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**Characteristics of effective school foodservice programs**

**Rethmeyer, Alita E., Ed.D.**

**Pepperdine University, 1988**

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CHARACTERISTICS OF EFFECTIVE  
SCHOOL FOODSERVICE PROGRAMS

A Dissertation  
Presented to  
The Faculty of the Graduate School of Education  
and Psychology  
Pepperdine University

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In Partial Fulfillment  
of the Requirements for the Degree  
Doctor of Education

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by  
ALITA E. RETHMEYER  
November 1988

This dissertation, written by

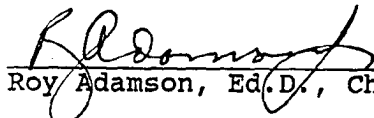
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under the guidance of a Faculty Committee and approved by its members, has been submitted to and accepted by the Graduate Faculty in partial fulfillment of the requirements for the degree of


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ABSTRACT OF THE DISSERTATION

CHARACTERISTICS OF EFFECTIVE  
SCHOOL FOODSERVICE PROGRAMS

BY

ALITA E. RETHMEYER

DOCTOR OF EDUCATION IN INSTITUTIONAL MANAGEMENT  
THE GRADUATE SCHOOL OF EDUCATION AND PSYCHOLOGY  
PEPPERDINE UNIVERSITY, 1988

ROY ADAMSON, CHAIRPERSON

STATEMENT OF THE PROBLEM

School foodservice programs are considered to be part of the educational program for public schools and are recipients of local, state and federal funding; therefore, it is important that the effectiveness of these programs be assessed. The purpose of this non-experimental study is to identify characteristics and a measure of effectiveness of school foodservice programs.

PROCEDURES

A questionnaire designed to assess respondent, district and foodservice program characteristics was



distributed to two populations: chief school business officials and directors of foodservice of all 82 public school districts in the County of Los Angeles. A response was received from 87% of the school districts, with a total of 106 questionnaires completed, returned and included in the analysis.

### FINDINGS

Chi-square analysis indicated no significant differences between the populations in their ratings of the programs; chief business officials and foodservice directors both rated their programs positively.

Data analysis included cross tabulations, factor analysis and multiple regression. A measure of effectiveness, the average total score of six highly correlated items, was identified by a factor analysis of the program variables. Those items are:

- Overall, the district's foodservice department is doing a good job.
- The meals served by the foodservice department are of high nutritional quality.
- The appearance of the meals served by the foodservice department is good.

- The foodservice department is effective in meeting the needs of the children.
- The foodservice department is effective in meeting the needs of the district staff.
- The attitude of the majority of the students in this school toward the school lunch program is positive.

Individual items identified by the literature as characteristic of successful programs were analyzed in relationship to the effectiveness measure using the multiple regression technique. Characteristics of effective programs included:

- The foodservice department is in tune with the educational goals of the district.
- The foodservice staff has a positive attitude toward serving the students.
- The foodservice department has a regular procedure for informing students, board and community about its goals.
- Important decisions about foodservices are made by the director of foodservices.

CHAPTER I  
INTRODUCTION

Background

In 1946 Congress passed the National School Lunch Act establishing the National School Lunch Program. The primary goal of this program was to "safeguard the health and well being of the nation's children" (Child Nutrition Act, 1966). Since 1946, there have been numerous attempts to reduce the level of funding for these programs (Hiemstra, 1981, Applebaum, 1985).

In addition to feeding school children, the meals that are served also promote the consumption of agricultural commodities, thereby aiding the agricultural industry (Ganem, 1988, p. 50).

The National School Lunch Program (NSLP) is sponsored by the United States Department of Agriculture to ensure that children from poor families have at least one nutritious meal each day and is considered to be an educational program for children from low-income families because of the clear relationship between nutrition and education. "It seems possible that the program also has an educational impact. Children who suffer from

malnutrition or starvation are just not as likely to be alert or as educationally motivated as ones who are adequately fed" (Haveman, 1977, p. 136).

The Department of Agriculture, in 1977, proposed reductions of the federal reimbursement for free and reduced-price meals. "This move provoked a major outcry. The action was rescinded, but program eligibility was tightened instead" (Haveman, 1977).

In 1977, a report was made to Congress by the Comptroller General of the United States entitled "The National School Lunch Program - Is it Working?." A summary of that report included these statements:

The basic program structure provides an adequate framework for the large-scale feeding of school children. It appears, however, that there are substantial opportunities for improving the efficiency and effectiveness of the program. (United States General Accounting Office, 1977, July, b, p. 2).

Three publications summarize, in detail, research findings of a relationship between malnutrition, learning, and behavior. In the first, "Relationship of Hunger and Malnutrition to Learning Abilities and Behavior," Pelican, O'Connell, Lewis, Bryd-Bred, Bennar, Guthrie, Shanon, Massaro, Moore & Schaefer (1982), stated:

Adequate nutrition is essential to the physical and educational well-being of children. This fact has long been the cornerstone of the school breakfast and school lunch program. These programs provide nutritious meals to U.S. school children (Pelican, et al., 1982, p. 2).

In the second publication, "Malnutrition, Learning and Behavior," published by the United States Department of Health, Education and Welfare, 1976, the authors reported:

Up to one-fourth of American school children arrive at school without eating breakfast; many others do not have lunch. Often such children are hungry. Hunger affects behavior. It increases a child's nervousness, irritability and disinterest in a learning situation (Read & Felson, 1976, p. 25).

The third publication, entitled "The Relationship between Nutrition and Student Achievement, Behavior, and Learning: A Review of the Literature" (Tseng, Mellon & Bammer, 1980), is a study which was undertaken by Dr. Rose Tseng, Joyce Mellon and Karen Bammer of San Jose State University, through a contract with the California Department of Education Division of Child Development and Nutrition Services in 1977. The purpose of the study was both to conduct a statewide survey of foods available to children in

public schools and to provide a review of the available research concerning the effects of nutrition on children for educators and nutritionists. Another goal of the study was to investigate the value of the contribution of the National School Lunch Program, Breakfast Program and Special Milk Program as supplements to, or possibly the only, meals provided to children (Tseng, et al., 1980, p. 3).

The results of these three studies show that the School Lunch and Breakfast Programs are part of the total educational program. Therefore, they are subject to the same criticisms as the rest of public education.

In August 1981, the Secretary of Education, T. H. Bell, created the National Commission On Excellence in Education. Mr. Bell directed the Commission to examine the quality of education in the United States. His action was based on widespread public concern that something is seriously wrong with our educational system (National Commission on Excellence, 1983, p. 1). The authors of the report concluded that public education should be the top priority for additional federal funds (National Commission on Excellence, 1983, p. 17).

In addition to the national focus on education and larger allocations of monies being directed towards education, came proposed legislation which would require states to allocate more money for teacher salaries. One such legislative bill in California was AB 660 (California School Employees Association, 1987) which did not become law. If it had passed, it would have required school districts to pay a higher percentage of their budgets to teachers, thus shifting a percentage of foodservice and transportation funds to teacher salaries. The National Association of Secondary School Principals has made a proposal to improve middle schools, entitled "An Agenda for Excellence," in which the authors suggest that all teachers' salaries should be increased by a minimum of 25% (Arth, 1987, p. 14).

There is a clear need for accountability for all programs receiving tax dollars and a need for assurance that each program is effective. The United States government now has the largest federal budget deficit in history (Executive Office of the President, Office of Management and Budget, 1987). The federal government provides 56% of the total cost of operating child nutrition programs; the remaining 46% comes from state and local sources (Hiemstra, 1985, p. 19).

With the increased demand to reduce the federal deficit, monies that are available will continue to be highly scrutinized. The School Lunch and Breakfast Programs are both entitlement programs and so far have been exempt from both Gramme-Rudman deficit-cutting legislation and other efforts at trimming government spending, but, as the national mood focuses more strongly on cutting the deficit, no entitlement program will be truly safe (Elementary and Secondary Schools, 1988, p. 76).

Federal government expenditures for child feeding programs in 1986 totaled \$4.6 billion. A total of 3.9 billion lunches were served in 89,900 schools and child care centers throughout the United States (Ganse, 1988, p. 17). Every school day, an average of 24 million youngsters eat lunches subsidized by the federal government (Scheffler, 1988, p. 3).

In the fall of 1987, Superintendent of Public Instruction, Bill Honig, released a study that provided data about costs of California public schools (Honig, 1977-88). In the average public school in California, 63% of that school's money is spent in the classroom, and 19% on maintenance and operation (which includes foodservices). Of the 19%, 4% is spent to



provide meals to children each day. Superintendent Honig also reported that foodservices in schools statewide provide 2.2 million meals a day, with an average cost of \$1.54 per meal (Appendix E).

#### Statement of the Problem

School foodservice programs are considered to be part of the educational programs for public schools and are recipients of local, state, and federal funding. It is therefore important for these programs to be effective. Effective is defined as having an effect and producing a desired result.

As the manner in which money being spent for education becomes increasingly scrutinized, the quality of education for the nation's children is questioned more than ever before in history. Assessment tools have become essential to evaluate the contribution of each program with respect to improving educational quality and thereby to justify the money which that program receives.

Providing meals for needy children in California public schools is mandated by the California Education Code Article 10, Section 49530 (1974):

- (a) The Legislature finds that (1) the proper nutrition of children is a matter of highest state priority, and

(2) there is a demonstrated relationship between the intake of food and good nutrition and the capacity of children to develop and learn, and (3) the teaching of the principles of good nutrition in schools is urgently needed to assist children at all income levels in developing the proper eating habits essential for lifelong good health and productivity.

- (b) It is the policy of the State of California that no child shall go hungry at school or at a child development program and that schools and child development programs conducted pursuant to Chapter 2 (commencing with Section 8200) of Part 6 of Division 1 of Title 1 have an obligation to provide for the nutritional needs and nutrition education of all pupils during the school day and all children receiving child development services.  
(Child Nutrition Act of 1974)

Current technology trends indicate that changes in the way foodservice operations are conducted are being considered (Stephenson, 1988, p. 121). There is a need to have identified those characteristics that define an effective school foodservice program. A tool is needed for school administrators to use to evaluate foodservice effectiveness, and to assist both school business administrators and directors of foodservices to make accountable decisions regarding

these programs as well as to justify the allocation of monies for these programs.

#### Purpose of the Study

The purpose of this study is to identify the characteristics of school foodservice programs perceived to be effective by selected chief school business officials and school foodservice directors in the 82 public school districts in the county of Los Angeles.

#### Significance of the Study

The area of foodservice is very specialized and most chief school business officials do not receive the type of academic and professional training that would allow them to evaluate effectively the foodservice program in their school district (Mobley, 1987).

California Governor George Deukmejian appointed a commission to investigate the management and performance of California's schools after state officials had received complaints that some schools do not have enough money for books and materials (Paddock, 1987, p. 1).

In response to the governor's request, the Office of Auditor General prepared a report of the financial condition of school districts in California in which 124 local education agencies were analyzed and many of these were determined to be facing financial problems. The Auditor General's office selected eight school districts to visit; and in five of those visited, the cafeteria fund expenditures exceeded their revenues. The general funds of these five school districts subsidized the cafeteria funds at rates of between \$41,700 and \$194,000 over the past four years. There have been additional other indirect subsidies (Office of the Auditor General, 1987).

School administrators are being asked to evaluate every program in the school district to determine the effectiveness of each program in reaching district goals (Honig, 1987-88, Winter). Foodservice programs are often the largest federally supported programs within the school district (Office of the Auditor General, 1987), and food program budgets, on the average, are 4% of the general fund budget (Honig, 1987-88, Winter).

Foodservice is one of two areas which a district may elect to contract out, and publications indicate that this could be a future movement

(Wagner & Sniderman, 1984, p. 24); however, contract management companies have not been successful in obtaining contracts in the state of California, though they have identified schools as their next market (Stephenson, 1988, p. 121).

Foodservice programs are part of the general management areas of competencies for school business administrators (Mobley, 1987, p. 85) and it is the school business administrator who is held accountable for these programs (Nelson & Purdy, 1974, p. 223). McGuffey (1980) conducted a comprehensive study of the competencies needed by chief school business officials, and gave the following descriptive statement of those related to foodservice:

- 1) Develops a comprehensive plan for the implementation and operation of the foodservice program.
- 2) Prepares an organizational plan for the management of the foodservice program, including the physical arrangements for preparing and serving food.
- 3) Recruits, selects and assigns personnel to the foodservice program.
- 4) Coordinates the work activities of the foodservice program.
- 5) Prepares the budget for the foodservice program.
- 6) Conducts studies to determine the need for free and/or reduced price lunches.
- 7) Sets the standard and/or reduced prices to be paid for school lunches served by the schools.

- 8) Prepares and distributes the school lunch menu.
- 9) Prepares internal audits of school foodservice accounts.
- 10) Operates a management control system to verify that foodservice work activities fulfill requirements.
- 11) Communicates the needs and accomplishments of the foodservice program to the staff and the general public.
- 12) Coordinates the continuous appraisal of the foodservice program.

(McGuffey, 1980, p. 26-27)

The American Dietetic Association approved a position paper, "Child Nutrition Services," in which the authors state that . . .

food assistance programs have been shown to be directly related to improvements in dietary intake and nutritional health. Ongoing monitoring, evaluation, and funding of such programs is essential to ensure that they provide adequate nutrient intake to those in need of assistance, (American Dietetic Association, 1987, p. 217).

The editors of the Association of California School Administrators publication, Thrust: For Educational Leadership, devoted an entire issue to accountability. The May/June 1988 issue cover read: "Accountability, Demand of the Decade." Among the articles in this issue is "Accountability for Public Schools," in which Abbott stated: "The public is insisting on it. State elected officials are

demanding it and schools just will have to provide it. Besides, it's good for education and, better yet, for kids" (Abbott, 1988, p. 8).

The Mt. Diablo Unified School District has a program called "Individual School Performance Plan." As a key ingredient for developing accountability, this plan provides a structure and direction for development and implementation of district programs. The plan includes state, district, and site goals and objectives, and has implementation activities as well as a way to measure growth and achievement. Characteristics of the schools in which the Individual School Performance Plan is used include:

1. The principal is a strong, instructional leader.
2. The principal has a high expectation for achievement for himself/herself, the staff, students and community.
3. The principal, staff and parents establish clear goals.
4. The staff is committed to excellence, is dedicated, hard working and well-trained.
5. Students want to learn; take pride in their accomplishments at school.
6. Students are recognized and encouraged.
7. Parents value learning. They assist in program planning and implementation through service to school and fund raising.

8. Communication is open, frequent and on-going. Communication is coordinated, articulated among grades  
(Allen, 1988, p. 17).

The United States Department of Agriculture has a program in which an award is given to school districts that meet certain criteria (it is not necessary for all schools to meet all the criteria). Districts are nominated for the award by the State Department of Education, which administers the Child Nutrition and Food Distribution programs. Nominations are evaluated by a panel of child-nutrition food-distribution supervisors, whose recommendations are then approved by the State Director of Child Nutrition and Food Distribution Division, and then by the State Superintendent of Instruction. After the State Superintendent's approval, certificates of recognition are issued by the United States Department of Agriculture.

The first year the California State Department of Education administered this award program was 1988 (Tweltridge, 1988, p. 46). The criteria to be met, and indications of superior performance by the districts were:



<u>Criteria</u>	<u>Indication of Superior Performance</u>
Strong Leadership	A Manager/Director who is willing and able to promote the program, first level managers who are selected based on their leadership qualities (and not seniority), and a district superintendent who supports the program, shows that strong leadership is important.
Innovative Ideas	A program that keeps in touch with the student body, (e.g., salad bars, potato bars), current community and industry trends, and accordingly, develops and implements new menus, tries new food items and is generally willing to try something new, shows that an innovative program exists.
High Participation	A high average daily participation, when compared with similar districts, demonstrates that the students like the food and the price is affordable.
High Paid Meal Participation	A high daily paid (both full price and reduced) meal participation, compared with similar districts, shows that students who have the choice, choose NSLP (instead of bringing a lunch, eating a la carte or going off-campus).

Minimum Food Waste	A program showing low plate waste indicates that well prepared food is served and the food is what the students like.
Highly Nutritional	A program whose meals exceed FNS's Menu Pattern requirements in portion quantity, or in food items offered, or whose foods are low in sugar and fats, or high in unprocessed food items; or high in vitamin or mineral content is a program that places high emphasis on nutrition.
Sound Fiscal and Accounting Status	A program that submits timely and accurate reports, and has clean audits and reviews.
Good Reputation	A Manager/Director who is distinguished among peers.
High Professionalism	A program which encourages staff training and ASFSA or state certification for managers and workers (this can include pay incentives for participation) is aiming towards professionalism.
Additional criteria that could be used include:	
Greatly Improved Program	Within a short time, the program has made a dramatic improvement and is now operating in a fully successful manner after having been operating in a substandard manner.

Model Program Status	This program is used as an example for other districts and is one that other programs turn to for guidance, assistance, ideas and training.
Best Use of Computers	The district and its staff have integrated its functions to take maximum advantage of computers; application processing, inventory, cash and ticket handling, meals data and correspondence are all automated, using food service controlled automatic data processing equipment and either purchased or locally developed software.

#### Effective Schools Research

The study of the characteristics of a school foodservice program perceived to be effective is compared to the research that has been done on effective schools over the past decade. Ronald Edmonds is credited with the research through which the characteristics of effective schools are identified. Edmonds' conclusions were based on his own research, as well as the research of others, including Dr. Larry Lezotte. Edmonds suggested five correlates that characterize effective schools.

1. Leadership which gives substantial attention to the instructional process.
2. An instructional focus which is understood by teaching staff.
3. A climate which is safe and conducive to teaching and learning.
4. Teachers who have high expectations for all students.
5. The use of standard measures of pupil achievement as a basis of effective school programs

(Edmonds, 1979; The Effective School Report, 1983).

Later, in 1986, Meaney defined effective schools:

An effective school must be based on student achievement outcomes. This is necessary because the public will accept nothing less. It separates fact about achievement and progress from opinion about the same and it is the bottom line in the educational process (Meaney, 1986, p. 10).

A common description of effective schools is: an effective school is one in which the overall achievement of students of the identified district is high, and there is not a great difference between groups of students based on any major characteristics of students. The characteristics associated with instructionally effective schools are grouped into eight categories, which are used by The Center of

Effective Schools at the Sacramento County Office of Education (Meaney, 1986, p. 11-12):

1. Clear school mission
2. Quality curriculum and instruction
3. Time on task
4. Frequent monitoring of student progress
5. High expectations
6. Positive school environment
7. Positive home-school relationship
8. Instructional leadership.

It is anticipated that one of the results of this study will be to provide a tool that will identify characteristics that are similar to the eight characteristics of an effective school as determined by Meaney's (1986) effective schools research. This list can then be used by chief school business officials and foodservice directors to determine the effectiveness of their school foodservice programs.

#### Definition of Terms

American School Food Service Association (ASFSA). The national professional organization for school foodservice employees.

Assessment, Improvement, and Monitoring Systems

(AIMS). A management improvement system to be used in the National School Lunch Program.

Average Daily Attendance (ADA). ADA is figured by

counting students in attendance or legally excused every day of the school year, and dividing the sum by the number of school days. State aid to a school system often is based on ADA (Wagner & Sniderman, 1984).

Budget. A plan of financial operation consisting of an estimate of proposed income and expenditures for a given period and purpose.

Cafeteria Account. Receipts and disbursements of the cafeteria function that are processed through a bank.

Cafeteria Fund (Restricted). Foodservice program, including labor, is accounted for from this fund.

California Association of School Business Officials

(CASBO). A professional organization interested in research and manager development in various fields of business management in schools.

California Child Nutrition Act of 1974:

The State Legislature declared:

- a. The proper nutrition of children is a matter of highest state priority.
- b. A demonstrated relationship exists between the intake of food and good nutrition and the capacity of children to develop and learn.
- c. The teaching of the principles of good nutrition in schools is urgently needed to assist children at all income levels in developing the proper eating habits essential for life-long good health and productivity.

