THE EFFECTS OF MODELING AND CLASSROOM ORGANIZATION ON THE
PERSONAL SPACE OF THIRD AND FOURTH GRADE CHILDREN

by

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A Thesis Submitted to the Faculty of the
DEPARTMENT OF EDUCATIONAL PSYCHOLOGY

In Partial Fulfillment of the Requirements
For the Degree of

MASTER OF ARTS

In the Graduate College

THE UNIVERSITY OF ARIZONA

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STATEMENT BY AUTHOR

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ACKNOWLEDGMENTS

Any research project of this size requires a great deal of assistance from many individuals. I am indebted to a number of faculty members who had the patience to listen to a brash, first-year graduate student and show a genuine interest in his work. Specifically, without the guidance and knowledge of Dr. Barry Zimmerman this project would never have been initiated, let alone completed. Dr. Zimmerman generously donated his time and inexhaustible energy at every phase of the project. I have learned a great deal from Dr. Zimmerman and I am very proud to have him as my advisor.

Dr. Ronald Henderson and Dr. Sarah Dinham have shown a genuine interest in my graduate career. From my first introduction to Dr. Henderson he has been a constant source of knowledge, encouragement, and advice which has made my graduate education a more pleasant experience. Dr. Dinham, in addition to being a fine instructor, has been a source of moral support when the going got a little tough.

I am also deeply indebted to John Bell and Keith Meredith, who unselfishly donated much of their valuable time in an attempt to mend a stubborn computer program, and were able to pacify my anxiety by helping me to analyze my data in a number of ways before the computer program would cooperate.

Kate Cloud portrayed a warm, sincere teacher in the modeling sequences while Holly Cruse and Derek Sabers were two of the cutest

students anywhere. The modeling sequences would have been of little value had not Tucson School District #1 not permitted me to use a portion of their students for my research. Also, I wish to express thanks to Mr. John Joe, Principal of Ochoa Elementary School, and Mr. Charles Hollinger, Principal of Government Heights Elementary School, and their third and fourth grade teachers who allowed me to intrude into their classrooms.

Rich Koussa generously gave of his time when he assisted in each experimental session and Gary Somers, Chuck Kiven, David Abbey assisted in the tedious data coding.

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ABSTRACT

This experiment was designed to assess the effects of modeling and classroom organization, open and traditional, on the personal space of third and fourth grade boys and girls. Eighty students were randomly selected from the third and fourth grades from an open classroom organization elementary school, and eighty students were randomly selected from a traditional classroom organization elementary school. In addition, half the students from each school were randomly selected to view a video tape in which a teacher and two students interacted in a proximate teaching situation, while the remaining one half of the students viewed the same teacher and students in a distant teaching situation. The results indicated that open classroom students reported smaller personal spaces to peers and adults. Third graders reported smaller interpersonal distances to specific individuals than fourth graders. Also, exposure to the proximate modeled teaching session significantly decreased the subject's personal space, whereas the distant modeled teaching session exhibited little influence on the interpersonal distances.

CHAPTER 1

INTRODUCTION

During the past five or six years there has been a growing debate concerning the advantages and disadvantages of the open classroom approach. Unfortunately, there have been few empirical studies which concerned themselves with the open classroom. Walberg and Thomas (1972) developed a teacher observation and questionnaire scale in an attempt to discriminate attitudes of teachers in sixty-two open and traditional classrooms in the United States and Great Britain. Eight themes either operationalized in a questionnaire or an observer rating form distinguished between open and traditional classrooms. To my knowledge, this is the extent to which the open classroom has been empirically investigated and evaluated. This is not to deny the existence of other writings on the subject of open education, but the bulk of the literature is composed of critiques of American educational practices advocating open education as an alternative to the present, or traditional, classroom organization (Silberman, 1970; Kohl, 1969).

One of the primary criticisms these authors offer of traditional classroom structure was the lack of freedom to explore and freely intermingle without the usual seating restrictions which might have an effect upon the interpersonal behaviors of the students. Within classrooms with open classroom organization, children may interact spatially in a more

intimate, face to face manner with other children or adults. Many of these activities would be largely precluded by the seating requirements in traditional classrooms.

