-557.

Polanyi, M. (1967). The Tacit Dimension. Garden City, NY: Anchor Books.

Porter, J. D. (1971). Black child, white child: The development of racial attitudes. Cambridge, MA: Harvard University.

Pushkin, I. (1967). A study of ethnic choice in the play of young children in three London districts. Unpublished Ph.D. thesis, University of London, 1967.

Radke-Yarrow, M., Trager, H., & Miller, J. (1952). The role of parents in the development of children's ethnic attitudes. Child Development, 23, 13-53.

Ruben, B., & Lederman, S. C. (1990). Communication, culture, and language: Interactive

simulations. In D. Crookall and R. L. Oxford (Eds.), Simulation, Gaming, and Language

Learning, (pp. 205-213). New York: Newbury House Publishers.

Sarason, S. (1971). The Culture of the School and the Problem of Change. Boston: Allyn ɛ d

Bacon.

Schon, D. A. (1987). Educating the Reflective Practitioner. San Francisco: Jassey-Bass.

Shell, D. F., Murphy, C. C., & Bruning, R. H. (1989). Self-efficacy and outcome expectancy

mechanisms in reading and writing achievement. Journal of Educational Psychology, 81,

91-100.

Thiagarajan, S. (1992). People to people. Simulation and Gaming, 23, 222-228.

Toffler, A. (1991). Power shift. New York: Bantan Books.

Tutin, J. (1983). Belief perseverance: A replication of social judgement findings. Paper

presented at the Annual Convention of the American Psychological Association, Anaheim,

CA.

Weatherly, D. (1963). Maternal response to childhood aggression and subsequent anti-Semitism.

Journal of Abnormal Social Psychology, 66, 183-185.

Webber, K. N., & Fisk, S. J. (1981). BaFa BaFa. Anthropology and Multicultural Education, a

symposium presented at the annual meeting of the American Anthropological Association,

Los Angeles, CA.

Table 1

Pearson Product-Moment Correlations among Three Different Administrations of Cultural Bias

Tests (Activity Choice, Socialization Choice, and Katz-Zalk Index) and Cultural Knowledge Test.

Test	Trial 2	Trial 3	Katz-Zalk
Activity Choice			
Trial 1	0.83	0.46	0.69
Trial 2		0.54	0.66
Trial 3			0.59
Socialization Choice			
Trial 1	0.71	0.55	0.71
Trial 2		0.63	0.75
Trial 3			0.68
Cultural Knowledge			
Trial 1	0.91	0.79	
Trial 2		0.85	

Table 2

Outline of the Procedure for the Repeated Measures Design

Time	Control (n = 105)	Experimental (n = 99)
Day 1	Pretreatment Tests	Pretreatment Tests
Days 2-3	Traditional Teaching Method	Cultural Simulation
Day 4	Posttreatment tests	Posttreatment tests
Day 5	Debriefing	Debriefing

Table 3

Analysis of Variance Summary Table for the Three Measures of Cultural Bias and the Measure of

Cultural Knowledge

Source	Mean Square	F Value	P Value
Katz-Zalk			
Teaching Method	73.80	4.08	p < .05
Test Time	5.00	1.07	p > .05
Interaction	1393.43	298.24	p < .001
Activity Choice			
Teaching Method	4.76	29.24	p < .001
Test Time	2.97	25.62	p < .001
Interaction	22.11	191.06	p < .001
Socialization Choice			
Teaching Time	4.97	4.97	p < .001
Test Time	3.13	3.13	p < .001
Interaction	21.66	197.38	p < .001
Cultural Knowledge			
Teaching Time	80.59	9.80	p < .01
Test Time	673.34	260.66	p < .001
Interaction	5.28	2.04	p > .05

Note 1. The degrees of freedom for all tests are 1, 202; between-subjects mean square errors are 18.073,

0.191, 0.196, 28.62 and within-subject mean square errors are 4.672, 0.116, 0.110, and 2.583 for Katz-Zalk,

activity choice, socialization choice, and cultural knowledge, respectively.

Table 4

Qualitative Data Collected from Journals of Experimental Group Subjects

---

Gender Bias

Fourteen year old girl:

> It's hard being a woman in Mexico. I'm the mother of my family and all I do is work, work, work! Everybody expects me to serve them. My daughters can't go to school because there's only enough money for the boys to go. It's not fair! How do you live as a girl in a world that puts boys first just because they're boys?

Hygiene Difficulties/Priorities of Village Life

Twelve year old girl:

> When I've seen pictures of people in other countries, I've always thought they were dirty. Like they didn't care what they looked like. Look at us (campers at culture camp)--we look just like them. When you have to build a fire, haul water, and pick food just to survive, what you look like really isn't very important to you.

Eleven year old girl:

> It's hot. I'm tired. I'm dirty. This is a hard way to live. I think Mexican girls must be really tough.

Ten year old girl:

> I always thought Mexicans were lazy. No way! They have to work harder than I ever thought about working.

Nine year old girl:

> Wow! A real Mexican village. It's really hot living out here. It's siesta time now and I know why--because it's too hot to do anything else.

Celebrations

Eight year old girl:

> I liked the posada--that's a Christmas party in Mexico. It was like a birthday party for Jesus. It was neat the way people in Mexico act out the Christmas story.

Religious issues

Eleven year old girl:

> Culture camp is cool. It's neat to see the way other people in the world live. It's like I got to go to Mexico and never leave . . . . Today I got sick--not really sick--it's part of the culture camp. I broke my arm and I wanted to go to the Baptist clinic so they could help me. My mother said I have to go the cure-guy (curandero), the village doctor, because he had strong medicine. I don't think his plants and stuff would help my arm. Besides, I am a Christian and my family isn't. I know the missionaries can help me more than the cure-guy, but my family doesn't believe me. I don't know what to do.

Figure Captions

Figure 1.   Katz-Zalk index scores for experimental and control groups as a function of test time
(pretreatment, posttreatment)

Figure 2.   Activity choice scores for experimental and control groups as a function of test time
(pretreatment, posttreatment)

Figure 3.   Socialization choice scores for experimental and control groups as a function of test time
(pretreatment, posttreatment)

Figure 4.   Cultural knowledge scores for experimental and control groups as a function of test time
(pretreatment, posttreatment)

2.0		
1.8		— — — = control
1.6		———— = experimental
1.4		
1.2		
1.0		
	Pretreatment	Posttreatment

2.0
1.8
1.6 ----- = control
       ——— = experimental
1.4
1.2
1.0

Pretreatment   Posttreatment