The Legislature included in the State Education Code:

It is the policy of the State of California that no child shall go hungry at school . . . and that schools . . . have an obligation to provide for the

nutritional needs and nutrition education of all pupils during the school day.

California Child Nutrition Facilities Act of 1975.

This act requires that all school districts and all county superintendents of schools in which any level, from kindergarten to grade 12, is taught must provide one free or reduced-price, nutritionally adequate, breakfast or lunch to each enrolled needy student beginning July 1, 1977 (Fulmer, Michael & Teets, 1977, p. 51).

Characteristic. The trait, quality or feature which gives identity and is distinguishing.

Chief School Business Official. For the purposes of this study, the term "chief school business official" refers to the administrative person who is primarily responsible for the educational administration and management of funds, facilities, and classified personnel who provide services to school districts (Mobley, 1987). The chief school business official reports directly to the superintendent, who reports to the board of education.



Child Nutrition Act of 1966, As Amended:

Sec. 2. In recognition of the demonstrated relationship between food and good nutrition and the capacity of children to develop and learn, based on the years of cumulative successful experience, under the National School Lunch Program with its significant contributions in the field of applied nutrition research, it is hereby declared to be the policy of Congress that these efforts shall be extended, expanded, and strengthened under the authority of the Secretary of Agriculture as a measure to safeguard the health and well-being of the Nation's children, and to encourage the domestic consumption of agricultural and other foods, by assisting States, through grant-in-aids and other means, to meet more effectively the nutritional needs of our children. (42 U.S.C. 1771.)

Deficit. Excess of liabilities over assets.

Director of School Foodservice (FSD). The person within a school system who plans, organizes, directs, administers and assumes

responsibilities for the foodservice program according to Board of Education policies. The director of foodservices also recommends policies, procedures and directions, and serves as consultant on nutrition education and foodservices and as quality assurance facilitator.

Effective. Having an effect and producing a desired result.

Expert. An individual who has been designated by Pepperdine faculty, a leader who is a member of the California Association of School Business Officials (CASBO), or a representative of the California State Department of Education Office of Child Nutrition who has demonstrated leadership in the field of school business management or school foodservice.

Food and Nutrition Services (FNS) of the United States Department of Agriculture. Sets the minimum requirements for meals served as part of the National School Lunch and Breakfast Programs.

Foodservice System Management. A process concerned with the accomplishment of foodservice systems objectives by integrating resources within the total system and by working with and through individuals and groups.

Free Meals. Meals served at no cost to the recipient.

Fund. A fund is a self-balancing set of accounts designed with a specific purpose in mind, such as foodservice.

General Fund. The budget for all ordinary system expenses, as opposed to the special funds budgets such as capital outlay, foodservice, transportation, and federal programs (Wagner & Sniderman, 1984).

Local Eligibility Criteria. Regulations predicated on income levels, according to family size, for which directives are issued each year by the local education agency and which are based on the federal and state eligibility standards. Eligibility criteria for foodservices refer to income levels which are used within a local

school food authority for determining those students eligible for free and reduced-price meals, and free milk, under the Child Nutrition Program.

Lunch. A meal that meets the lunch pattern for specified age groups of children and which is served during the noon hour (see School Lunch Pattern).

National School Lunch Act as Amended. (1946)

Sec. 2. (NSLA) It is hereby declared to be the policy of Congress, as a measure of national security, to safeguard the health and well-being of the Nation's children and to encourage the domestic consumption of nutritious agricultural commodities and other food, by assisting the States, through grants-in-aid and other means, in providing an adequate supply of food and other facilities for the establishment, maintenance, operation, and expansion of nonprofit school lunch programs (42 U.S.C. Section 1751).

National School Lunch Program (NSLP). A national program for a vehicle to provide lunches to school children. Guidelines for the lunches are set by the federal government.

Quality Assurance. The continuous monitoring of programs to determine if quality standards are being maintained in all aspects of the operation to ensure that quality goods and services are produced (Spears & Vaden, 1985, p. 37).

Reduced-Price Meals. Meals served to students who do not qualify because of family income for free meals, but who are financially eligible, through local district policy, not to pay full charges.

Regulations, Federal or State: A statement issued by a federal or state agency that establishes requirements which must be met under laws passed by Congress or the state's legislature.

School Board. The official body elected or appointed at the local level to develop broad policies necessary for the operation of the schools within a designated jurisdiction.

School Lunch Pattern. A meal composition, formerly called the Type A Pattern, which is made up of foods and portion sizes required by United States Department of Agriculture (USDA) regulations.

United States Department of Agriculture (USDA). The USDA is the branch of the federal government responsible for enforcement of federal regulations concerning school foodservices.

#### Research Question

The following is the research question that will be addressed in this study:

What are the characteristics of school foodservice programs perceived to be effective by chief school business officials and foodservice directors in the County of Los Angeles?

#### Assumptions

This study is based on the following assumptions:

1. The legislature of the State of California finds that proper nutrition of children is a matter of the highest State priority.
2. There is a demonstrated relationship between the nutrient intake of food and capacity of the child to develop and learn.
3. There is a need to identify the characteristics of school foodservice programs that are perceived to be effective by chief school business officials and school foodservice directors.
4. There is a need to develop a tool with which school business officials and foodservice directors can measure effectiveness of foodservice programs in their school districts (McConnell, Shaw & Egan, 1987, p. 218).

### Limitations of the Study

This study is limited to the 82 public school districts within the County of Los Angeles.

The population surveyed in this study is limited to school business officials and foodservice directors in public school districts in the County of Los Angeles.

### Delimitations of the Study

1. This study was not concerned with private educational institutions or community colleges.
2. The study did not deal with determination of nutritional quality of meals or the relationship of nutrition to learning abilities and behaviors.
3. This study did not include any financial response question. The financing of school foodservice programs varies significantly, depending on demographics, social economic conditions and the general philosophy of the local school board.



4. This study will not include measurement of the level of program effectiveness, but rather the measurement of perception of effectiveness.

## CHAPTER II

### REVIEW OF LITERATURE

The review of the relevant literature on child nutrition programs begins with early accounts of child feeding programs, and ends with reports on the relationship between school foodservice programs and educating children.

The researcher used the Educational Resources Information Center (ERIC) data base to conduct the search for literature and the data base for dissertations to review dissertations about school foodservice programs.

#### Historical Background

##### Development of Programs 1790 to 1939

The earliest historical review of child feeding programs was made by Mary DeGarmo Bryan in her book entitled The School Cafeteria (1938). Bryan traced the beginnings of child nutrition programs back to 1790 when:

Count Rumford established municipal soup kitchens in the City of Munich to accommodate working men who were out of employment. Hungry school children were invited to the kitchen. This was the beginning of school feeding programs in

Europe and of a school feeding movement which was to spread throughout the German empire (Bryan, 1938, p. 1).

The next accounting of school meal programs took place in 1849 when the French National Guard opened a canteen with surplus funds and received official recognition from the Ministry of the Public Education. Within a decade, school lunches were made mandatory as part of the compulsory education laws (Bard, 1968).

Victor Hugo, the famed restaurateur, was attributed with starting the school feeding programs in England in 1865. Hugo provided warm meals in his home in Guernsey for children attending nearby schools.

In 1866, the Destitute Dinner Society started feeding indigent school children and made other organizations aware of this need. This was at the time of the Boer War, and officials found out that two out of every five men who wished to become soldiers were physically unfit (Bryan, 1938); as a result the English Parliament passed the Provision of Meals Act, which gave local educational authorities permission to install restaurants as part of regular school equipment, and to serve meals that were suitable for children attending elementary schools (Bryan, 1938).

The Ratantata Foundation conducted a study and found that compulsory education laws were of little use when the child was starving (Bard, 1968, p. 13); and England's commitment to feeding children at school has continued right up to present day. Although Britain never had agricultural surpluses, the government always supplied cash to provide the cost of food and dining facilities to its schools (Glew, 1982, p. 5). Many other European countries followed Britain's school feeding programs.

In Brussels and other Belgian cities, a good midday meal was provided to all children who cared to partake of the lunches. A fee of only two cents was charged for each meal.

The Swiss authorities granted substantial subsidies to private philanthropic bodies so that they could provide meals to school children (Spargo, 1906b, p. 18).

The first record of children being fed meals at school in the United States was by the Children's Aid Society of New York which, in 1853, served meals to students (Bryan, 1938, p.3). Early child nutrition programs in the United States were mostly those of volunteer groups which continued to foster the school lunch movement during the mid-1800s and late 1800s

(Bryan, 1938, p. 4). Public interest in school feeding programs was aroused in 1906 by the publication of Poverty by Robert Hunter and in 1906 by John Spargo's The Bitter Cry of the Children. Hunter observed that poverty's misery falls most heavily upon children, and stated that in New York City alone 60,000 to 70,000 children often arrived at school hungry and unfit to do the work required. He stated that:

It is a matter of democratic America that every child shall be given a certain amount of instruction. Let us render it possible for them to receive it, as monarchical countries have done, by making full and adequate provision for the physical need of the children who come from the homes of poverty (Hunter, 1906, p. 216-217).

John Spargo supported Hunter's views and stated:

the poverty problem is today the supreme challenge to our national consensus and instance of self-preservation and its saddest and most alarming feature is the suffering and doom it imposes upon the children (Spargo, 1906a).

On Monday, March 21, 1988, the American Broadcasting Company presented a television special, "God Bless the Children," which graphically depicted the homeless situation in America today and indicated

that children are indeed, once again, among the greatest poverty problems in the United States.

Federal child nutrition programs began during the depression of the 1930s, an era when surplus corn was being burned at the same time thousands of school children were going hungry. The federal government stepped into the school lunch program (Bard, 1968), and passed Public Law 74-320 to allocate money which was collected under customs law to be used to buy surplus commodities. The U.S. Department of Agriculture bought surplus food items and donated them to families, to cities and to states (Ninemeier, Wilson, Schmalzried & Phillip, 1977).

Malnutrition among school children did not increase during the depression because of efforts of the federal and local agencies to secure supplies of food (Bryan, 1938, p. 16); nevertheless, the Children's Bureau estimated that at least one-fifth of all school children were underweight or showed other conditions diagnosed by physicians as malnutrition. In 1931, it became evident that the danger of malnutrition among school children was a matter of national concern. The President's organization, Unemployment Relief, cooperating with a number of

other organizations, issued a release that included the following recommendations:

The school lunch has been developed in the past as an educational measure as well as one for safe-guarding the health of pupils. This emphasis should continue to be stressed during this emergency period. Every child who remains at school through the noon hour should be assured of at least one nourishing, hot dish. Where school lunches are provided, the food should be made available to all and there should be no outward distinction between those able to pay and those not able to pay. In rural and other communities where there are no established welfare agencies to determine family needs, schools should take the responsibilities (Bryan, 1938, p. 17).

The Reconstruction Finance Corporation gave loans to several cities in Missouri to pay labor costs of preparing and serving meals (Bartley & Wellman, 1986, p. 6), and by the end of 1934, similar assistance had been granted to 39 states through the Civil Work Administration and the Federal Emergency Relief Administration. In 1935 the federal government began to distribute donated surplus commodities to school lunch rooms under Section 32 of the School Lunch Law, which is still one of the mainstays of the nation's program (Bard, 1968, p. 14).

Federal funding assistance was given to many established school lunch programs during the thirties

and into the mid-1930s, under the Work Project Administration (WPA) which provided funds to hire unemployed needy women to work in lunch programs. These efforts continued until World War II broke out, which slowed the growth of school foodservice programs. Food commodities were needed for the war effort and were no longer available for use in schools (Ninemeier, et al., 1977, p. 7).

Period of Growth and Political Involvement  
1940 to 1960

The World War II draft statistics indicated that many young men were being rejected for military services because of nutritional deficiencies, which gave impetus to the passage of the National School Lunch Act. The Selective Service System's figures showed that one-third of all men who were rejected for the military were physically unfit because of nutritional deficiencies. This statistic shocked the citizens of the United States and the U.S. Surgeon General, Dr. Thomas Parrian, stated: "We are wasting money trying to educate children with half-starved bodies" (Bard, 1968, p. 15). This set the stage for what was to become the Magna Carta of the school lunch movement in the United States (Bard, 1968, p. 15).



The National School Lunch Act, PL 79-396, was signed into law in June, 1946. The philosophy and purposes behind the National School Lunch Act of 1946 are stated in Section 2 of the law:

SECTION 2. It is hereby declared to be the policy of Congress, as a measure of national security to safeguard the health and well-being of the Nation's children and to encourage the domestic consumption of nutritious agricultural commodities and other food, by assisting the States, through grants-in-aid and other means, in providing an adequate supply of foods and other facilities for the establishment, maintenance, operation, and expansion of nonprofit school-lunch programs (National School Lunch Act as Amended, 42 U.S.C. Section 1751, 1966).

After the passage of the National School Lunch Act, the numbers of children participating in school lunch programs grew continuously until the 1960s, and there was little legislative activity or public interest concerning school food programs during this period (VanEgmond-Pannell, 1985).

#### Political Issues and Program Expansion 1960 to 1978

It was not until 1960 that hunger and malnutrition in the United States moved into the limelight again when a report of the Citizen's Board of Inquiry into Hunger and Malnutrition in the United

States was issued in a television documentary produced by CBS Television entitled Hunger in America and focused the nation's attention on the nutritional problem (Vaden, 1985). Congress again stepped in and passed PL 87-780 which stated that the seven-day period beginning on the second Sunday of October in each year was hereby designated as National School Lunch Week. The Congress requested that the President issue annually a proclamation calling on the people of the United States to observe such a week with appropriate ceremonies and activities (VanEgmond-Pannell, 1985).

The National School Lunch Program has been attacked by some critics with such slogans as "There is no such thing as a school lunch," while increasing numbers of advocates and supporters nationwide are promoting new or expanded school meal programs. The Food Law Center, an activist organization for social programs (located in San Francisco), listed beneficial effects of school meals:

They make children more receptive to learning.

They reduce sickness related to hunger and poor nutrition.

They reduce absenteeism and, in the case of breakfast, tardiness.

They help to create a sense of school as a community by providing a setting for a more relaxed, non-academic interaction of children with others and their teachers, and by demonstrating to children and their parents that the school cares about them.

They provide a natural and essential foundation for any nutrition education program.

They allow low-income families to spend more money on other meals.

They reduce school discipline problems and make teaching easier.

(Fulmer, et al., 1977, p. 42).

The 1970s brought a brighter look for school feeding programs with enactment of two important new laws: Universal Food Service and Nutrition Education Programs for Children by Carl Perkins, Kentucky, in the House of Representatives and by Hubert Humphrey, Minnesota, in the Senate (VanEgmond-Pannell, 1985, p. 16).

In 1973, Congress further increased the federal reimbursement rate for school lunches and expanded and extended the program in other ways. It set eligibility standards for the School Lunch Program; under these standards, all children below the federal poverty level would receive free lunches, and states were permitted to provide free lunches to families whose income was as high as 25% above the poverty

level. Children from families with incomes up to 50% above the poverty level were allowed to receive reduced-price lunches. Additionally, federal assistance monies were to be automatically increased when food prices increased (Haveman, 1977, p. 79).

VanEgmond-Pannell (1985) described school foodservice in the seventies as a very eventful decade during which a complete turnabout of government's attitudes towards school feeding took place. The Republican administrations under Presidents Nixon and Ford were conservative and business-oriented; despite this, Congress voted to fund fully a free lunch program, and student participation in the school lunch program continued as well. In 1976, President Carter continued the change. The Carter administration gave even stronger support to school feeding with increased spending and expansion of many programs. To illustrate this, the State of Texas received \$20 million in federal funds for school feeding programs in 1970. In 1978, that funding rose to \$180 million, in 1979 to \$200 million, and in 1980 to \$220 million (Applebaum, 1985).

Nutrition and health programs served to heighten nutrition public awareness during the 1960s and 1970s with two very important hearings: the Senate Select

Committee on Nutrition and Human Needs at the 1969 White House Conference on Food and Nutrition, and the Ten-State Nutrition Survey. These hearings, along with the 1965 USDA Household Food Consumption Survey, provided all the data that were needed to document the nutritional programs (Vaden & Landry, 1985, p. 5). Legislation throughout the seventies provided program growth to meet the needs of children. Through a series of amendments, other changes occurred in the child nutrition program, including those involved with the establishment of day-care and summer feeding programs, changes in meal patterns, involvement of students, "offer versus serve" provisions, and changes in funding levels (Vaden & Landry, 1985). Federal assistance to states serving school lunches is based on the number of meals. In 1975 over four billion lunches were served, about 1.4 billion being provided free or at a reduced cost to families; this cost the government \$1.7 billion. The program was available in most of the nation's schools, and was the largest of several federally-supported child feeding programs (U.S. General Accounting Office, 1976, July, b). The Comptroller General's office of the United States reviewed the child nutrition program and prepared a

report to Congress. Vaden and Landry summarized the recommendations of that report:

- a. develop systematic evaluations of the program;
  - b. improve cost-effectiveness;
  - c. increase levels of participation; and
  - d. reduce plate waste.
- (Vaden & Landry, 1985, p. 4)

#### California Mandatory Meals Program

California was the first state to enact legislation that required school districts to serve meals to needy students (Fulmer, et al., 1977, p. 51).

The Child Nutrition Facilities Act of 1974 requires that all school districts and county superintendents of schools that have classes of any level, from kindergarten to grade 12, must provide one free or reduced-price nutritionally adequate breakfast or lunch to each enrolled needy student beginning July 1, 1977.

In enacting the 1974 legislation which paved the way for the subsequent mandate, the State Legislature declared:

1. The proper nutrition of children is a matter of highest state priority.
2. A demonstrated relationship exists between the intake of food and good nutrition and the capacity of children to develop and learn.

3. The teaching of the principles of good nutrition in schools is urgently needed to assist children at all income levels in developing the proper eating habits essential for life-long good health and productivity (California Education Code Section 11921[a]).

The Legislature stated:

It is the policy of the State of California that no child shall go hungry at school . . . and that schools . . . have an obligation to provide for the nutritional needs and nutrition education of all pupils during the school day (California Education Code Section 11921[b]).

The California State Department of Education issued dietary guidelines for school foodservice programs and suggested that all the child nutrition programs in the state follow the guidelines when preparing meals for students. (Appendix F).

#### Relationship between School Foodservice Programs and Educating Children

The nutritional contribution of school feeding programs is well documented in the literature by numerous research studies (Vaden, 1979), and in July, 1987 Bill Honig, Superintendent of Public Instruction, California State Department of Education, sent a

letter that included three State Board of Education Policies that support this research to all school districts in California (Appendix G). In addition, Nutrition Philosophy Statements were issued by the State in 1987 to all school foodservice programs in the State of California with the request that districts adopt similar philosophy statements (Appendices H, I, J, and K).

Experts in the field have identified many ways school foodservice programs can be effective. West states:

School foodservice is most effective when nutritionists, school authorities, food managers, and allied groups such as the PTA all recognize its value in the child's mental and physical development. Then they can work together to make the foodservice not just a "feeding program," but rather a nutrition program for all students as part of their learning experience

(West, Wood, Harger, Shugart, & Payne-Palacio, 1988, p. 11).

The American School Food Service Association appointed an ad hoc committee in 1984 to conduct a study of the research needs for school foodservice. The committee's members identified 20 research needs in the final Study Report on School Food Service Research Needs--1985 (Matthews & Bedford, 1986,



p. 35), one of which was to develop methods to use in evaluating school foodservice programs at local, state and national levels.

The American Dietetic Association recommended in its Position Paper on Child Nutrition Service that in order to protect the nutritional health of children or to promote their optimal health and nutritional status, the following basic child nutrition services be available to all children regardless of income:

- Food assistance as needed to assure adequate food supply.
- Foodservices that provide nutritious, wholesome food.
- Nutrition education for children, parents, families, professionals, and others involved in the nutrition care of children.
- Nutrition screening/assessment to identify at-risk children.
- Dietary counseling to meet special health needs.