Many researchers have been attempting to develop valid methods of measuring classroom social interactions among students and also between the students and their teacher (Flanders, 1960; Stallings, 1972). One new and yet unexplored aspect of classroom interactions is personal space. Hall (1961) has developed a proxemic classification system for describing distance zones according to social relationships that were common to American middle class adults: (1) intimate distance, 0-1½ ft; (2) personal distance, 1½-4 ft; (3) social distance, 4-12 ft; and (4) public distance, 12 ft or more. Hall conceived of these distances as bubbles which surround an individual which give an indication of the degree of intimacy in interpersonal relationships.

Robert Sommer (1969, p. 26) defined "personal space as an area with invisible boundaries surrounding a person's body into which intruders may not come." Kinzel (1968) approached prison inmates until they asked him to stop when they felt he had come too close. Prisoners who had been sentenced for a violent crime told him to stop further away than prisoners who were convicted of non-violent offenses. The prisoners appeared to respond according to Hall's personal distance classification. The non-violent prisoners allowed the experimenter to approach within eighteen inches (personal distance) and the violent inmate's distance was three times the distance of the non-violent prisoners.

There have been several studies in which personal space was measured by having subjects position figures which represented human

beings. The subjects positioned two sets of figures: (1) those representing themselves and (2) those representing another individual described either as acquaintances, strangers, or other persons falling on a continuum of like to disliked (Little, 1965). Acquaintances or persons with positively valenced descriptions were placed more closely than persons with neutral or negatively valenced descriptions. According to Little's study, personal space appears to be situation-specific. Interfigure distances were larger in an office waiting room than on a campus location, or even a street corner. Kleck (1968) had subjects manipulate rectangles representing themselves in relation to a number of other rectangles representing various stimulus individuals. The following were placed successively further away from the student: liked professor, friend, blind person, Negro, stranger, amputee, epileptic, mental patient, disliked professor. Similarly, subjects when led to believe they were in the process of being evaluated in terms of their physical appearance reacted by greatly increasing their interpersonal distances (Dosey and Meisels, 1969). There appears to be a common theme running through the literature which suggests that a person prefers greater interpersonal distance when an individual is frightened or holds the belief that he is being evaluated by another individual. Intrusion into this space is likely to create escape or avoidance behaviors in an attempt to alleviate personal discomfort. These spatial boundaries are not absolute, but vary according to the person and situation. For example, Williams (quoted by Sommer, 1969, p. 30) found that extroverts approached others more closely than introverts. Felipe and Sommer (1966)

conducted a study which took place in a university library. In one group, the experimenter attempted to sit within twelve inches of the subject and in another condition, the experimenter sat further away from the subject. The control group sat alone. The experimental results indicated that as the subjects were more closely approached, they fled more than subjects in the other conditions. Some subjects went to great lengths in an attempt to gain isolation by constructing barriers between themselves and the experimenter. They used books, coats, and even turned their chairs in another direction.

Fry and Willis (1971) demonstrated that adults will tolerate invasions of their personal space by five and eight year olds while waiting in line for a movie, but reacted negatively to invasions of personal space by ten year olds. It appears as though adults will regard children innocuously up to a certain age, whereupon older children will receive the same wrath that an adult would for the same offense. Thus space is not an absolute parameter of social interaction, but is situationally defined by social and nonsocial stimuli.

Only a few studies have concerned themselves with investigations of personal space in children. Meisels and Guardo (1969) demonstrated the development of personal space in children in grades three through ten. The subjects were asked to report, by paper and pencil measures, their personal spaces with regard to numerous individuals having positive, negative, and neutral effect. The more the child liked the individual described, the less the amount of distance he required between them. As age increased, the distance between males and females decreased, while

the distance between males increased. It was noted that males stood much closer to threatening individuals or threatening groups than females.

From the above results, it may be concluded that a self-report measure of personal space has been found to be a valid behavioral measure of interpersonal comfort with adults and children. One area concerning personal space which has not been explained is how it develops and the influence the public schools play in influencing the personal spaces of students. One major concern of this study is an attempt to determine if classroom organization, open as opposed to traditional, has an effect upon interpersonal interactions. Will children in open classrooms exhibit smaller personal spaces? If so, the inference could be made that differences in classroom organization play an important role in the socialization process. It is known that children are in classrooms much of the time during the major years of development, which would lead one to assume the schools, and more precisely, different classroom organizations, might influence children's spatial patterns.