To help ensure the availability and provision of such services, the Association encourages its membership to:

1. Provide leadership in improving the quality and availability of nutrition services needed to enable children to maintain good health and nutrition.
2. Provide technical assistance in nutrition education, and professional consultation for the broad spectrum of programs and providers of services for children and their families.

3. Keep informed about new findings in child nutrition and programs that deliver child nutrition services.
4. Promote a dynamic exchange with all disciplines, agencies, and programs that can impact on the nutritional status of children.
5. Stimulate, support, and participate in the transfer and application of research findings related to child nutrition.
6. Encourage major health care insurers to reimburse dietary counseling by qualified professionals for persons with diet-related disease.
7. Take a responsible and prominent role in the development, enactment, and implementation of legislation and regulations related to the broad scope of publicly funded programs that have an impact on child nutrition. They include not only those programs clearly labeled or identified with foods and nutrition but also the broader human service programs that have a significant nutrition component and often serve as important vehicles for the delivery of nutrition services (American Dietetic Association, 1987, p. 219-220).

Assessment, Improvement and Monitoring Systems  
Administrative Review (AIMS)

The federal regulations of the National School Lunch Program require that each school foodservice program receiving federal funds be reviewed periodically to determine its compliance with the performance standards which have been set by the Assessment, Improvement and Monitoring System (AIMS).

The five performance standards are:

1. Certification of Eligibility of all free and reduced-price meals applications.
2. Claims: The numbers of free and reduced price meals claimed for reimbursement in each school, in each case, are less than or equal to the number of children in that school.
3. Counting: The system for counting and recording meal totals for paid, free and reduced price meals claimed for reimbursement is correct.
4. Components: Meals contain all required food components.
5. Verification of selected applications for free and reduced price meals.

There are eleven compliance areas which are part of the AIMS Review:

1. Net Cash Resources: Reimbursement claim and profit and loss statement.
2. Meal Components: Production records and
3. Free and reduced price policy statements.
4. Procurement and contracts.
5. Competitive food sales procedures.
6. Civil rights statement.
7. Parent-student involvement.
8. Senate Bill 120: Meals are provided to eligible needy pupils on all school days.
9. Safety and sanitation: Evidence of health inspection reports.
10. Overt identification: Free or reduced price meal recipient is not overtly identified.
11. Commodities: USDA commodity inventory records.

In 1987, the California State Department of Education Office of Nutrition and Food Service, Education Section, Child Nutrition and Food Distribution Division, issued nutritional guidelines entitled "Meal Quality Self-assessment Instrument for School Nutrition Programs." This publication states:

Children need guidance to acquire the knowledge and skills for making wise food choices that will contribute to their optimal physical and intellectual development. School nutrition programs have an opportunity to improve the dietary habits of children by reinforcing classroom nutrition education activities, with a variety of nutritious, appealing foods available at mealtimes. Periodically, the nutritional quality of meals should be evaluated to assess whether the best possible choices are available to students.  
(California State Department of Education, 1987)

The criteria used for rating the nutritional quality of meals are based on the Dietary Guidelines of Americans and the meal requirements of the United States Department of Agriculture School Lunch Program (California Department of Education, 1987, Nutritional Guidelines; Appendix F).

In the literature, several characteristics are considered to be indicators of effectiveness of school foodservice programs:

1. Strong leadership
  - Tweltridge, (1988), "Outstanding school lunch program awards, USDA indicators of superior performance"
  - American Dietetic Association, (1987), "Position Paper: Child nutrition services"
2. Financial stability
  - Tweltridge, (1988), "Outstanding school lunch program awards, USDA indicators of superior performance"

### 3. Nutritious meals

- Tweltridge, (1988), "Outstanding school lunch program awards, USDA indicators of superior performance"
- American Dietetic Association, (1987), "Position Paper: Child nutrition services"
- California State Department of Education, (1987), "Meal quality self-assessment instrument for school nutrition programs"
- California State Board of Education Policy Statement: Nutritive quality of foods available to students (Appendix H)
- California State Board of Education Policy Statement: Food service and nutrition education (Appendix I)
- Child Nutrition and Food Distribution Division of California Department of Education: Nutrition philosophy statement (Appendix K)

### 4. AIMS review

- California State Department of Education, (1987), "The AIMS review process for school foodservice programs"

### 5. Student evaluations

- Tweltridge, (1988), "Outstanding school lunch program awards, USDA indicators of superior performance"
- American Dietetic Association, (1987), "Position Paper: Child nutrition services"
- California State Board of Education Policy Statement: Nutritive Quality of Foods Available to Students (Appendix H)
- California State Board of Education Policy Statement: Food Service and Nutrition Education (Appendix I)

6. Innovative ideas
  - Tweltridge, (1988), "Outstanding school lunch program awards, USDA indicators of superior performance"
  - Child Nutrition and Food Distribution Division of California Department of Education: Nutrition philosophy statement (Appendix K)
7. High participation
  - Tweltridge, (1988), "Outstanding school lunch program awards, USDA indicators of superior performance"
  - Child Nutrition and Food Distribution Division of California Department of Education: Nutrition philosophy statement (Appendix K)
8. Variety of meals served
  - California State Department of Education, (1987), "Meal quality self-assessment instrument for school nutrition programs"
  - American Dietetic Association, (1987), "Dietary Guidelines for Americans" (Appendix F)
9. Minimum food waste
  - Tweltridge, (1988), "Outstanding school lunch program awards, USDA indicators of superior performance"
10. Professional growth activities
  - Tweltridge, (1988), "Outstanding school lunch program awards, USDA indicators of superior performance"
  - American Dietetic Association, (1987), "Position Paper: Child nutrition services"
  - California State Board of Education Policy Statement: Nutritive Quality of Foods Available to Students (Appendix H)

- California State Board of Education Policy Statement: Food Service and Nutrition Education (Appendix I)
11. Participation in American School Food Service Association
    - Tweltridge, (1988), "Outstanding school lunch program awards, USDA indicators of superior performance"
  12. Marketing activities to students
    - Tweltridge, (1988), "Outstanding school lunch program awards, USDA indicators of superior performance"
    - California State Department of Education, (1987), "The AIMS review process for school foodservice programs"
  13. Information sessions to board and community
    - McGuffey, (1980), "Competencies needed by chief school business administrators"
    - California State Department of Education, (1987), "The AIMS review process for school foodservice programs"

#### Summary

The history of school foodservice programs spans 200 years, beginning in 1790. Meals, under both private funding and governmental funding, have been served to children attending school and have been served in many different settings. School lunch programs received congressional support in 1946 when the federal government passed the National School



Lunch Act, which states that the primary purpose of the Act is to safeguard the health and well-being of the nation's children. This act is still the basis of children receiving federally subsidized meals at schools; however, the deficit spending of government in the 1980s has brought closer scrutiny to all programs that receive government funding. Evaluation is now an integral part of the continuance of most programs.

The USDA has implemented a formal review process for Child Nutrition Programs that receive federal funding, and the need for a system or tool for program evaluation at the local level is reported in the literature.

## CHAPTER III

### METHODOLOGY

The methods used to determine the characteristics of school foodservice programs perceived to be effective by chief school business officials and foodservice directors are described in this chapter. The non-experimental method of research is employed in this study. The method of data collection is a questionnaire.

The materials used in this study, the procedures for collecting the data, the sample and population, the statistical treatment of the data collected, and the sponsorship approval of the research are all discussed in this chapter.

#### Sample Population

The population of the study includes the chief school business officials (CSBO) and foodservice directors (FSD) in public schools within the county of Los Angeles who have foodservice programs. The category of "Other" was included on the survey, so that if a district did not have a CSBO or FSD, the person who was responsible for these duties could

complete the survey. The total of this population is the sample in the study.

The chief school business official of a school district is the administrator who is primarily responsible for educational administration, including management of funds, facilities and classified personnel. The chief school business official reports directly to the superintendent, who reports to the board of education.

The director of foodservice is the person who plans, organizes, directs, administers and assumes responsibilities for the foodservice program in the school district according to board of education policies. The director of foodservice recommends policies and procedures and directs and serves as the quality assurance facilitator.

The sample size consists of the 82 public school districts in the County of Los Angeles, which is 8% of a total of 1,028 school districts in the State of California, but includes 22% of the total schools in the state and 22% of the total student enrollment in California.

### Procedures

The study is designed to identify characteristics related to perceived effectiveness of school foodservice programs. The process of developing an appropriate questionnaire involved three phases:

#### Phase I

Based on a review of the literature, a list of characteristics which were described by various authors as related to effectiveness of school foodservice programs was established. These indicators of effectiveness were then organized into a series of questions and formulated in a survey instrument for validation by the panel of experts.

Using this preliminary data, an interim questionnaire was constructed and administered in the Lawndale School District (Los Angeles County) in March 1987. The purpose of the Lawndale questionnaire was to conduct an assessment of its foodservice program and give guidance as to its future direction. The reason the questionnaire was used by the Lawndale District was that the district was considering

contracting the management of the district foodservice programs with a management company. This interim questionnaire was used as a guide for constructing the primary research questionnaire. (Appendix L).

## Phase II

Further validation of the questionnaire was accomplished by having experts in the field of research review the instrument. Face validity is established by ensuring that the measure appears to measure what it is supposed to measure. It is a useful first approximation of validity. The composition of the panel of experts to review the questionnaire for face validity included:

### Dissertation Committee:

Dr. Roy Adamson

Dr. June Payne-Palacio

Dr. Nancy Magnusson-Fagan

### Statistical Consultant:

Dr. George Norstrand

Assistant Professor Emeritus of Education  
Pepperdine Graduate School of Education  
and Psychology.

### Phase III

A third validation of the questionnaire was completed in two steps. First, the questionnaire was mailed to 10 school business administrators and foodservice directors. These individuals were requested to comment on the appropriateness on the questions and identify any potential for misinterpretation or ambiguities. The second step was to have a class of nine students in a doctoral class in school administration complete the questionnaire. It was during the second step that the answer of "I do not know" was added to the possible responses. The rationale for "I do not know" answers allows the respondent to answer the questionnaire immediately and thus lowers the possibility of the questionnaire not being returned due to the respondent having to research the information. Again, this is a test of face validity of the instrument.

Upon return of the questionnaire from both the panel of experts and the group of school administrators and foodservice directors, the

instrument was revised to reflect the comments or corrections.

### Questionnaire Design

Surveys are dependent on the cooperation of the respondents; and, if the procedures for completing the surveys are too tedious or unimportant, the percentage of respondents may be reduced (Compton & Hall, 1972, p. 143). A major thrust of this research was placed on having the appropriate questionnaire.

The questionnaire was designed using the eight characteristics of a good questionnaire as stated by Best (1981):

1. "The questionnaire deals with a significant topic, one the respondent will recognize as important enough to warrant spending his or her time on."

According to Lydia Lobdell, President of CASBO, this is the first research in foodservice that has been submitted to the California Association of School Business Officials. The Food Service Research and Development Committee of CASBO suggested the topic, and made suggestions for data to be collected through the survey instrument. (Appendix B).

2. "It seeks only that information that cannot be obtained from other sources such as school reports or census data."

The California State Department of Education Office of Nutrition and Food Service Education Section Coordinator and the Los Angeles County Office of Education were contacted, and both stated that the information sought through this study is not available in any report form.

3. "It is as short as possible, only long enough to get the essential data."

The questionnaire is modeled after a questionnaire which was used by Dr. Roy Adamson, Associate Professor, Pepperdine University Graduate School of Education and Psychology (1987), entitled "University Training Programs for School Business Officials." This study questionnaire was modified to be printed on one single piece of paper measuring 11" x 17".

4. "It is attractive in appearance, neatly arranged, and clearly duplicated or printed."



The questionnaire was printed, and the major sections of the survey were in boldface type. (Appendix A, Survey Instrument).

5. "Directions are clear and complete, important terms are defined, each question deals with a single idea, all questions are worded as simply and as clearly as possible, and the categories provide an opportunity for easy, accurate and unambiguous responses."

The questionnaire was reviewed by a panel of experts and was administered to a doctoral class in education at Pepperdine University for these content areas, and all recommendations were incorporated to reflect responses to these areas.

6. "The questions are objective, with no leading suggestions as to the response desired."

The questions have been reviewed for clarity and appropriateness of the questionnaire by a panel of experts, and by school business administrators and foodservice directors.

7. "Questions are presented in good psychological order, proceeding from general to more specific responses. This helps the respondents organize their own thinking so that their answers are logical and objective."

The questionnaire is organized so that Part I solicits respondent information regarding the respondent, including his/her position in the district, sex, age group, percent of time spent on foodservices, level of academic achievement, special training and number of years served in the present district position.

Part II solicits information about the school district, the grade levels it serves, student enrollment, budget size for the general fund, budget size for the foodservice department, whether or not the district participates in the National School Lunch Program and National School Breakfast Program, if the foodservice department has a mission statement, percent of enrollment of students who participate in the lunch program, the type of delivery and service system of the foodservice program, management of the program, and district participation in State of California Education Grant Program for training of foodservice employees. This question was suggested by the California Department of

Education Office of Nutrition and Food Service Education Section, as well as the question regarding the districts participating in the Nutrition Education Grant curriculum "Choose Well, Be Well". The final question is to determine if the district has considered contracting for foodservice management services.

Part III questions solicit information to determine overall program efficiency.

Nineteen program variable questions were developed using a Likert scale which had five possible responses: Strongly disagree, Disagree, No opinion, Agree and Strongly Agree. Each item was weighted and six items were stated negatively to help protect the internal validity of the instrument. The negative questions were reversed in the data analysis process so that total scores could be obtained for each question. These totals were then averaged during the regression process.

Question 40 asks the respondent for a one-word description of the foodservice

department. The last two lines of the questionnaire are for respondent comments.

8. "It is easy to tabulate and interpret. It is advisable to pre-construct a tabulation sheet anticipating how the data will be tabulated and interpreted before the final question is decided upon."

Dr. George Norstrand, Assistant Professor Emeritus, Pepperdine University Graduate School of Education and Psychology, evaluated the questionnaire for its ease to tabulate and interpret. It was on his recommendation that the population was limited to Los Angeles County, which has been noted as 8% of the school districts and 22% of the enrollment in the State of California, and which has been determined from previous questionnaires to be a good sampling and fair representation of the overall state in soliciting responses.

#### Rationale for Questions

Following is the rationale for each of the questions in Part I and Part II of the survey, Questions 1 through 20.

Part I - Respondent's Information:

- position, gender and age group questions on the questionnaire were to determine if there were any generalizations that could be made about the sample population.
- percent of time spent on foodservices was to determine how much time the respondent spent on the foodservices program.
- level of college training and special training or registration questions were to gather generalities about the sample population and to determine the relationship of level of training to the respondent's attitude toward the district's foodservice program.
- the total number of years the respondent had served with the district was to determine another generality about the population and the experience that respondents had in their current job function.

Part II of the questionnaire, District Information, was to identify the grade level each district serves, and to determine the relationship, if any, between characteristics of the districts served and their foodservices programs.

- student enrollment, size of district general fund and amount of most recently adopted budget for foodservices were included to determine if there was indeed a correlation between the answers from the districts that responded to this survey and the data from the study produced through the office of the California State Superintendent of Education, Bill Honig, in which the authors stated that foodservice budgets are between 4% and 10% of the district budgets. Whether a correlation exists was not determined because the responses were not matched or identified in the data analysis.
- participation in the National School Breakfast Program and National School Lunch Program questions were included to determine in which programs the district participated.

- the question concerning mission statement for the foodservice department is to determine if there was a relationship between the districts that had a mission statement and the program variables that indicate effectiveness.
  
- the percentage of total enrollment of students who participate in the National School Lunch Program is included to determine if this variable is related to perceived effectiveness.
  
- the type of foodservice delivery system question was to record and interpret the type of system the district uses, and to determine if there are any generalizations that can be made.
  
- the question of district foodservice department management (by a district employee or management company) was to determine the type of management the district uses.

- district participation (or non-participation) in the State of California Food Service Education Program for training of foodservice employees is questioned to determine if there is a relationship between grant program training and foodservice program effectiveness. (The California State Department of Education is interested in obtaining this information.)
  
- the district use (or non-use) of the State Nutrition Education Curriculum, "Choose Well, Be Well," is to determine what percent of the districts in Los Angeles County have participated in the nutrition curriculum for teachers.
  
- district consideration of contracting with foodservice management companies is included to determine or confirm a trend.

The following is the rationale for each of the program variable questions in Part III of the survey, Questions 21 through 39.



21. Overall, the District's Foodservice Department is doing a good job.
- This question is to determine how the respondent perceives the foodservice program. The definition of effective is having an effect and producing a desired result.
22. The meals served by the Foodservice Department are of high nutritional quality.
- This question reflects another program goal. It is also one of the indicators of superior performance established by the United States Department of Agriculture.
23. The appearance of the meals served by the School Foodservice Department is good.
- The appearance of meals is important to any foodservice operation. Food may be nutritious, but it may not look appealing. In order for the consumer to want to eat the food, it must look attractive.

24. The District's Foodservice Department is effective in meeting the needs of the children in the District.
- In order for any service organization to be effective, it must meet the needs of its customers. This question is to determine if the foodservice departments of the respondents are perceived as achieving this goal.
25. The District's Foodservice Department is effective in meeting the needs of the District staff.
- Staff members are also served by the district's foodservice department. In most school districts, teachers and staff have only 30 minutes for lunch and it is almost impossible for them to leave campus. The foodservice department enhances the benefits of the district by providing lunches to the staff.
26. The Child Nutrition Program can be a vehicle for enhancing the educational program of the District.

- The literature suggests that Child Nutrition Programs can be a vehicle for enhancing the educational program of the District. This question was to determine if the population agreed with this statement.
27. The attitudes of the majority of the students in this school in relation to the school lunch program are positive.
- Attitude is a state of mind, from which behavior follows. If students have positive attitudes towards a program, they are more likely to participate in that program. This question is to verify the perception of this theory.
28. A student advisory group plays an important role in changing the attitudes of students towards the school lunch program.
- One of the methods of changing students' attitudes towards the school lunch program is to involve them in the appraisal process of the program, and thus also to provide a program evaluation mechanism.

29. The Foodservice Department is in tune with the educational goals of the District.
- A school's primary purpose is to educate children. This question is to determine if the foodservice department is in tune with this goal.
30. Most of the teachers in the District would welcome inservice training in nutrition education.
- The California State Department of Education has adopted a nutrition education curriculum "Choose Well, Be Well". This question was included at the request of the members of the State Department of Education, as they are interested in the results that the questionnaire would provide. It is also mandated by the State of California that nutrition be taught as part of the general health curriculum in all schools K through 12.
31. The Foodservice staff has a positive attitude toward serving the students of the District.

- Foodservice employees have one primary purpose, and that is to serve the students and staff. Positive attitudes are part of public relation activities and the communication process.
32. The Foodservice staff has a regular plan for inservice training.
- Inservice training has been identified in all the literature as being a component of improving program effectiveness. This is also an indicator of superior performance established by the United States Department of Agriculture.
33. Strong leadership is critical to the success of the District's Foodservice Department.
- Strong leadership is identified in the literature as an indicator of program effectiveness. It is also identified as an indicator of superior performance and programs by the United States Department of Agriculture. Strong leadership is a characteristic of effective schools and is a

characteristic that was identified by the Mt. Diablo Unified School District as part of the key ingredient for developing an accountability for programs. This question is to determine if strong leadership is also a characteristic of effective school foodservice programs.

34. The true measurement of a Foodservice Department's effectiveness is its financial independence.
- Financial independence indicates the foodservice department does not put an unnecessary burden on the general fund of the school district and that it is generally self-supporting by providing enough revenue to cover its costs. This characteristic of effectiveness has been identified by Tweltridge (1988) and also by a summary of the report, The National School Lunch Program: Is It Working? (Comptroller General of the United States, 1977) and The AIMS Review Process (California State Department of Education, 1987).

35. The Assessment, Improvement and Monitoring System Review Process (AIMS) is a strong indicator of the foodservice program's overall effectiveness.
- The AIMS Review is conducted by the Child Nutrition and Food Distribution Division of the California State Department of Education. This question is to determine if this formal evaluation process is perceived as being an indicator of effective school foodservice program.
36. Minimum food waste by students is not a good indicator of the quality of the food served.
- Food waste has long been a political issue which has been brought to the public's eye as a waste of government funds. The United States Department of Agriculture indicated that programs that show low plate-waste are superior and therefore effective.
37. The District administration encourages foodservice employees to participate in the School Food Service Association.

- The professional organization of school foodservice employees is the American School Food Service Association. The association has local chapters which provide professional growth activities. Districts that encourage employees to participate in professional organizations support program improvement.

38. The foodservice program has a regular procedure for keeping students, board and community in touch with its goals.

- Communicating with the individuals who are the recipients of the program has been identified in the literature as a key indicator of effectiveness (McGuffey, 1988). Allen (1988) suggested that communication should be open, frequent and ongoing. A foodservice program should keep in touch with the student body (Tweltridge, 1988). Parent and student involvement is required as part of the National School Lunch Program as stated in the AIMS Review (California State Department of Education, 1987).



39. Important decisions regarding the District Foodservice Department is made by the Director of Foodservices.

- The decisions of any program should be made by the person who is responsible for that program. This indicates leadership. The person in the primary leadership position should be the decision maker.

#### Materials

The materials used in this study included:

1. Names, addresses and telephone numbers of the panel of experts for validation of the questionnaire (Appendix C).
2. Names of the 82 school districts of the analysis unit (see Table 1).
3. Letter of transmittal stating purpose of the questionnaire and eliciting a maximum return. This transmittal letter included a statement of the purpose of the study, a requested date of return, and an offer to send the results of the study to the respondent if respondent would include a business card (Appendix A).

4. The research questionnaire, printed on light green paper, 11 x 17 inches (Appendix A).
5. A letter of endorsement from the California Association of School Business Officials (Appendix A).
6. Green self-addressed stamped envelope for returning the questionnaire.

Table 1

Los Angeles County Public School Districts

School District Name	Number of Schools
1. ABC Unified	29
2. Alhambra City and High	17
3. Antelope Valley Union High	4
4. Arcadia Unified	11
5. Azusa Unified	17
6. Baldwin Park Unified	19
7. Bassett Unified	8
8. Bellflower Unified	10
9. Beverly Hills Unified	5
10. Bonita Unified	12
11. Burbank Unified	17
12. Castaic Union	2
13. Centinela Valley Union High	3
14. Charter Oak Unified	8
15. Claremont Unified	11
16. Compton Unified	35
17. Covina Valley Unified	19
18. Culver City Unified	7
19. Downey Unified	18
20. Duarte Unified	8
21. Eastside Union	1
22. East Whittier City	14
23. El Monte City	18
24. El Monte Union High	5
25. El Rancho Unified	14
26. El Segundo Unified	4
27. Garvey	13
28. Glendale Unified	27
29. Glendora Unified	10
30. Gorman	1
31. Hacienda La Puente Unified	28
32. Hawthorne	9
33. Hermosa Beach City	1
34. Hughes-Elizabeth Lakes Union	1
35. Inglewood Unified	18
36. Keppel Union	7

(table continues)

School District Name	Number of Schools
37. La Canada Unified	4
38. Lancaster	10
39. Las Virgenes Unified	12
40. Lawndale	8
41. Lennox	5
42. Little Lake City	9
43. Long Beach Unified	75
44. L.A. County Juvenile & Community	45
45. Los Angeles Unified	596
46. Los Nietos	4
47. Lowell Joint	5
48. Lynwood Unified	12
49. Manhattan Beach City	5
50. Monrovia Unified	9
51. Montebello Unified	27
52. Mountain View	11
53. Newhall	5
54. Norwalk-La Mirada Unified	23
55. Palmdale	8
56. Palos Verdes Peninsula Unified	16
57. Paramount Unified	12
58. Pasadena Unified	31
59. Pomona Unified	32
60. Redondo Beach City	10
61. Rosemead	5
62. Rowland Unified	21
63. San Gabriel	7
64. San Marino Unified	4
65. Santa Monica-Malibu Unified	14
66. Saugus Union	8
67. Soledad-Agua Dulce Union	2
68. South Bay Union High	3
69. South Pasadena Unified	6
70. South Whittier	7
71. Sulpher Springs Union	6
72. Temple City Unified	7
73. Torrance Unified	28
74. Valle Lindo	2
75. Walnut Valley Unified	12
76. West Covina Unified	14
77. Westside Union	5
78. Whittier City	14
79. Whittier Union High	6

(table continues)

School District Name	Number of Schools
80. William S. Hart Union High	7
81. Wilsona	1
82. Wiseburn	3

Note: Directory of the Public Schools of Los Angeles County (Los Angeles County Office of Education, 1987)

### Sponsorship of the Study

Sponsorship of this study was requested and granted by the California Association of School Business Officials (CASBO) (Appendix B). The advantage of sponsorship of the study by the professional organization of the analysis units is twofold:

1. Sponsorship shows that the study has received the prior approval of the research and development committee of the management area being studied.
2. It aids in the return percentage of the questionnaire in that the sponsor requests that persons who receive the questionnaire cooperate by participating in the study.

The president of the professional organization CASBO signed a questionnaire cover letter requesting participation in the study (Appendix A, Cover Letter of Survey). Best (1981) stated that recipients are more likely to answer a questionnaire when an organization of prestige has endorsed the study.

#### Data Analysis

Number Cruncher Statistical System (Hintze, 1986) is the statistical analysis software package used to analyze the data that were collected from the surveys. Analysis of the data included frequencies, cross tabulations with chi-square analysis between the respondent's position and all other respondent and district variables.

Multiple regression is a multivariate technique which is analogous to bivariate regression, and is used when two or more independent variables are used to predict or forecast a single dependent variable (McCall, 1982, p. 87). Multiple regression was performed on all 39 items on the questionnaire to determine if there was a relationship among the variables. The variables were divided into three different categories: respondent information, district information and program information.

The program information questions were written in both the positive and negative to protect the internal validity of the questionnaire. An adjustment was made for the questions stated in the negative in the data analysis procedure.

### Factor Analysis

Factor analysis is used by the researcher because it provides an empirical base for reducing many variables to a few factors. The factors then become manageable data for analysis and interpretation (Borg & Gall, 1983, p. 613).

Factor analysis was performed on the program variables, Questions 21 through 39. Each variable was correlated with each other in order to accomplish reduction and grouping of variables that were moderately or highly related to each other.

The first step in a factor analysis is to compute a correlation matrix. The correlation matrix is constructed by listing all variables on both horizontal rows and vertical columns.

The correlation between any two variables is given at the point where they intersect on the matrix. The correlation matrix provides a visual picture of this procedure (Appendix O).

A factor was considered significant when it yielded an Eigen value of greater than one. The resulting factor matrix was rotated using the Varimax procedure. Scores to represent each factor were then developed by averaging the responses to items that were loaded at greater than or equal to .60 on a given factor.

The results of the factor analyses were used to create a single measure which was used in the multiple regression analysis.



## CHAPTER IV

### RESULTS

The data obtained in this non-experimental study are presented in this chapter and the findings are reported as they relate to the research question. A survey instrument was used to collect the data.

The statistical analysis procedures applied to the data include frequencies with percentages, chi-square analyses, cross tabulations, multiple regressions, bivariate correlations, and factor analyses. Twenty-eight summary tables have been developed to assist in the data analysis presentation.

One of the main findings in this non-experimental research study is that the two populations of the study do not differ in how they rate the foodservice programs of their districts. The findings are based on the results of the statistical analysis procedure of cross tabulation where each respondent's position was cross tabulated with each of the program variables (Table 7). The detailed analysis of this procedure is addressed later in this chapter.

A total of 164 questionnaires were mailed and 106 questionnaires were returned, a 63% return on all

questionnaires mailed, with 87% of the 82 school districts in the county of Los Angeles responding.

In order to assure confidentiality, the respondents for the districts were not required to identify either themselves or the districts they represented.

The respondent and district variables are addressed in Questions #1 through #20 on the questionnaire (Appendix A). Summary of the frequency data and percent of response are tabulated on Table 2.

Table 2

Demographic Respondent and District QuestionnaireFrequency Data 1-20

Variable	%
1. Position held by respondent	
Chief School Business Official	39
Director of Foodservice	50
Other	<u>11</u>
	100
2. Gender of respondent	
Male	40
Female	<u>60</u>
	100
3. Age of respondent	
20-29	5
30-39	18
40-49	33
50-59	34
60+	<u>10</u>
	100
4. Percentage of time spent on foodservices	
0-10%	33
11-25%	12
26-50%	1
51-75%	3
76-100%	<u>51</u>
	100
5. Level of college training	
None	13
AA	16
BS/BA	28
Master's	29
PhD/EdD	<u>14</u>
	100
6. Special training or registration	
Teaching Credential	7
Registered Dietitian	15
Administrative Credential	29
School Food Service Certification	34
Other	<u>15</u>
	100

(table continues)

Variable	%
<hr/>	
7. Years served in current job function	
<5	34
6-10	24
11-15	22
16-20	7
>20	<u>13</u>
	100
8. Level of education district serves	
K-8	33
K-12	56
9-12	6
Other	<u>5</u>
	100
9. Total student enrollment	
<500	2
501-2000	7
2001-5000	31
5001-15,000	42
15,001-25,000	11
25,001-50,000	3
50,001 +	<u>4</u>
	100
10. Budget for general fund	
<\$2 million	3
\$2-5 million	12
\$6-10 million	12
\$11-15 million	12
\$16-25 million	12
\$26-50 million	32
>50 million	17
Do not know	<u>0</u>
	100
11. Budget for total foodservices	
< \$250,000	12
\$250-500,000	21
\$600,000-1 million	22
\$1-2 million	26
\$3-5 million	12
\$6-10 million	5
Do not know	<u>2</u>
	100

(table continues)

Variable	%
<hr/>	
12. District participates in National School Lunch Program	
Yes	98
No	1
Do not know	<u>1</u>
	100
13. District participates in National School Breakfast Program	
Yes	56
No	43
Do not know	<u>1</u>
	100
14. Foodservice department has written mission statement	
Yes	68
No	20
Do not know	<u>12</u>
	100
15. Percentage of student enrollment participating in National School Lunch Program	
5-15%	6
16-30%	11
31-45%	21
46-60%	25
61-75%	23
>75%	11
Do not know	<u>3</u>
	100
16. Type of foodservice delivery system	
Central kitchen bulk	35
On-site prep	24
Cook/chill to inventory	3
Central kitchen pre-package	2
Vendor supply pre-package	4
2 systems	27
More than 2 systems	<u>5</u>
	100
17. Foodservice department is managed by	
District employee	98
Management company	<u>2</u>
	100

(table continues)

Variable	%
<hr/>	
18. Participated in State of California Food Service Education Grant Program to train foodservice employees	
Yes	33
No	61
Do not know	<u>6</u>
	100
19. District used State Nutrition Education Curriculum, "Choose Well, Be Well"	
Yes	42
No	41
Do not know	<u>17</u>
	100
20. District considered contracting foodservice management services	
Yes	8
No	72
Has in past	13
Do not know	<u>7</u>
	100
<hr/>	

Results of Chi-square Analysis of Respondent's  
Position and All Other Respondent and District  
Information

Table 3 provides a summary of the relationship between position and all other attributes of the respondent and district at the .05 level of significance.

Table 3

Relationship Between Position and All Other Attributes  
Significance at the .05 Level

Item Number	Description	$\chi^2$	Significance
2	Gender	62.44	S
3	Age	10.20	NS
4	Percent time spent	94.37	S
5	Level of college training	60.87	S
6	Special training or registration	56.22	S
7	Years in job	21.17	S
8	District grade levels	8.12	NS
9	Student enrollment	22.34	S
10	General budget size	20.72	S
11	Food budget size	14.67	NS
12	Participation in School Lunch Program	7.74	S
13	Participation in School Breakfast Program	12.26	S
14	Written mission statement	6.65	S
15	Percent lunch program enrollment	15.50	NS
16	Delivery system type	19.67	S
17	Foodservice management source	3.26	NS
18	California Food Service Grant Program	11.54	S
19	Use of nutrition education curriculum	5.32	NS
20	Considered food management company	6.50	NS

Note: S = Significant  
 NS = Not Significant

### Summary of Table 3

Cross tabulation was conducted on Item 1, the position held by the respondent, and all other respondent and district attributes. The significance at the .05 level is summarized on Table 3. Significant differences occur for gender, percent of time spent on foodservices, level of college training, special training, and number of years in the job, as well as for student enrollment, general fund budget, whether or not the school district participates in the lunch program, whether or not the school district participates in the breakfast program, existence of a written mission statement for the foodservice department, type of delivery systems, and whether or not the district participated in the State of California Food Service Education Grant Program.

- gender: There is a significant difference between male and females when it comes to chief school business officials (CSBOs). On the one hand, 88% percent of the respondent CSBOs were male; foodservice directors, on the other hand, were 91% female, 6% male, and 3% of the respondents had another position title.



- age: There is not a significant difference in age group; however, the generalization that can be made about the age of the respondent is that 87% of all respondents were over 40 years of age.
- percent of time spent on foodservices also shows a significant difference. Ninety-four percent of the foodservice directors spent 76% to 100% of their time participating in the foodservice operation; whereas the chief school business officials spent 10% or less of their time on foodservice departments.
- for level of college training there is also a significant difference between CSBOs and foodservice directors. One hundred percent of the CSBOs responding had educations of bachelor degrees or higher. Thirteen percent of the foodservice directors had no higher education; 26% had AA degrees; 42% had bachelor degrees and 17% had master's degrees. None of the foodservice directors reported having a doctorate degree.

- special training or registration of the two populations indicated a significant difference in the response. Seventy-three percent of the CSBOs had administrative credentials. Seven percent of the foodservice directors had teaching credentials, 26% were registered dietitians, and 55% were certificated by the American School Food Service Association.
- total number of years the respondent had served in his or her current district or other districts differed widely. The difference was attributed to 25% of the respondents who had been in their positions less than five years.
- grade levels the districts serve between the two populations showed no difference. There was, however, a difference between the CSBO response to the total student enrollment and the foodservice directors' indication of student enrollment. The questionnaires were not matched by districts; therefore, no assumptions can be made regarding this question.

- size of the most recently adopted budget for the general fund and the size of the most recently adopted budget for the total foodservice department showed a significant difference, but no assumptions can be made between these variables because questions were not matched to districts.
  
- National School Lunch Program: no significant difference existed in the responses. One hundred percent of both populations indicated that their foodservice department did participate in the National School Lunch Program.
  
- participation in the National School Breakfast Program: no significant difference existed. Fifty-nine of the respondents, or 56%, participated in the School Breakfast Program.
  
- written mission statement: There is a significant difference between the CSBOs and directors of foodservices and 'others' in their responses to written mission statements. Seventy-one percent of the CSBOs indicated

they had written mission statements and 67% of the foodservice directors indicated that they had written mission statements; 33% of the other job classifications answered that they did not know.

- percent of enrolled students who participate in the School Lunch Program did not differ between the two populations.
  
- type of delivery system the district used differed according to the response of the three populations; however, the districts were not matched so these data are not usable.
  
- there was no difference in the level of significance to the question if the district foodservice department was managed by a food management company. Of the 82 K-12 school districts in the county of Los Angeles, 98% are managed by district employees and only 2% are managed by management companies.
  
- there was also a difference in the level of significance of the CSBOs and the directors

of foodservices on how they answered the question on whether or not the district had participated in the California Food Service Grant Program training for foodservice employees. Twenty-three percent of the CSBOs indicated that they had participated (13% of the CSBOs did not know if the district had participated in this program) while 35% of the foodservice directors indicated that they had participated.

- there was no significant difference found in responses to the question regarding the district's participation in the State Nutrition Education Curriculum, "Choose Well, Be Well." Forty-five percent of the CSBOs responded positively and 38% of the foodservice directors responded that their districts had used the program.
- sixty-five percent of the CSBOs indicated that their district had not considered employment of a food management company, and 77% of the foodservice directors indicated that their

districts had not considered employment of a food management company.

#### Frequencies and Classification of Program Variables

The frequency and percent of response for the program variables, Questions 21 to 39, are reported on Table 4. The program variables are classified on Table 5 as to whether or not they are indicators of effectiveness, characteristic of effective school foodservice programs, or representative of the opinion of the respondent.

Table 4

Frequency Data for Items 21-39

Item	%
21. Overall, the district's foodservice department is doing a good job.	
Strongly Disagree	0
Disagree	4
No Opinion	0
Agree	36
Strongly Agree	<u>60</u>
Total	100
22. The meals served by the Foodservice Department are of high nutritional quality.	
Strongly Disagree	0
Disagree	2
No Opinion	1
Agree	46
Strongly Agree	<u>51</u>
Total	100
23. The appearance of the meals served by the Foodservice Department is NOT good.	
Strongly Disagree	58
Disagree	37
No Opinion	2
Agree	3
Strongly Agree	<u>0</u>
Total	100
24. The District's Foodservice Department is effective in meeting the needs of the <u>children</u> in the district.	
Strongly Disagree	0
Disagree	1
No Opinion	0
Agree	44
Strongly Agree	<u>55</u>
Total	100

(table continues)

Item	%
<hr/>	
25. The District's Foodservice Department is effective in meeting the needs of the district staff.	
Strongly Disagree	0
Disagree	10
No Opinion	12
Agree	51
Strongly Agree	<u>27</u>
Total	100
26. The Child Nutrition Program CANNOT be a vehicle for enhancing the educational program of the district.	
Strongly Disagree	53
Disagree	37
No Opinion	5
Agree	4
Strongly Agree	<u>1</u>
Total	100
27. The attitude of the majority of the students in this school in relation to the school lunch program is positive.	
Strongly Disagree	0
Disagree	6
No Opinion	8
Agree	67
Strongly Agree	<u>19</u>
Total	100
28. A student advisory group plays an important role in changing the attitudes of the students toward the school lunch program.	
Strongly Disagree	0
Disagree	16
No Opinion	27
Agree	43
Strongly Agree	<u>14</u>
Total	100

(table continues)



Item	%
<hr/>	
29. The Foodservice Department is in tune with the educational goals of the District.	
Strongly Disagree	0
Disagree	4
No Opinion	9
Agree	61
Strongly Agree	<u>26</u>
Total	100
30. Most teachers in the district would NOT welcome inservice training in nutrition education.	
Strongly Disagree	15
Disagree	33
No Opinion	25
Agree	25
Strongly Agree	<u>2</u>
Total	100
31. The foodservice staff has a positive attitude toward serving the students of the district.	
Strongly Disagree	0
Disagree	0
No Opinion	3
Agree	43
Strongly Agree	<u>54</u>
Total	100
32. The foodservice staff has a regular plan for inservice training.	
Strongly Disagree	2
Disagree	22
No Opinion	10
Agree	39
Strongly Agree	<u>27</u>
Total	100
33. Strong leadership is NOT critical to the success of the district foodservice department.	
Strongly Disagree	79
Disagree	19
No Opinion	0
Agree	2
Strongly Agree	<u>0</u>
Total	100

(table continues)

Item	%
<hr/>	
34. The true measurement of a foodservice department's effectiveness is its financial independence.	
Strongly Disagree	9
Disagree	35
No Opinion	8
Agree	37
Strongly Agree	<u>11</u>
Total	100
35. The <u>Assessment, Improvement and Monitoring System (AIMS)</u> review is a strong indicator of the foodservice program's overall effectiveness.	
Strongly Disagree	6
Disagree	20
No Opinion	30
Agree	37
Strongly Agree	<u>7</u>
Total	100
36. Minimum food waste by students is NOT a good indicator of the quality of the food served.	
Strongly Disagree	20
Disagree	48
No Opinion	4
Agree	24
Strongly Agree	<u>4</u>
Total	100
37. The district administration encourages foodservice employees to participate in the American School Food Service Association.	
Strongly Disagree	3
Disagree	18
No Opinion	15
Agree	42
Strongly Agree	<u>22</u>
Total	100

(table continues)

Item	%
<hr/>	
38. The foodservice program has a regular procedure for keeping students, board and community in touch with its goals.	
Strongly Disagree	1
Disagree	24
No Opinion	19
Agree	42
Strongly Agree	<u>14</u>
Total	100
39. Important decisions regarding the district foodservice programs are NOT made by the Director of Foodservice.	
Strongly Disagree	41
Disagree	42
No Opinion	6
Agree	9
Strongly Agree	<u>2</u>
Total	100
<hr/>	

Table 5

Classification of Program Variables Items

Item	Variable	Effectiveness	Characteristic	Opinion
21.	Overall, the District Food Service Department is doing a good job.	X		
22.	The meals served by the Food Service Department are of high nutritional quality.	X		
23.	The appearance of the meals served by the Food Service Department is NOT good.	X		
24.	The District's Food Service Department is effective in meeting the needs of the <u>children</u> in the district.	X		
25.	The District's Food Service Department is effective in meeting the needs of the district staff.	X		
26.	The Child Nutrition Program CANNOT be a vehicle for enhancing the educational program of the district.		X	

(table continues)

Item	Variable	Effectiveness	Characteristic	Opinion
27.	The attitude of the majority of the students in this school in relation to the school lunch program is positive.	X		
28.	A student advisory group plays an important role in changing the attitudes of the students towards the school lunch program.		X	
29.	The Food Service Department is in tune with the educational goals of the District.		X	
30.	Most teachers in the district would NOT welcome inservice training in nutrition education.		X	
31.	The food service staff has a positive attitude toward serving the students of the District.		X	
32.	The food service staff has a regular plan for inservice training.		X	
33.	Strong leadership is not critical to the success of the district food service department.		X	

(table continues)

Item	Variable	Effectiveness	Characteristic	Opinion
34.	The true measurement of a food service department's effectiveness is its financial independence.			X
35.	The <u>Assessment, Improvement and Monitoring System</u> (AIMS) review is a strong indicator of the food service program's overall effectiveness.			X
36.	Minimum food waste by students is not a good indicator of the quality of the food served.			X
37.	The district administration encourages food service employees to participate in the School Food Service Association.		X	
38.	The food service program has a regular procedure for keeping students, board and community in touch with its goals.		X	
39.	Important decisions regarding the district food service programs are not made by the Director of Food Service.		X	

#### Summary of Table 4

The following is a summary of the results of frequency data which is reflected on Table 4.