The aforementioned research suggests that personal space is a socially learned phenomenon. Bandura and his associates have demonstrated in a host of studies that modeling affects a variety of response classes. Modeling has the capability of teaching responses that are not in an individual's behavioral repertoire such as syntactical and abstract classes of question formulation (Bandura and Harris, 1966; Rosenthal, Zimmerman and Durning, 1970). Also, modeling has demonstrated the capacity to change behaviors already in the repertoire of subjects such as moral

judgments and gratification patterns (Bandura and McDonald, 1963; Bandura and Mischel, 1965).

This literature suggests that the social environment is a major factor in influencing behavior. Social environment can sanction specific certain social behaviors and inhibit others. It is possible that a classroom with open organization, as opposed to traditional organization, may predispose children to interact with the teacher and each other in a different manner than classrooms with structured seating and groupings of children. Given the fact that modeling is a powerful vehicle for teaching and facilitating behaviors, it can be expected that children imitate many of their teacher's behaviors. A teacher's behavior is in part determined by the type of classroom organization in which she is teaching.

The purpose of this study was to examine the effects of open and traditional classrooms on the personal space of students. Additionally, one treatment will determine if children are influenced by a model's interpersonal distance. The following hypotheses were tested: (a) Children who attend open classrooms have smaller personal spaces than children attending traditional classrooms. (b) Personal space is a socially learned phenomenon which may be increased or decreased as a result of watching proximate or distant models.

CHAPTER 2

METHOD

Subjects and Experimenters

From two schools, serving a Chicano lower income region of Tucson, 80 boys and 80 girls were randomly selected from the third and fourth grades. One half of the subjects were randomly selected from a school having open classroom structure and the remaining one half from a school with traditional classroom arrangement. The open classrooms differed from the traditional classrooms in a number of ways. Furniture such as tables and chairs, which were easily moved to form new groupings, were used in the open classrooms; whereas in all the traditional classrooms, the students remained in desk-chairs which were aligned in rows during the majority of each school day. In the open classrooms were interest centers which were formed by arranging the furniture in such a way that children could work on common tasks. Thirdly, children in the four open classrooms were heterogeneously ability-grouped as opposed to the homogeneous groupings in the traditional classrooms. In all the open classrooms a teacher aid was present whose duties included working with small groups of children while the classroom teacher was working with other groups. These were the major differences in classroom organization in the four open and four traditional classrooms used in the study.

Two male graduate students served as experimenter and proctor and a middle-aged woman and a fourth grade boy and girls served as the

models (M). Both adults and children were Anglo-Americans with no striking departures from average characteristics.

Materials

The personal spaces of the subjects were measured by a printed test booklet which was divided into two sections. The first section, or pre-test, contained five stimulus figures (three peers and two adults) which were printed so that a silhouetted profile of each figure was placed three inches from the right hand edge of the 8½" x 13" sheet of paper. The second part, or posttest, utilized the same stimulus figures. This is the same format which proved reliable and valid in two previous studies (Guardo, 1969 : and Meisels and Guardo, 1969). Each presentation of the stimulus figures was printed on a single sheet of legal-sized paper; in addition, each stimulus figure was scaled one inch to the foot and represented the appropriate height for third and fourth graders.

Two Sony one-half inch videotapes were used to record the performance of the proximate and distant models. A 21" Setchell Carlso high resolution television monitor was used to present the tapes.