21. Overall, the District's Foodservice Department is doing a good job. Both of the populations agreed that the District is doing a good job, with 36 respondents agreeing and 60 respondents strongly agreeing. The 4 respondents that disagreed held positions other than chief school officials or directors of foodservices.
22. The meals served by the Foodservice Department are of high nutritional quality. Forty-six of the respondents agreed and 51 strongly agreed.
23. The appearance of the meals served by the Foodservice Department is not good. Fifty-eight of the respondents strongly disagreed with this statement, 37 disagreed, 3 agreed, and 2 had no opinion.
24. The District School Foodservice Department is effective in meeting the needs of the children of the District. Fifty-five percent of the

respondents strongly agreed with this statement and 44% agreed, only 1 respondent disagreed with this statement.

25. The Foodservice Department is effective in meeting the needs of the District's staff. Twenty-seven respondents strongly agreed, 51 agreed, 12 had no opinion and 10 disagreed. The reason for the variations in the answers to this question may be that the respondents had a different perception in what meeting the needs of the District staff meant.
26. Child nutrition programs cannot be a vehicle for enhancing the educational program of the District. Fifty-three of the respondents strongly disagreed with this statement, 37 disagreed, 5 had no opinion, 4 agreed and 1 strongly agreed. This indicates that the respondents believe that child nutrition programs can be a vehicle to enhance the educational programs of the District.
27. The attitudes of the majority of the students in the school in relationship to the school lunch



program is positive. Nineteen of the respondents strongly agreed, 67 agreed, 8 had no opinion and only 6 disagreed.

28. A student advisory group plays an important role in changing the attitudes of students towards the school lunch program. None of the respondents strongly disagreed with this statement, 16 disagreed, 27 had no opinion, 43 agreed and 14 strongly agreed. This question had a wide variation in the respondents level of agreement with this statement.
29. The Foodservice Department is in tune with the educational goals of the District. None of the respondents strongly disagreed with this statement, 4 disagreed, 9 had no opinion, 61 agreed and 26 strongly agreed. The response to this question indicates that foodservice departments are in tune with the educational goals of the districts.
30. A slight majority of teachers in the district either had no opinion or would not welcome inservice training in nutrition education.

Fifteen respondents would strongly have welcomed inservice training, 33 would have welcomed the training, 25 had no opinion, 25 did not want to have the training, and 2 felt strongly that they did not want the training. This question indicates that many teachers were uncertain about desiring inservice training.

31. The Foodservice staff has a positive attitude towards serving students of the District. None of the respondents strongly disagreed or disagreed with this question. Only 3 had no opinion, 43 agreed and 54 strongly agreed, which indicated that most of the foodservice staffs of the responding districts had positive attitudes towards students.
  
32. The Foodservice staff has a regular plan for inservice training. Only 2 respondents strongly disagreed with this statement, 22 disagreed, 10 had no opinion, 39 agreed and 27 strongly agreed. This indicates that most of the districts have a regular plan for inservice training.

33. Strong leadership is not critical to the success of the Foodservice Department. Seventy-nine respondents strongly disagreed with this statement, 19 disagreed, none of the respondents had no opinion and 2 agreed.
34. The true measure of a Foodservice Department's effectiveness is its financial independence. Only 9 of the respondents strongly disagreed with this statement, 35 disagreed, 8 had no opinion, 37 agreed and 11 strongly agreed.
35. The Assessment, Improvement and Monitoring System (AIMS) Review is a strong indicator of the foodservice program's overall effectiveness. Only 6 of the respondents strongly disagreed with this statement, 20 disagreed, 30 had no opinion, 37 agreed and 7 strongly agreed. The Assessment, Improvement and Monitoring System (AIMS) primarily reviews program-reporting documents and does not review the appearance of the meals, the level of nutritional value of the meals, whether or not a variety of meals are served or if minimum food

waste occurs. This may indicate why there was a difference in the responses to this question.

36. Minimum food waste by students is not a good indicator of the quality of the food served. Twenty respondents strongly disagreed with this statement, 48 disagreed, 4 had no opinion, 24 agreed and 4 strongly agreed. The majority of the respondents agree that food waste is an indicator of the quality of the food served.
37. The district administration encourages foodservice employees to participate in the American School Food Service Association. Three of the respondents strongly disagreed with this statement, 18 disagreed, 15 had no opinion, 42 agreed and 22 strongly agreed. This question reflects that the majority of the respondents agreed that the administration encourages school foodservice employees to participate in the American School Food Service Association.
38. The foodservice department has a regular procedure for keeping students, board, and community in touch with its goals. One strongly

disagreed with this statement, 24 disagreed, 19 had no opinion, 42 agreed and 14 strongly agreed.

39. Important decisions regarding the district foodservice department are not made by the director of foodservices. The respondents strongly disagreed with the question. Forty-one strongly disagreed, 42 disagreed, 6 had no opinion, 9 agreed, and 2 strongly agreed.

#### Factor Analysis

Factor analysis was performed on program variables, Items 21-39, to determine how well they measured the construct of effectiveness of foodservice programs. Six of the factors identified had Eigen values greater than one:

<u>No.</u>	<u>Eigen Value</u>	<u>Percent</u>	<u>Cumulative Percent</u>
1	5.2629	27.70	27.70
2	1.9119	10.06	37.77
3	1.5387	8.10	45.87
4	1.2788	6.73	52.60
5	1.2056	6.35	58.94
6	1.0400	5.47	64.42

Factor 1 through 6 had Eigen values above one and accounted for more than 64% of the information. Items that possessed a loading of .60 or greater on a factor were regarded as contributing significantly to its composition.

Factor 1 loaded on six questions, Items 21, 22, 23, 24, 25, and 27. Factor 3 loaded on three questions, Items 37, 38, and 39. On the basis of the question loading on these two factors, the following dimensions were selected as representing the underlying concepts: Factor I, Quality Assurance and Factor II, Communicating Activities. Table 6 summarizes these results.

A second factor analysis was performed on program variables Items 21 through 25 and Item 27, which were identified as indicators of school foodservice program effectiveness. Factor I had an Eigen value of 3.3814 and accounted for over half of the information gathered by the instrument.

<u>No.</u>	<u>Eigen Value</u>	<u>Percent</u>	<u>Cumulative Percent</u>
1	3.3814	56.36	56.36
2	0.7122	11.87	68.23
3	0.6632	11.05	79.28
4	0.5072	8.45	87.73
5	0.4345	7.24	94.98
6	0.3015	5.02	100.00

Table 6

Factor Analysis Summary

## Factor Loading

Item	Variable	Quality assurance (27.7)	Communicating activities (8.10)
21.	Overall, the District Food Service Department is doing a good job.	.7796	
22.	The meals served by the Food Service Department are of high nutritional quality.	.8108	
23.	The appearance of the meals served by the Food Service Department is good.	.7149	
24.	The District's Food Service Department is effective in meeting the needs of the <u>children</u> in the district.	.6637	
25.	The District's Food Service Department is effective in meeting the needs of the district staff.	.7069	
26.	The Child Nutrition Program can be a vehicle for enhancing the educational program of the district.		
27.	The attitude of the majority of the students in this school in relation to the school lunch program is positive.	.6681	

(table continues)

Factor Loading

Item	Variable	Quality assurance (27.7)	Communicating activities (8.10)
28.	A student advisory group plays an important role in changing the attitudes of the students towards the school lunch program.		
29.	The Food Service Department is in tune with the educational goals of the District.		
30.	Most teachers in the district would NOT welcome inservice training in nutrition education.		
31.	The food service staff has a positive attitude toward serving the students of the District.		
32.	The food service staff has a regular plan for inservice training.		
33.	Strong leadership is not critical to the success of the district food service department.		
34.	The true measurement of a food service department's effectiveness is its financial independence.		

(table continues)



Factor Loading

Item	Variable	Quality assurance (27.7)	Communicating activities (8.10)
35.	<u>The Assessment, Improvement and Monitoring System</u> (AIMS) review is a strong indicator of the food service program's overall effectiveness.		
36.	Minimum food waste by students is not a good indicator of the quality of the food served.		
37.	The district administration encourages food service employees to participate in the School Food Service Association.		.7517
38.	The food service program has a regular procedure for keeping students, board and community in touch with its goals.		.7585
39.	Important decisions regarding the district food service programs are made by the Director of Food Service.		.7532

The factor loaded on Items 21 and 22. On the basis of the content of Items 21 and 22, the following dimension was selected as representing the underlying concept: Quality Assurance (Table 6).

#### Cross Tabulation

The respondent's position was cross tabulated with Items 21 through 39 and is noted on Table 7. There was no significant difference in any except Item 24, which indicated that there was a difference of opinions between chief school business officials and foodservice directors and other positions on the effectiveness of the foodservice department in meeting the needs of the children of the district. The major difference was that the respondents who held positions other than chief school business official or foodservice director had a negative view of how well the foodservice department met the needs of the student. This category accounted for 12% of the response. Fifty-one percent of the FSDs and 37% of the CSBOs felt that foodservice programs were meeting the needs of the children.

Cross tabulation was also performed on the two separate variables that are characteristics of effective programs. Question 14 ("The district

Table 7

Relationship between Position and the Level of Agreement for All Program Variables 21-39.  
Significance at the .05 Level

Item Number	Description	$\chi^2$	Significance
21	C21	1.60	NS
22	C22	5.51	NS
23	C23	7.66	NS
24	C24	9.42	S
25	C25	4.68	NS
26	C26	12.24	NS
27	C27	6.60	NS
28	C28	4.48	NS
29	C29	2.05	NS
30	C30	11.23	NS
31	C31	2.77	NS
32	C32	13.61	NS
33	C33	3.38	NS
34	C34	5.27	NS
35	C35	14.84	NS
36	C36	11.52	NS
37	C37	10.63	NS
38	C38	8.55	NS
39	C39	8.73	NS

Note: S = Significant  
 NS = Not significant

foodservice department has a written mission statement which defines its purpose") was cross tabulated with the six program variables, Questions 21 through 25 and Question 27. The results of this statistical analysis are shown in Tables 8, 9, 10, 11, 12, and 13. The only cross tabulation response item that showed a significant difference was Item 24 (Table 11).

These results show there is a significant difference between the district having a written mission statement and the district's foodservice department's effectiveness in meeting the needs of the district children.

Cross tabulations were also calculated for the district information variable, the percent of total enrollment of students that participate in the National School Lunch Program, and Item 21 through 25 and Item 27, which are indicators of effectiveness (Tables 14-19).

Only one of these cross tabulations showed a significant difference: that was Item 27. These results indicate a positive correlation between the percent of total enrollment of students who participate in the school lunch program and a positive attitude of the majority of students in the school lunch program (Table 19).

Table 8

Cross Tabulation for Response Item 21Vs. Written Mission Statement

Item 21		Strongly disagree	Disagree	No opinion	Agree	Strongly agree	Total
Yes	No.	0	2	0	24	43	69
	%	0	3	0	35	62	100
No	No.	0	1	0	9	11	2
	%	0	5	0	43	52	100
Do not know	No.	0	1	0	4	7	12
	%	0	8	0	34	58	100
Total	No.	0	4	0	37	61	102
	%	0	4	0	36	60	100

chi-square = 1.4201     $p = 0.8424$      $df = 4$     \*Not significant

Table 9

Cross Tabulation for Response Item 22Vs. Written Mission Statement

Item 22		Strongly Disagree	Disagree	No opinion	Agree	Strongly agree	Total
Yes	No.	0	1	1	30	37	69
	%	0	1	1	44	54	100
NO	No.	0	0	0	12	9	21
	%	0	0	0	57	42	100
Do not know	No.	0	1	0	5	6	12
	%	0	8	0	42	50	100
Total	No.	0	2	1	47	52	102
	%	0	2	1	46	51	100

chi-square = 4.5449    p = 0.6032    df = 6    \*Not significant

Table 10

Cross Tabulation for Response Item 23Vs. Written Mission Statement

Item 23		Srongly disagree	Disagree	No opinion	Agree	Strongly agree	Total
Yes	No.	40	27	1	1	0	69
	%	58	39	2	1	0	100
No	No.	13	5	1	1	0	20
	%	65	25	5	5	0	100
Do not know	No.	7	4	0	1	0	12
	%	58	33	0	9	0	100
Total	No.	60	36	2	3	0	101
	%	59	36	2	3	0	100

chi-square = 4.2543     $p = 0.6423$      $df = 6$     \*Not significant

Table 11

Cross Tabulation for Response Item 24Vs. Written Mission Statement

Item 24		Strongly disagree	Disagree	No opinion	Agree	Strongly agree	Total
Yes	No.	0	0	0	30	39	69
	%	0	0	0	44	56	100
No	No.	0	0	0	10	10	20
	%	0	0	0	50	50	100
Do not Know	No.	0	1	0	2	9	12
	%	0	8	0	17	75	100
Total	No.	0	1	0	42	58	101
	%	0	1	0	42	57	100

chi-square = 10.4558      p = 0.0334      df = 4      \*Significant



Table 12

Cross Tabulation for Response Item 25Vs. Written Mission Statement

Item 25		Strongly disagree	Disagree	No opinion	Agree	Strongly agree	Total
Yes	No.	0	6	9	34	20	69
	%	0	9	13	49	29	100
No	No.	0	2	2	13	4	21
	%	0	10	10	61	19	100
Do not know	No.	0	1	1	5	5	12
	%	0	8	8	62	42	100
Total	No.	0	9	12	52	29	102
	%	0	9	12	51	28	100

chi-square = 2.4542       $p = 0.8736$        $df = 6$       \*Not significant

Table 13

Cross Tabulation for Response Item 27Vs. Written Mission Statement

Item 27		Strongly disagree	Disagree	No opinion	Agree	Strongly agree	Total
Yes	No.	0	3	6	47	13	69
	%	0	4	9	68	19	100
No	No.	0	2	2	13	4	21
	%	0	10	10	61	19	100
Do not know	No.	0	1	1	7	3	12
	%	0	8	8	59	25	100
Total	No.	0	6	9	67	20	102
	%	0	6	9	66	19	100

chi-square = 1.2969    p = 0.9718    df = 6    \*Not significant

Table 14

Cross Tabulation for Response Item 21 Vs. Percent  
of Total Enrollment of Students Who Participate  
in the National School Lunch Program

Percent of students		Strongly disagree	Disagree	No opinion	Agree	Strongly agree	Total
5-15	No.	0	0	0	2	4	6
	%	0	0	0	33	67	100
16-30	No.	0	0	0	4	7	11
	%	0	0	0	36	64	100
31-45	No.	0	2	0	11	9	22
	%	0	9	0	50	41	100
46-60	No.	0	0	0	9	17	26
	%	0	0	0	35	65	100
61-75	No.	0	0	0	9	15	24
	%	0	0	0	37	63	100
> 75	No.	0	2	0	1	8	11
	%	0	18	0	9	73	100
Do not know	No.	0	0	0	2	1	3
	%	0	0	0	67	33	100
Total	No.	0	4	0	38	61	103
	%	0	4	0	37	59	100

chi-square = 16.3824    p = 0.1743    df = 12    \*Not significant

Table 15  
Cross Tabulation for Response Item 22 Vs. Percent  
of Total Enrollment of Students Who Participate  
in the National School Lunch Program

Percent of Students		Strongly disagree	Disagree	No opinion	Agree	Strongly Agree	Total
5-15	No.	0	0	0	3	3	6
	%	0	0	0	50	50	100
16-30	No.	0	0	0	5	6	11
	%	0	0	0	45	55	100
31-45	No.	0	2	0	14	6	22
	%	0	9	0	64	27	100
46-60	No.	0	0	0	11	15	26
	%	0	0	0	42	58	100
61-75	No.	0	0	0	10	14	24
	%	0	0	0	42	58	100
> 75	No.	0	0	1	2	8	11
	%	0	0	9	18	73	100
Do not know	No.	0	0	0	3	0	3
	%	0	0	0	100	0	100
Total	No.	0	2	1	48	52	103
	%	0	2	1	47	51	100

chi-square = 26.6225     $p = 0.0864$      $df = 18$     \*Not significant

Table 16

Cross Tabulation for Response Item 23 Vs. Percent  
of Total Enrollment of Students Who Participate  
in the National School Lunch Program

Percent of Students		Strongly disagree	Disagree	No opinion	Agree	Strongly agree	Total
5-15	No.	3	3	0	0	0	6
	%	50	50	0	0	0	100
16-30	No.	8	3	0	0	0	11
	%	73	27	0	0	0	100
31-45	No.	11	8	1	2	0	22
	%	50	36	4	9	0	100
46-60	No.	16	10	0	0	0	26
	%	61	39	0	0	0	100
61-75	No.	16	7	1	0	0	24
	%	67	29	4	0	0	100
> 75	No.	4	6	0	0	0	10
	%	40	60	0	0	0	100
Do not know	No.	1	1	0	1	0	3
	%	34	33	0	33	0	100
Total	No.	59	38	2	3	0	102
	%	58	37	2	3	0	100

chi-square = 21.3169     $p = 0.2637$      $df = 18$     \*Not significant

Table 17

Cross Tabulation for Response Item 24 Vs. Percent  
of Total Enrollment of Students Who Participate  
in the National School Lunch Program