Procedure

Each experimental group was comprised of ten randomly selected same sexed subjects who were escorted to an experimental room where the paper and pencil measures of personal space were administered. The subjects were informed that they would be playing a game in which the experimenter wished to discover where they would stand when they conversed with specific peers and adults. The experimenter then proceeded to model

the use of the paper and pencil instrument with a hypothetical interaction involving the experimenter and his brother. Each subject was provided with a cutout of a silhouette figure, representing the subject, which the subject positioned in a face to face relation with a silhouette stimulus figure printed on the page. The subject placed the manipulable figure where he would position himself in relation to the verbally described stimulus figure on the page, and traced around the figure representing himself. In both the pretest and posttest the stimulus figures were described as follows:

1. This person is someone in your class who is your very best friend. Your very best friend wants you to come over and talk with him, her. Where would you stand?
2. This is someone in your classroom who is not your best friend. This person who is not your best friend wants you to come over and talk with him, her. Where would you stand?
3. This is someone in your classroom who picks on you and calls you names. This person wants you to come over and talk with him, her. Where would you stand?
4. This woman is your teacher, and she want you to come over and talk with her. Where would you stand?
5. This woman is a visitor to your classroom, and she would like you to come over and talk with her. Where would you stand?

All the interactions were described as having taken place within the classroom in order to control for setting effects such as found by Little (1965).

After the pretest was completed the subjects were requested to carefully view a ten-minute tape representing a teaching session in which the teacher and children interacted in either a proximate or a distant fashion. In the distant teaching situation the teacher and two pupils were five feet apart from one another, whereas in the proximate teaching

situation, the teacher and two pupils were positioned within one foot of each other. Each tape involves the teacher reading and discussing a story with the children. The interactions and content for both video tapes were similar except for the space between the teacher and students. Following the video tapes, the paper and pencil personal space measures were readministered with the same instructions and stimulus figures.

CHAPTER 3

RESULTS

For each of the five personal space measures and for pretesting and posttesting, mean interfigure distance scores in inches were obtained. A multivariate analysis of variance (Wilk's Lambda Criterion Tests of Significance, Morrison, 1967) was utilized.

As a descriptive measure of variables influencing personal space, a 2 (sexes) x 2 (grades) x 2 (types of classroom organization) MANOVA was performed on the pretest interpersonal scores. Subjects from the open classroom organization school responded significantly different than subjects from the traditional classroom organization school on their pretest scores ($F = 4.949$, $df = 5/148$, $p < .001$). Examination of an univariate analysis of each stimulus figure revealed that subjects in the open classroom approached stimulus figures described as a "bully," and a "visitor" to the classroom significantly closer than traditional classroom students (bully, $F = 11.269$, $df = 1/152$, $p < .001$; visitor, $F = 12.145$, $df = 1/152$, $p < .001$). The mean interfigure distance for each stimulus figure for each classroom organization group on the pretest is presented in Table 1.

The grade main effect was found ($F = 3.470$, $df = 5/148$, $p < .005$). For each grade, univariate F tests indicated that third graders had reported smaller interfigure distances with regard to "best friend"

Table 1

Mean Interfigure Distances on Pretest Scores in
Inches by Classroom Organization and Grade

Stimulus Figure	Open Classroom	Traditional Classroom	3rd Grade	4th Grade
Best Friend	.795	.746	.672	.869
Not Best Friend	2.183	2.582	2.397	2.380
Bully	3.350	4.488	3.521	4.319
Teacher	.946	.851	.826	.979
Visitor	.999	1.351	1.129	1.220

($F = 7.324$, $df = 1/152$, $p < .008$), and "bully" ($F = 5.548$, $df = 1/152$, $p < .02$) than fourth grade students.

A 2 (sexes) x 2 (grades) x 2 (types of classroom organization) x 2 (modeling) MANOVA was performed on the pretest to posttest change scores to determine if the televised models influenced children's personal space. Exposure to the proximate model significantly decreased the subject's personal space to the stimulus figures ($F = 4.305$, $df = 5/144$, $p < .001$). An univariate analysis further revealed that the largest vicariously induced changes occurred in "not best friend" ($F = 4.166$, $df = 1/144$, $p < .03$), "bully" ($F = 14.062$, $df = 1/144$, $p < .001$), and "teacher" ($F = 4.708$, $df = 1/144$, $p < .03$). The group exposed to the proximate modeled teaching session decreased their mean interfigure distance on each stimulus figure, whereas the distant modeled teaching session exhibited little influence on the interfigure distances as an examination of Table 2 will bear out.

There was not a significant sex main effect, nor were any interactions among any combinations of variables evident in either the pre- or posttest results.