Percent of Students		Strongly disagree	Disagree	No. Opinion	Agree	Strongly agree	Total
5-15	No.	0	0	0	1	5	6
	%	0	0	0	17	83	100
16-30	No.	0	0	0	4	7	11
	%	0	0	0	36	64	100
31-45	No.	0	1	0	15	6	22
	%	0	5	0	68	27	100
46-60	No.	0	0	0	12	14	26
	%	0	0	0	46	53	100
61-75	No.	0	0	0	6	18	24
	%	0	0	0	25	75	100
> 75	No.	0	0	0	4	6	10
	%	0	0	0	40	60	100
Do not know	No.	0	0	0	2	1	3
	%	0	0	0	67	33	100
Total	No.	0	1	0	44	57	102
	%	0	1	0	43	56	100

chi-square = 16.2618     $p = 0.1795$      $df = 12$     \*Not significant

Table 18

Cross Tabulation for Response Item 25 Vs. Percent  
of Total Enrollment of Students Who Participate  
in the National School Lunch Program

Percent of Students		Strongly disagree	Disagree	No opinion	Agree	Strongly agree	Total
5-15	No.	0	0	1	1	4	6
	%	0	0	17	17	66	100
16-30	No.	0	0	1	6	4	11
	%	0	0	9	55	36	100
31-45	No.	0	4	3	13	2	22
	%	0	18	14	59	9	100
46-60	No.	0	3	2	15	6	26
	%	0	11	8	58	23	100
61-75	No.	0	1	3	10	10	24
	%	0	4	12	42	42	100
> 75	No.	0	1	2	5	3	11
	%	0	9	18	45	27	100
Do not know	No.	0	1	0	2	0	3
	%	0	33	0	67	0	100
Total	No.	0	10	12	52	29	103
	%	0	10	12	50	28	100

chi-square = 18.7097     $p = 0.4039$      $df = 18$     \*Not significant

Table 19

Cross Tabulation for Response Item 27 Vs. Percent  
of Total Enrollment of Students Who Participate  
in the National School Lunch Program

Percent of students		Strongly disagree	Disagree	No opinion	Agree	Strongly agree	Total
5-15	No.	0	0	1	5	0	6
	%	0	0	17	83	0	100
16-30	No.	0	0	0	9	2	11
	%	0	0	0	82	18	100
31-45	No.	0	2	3	16	1	22
	%	0	9	14	73	4	100
46-60	No.	0	0	1	20	5	26
	%	0	0	4	77	19	100
61-75	No.	0	1	2	12	9	24
	%	0	4	8	50	37	100
> 75	No.	0	1	2	6	2	11
	%	0	9	18	55	18	100
Do not know	No.	0	2	0	1	0	3
	%	0	67	0	33	0	100
Total	No.	0	6	9	69	19	103
	%	0	6	9	67	18	100

chi-square = 37.9691     $p = 0.0039$      $df = 18$     \*Significant



On Table 20 the chi-square analysis for Items 21 through 25 and 27 by Item 14, Mission Statement, is presented. This table shows the chi-square value, the degrees of freedom, the probability and whether or not there is a significant difference. Only Question 24 indicated there was a significant difference. This result is attributed to variation in what meeting the need of students may mean by the different populations.

Table 21 is the chi-square table for Items 21 through 25 and Item 27 by Item 15 (Percent of Enrollment of Students Who Participate in the Program). This table provides the chi-square data, degrees of freedom, the probability, and the significance level that exists. Item 27 was significant, which suggests that the foodservice department is more effective when the attitudes of the students toward the program are positive.

Multiple regression was performed using written mission statement Item 14 and the percent of participation Item 15 as district information variables, and the average effectiveness scores were calculated on Items 21 through 25 and Item 27 as the program variables (Table 22). The analysis revealed that the two district information variables accounted

Table 20

Chi-square Table for Items 21-25 & 27, by Item 14, Mission Statement

Items	Variable	$\chi^2$	df	p	Sig*
21.	Overall, the District Food Service Department is doing a good job.	1.4201	4	0.8424	NS
22.	The meals served by the Food Service Department are of high nutritional quality.	4.5449	6	0.6032	NS
23.	The appearance of the meals served by the Food Service Department is NOT good.	4.2543	6	0.6423	NS
24.	The District's Food Service Department is effective in meeting the needs of the <u>children</u> in the district.	10.4558	4	0.0334	S
25.	The District's Food Service Department is effective in meeting the needs of the district staff.	2.4542	6	0.8736	NS
27.	The attitude of the majority of the students in this school in relation to the school lunch program is positive.	1.2969	6	0.9718	NS

\* Significant beyond the .05 level

Table 21

Chi-square Table for Items 21-25 & 27, by Item 15, the Percentage of Total Enrollment of Students Who Participate in the National School Lunch Program

Items	Variable	$\chi^2$	df	p	Sig*
21.	Overall, the District Food Service Department is doing as good job.	16.3824	12	0.1743	NS
22.	The meals served by the Food Service Department are of high nutritional quality.	26.6225	18	0.0864	NS
23.	The appearance of the meals served by the Food Service Department is NOT good.	21.3169	18	0.2637	NS
24.	The District's Food Service Department is effective in meeting the needs of the <u>children</u> in the district.	16.2618	12	0.1795	NS
25.	The District's Food Service Department is effective in meeting the needs of the district staff.	18.7097	18	0.4099	NS
27.	The attitude of the majority of the students in this school in relation to the school lunch program is positive.	37.9691	18	0.0039	S

\* Significant beyond the .05 level

Table 22

Multiple Regression Report of Written Mission  
Statement and Percent Participation Vs.  
Foodservice Program Effectiveness

Item	Independent Variable	$\underline{r}^2$	Seq $\underline{r}^2$
14	Written mission statement	.003	.003
15	Percent of enrollment	.001	.004

for less than 1% of the variation in the average effectiveness scores, as indicated by the sequential  $R^2=0.004$ . This indicates that practically no relationship exists between the existence of a written mission statement and the percent of students participating on the one hand, and the perception of the general effectiveness of the foodservice program on the other hand. In Question 40 of the survey instrument, the respondent is asked to use one word to describe the foodservice department of the district in which that respondent is employed. Table 23 lists the one-word description that the respondents gave. The one-word descriptions are listed by position of the respondent. Table 24 summarizes the comment section of the questionnaire, and is reported by position.

#### Bivariate Correlation

Bivariate correlation was completed on Questions 29 through 39 which were not identified as effectiveness indicators. The results of this statistical process indicated that Questions 29, 31, 32, 33, 37, 38 and 39 were significant beyond the .05 level (see Table 25). Regular multiple regression analysis was conducted on Items 29 through 39. This data analysis technique indicated that Items 29, 31,

Table 23

One Word Descriptions for Foodservice Departments

<u>Directors of Foodservice</u>	<u>Business Officials</u>
Above average	-
Adaptable	-
Awesome	-
Better	-
Busy	-
-	Capable
Committed	-
-	Competent
Dedicated	-
Diversified	-
Dynamic	-
Effective	Effective
Efficient	Efficient
Excellent	Excellent
-	Fair
-	Fantastic
Functional	-
Good	Good
Great	Great
Hard Working	-
Impressive	-
-	Independent
-	Ineffective
Innovative	-
-	Mary Overton
-	Necessary
-	Nutritious
Organized	Organized
Outstanding	Outstanding
Patient	-
Positive	-
Productive	Productive
Professional	-
Progressive	-
-	Quality
-	Reliable
Responsive	-
Satisfactory	-
Service	-
-	Successive
Vital	-

Table 24

Summary of Comments: Directors of Foodservice  
and Chief School Business Officials

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Chief School Business Officials:

1. Multi-cultured group.
2. Great program, excellent meals, good service, makes money.
3. Serving high school students is very difficult.
4. It is great to have one "non-problem" area as foodservice is.
5. The program is not self-supporting.

Directors of Foodservice:

1. Expense has driven program into financial trouble.
  2. I do not know the budget of the general fund.
  3. Our foodservice department is, and does, a very necessary part of our educational system. It is the basis for helping keep our students healthy physically and emotionally because of what we do, serve and educate.
  4. It has been proven that a foodservice department can meet the students nutritional needs and help their well-being and be financially solvent.
  5. Needs development in Items 32, 38 and 39.
  6. We work very hard, within a very tight budget, to feed 5,000 students per day.
  7. Marketing is the key.
-

Table 25

Results of Bivariate Correlation Analysis of  
Average Scores of Items 21-25 and 27,  
with Items 28-39

Item	$r$	$r^2$	$p$	Sig*
28	.134	.018	.171	NS
29	.561	.315	.000	S
30	.023	.000	.819	NS
31	.477	.227	.000	S
32	.221	.049	.023	S
33	.215	.046	.027	S
34	.063	.004	.525	NS
35	.053	.003	.590	NS
36	.075	.006	.443	NS
37	.237	.056	.014	S
38	.356	.127	.000	S
39	.385	.148	.000	S

\* Significant beyond the .05 level



38 and 39 make the greatest contribution to the variation and effectiveness, since they are the only ones with coefficients of determination ( $r^2$ ) which exceed 10% (see Table 26). Forward stepwise regression analysis was also conducted on Items 29 through 39. This data analysis process indicated that Questions 29, 31 and 39 are the foodservice program characteristics which are most positively associated with and predictive of effectiveness as perceived by the survey respondents. Those are the three positively correlated foodservice program characteristics which are retained in the prediction equation (see Table 27). Therefore, if the questions which were identified by factor analysis as indicators of effectiveness are added to the questions identified by the multiple regression techniques, 10 questions can be used to summarize the most significant characteristics and indicators of foodservice program effectiveness. Those questions are:

21. Overall, the District's Foodservice Department is doing a good job.
22. The meals served by the Foodservice Department are of high nutritional quality.
23. The appearance of the meals served by the Foodservice Department is good.

Table 26

Results of Multiple Regression Analysis of  
Items 29, 31, 38 and 39 Against Average  
Scores of Items 21-25 and 27

Item	<u>t</u>	<u>p</u>	<u>r</u> <sup>2</sup>	Seq <u>r</u> <sup>2</sup>
29	3.56	.000	.313	.312
31	2.72	.008	.391	.226
38	1.08	.283	.423	.139
39	1.88	.063	.445	.149

Table 27

Results of Stepwise Regression Analysis of  
Items 29, 30, 31 and 39 Against Average  
Scores of Items 21-25 and 27

Item	<u>t</u>	<u>p</u>
29	4.3	.000
30	-2.1	.039
31	3.0	.003
39	2.5	.013

24. The District's Foodservice Department is effective in meeting the needs of the children in the district.
25. The District's Foodservice Department is effective in meeting the needs of the district staff.
27. The attitude of the majority of the students in this school in relation to the school lunch program is positive.
29. The Foodservice Department is in tune with the educational goals of the District.
31. The foodservice staff has a positive attitude toward serving the students of the District.
38. The foodservice program has a regular procedure for keeping students, board and community in touch with its goals.
39. Important decisions regarding the district foodservice programs are made by the Director of Foodservice.

Multiple regression was performed using all of the program variables of the survey instrument to determine if there was a relationship among the variables. The results of the multiple regression on the dependent variable, Items 1 through 20, respondent information and district information, indicated that there is very little predictive value in these questions (Table 28).

Table 28

Results of Multiple Regression Analysis of  
Respondent and District Variables, Items  
1 through 20, Against Program Variables,  
Items 21 through 39

Item	<u>t</u>	<u>p</u>	<u>r</u> <sup>2</sup>	Seq <u>r</u> <sup>2</sup>
1	0.01	.988	.067	.067
2	-1.13	.263	.074	.022
3	1.09	.282	.101	.019
4	1.43	.159	.121	.054
5	-0.26	.799	.126	.019
6	-0.46	.689	.132	.005
7	0.82	.418	.157	.076
8	2.23	.030	.204	.075
9	-2.72	.009	.227	.001
10	1.71	.095	.299	.031
11	1.16	.251	.319	.027

Note: Only Items 1 through 11 had measurable correlations.

## CHAPTER V

### DISCUSSION, RECOMMENDATIONS AND CONCLUSIONS

This chapter culminates the research study, Characteristics of Effective School Foodservice Programs. It provides conclusions and suggests recommendation for future research.

That effective school foodservice programs have certain characteristics has been identified in the literature. This study was to determine if the two populations which are accountable for the school foodservice programs perceive the same characteristics as indicators of effectiveness. The two main populations surveyed in this non-experimental study were the directors of school foodservice programs and the chief school business officials in the 82 school districts in the county of Los Angeles. There were, however, 11 respondents who held positions other than the CSBO or FSD who answered the questionnaire.

The survey instrument consisted of 40 items. The first seven were questions to solicit information about the respondents so that generalities could be made about the respondents. Thirteen questions were developed to provide information about the school

district and the foodservice program of the district in which the respondent was employed.

Program effectiveness questions were developed into 19 items. These questions utilized a Likert summative rating, yielding total scores to those 19 items (Best, 1981), and of these, 6 were stated in the negative. An adjustment was made for this negative score in the data analysis, so that a total score could be assigned to each of the 106 surveys returned.

The final item of the survey instrument was to solicit a one-word description of the foodservice program for the district where the respondent was employed (see Table 23).

The results indicate that the two populations of the study, do not differ significantly in how they rate the foodservice programs of the districts where they are employed. Both populations rated their foodservice programs positively. Factor analysis was performed both to determine if the 19 variables designed to assess program effectiveness could be reduced to yield fewer variables, and to determine if any of the items were moderately or highly correlated with one another (Borg & Gall, 1983). Six of the 19 items correlated with each other, and responses to

these six items were responsible for 64% of the information received. The six survey items formed Factor 1; they are:

21. Overall, the District's Foodservice Department is doing a good job.
22. The meals served by the Foodservice Department are of high nutritional quality.
23. The appearance of the meals served by the Foodservice Department is NOT good.
24. The District's Foodservice Department is effective in meeting the needs of the children in the district.
25. The District's Foodservice Department is effective in meeting the needs of the district staff.
27. The attitudes of the majority of the students in this school in relation to the school lunch program are positive.

Multiple regression was performed using all of the program variables of the survey instrument to determine if there was a relationship among the variables. The results of the multiple regression on the dependent variable, Items 1 through 20, respondent information and district information, indicated that there is very little predictive value in these questions (Table 28). The explanation for this lack of predictability is that there is not enough



variation in their responses, or that all the variables were highly correlated with other variables. The highest correlation occurred with Question 7:

Total number of years you have served in this district or other districts in your current job function.

and Question 8:

Level of education your district serves.

The explanation for the correlation of these questions may be that the longer a person is in a position the more that person understands the requirements of the program, or it may be that a program that serves higher grade levels has increased perceptions of the problems involved in getting children of older age groups to participate in the program.

Multiple regression was performed using two district information variables that were identified by the researchers as the predictors of foodservice program effectiveness.

Item 14, "The District Foodservice Department has a written mission statement which defines its purpose," and Item 15, "The percentage of total enrollment of students who participate in the National

School Lunch Program," were correlated (as district information variables) with Items 21 through 25 and Item 27, as the program variables which were identified by factor analysis. The analysis of this function revealed that the two district information variables accounted for less than 1% of the variation in the average affecting the scores (indicated by the sequential  $R^2=0.004$ ). This result indicates that practically no relationship exists between the existence of a written mission statement and the percentage of student participation, on the one hand, and the perception of general effectiveness of the foodservice program on the other hand.

Multiple regression analysis correlated the items that formed Factor 1 in the factor analysis as the dependent variables, and Items 28 through 39 as the independent variables. Altogether, the 12 variables, Items 28 through 39, accounted for 44.52% of the variance in effectiveness (Table 25).

Among these items, four of the independent variables had a simple  $r^2$  greater than .10; these were Items 29, 31, 38, and 39:

29. The Foodservice Department is in tune with the educational goals of the District.

31. The foodservice staff has a positive attitude toward serving the students of the District.
38. The foodservice program has a regular procedure for keeping students, board and community in touch with its goals.
39. Important decisions regarding the district foodservice programs are NOT made by the Director of Foodservice.

Items 29, 31, 38, and 39 are therefore considered characteristics of an effective foodservice program as perceived by the sample population of this study.

If the six items that were identified by factor analysis were added to the four items that were identified by multiple regression as being the predictors of program effectiveness, the instrument formed by that combination could be used to conduct future research study in the area of school foodservice effectiveness. This conclusion fulfilled one of the goals of the research, that is, the development of a tool for measurement of school foodservice program effectiveness.

#### Reasons for Low Correlations

There was minimal variance among questions designed to assess school foodservice program

effectiveness, that is, there was virtually no difference among respondents in the responses to the program variables of the questionnaire. The explanation may be that indeed all foodservice programs of the districts that responded are perceived as doing a good job. Another possible reason for this positive perception of the foodservice programs is that the study was endorsed by the professional organization of the respondents, and the respondents wanted a favorable result for the CASBO-endorsed study.

A third reason for the overwhelmingly positive response is that child nutrition programs may include, for their providers, a certain amount of ideology. These programs, which have as their purpose to serve children nutritious food, tend to attract dedicated and idealistic persons to their administration; when one joins the related professional organization, one may get caught up in that spirit (Mintzberg, 1983, p. 55).

The fourth possible reason for the positive rating of the effectiveness of the foodservice programs is that the two populations who served as subjects, are also the administrators responsible for

the programs. They may have followed a natural tendency to perceive that for which one is responsible as good, and not as bad.

#### Theoretical Implications of the Study

The reason for the high response rate (response was received from 89% of the school districts in the county of Los Angeles and 63% of all questionnaires mailed were returned) may be attributed to the design of the questionnaire. Most research studies receive a 20% to 40% return rate (Martin, 1980, p. 66). The questionnaire was trial tested and employed the eight characteristics of a good questionnaire as stated by Best (1981).

The possibility was considered by the researcher that the time of the year the questionnaire was distributed might have a negative impact on the return rates. The questionnaires were mailed the last week in May, the last two weeks of the school year, which is traditionally assumed to be one of the busiest times of the year for chief school business officials and directors of foodservices, as they are concluding the end of the year school activities and preparing budgets and bids for the following year. The respondents took the time to complete and return the

questionnaire whether or not they were busy. This may be attributed to interest in the subject of the study, to the belief in the importance of the study, or to the endorsement by CASBO of the research. A review of three previous CASBO-endorsed dissertation studies revealed that studies supported by CASBO could receive a 60-70% response rate (Cheatham, 1985; Perino, 1987; Mobley, 1987). The researcher concludes, because 33% of the respondents requested the results of the study, that the success of the response was owing to four factors:

1. The importance of the study.
2. The design of the questionnaire.
3. The findings of the study.
4. The study was sponsored by CASBO.

#### Practical Implications

The information of this study can be used by chief school business officials and school foodservice program directors to evaluate the perceptions of school site administrators, boards of education and parents of their districts towards the foodservice program's effectiveness.

It would then be appropriate for the district to set goals for program improvement in areas that may not receive favorable responses.

The researchers suggest that a small, modified questionnaire be used. This modified questionnaire contains the six questions (Items 1 through 6) that were identified by factor analysis and are indicators of effectiveness, and four questions that were identified by multiple regression as characteristics.

#### Suggested Future Research

This study provides base data for future studies on the perceived effectiveness of school foodservice programs.

The following are suggestions for using this research in future studies.

1. Use the modified questionnaire in a random sample of school districts in the State of California, using the same populations.
2. Research and define each of the questions which were identified as being measures of perceived effectiveness.
3. Use the modified questionnaire in other institutional foodservice programs using the same sample populations.

4. Use the modified questionnaire with other populations such as school site administrators, students, teachers, parents and school board members.
5. Use the modified questionnaire as a guide to develop measures that would test the external validity of effectiveness and characteristics of school foodservice programs.

Modified Questionnaire  
Foodservice Program Evaluation

	Strongly disagree	Disagree	No opinion	Agree	Strongly agree
1. Overall, the District's Foodservice Department is doing a good job.	1	2	3	4	5
2. The meals served by the Foodservice Department are of high nutritional quality.	1	2	3	4	5
3. The appearance of the meals served by the Foodservice Department is good.	1	2	3	4	5
4. The District's Foodservice Department is effective in meeting the needs of the children in the district.	1	2	3	4	5
5. The District's Foodservice Department is effective in meeting the needs of the district staff.	1	2	3	4	5
6. The attitude of the majority of the students in this school in relation to the school lunch program is positive.	1	2	3	4	5



	Strongly disagree	Disagree	No opinion	Agree	Strongly agree
7. The Foodservice Department is in tune with the educational goals of the District.	1	2	3	4	5
8. The foodservice staff has a positive attitude toward serving the students of the district.	1	2	3	4	5
9. The foodservice program has a regular procedure for keeping students, board of education and community in touch with its goals.	1	2	3	4	5
10. Important decisions regarding the district foodservice programs are made by the Director of Foodservice.	1	2	3	4	5

### Conclusions

"After bread, education is the first need of a people." This is the phrase which is inscribed upon one of the finest public monuments in Paris and which is frequently displayed in many public schools in France (Spargo, 1906b).

Foodservice is a part of the educational program of most elementary and secondary schools in the United States today. Foodservice programs receive funding from various sources and have been supported by legislation for more than 40 years. All programs that receive public funding should be effective. Based on

the data obtained from this study, foodservice programs that are perceived to be effective possess the following characteristics in common:

- Overall, the district's foodservice department is doing a good job.
- The meals served by the foodservice department are of high nutritional quality.
- The appearance of the meals served by the foodservice department is good.
- The foodservice department is effective in meeting the needs of the children.
- The foodservice department is effective in meeting the needs of the district staff.
- The attitude of the majority of the students in the school district toward the school lunch program is positive.
- The foodservice department is in tune with the educational goals of the district.
- The foodservice staff has a positive attitude toward serving the students.
- The foodservice department has a regular procedure for informing students, board of education and community about its goals.
- Important decisions about foodservices are made by the director of foodservice.

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## APPENDICES

2



**APPENDIX A**

**SURVEY INSTRUMENT**



## California Association of School Business Officials

916 - 23rd Street  
Sacramento, CA 95816  
(916) 441-7157

May 23, 1988

TO: Chief School Business Official

RE: Questionnaire: "Characteristics of an  
Effective School Food Service Program"

The California Association of School Business Officials is committed to assisting school districts to manage their operations more efficiently.

Each year, CASBO grants a few research fellowships to pursue areas of greatest need. As a result of one of our research grants, a food service study is being conducted by Alita Rethmeyer, Doctoral Candidate, Pepperdine University. The results of the study should have significant benefits for school districts as they prepare to allocate resources to maintain their financial stability and take them into the 21st century.

I encourage you to participate in the study and assist CASBO in continuing its commitment to improving school business management.

Very truly yours,

Lydia L. Lobdell  
CASBO President

### 1987-88 EXECUTIVE COMMITTEE

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Treasurer  
Robert E. Reeves

Past President  
Calvin W. Hall



## California Association of School Business Officials

916 - 23rd Street  
Sacramento, CA 95816  
(916) 441-7157

May 23, 1988

TO: Director of Food Service

RE: Questionnaire: "Characteristics of an  
Effective School Food Service Program"

The California Association of School Business Officials is committed to assisting school districts to manage their operations more efficiently.

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Very truly yours,

Lydia L. Lobdell  
CASBO President

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Director #3  
Charles L. Hanson

Secretary  
Eugene W. Murray

Treasurer  
Robert E. Reeves

Past President  
Calvin W. Hill

**CHARACTERISTICS OF AN EFFECTIVE  
SCHOOL FOOD SERVICE PROGRAM**

**SURVEY**

**Purpose of the Questionnaire**

To determine the common characteristics of an effective school food service program.

**Estimated Time Required to Complete the Questionnaire**

Approximately ten (10) minutes.

**Return of the Questionnaire:** Please use the enclosed self-addressed stamped envelope and return by June 4, 1988.

**PART I RESPONDENT'S INFORMATION:** (Please circle or fill in your responses.)

1. Position held: Chief School Business Official  
Director of Food Service Other \_\_\_\_\_  
(Specify)
2. Sex: Male Female
3. Age group: 20-29 30-39 40-49 50-59 60+
4. Percentage of time spent on Food Services:  
0-10% 11-25% 26-50% 51-75% 76-100%
5. Level of college training: None AA BS/BA Masters PhD/EdD
6. Special Training or Registration: Teaching Credential Registered Dietitian  
Admin. Credential School Food Service Certification Other \_\_\_\_\_
7. Total number of years you have served in this district or other districts in  
your current job function:  
Less than 5 6-10 11-15 16-20 More than 20 years

**PART II DISTRICT INFORMATION:** (Please circle or fill in your responses.)

8. Level of education your district serves: K-8 K-12 9-12 Other \_\_\_\_\_
9. Total student enrollment: Less than 500 501-2,000 2,001-5,000  
5,001-15,000 15,001-25,000 25,001-50,000 50,001 or more
10. Size of most recently adopted budget for general fund:  
Under \$2 million \$2-5 million \$6-10 million  
\$11-15 million \$16-25 million \$26-50 million Over \$50 million
11. Size of most recently adopted budget for the total food services  
operations: Less than \$250,000 \$250-500,000 \$600,000-\$1 million  
\$1-2 million \$3-5 million \$6-10 million Do not know
12. The district participates in the National School Lunch Program.  
Yes No Do not know
13. The district participates in the National School Breakfast Program.  
Yes No Do not know

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14. The District Food Service Department has a written mission statement which defines its purpose.  
           Yes      No      Do not know
15. The percentage of total enrollment of students that participate in the National School Lunch Program:  
       5-15%   16-30%   31-45%   46-60%   61-75%   Over 75%   Do not know
16. The type of food service delivery system the district uses:  
       Central kitchen bulk      On-site preparation      Cook/Chill to Inventory  
       Central kitchen pre-package   Vendor supplied pre-package
17. The district food service department is managed by:  
       District employee      Management company
18. This district has participated in the State of California Food Service Education Grant Program for training food service employees.  
       Yes      No      Do not know
19. This district has used the State Nutrition Education Curriculum "Choose Well, Be Well".      Yes      No      Do not know
20. The district has considered contracting for food service management services.  
       Yes      No      Has in the past      Do not know

**PART III PROGRAM INFORMATION:**

Please indicate your agreement with each statement by circling the number which best represents your level of agreement.

	Strongly disagree	Disagree	No opinion	Agree	Strongly agree
21. Overall, the District's Food Service Department is doing a good job.	1	2	3	4	5
22. The meals served by the Food Service Department are of high nutritional quality.	1	2	3	4	5
23. The appearance of the meals served by the Food Service Department is NOT good.	1	2	3	4	5
24. The District's Food Service Department is effective in meeting the needs of the <u>children</u> in the district.	1	2	3	4	5
25. The District's Food Service Department is effective in meeting the needs of the district staff.	1	2	3	4	5
26. The Child Nutrition Program CANNOT be a vehicle for enhancing the educational program of the district.	1	2	3	4	5
27. The attitude of the majority of the students in this school in relation to the school lunch program is positive.	1	2	3	4	5

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	Strongly disagree	Disagree	No opinion	Agree	Strongly agree
28. A student advisory group plays an important role in changing the attitudes of the students towards the school lunch program.	1	2	3	4	5
29. The Food Service Department is in tune with the educational goals of the District.	1	2	3	4	5
30. Most teachers in the district would NOT welcome inservice training in nutrition education.	1	2	3	4	5
31. The food service staff has a positive attitude toward serving the students of the District.	1	2	3	4	5
32. The food service staff has a regular plan for inservice training.	1	2	3	4	5
33. Strong leadership is NOT critical to the success of the district food service department.	1	2	3	4	5
34. The true measurement of a food service department's effectiveness is its financial independence.	1	2	3	4	5
35. The <u>Assessment, Improvement and Monitoring System</u> (AIMS) review is a strong indicator of the food service program's overall effectiveness.	1	2	3	4	5
36. Minimum food waste by students is NOT a good indicator of the quality of the food served.	1	2	3	4	5
37. The district administration encourages food service employees to participate in the School Food Service Association.	1	2	3	4	5
38. The food service program has a regular procedure for keeping students, board and community in touch with its goals.	1	2	3	4	5
39. Important decisions regarding the district food service programs are NOT made by the Director of Food Service.	1	2	3	4	5
40. If you could use one word to describe the Food Service Department of the District, it would be: _____.					

COMMENTS: \_\_\_\_\_

If you would like the results of this questionnaire, please enclose a business card.  
THANK YOU.

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APPENDIX B

LETTERS OF ENDORSEMENT





## California Association of School Business Officials

916 - 23rd Street  
Sacramento, CA 95816  
(916) 441-7157

November 19, 1987

Alita Rethmeyer  
Food Service Consultant  
751 Marine Avenue  
Manhattan Beach, CA 90266

Dear Ms. Rethmeyer:

Congratulations on being selected as a recipient of a CASBO University Studies Award. Your proposed doctoral dissertation, "Characteristics of an Effective School Food Service Program in the State of California" sounds very interesting and should provide a great deal of information to school districts in California. I am sure that Pete Lippman has informed you of the Food Service Research & Development Committee's request to be a part of the team of experts who will review and establish the validity of the survey instrument. They also are requesting that the survey population include both business managers and directors of food services.

As soon as you are ready to send the survey out, I would be most happy to co-sign the cover letter on behalf of CASBO. Please send me a draft of the letter so I may review it.

Pete has made arrangements for you to receive the first payment of \$250 of the \$500 stipend.

I am looking forward with interest to your study findings.

Sincerely,

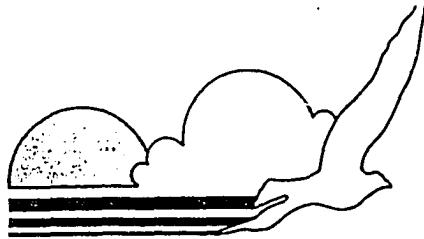
Lydia L. Lobdell  
President

LLL:ba

### 1987-88 EXECUTIVE COMMITTEE

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Director #3 Charles L. Hanson	Secretary Eugene W. Murray	Treasurer Robert E. Reeves	Past President Calvin W. Hall	





## NATIONAL SCHOOL DISTRICT

1500 N AVENUE • POST OFFICE BOX 7 • NATIONAL CITY, CA 92050 • (619) 474-6791

October 27, 1987

Mr. Peter Lippman  
 Chairman, University Study Committee  
 Downey Unified School District  
 P. O. Box 75  
 Downey, CA 90241

Dear Mr. Lippman:

The State Food Services R & D Committee has been asked to review Alita Rethmeyer's Proposed Doctoral Dissertation, "Characteristics of an Effective School Food Service Program in the State of California". The intent of the dissertation is to identify major characteristics and determine if a model can be developed for administrators to follow when evaluating programs.

The committee has reviewed the proposal and has approved a motion to sponsor the study with the following:

1. The State Food Service R & D Committee will be part of the team of experts who will review and establish the validity of the survey instrument.
2. The survey population should include both business managers and directors of food services.

Please contact me if you need additional information.

Sincerely,

*Helen V. Dolan*

Helen V. Dolan  
 Director of Child Nutrition Services  
 National School District

cc: Lydia Lobdell  
 Alita Rethmeyer

HVD:th

BOARD MEMBERS FRANK PEREZ VINCE REYNOLDS LARRY A. TAGLE FLORENCE UNGAB CHARLOTTE A WEBSTER  
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 ASSISTANT SUPERINTENDENT/CURR & INSTR: GEORGE CAMERON, EdD BUSINESS MANAGER, MARCELE SEE

CALIFORNIA ASSOCIATION OF SCHOOL BUSINESS OFFICIALS  
STATE FOOD SERVICES RESEARCH AND DEVELOPMENT COMMITTEE 1987-88

CHAIRPERSON:	<u>HELEN V. DOLAN</u> (619-474-6791)	Director, Child Nutrition Services National School District P. O. Box Y, National City, CA 92050
ASSISTANT STATE CHAIRPERSON:	<u>NADENE HAYNES</u> (916-741-5200)	Food Services Manager Yuba City Unified School District 750 Palora Ave., Yuba City, CA 95991
CENTRAL SECTION:	<u>GEORGE SAVAROS</u> (209-441-3459)	Financial Supervisor Fresno Unified School District Education Center, Tulare & M Streets Fresno, CA 93721
NORTHERN SECTION:	<u>JOANN SMITH</u> (415-276-0414)	Administrator of Child Nutrition San Lorenzo Unified School District 15510 Usher Street San Lorenzo, CA 94580
SACRAMENTO SECTION:	<u>SUSAN M. ECKARD</u> (916-741-6041)	Director of Nutritional Services Marysville Joint Unified School District, 1919 'B' Street Marysville, CA 95901
SAN DIEGO IMPERIAL SECTION:	<u>NANCY D. DENTON</u> (619-726-2170)	Director, Child Nutrition Services Vista Unified School District 151 Escondido Avenue Vista, CA 92084
SOUTHERN SECTION:	<u>HENRIETTA DEORA</u> (818-797-1155)	Food Services Director Pasadena Unified School District 351 South Hudson Avenue Pasadena, CA 91109
MEMBER AT LARGE:	<u>WAYNE D. WONG</u> (805-327-3311) H-(805-872-7053)	Director of Food Services Bakersfield City Elementary School District, 1300 Baker Street Bakersfield, CA 93305
STATE LIAISON:	<u>KATHY MORONEY</u> (916-322-2144)	Manager, School Nutrition Programs California State Dept. of Education 721 Capitol Mall Sacramento, CA 95814

APPENDIX C

PANEL OF EXPERTS

PANEL OF EXPERTS

School Business Officials:

Dr. Eugene Tucker  
Superintendent of Schools  
Acting Business Manager  
Santa Monica-Malibu Unified School District  
Santa Monica, California

Mr. Stephen Garcia  
Assistant Business Manager  
Long Beach Unified School District  
Long Beach, California

Food Service Director:

Leslie Wilson  
Food Service Director  
Santa Monica-Malibu Unified School District  
Santa Monica, California

California Association of School Business Officials:

Chairperson: Helen V. Dolan  
Director of Child Nutrition  
National School District  
National City, California

Industry Representative:

Donna Boss, Editor  
Food Management Magazine  
Editorial Office  
747 Third Avenue  
New York, New York 10017

California State Department of Education:

Marilyn Briggs, Coordinator  
Nutrition and Food Service Education Section  
Sacramento, California

751 Marine Avenue  
 Manhattan Beach, CA 90266  
 March 28, 1988

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Re: Dissertation Characteristics of an  
 Effective School Food Service Program

Dear \_\_\_\_\_:

Thank you for agreeing to serve as one of the members of the panel of experts on my dissertation committee questionnaire.

The purpose of the panel of experts is to validate the contents of the questionnaire and determine the reliability of the questions. Therefore, I am requesting that you review the enclosed questionnaire as to its appropriateness to the following:

1. Is the purpose of the questionnaire clear?

\_\_\_\_\_

2. Are the questions relevant to the purpose of the questionnaire?

3. Questions that need clarification: \_\_\_\_\_

4. Suggestions for improving the questionnaire: \_\_\_\_\_
- \_\_\_\_\_

I would also like to point out that some of the questions have a negative response. This is so that the person responding to the questionnaire will read each question and not simply answer consistently the same.

Thank you in advance for taking time out of your busy schedule to assist me in development of this questionnaire. I look forward to hearing from you.

Very truly yours,

Alita E. Rethmeyer

PLEASE RETURN THE QUESTIONNAIRE WITHIN THREE (3) WORKING DAYS.

**APPENDIX D**

**UNIVERSITY TRAINING PROGRAM  
FOR SCHOOL BUSINESS MANAGERS**

PEPPERDINE UNIVERSITY  
 GRADUATE SCHOOL OF EDUCATION AND PSYCHOLOGY  
 3415 Sepulveda Boulevard  
 Los Angeles, California 90034  
 (213) 306-5640

UNIVERSITY TRAINING PROGRAMS  
 FOR  
 SCHOOL BUSINESS MANAGERS  
 (Chief School Business Officials)

**PURPOSE OF THE QUESTIONNAIRE**

To assess interest in a master's degree program for Chief School Business Officials and to identify opinions on content and components of the program.

**ESTIMATED ANSWERING TIME:** Approximately 45 minutes.

**RETURN OF QUESTIONNAIRE:** PLEASE USE ENCLOSED STAMPED RETURN ENVELOPE.  
 Circle or fill in your responses to Parts I-III.

**PART I RESPONDENT'S INFORMATION:** Please circle appropriate answer.

1. Position held: Superintendent Chief School Business Official
2. Level of education your district serves: K-8 K-12 9-12 OTHER \_\_\_\_\_
3. Total student enrollment: Less than 500 501-5,000 5,001-15,000 15,001-25,000
4. Total number of years you have served in your current position: Less than 5 6-10  
11-15 16-20 More than 20 years.
5. Sex: Male Female
6. Age group: 20-29 30-39 40-49 50-59 60+
7. Level of college training: None AA BS/BA Masters PhD/EdD
8. Position of responsible for business functions in your district: Business Manager  
(Asst-Supt-Business) Superintendent Other \_\_\_\_\_
9. Percentage of Board meeting time spent on business matters: 0-15% 16-30%  
31-45% 46-60% 61-75% 76-90%
10. Size of most recently adopted budget for general fund: Under 10 million  
11-50 million 51-100 million Over 100 million

1.

PART II Please circle the appropriate response for each question.

1. Does your district have an adequate number of "back-up" people prepared to step into business management positions?      yes    no    no opinion

Comments: \_\_\_\_\_

2. Has your district had difficulty in finding qualified candidates for business positions?      yes    no    no opinion

Comments: \_\_\_\_\_

3. How many business division positions, at the Director or above level, do you anticipate as annual vacancies for the next 5-10 years?      (0)    (1-5)    (6+)

PART III The following questions will assist in the development of a university training program for school business managers. PLEASE INDICATE YOUR LEVEL OF AGREEMENT WITH EACH STATEMENT BY CIRCILING THE NUMBER WHICH REPRESENTS YOUR LEVEL OF AGREEMENT.

	1 Strongly disagree	2 disagree	3 No opinion	4 Agree	5 Strongly agree
1. There is a need for training a pool of school business managers for future employment.	1	2	3	4	5
2. There is a need for updating skills of current school business personnel.	1	2	3	4	5
3. University training programs should be developed to assist in providing training for school business personnel.	1	2	3	4	5
4. Districts should not support training programs by offering incentives for employees. (released time, salary credit, etc.)	1	2	3	4	5



3.

	1 Strongly disagree	2 Disagree	3 No opinion	4 Agree	5 Strongly agree
5. Universities should support training by providing scholarships for enrollees.	1	2	3	4	5
6. Internship should not be a part of the required training for school business managers.	1	2	3	4	5
7. Course content should be centered on the technical aspects of the position.	1	2	3	4	5
8. Course content should be centered on the human aspects of the position.	1	2	3	4	5
9. Course content should be centered on the conceptual aspects of the position.	1	2	3	4	5
10. School districts should have no role in providing financial support for school business managers training programs.	1	2	3	4	5
11. I would recommend that our district provide incentives (released time, etc) for personnel in school business training program.	1	2	3	4	5
12. I would help provide moral support for personnel enrolled in a school business training program.	1	2	3	4	5
13. Business management positions require business management training and expertise.	1	2	3	4	5

4.