Table 2

Mean Interfigure Change in Inches from Pre- to Post-
Measurements by Proximate and Distant
Modeled Teaching Situation

Stimulus Figure	Proximate Mean Change	N	Distant Mean Change	N
Best Friend	-.082	80	-.031	80
Not Best Friend	-.620	80	-.178	80
Bully	-.848	80	+.125	80
Teacher	-.156	80	+.083	80
Visitor	-.049	80	-.034	80
Mean change across figures	-.351	80	-.007	80

CHAPTER 4

DISCUSSION

Data from the pretest personal space task confirmed the first major hypothesis of the study, that children in open classrooms do, in fact, report closer approach behavior toward peers and adults than do children in traditional classrooms. From these results, it appears that open classroom students report different degrees of proximity in their interaction than children who are not allowed to freely intermingle and who must remain in their designated seats for the majority of the school day. It is interesting to note that the open classroom students reported smaller interfigure distances to persons described as "not best friend," "bully," and "visitor;" this evidence suggests that open classroom students are not as reluctant to approach unfamiliar or threatening peers and adult strangers. One possible explanation has to do with the variety of interactions a child in an open classroom experiences. This could be a result of the classroom structure which is a reflection of the philosophy of the open education approach. Henderson (1973) in his discussion of the criterial attributes of open education emphasizes random or heterogeneous grouping of children so that students are able to work with one another in small groups on a single task rather than in an individual competitive learning situation. When children are working together with different groupings of children during the course of a school day, not

only are they learning in a cooperative manner, but they are sharing this experience with a large number of fellow students.

Previous developmental findings suggest that as children mature they report smaller interpersonal spatial distances. although the amount of distance used does not follow a clear developmental trend for persons described as a "best friend" and a "group of threatening individuals" (Meisels and Guardo, 1969). These researchers discovered in further analysis that children reported increased interpersonal space as they grew older in positive-affect situations with same-sexed peers. The data obtained in the present study also support this finding (Meisels and Guardo, 1969) since third graders reported positioning themselves significantly closer to stimulus figures described as "best friends," and a "bully." It is interesting to note that previous studies utilized Anglo-American subjects who were affiliated with a university school (Meisels and Guardo, 1969) or in an Anglo-American suburb of Denver (Guardo, 1969). The subjects in the present study were Mexican-American students from low income areas of Tucson. Yet, the developmental patterns of spatial usage revealed in the present study appears to be quite similar to the previous studies cited above. Future empirical examinations could focus on specific spatial developmental differences across cultures.

The data indicated that interpersonal spatial behavior was found readily subject to vicarious modification. Changes in response from pre-test to posttest differed markedly depending upon which modeled presentation each experimental group viewed. The subjects viewing the proximate presentation reported smaller interfigure distances to the stimulus

figures, whereas the subjects viewing the distant presentation demonstrated little change in interfigure distances.

Prior to this study it has been assumed that the development of interpersonal distance was a function of a child's stage in his psychosexual development (Meisels and Guardo, 1969). These authors explain the close same-sex proximity in fifth and sixth graders according to a psychodynamic model of psychosexual development (Sullivan, 1940). These authors suggested that children of this age are in love with their same-sexed peers. As children approach adolescence, the authors postulated that this increase in distances with same-sexed peers may be due to a child's unacceptable homoerotic feelings.

It appears plausible that the ways in which individuals interact spatially is influenced by important persons in the environment, such as parents, teachers, and peers, rather than as a result of psychosexual development. It is suggested that the way in which a child observes others interact interpersonally in his environment will exert an influence upon the interpersonal behaviors which the child will exhibit in this and other similar social contexts. It is particularly important to note that a simulated teaching situation was responsible for the subject's change in self reported social distances. The fact that children will alter their responses on a paper and pencil measure of interpersonal distances after viewing a ten-minute video tape is evidence of the importance of classroom organization factors in influencing children's affective development.

Finally, it is not known how a child's self-report of his interpersonal spatial behaviors relates to the actual behaviors an individual would exhibit. The author has plans for a validation study of the paper and pencil and measure used in this study with a behavioral measure of personal space. The covariation of attitudinal and behavioral measures of proximity are an unresearched topic of considerable interest.

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