	1 Strongly disagree	2 Disagree	3 No opinion	4 Agree	5 Strongly agree
14. University programs should have a balance of instructional expertise: regular faculty who are current in their subjects; along with current practitioners in the area taught.	1	2	3	4	5
15. There is no role of financial assistance for training school business managers on the part of the State of California.	1	2	3	4	5
16. Instructors for university programs should be current practitioners in the area taught.	1	2	3	4	5

APPENDIX E

THE NEW CALIFORNIA SCHOOLS REPORT

# THE NEW California Schools

SUPERINTENDENT BILL HONIG'S REPORT TO THE STATE  
ON CURRENT ISSUES IN CALIFORNIA EDUCATION

Vol. V, No. 3

Winter, 1987-88

## A Message from Bill Honig

Dear Friends:

The new school year is well under way, and our reform efforts continue on track. Despite the difficult budget debate earlier in 1987, we are making progress throughout our educational programs, thanks to the hard work of the educational community. Test scores continue to climb, enrollment in academic courses is increasing, and textbooks and course content are being upgraded. California's educational system has also become a leader nationally in school accountability. We have been the first state in the nation to establish a program to give each school its own performance report.

Now we are providing our citizens the same accountability on the educational spending side. California is the first state to release details on the average cost per school, and these costs are outlined in this issue of *The New California Schools*.

In these times of tight funding for public services, educators, citizens, and lawmakers must better understand how funds for education are actually spent. We have never asked for more money without expecting to be held accountable. The figures we have compiled are useful tools to guide crucial policy discussions about how best to spend our public education dollars.

In 1985-86, the 7,362 schools in our kindergarten through grade twelve educational system employed 379,000 people and received \$15.1 billion from federal, state, and local sources, excluding funds for capital outlay, child care, and adult education. This total translates into an average of approximately \$2 million for each school. This \$2 million "hypothetical school" has 578 students in 22 classrooms—21 regular classrooms with 568 students and one special education full-day class with 10 students.

How is this money being spent? Using the most recent data available, we have tried to answer that question in the chart on the next page. While no single school in the state mirrors the "hypothetical school," it is useful to talk about the average school because it presents a composite view of the people and costs for the whole school system in easily understandable terms.

The data show that the bulk of money, 63 percent, is going to the classroom—for people who work daily with students and for books and materials. Another 19 percent goes to transport and feed students and for building operations and maintenance—all of which are done significantly below what it would cost to purchase these services on the open market. The remainder goes for instructional support (5 percent), school site leadership (7 percent), district and county administration (5.5 percent), and the State Department of Education (0.5 percent). Despite charges to the contrary, the ratio of administrators to all other personnel—1 to 20—compares favorably with spans of control in the private sector.

The \$2 million cost is broken down into four main categories in the chart: classroom, school site, district/county, and State Department of Education in the following percents:

- 63 percent—\$1,286,000—was spent on direct classroom expenditures. Almost all of these expenditures were used to pay salaries and benefits of the 33.5 people—primarily teachers—who worked directly with students every day.
- 31 percent—\$629,000—was spent at the school site, reflecting costs that are essential to the daily functioning of schools, including building operations and maintenance; food services; transportation; instructional support, such as curriculum development, books, and staff training; and school leadership, which includes 1.2 principals and vice-principals and 2.5 secretaries per school.
- Taken together, classroom and school site costs accounted for 94 percent, or \$1.9 million of the total per-school allocation.

(Continued on page 4)

## Superintendent's Message

(Continued from page 1)

- 5.5 percent—or \$120,000—is the cost per school of district and county administration. Each district office served an average of seven schools.
- One-half of a percent went for services provided by the State Department of Education.

One of the highest priorities of our educational reform efforts is to increase the productivity and efficiency of our schools as we approach the twenty-first century. We must view our operations in a way similar to the corporate community's approach to spending; this means emphasizing fiscal accountability. We must ensure that we get the best return for our investment.

The analysis has so far revealed a level of detail not available before. For instance:

- We transport 910,000 students to and from school in 15,000 buses, traveling 215 million miles annually. This program costs approximately 6 cents per mile per student—20 cents for special education students and 4 cents for other students.
- We manage \$60 billion worth of property for a yearly maintenance and operating cost of \$1.5 billion, or 2.5 percent of the value of the property, which compares favorably with rental

property market rates before depreciation.

- We provide 2.5 million meals per day for \$1.54 a meal.

These costs appear to be comparable or below costs incurred for similar services in other sectors of the economy.

The analysis in this newsletter gives baseline figures that describe how the average school allocated funds; however, it does not indicate how every school should be expected to operate. Rather, we can use these numbers as a benchmark and a management tool to begin discussing how to improve productivity while supporting the instructional program. These initial data will be followed by a more detailed breakdown regarding different types of schools, such as elementary and high schools.

Now that we have the composite "\$2 million school" data, I will be putting together a productivity improvement group, including business, community, and school leaders to explore how to use this information most advantageously to analyze our schools' fiscal management and to make recommendations regarding enhancing productivity. Since 85 percent of our resources are invested in personnel costs, staff training will be a major focus of the review.

I will also be providing these data to the various groups currently studying education, including the Governor's Commission on Educational Quality, the Association of California School Administrators, and the Business Round Table. Furthermore, I have asked Policy Analysis for California Education (PACE) to look at these numbers and examine the issue of efficiency in greater depth.

In addition, because our analysis is based on information we received from school districts, I encourage those of you in local districts to display your own financial information in a similar format.

I hope that you find the data in the accompanying chart useful. While more still can and must be done to enhance productivity and efficiency in our schools, these figures clearly dispel the myth that too much education spending goes for administration and too little actually reaches the classroom.

Best wishes for a happy holiday season and a successful 1988.

*Bill Hoag*

Superintendent of Public Instruction

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## The Average Costs of a C

This hypothetical California school had 578 students in 22 classrooms — 21 regular classrooms with 568 students and one special education full-day class with 10 students. The total operating budget was \$2.05 million of which 63

Cost Category	Dollars (In thousands)	Percent of Total
<b>CLASSROOM COSTS</b>	<b>\$1,286</b>	<b>63%</b>
<ul style="list-style-type: none"> <li>22 Classroom Teachers               <ul style="list-style-type: none"> <li>21 regular teachers</li> <li>1 special education teacher</li> </ul> </li> </ul>	\$914	45%
<ul style="list-style-type: none"> <li>2.5 Specialized Teachers               <ul style="list-style-type: none"> <li>1.5 special education teachers</li> <li>1 resource specialist, specialized teachers: reading specialist, music and art teachers</li> </ul> </li> </ul>	102	5%
<ul style="list-style-type: none"> <li>7 Instructional Aides               <ul style="list-style-type: none"> <li>3 special education aides</li> <li>2 compensatory education aides</li> <li>2 regular aides</li> </ul> </li> </ul>	94	5%
<ul style="list-style-type: none"> <li>2 Pupil Support Personnel               <ul style="list-style-type: none"> <li>1 counselor</li> <li>1 psychologist, nurse, or librarian</li> </ul> </li> </ul>	84	4%
<ul style="list-style-type: none"> <li>Books, Supplies, and Equipment               <ul style="list-style-type: none"> <li>\$2,240 per classroom for books and supplies</li> <li>\$1,900 per classroom for instructional equipment and other classroom costs</li> </ul> </li> </ul>	92	4%
<b>SCHOOL SITE COSTS</b>	<b>\$629</b>	<b>31%</b>
<ul style="list-style-type: none"> <li>Operations and Maintenance (Buildings)               <ul style="list-style-type: none"> <li>6 custodians, painters, gardeners</li> <li>utilities; insurance; maintenance and supplies</li> </ul> </li> </ul>	\$395 (\$240)	19% (12%)
<ul style="list-style-type: none"> <li>(Food)               <ul style="list-style-type: none"> <li>2 cafeteria workers; food and supplies</li> </ul> </li> </ul>	(86)	(4%)
<ul style="list-style-type: none"> <li>(Transportation)               <ul style="list-style-type: none"> <li>1.5 bus drivers</li> <li>buses, fuel, and supplies</li> </ul> </li> </ul>	(69)	(3%)
<ul style="list-style-type: none"> <li>Instructional Support               <ul style="list-style-type: none"> <li>0.4 curriculum supervisor</li> <li>1 curriculum specialist; 1 other: library aide, media technician</li> </ul> </li> </ul>	95	5%
<ul style="list-style-type: none"> <li>School Site Leadership               <ul style="list-style-type: none"> <li>1 principal</li> <li>0.2 vice-principal, other supervisor; 2.5 secretaries and clerical staff</li> </ul> </li> </ul>	139	7%
<b>DISTRICT/COUNTY COSTS*</b>	<b>\$120</b>	<b>5.5%</b>
<ul style="list-style-type: none"> <li>District/County Administration               <ul style="list-style-type: none"> <li>0.9 district administrator per school, including superintendent</li> <li>2 secretaries and clerical staff; equipment and office supplies</li> </ul> </li> </ul>		
<b>STATE DEPARTMENT OF EDUCATION COSTS*</b>	<b>\$11</b>	<b>0.5%</b>
<ul style="list-style-type: none"> <li>0.16 state level administrator and instructional support staff per school</li> <li>office supplies and equipment, personal services contracts, travel</li> </ul>		
<b>TOTAL COSTS</b>	<b>\$2,046</b>	<b>100%</b>

\* District, county office of education, and State Department of Education staff are not normally assigned directly to the school; however, for the purpose of this analysis, a proportionate share of these staff and costs have been allocated to the hypothetical school.  
 NOTE: The information in this chart is based on 1985-86 CBEDS data and 1984-85/1985-86 financial reports, as submitted by school districts and county offices of education. It uses the most recent data available at the time of analysis. Capital expenditures for reconstruction, modernization, and new construction—which amount

## California School—1985-86

percent was spent on direct classroom expenditures, 31 percent was spent on other school site services, and 6 percent was spent for district, county, and state administration. The following table explains these costs.

### Description

<p><b>33.5 people = 24.5 teachers, 7 instructional aides, and 2 pupil support professionals at a cost of \$1,194,100; \$91,600 for books, supplies, and equipment</b></p> <p>On a statewide basis, CLASSROOM TEACHERS taught in 162,900 classrooms. Of these, 151,700 were regular classes, 9,600 were special education full-day classes for the severely handicapped, and the full-time equivalent of 1,600 were for summer school instruction. Schools spent about \$41,300 per teacher. Included in this amount was \$30,000 for salaries; \$8,400 for retirement and related health benefits; and the remainder paid for teaching responsibilities that extended beyond the regular school day, such as coaching sports activities and supervising student clubs, and for hiring substitutes when teachers were ill.</p> <p>Special education and compensatory education were supplemental services provided by SPECIALIZED TEACHERS in various fields and made up the bulk of the costs in this category. Statewide the 2.5 people in this school represented 9,000 special education resource teachers and speech therapists; 3,200 compensatory education teachers and reading specialists; and 4,700 specialist teachers in other areas, such as art and music.</p> <p>Statewide over 50,000 INSTRUCTIONAL AIDES provided supplementary assistance to children with special needs: 23,300 aides helped special education students; 13,400 aides worked in compensatory education programs; and 13,500 aides assisted reading specialists and regular classroom teachers in meeting the needs of individual students. Our hypothetical school had 7 instructional aides. However, in the school system as a whole, more aides work in elementary schools than in high schools, because most compensatory education funding is for elementary grades.</p> <p>Statewide there were about 14,000 PUPIL SUPPORT PERSONNEL. Included were 5,000 school guidance counselors, 2,000 psychologists, 2,000 nurses, 1,300 librarians, and 3,500 teachers with other instructional duties. These duties include time spent by the classroom teacher in preparation periods and supervising study hall.</p> <p>\$91,600 per school was spent on BOOKS, SUPPLIES, AND EQUIPMENT. \$49,600 was spent on books, paper, pencils, and other instructional materials, or about \$86 per pupil. In addition, it cost about \$42,000 annually per school to buy, lease, rent, and repair instructional equipment, such as projectors, laboratory equipment, and computers, and for other classroom items.</p>
<p><b>15.5 people = 1.5 administrators, 1 curriculum specialist, and 13 support personnel at a cost of \$438,400; \$190,800 for insurance, utilities, food, building materials, office equipment, and supplies</b></p> <p>Statewide utility costs for school BUILDINGS included nearly \$400 million for gas, electricity, and water, or about \$200 per month per class; insurance costs accounted for \$92 million. Nearly 42,000 people worked on school buildings at a cost of \$1.3 billion for salaries, benefits, equipment, and materials. These people repaired and maintained school buildings and property valued at approximately \$60 billion. Salaries and benefits for maintenance and operations workers were \$137,600 per school. Utilities cost \$54,100 and building materials, insurance, and other costs were about \$48,100 per school.</p> <p>FOOD SERVICES in schools provided 2.5 million meals a day at an average cost of \$1.54 per meal. About \$43,200 was spent by each school on salaries for cooks and cafeteria workers, and another \$42,200 was spent for food and cafeteria supplies.</p> <p>TRANSPORTATION PROGRAMS operated by school districts and county offices of education transported 910,000 students to and from school in 15,000 buses, traveling 215 million miles. This program cost approximately 6 cents per mile per student (20 cents for special education students and 4 cents for regular students). Salaries and benefits were about \$35,100 per school for the bus drivers, mechanics, and clerks. Fuel, oil, parts, and supplies accounted for \$34,300.</p> <p>INSTRUCTIONAL SUPPORT activities involved 7,400 science, math, history, and other specialists working to improve curriculum and instruction; 3,000 curriculum supervisors; and 6,400 library aides, audiovisual technicians, and clerical staff who assisted teachers. About \$66,500 was spent by each school on salaries, and another \$8,800 was spent for instructional materials and supplies.</p> <p>SCHOOL SITE LEADERSHIP was provided by 8,500 principals and vice-principals, who were responsible for their schools' instructional leadership and management. Over 18,000 secretaries and clerks assisted by keeping attendance, typing, and performing other office duties. Salaries and benefits for these people accounted for about \$136,000 at the average school; and office equipment and supplies cost about \$3,300.</p>
<p><b>3 people = 1 administrator, 2 secretaries and clerks at a cost of \$89,900; \$30,600 for supplies and office expenses</b></p> <p>Each DISTRICT served an average of 7 schools consisting of slightly over 4,000 students. There were approximately 4,000 superintendents and assistant superintendents, about 2,300 classified administrators, and 14,000 secretaries and clerks who worked in school districts and county offices of education. These people were responsible for working with the public and local school boards; and providing leadership, policy direction, and legal, personnel, and financial services to their schools at a cost of \$89,900 per school. Equipment and office supplies, personal services contracts, travel, and other office expenses cost another \$30,600.</p>
<p><b>0.16 people = 0.09 instructional support and 0.07 administrators at a cost of \$6,800; \$4,100 for other expenses</b></p> <p>1,200 people worked for the STATE DEPARTMENT OF EDUCATION, 560 of whom were professional educators. In addition to providing services in such areas as curriculum and test development and the allocation of state and federal funds, these people also promoted effective management and administration of district and county offices, at a cost of \$80 million. Per school, this amounts to \$6,800 for salaries and \$4,100 for associated expenses.</p>
<p><b>52 people = 27.5 teachers and other professionals, 22 support personnel, 2.5 administrators at a cost of \$1,728,900; \$317,100 for books, supplies, utilities, and equipment</b></p> <p>to approximately \$1 billion— are not part of operational expenses and are not included in these costs. Staffing is shown in full-time equivalents (FTE). This means that if a person spends 75 percent of his/her time teaching, 15 percent in study hall, and 10 percent in instructional support, that time is spread accordingly (0.75 FTE teaching, 0.15 FTE pupil support, 0.10 FTE instructional support). Numbers may not add to the totals cited because of rounding, and in some cases, data were estimated in order to present a complete picture of the total costs.</p>

APPENDIX F

DIETARY GUIDELINES FOR AMERICANS



### Avoid Too Much Sugar

We get most of our added sugar from soft drinks, candy, and desserts, not from the sugar bowl. To avoid excessive sugar:

- Use less of all sugars, including white sugar, brown sugar, raw sugar, honey, and syrups.
- Eat less of foods containing these sugars, such as candy, soft drinks, ice cream, cakes, cookies, jams, jellies, and syrup.
- Select fresh fruits or fruits canned without sugar or in light syrup or juice pack rather than heavy syrup.
- Reduce the amount of sugar in recipes for baked goods and desserts.
- Read food labels for clues as to sugar content. If the names *sucrose*, *glucose*, *maltose*, *dextrose*, *lactose*, *fructose*, *corn syrups*, *honey*, or *corn sweeteners* appear first, then the product has a large amount of sugar.
- Remember that how often you eat sugar is as important as how much sugar you eat.

### Avoid Too Much Sodium and Salt

Sodium is a component of salt. Aside from the salt we add in cooking and at the table, much of the sodium we consume comes from the salt and other sodium compounds in commercially prepared foods. Therefore, choose carefully when you are eating out. When you shop, read the label. Avoid obviously salty foods. Keep the salt shaker off the table. Your appetite for salty foods may be curbed if you make an effort to break the salt habit.

To limit the amount of sodium and salt:

- Learn to enjoy the unsalted flavors of foods.
- Cook with only small amounts of added salt.
- Add little or no salt to food at the table.
- Limit the use of salty processed foods, such as luncheon meats and frankfurters.
- Avoid excessive use of commercially prepared soups, sauces, and condiments which contain sodium. These include soy sauce, pickles, relishes, bouillon cubes, meat tenderizer, monosodium glutamate, gravy mixes, canned soups, and seasoned salts, such as garlic salt or celery salt.
- Use more fresh and frozen vegetables than canned or seasoned frozen vegetables, which have salt added.
- Limit the use of salty snack foods, such as chips, pretzels, and crackers.

### If You Drink Alcoholic Beverages, Do So in Moderation

Alcoholic beverages are high in calories and low in nutrients. Thus, even moderate drinkers will need to drink less if they are overweight and wish to reduce.

Heavy drinkers frequently develop nutritional deficiencies as well as more serious diseases, such as cirrhosis of the liver and certain types of cancer. Those who also smoke cigarettes are especially prone to cancer. This is partly because of loss of appetite, poor food intake, and impaired absorption of nutrients.

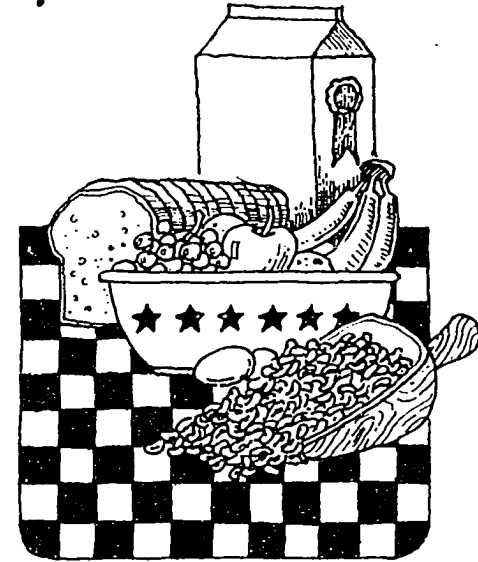
Excessive consumption of alcoholic beverages by pregnant women may cause birth defects or other problems during pregnancy. The level of consumption at which risks to the unborn occur has not been established. Therefore, the National Institute on Alcohol Abuse and Alcoholism advises that pregnant women should refrain from the use of alcohol.

Reprinted with changes from *Nutrition Education—Choose Well, Be Well: A Curriculum Guide for High School*. Sacramento: California State Department of Education, 1984.

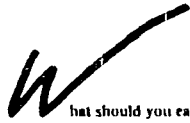
For more information on nutrition, contact:

Marilyn Briggs  
 Coordinator, Nutrition and Food Service  
 Education Section  
 Child Nutrition and Food Distribution Division  
 P.O. Box 944272  
 Sacramento, CA 94244-2720  
 Telephone: (916) 323-2468

# Dietary Guidelines for Americans



CALIFORNIA STATE DEPARTMENT OF EDUCATION  
 Bill Honig, Superintendent of Public Instruction  
 Sacramento, 1987



## What should you eat to stay healthy?

Hardly a day goes by without someone trying to answer that question. Newspapers, magazines, books, radio, and television give us a lot of advice about what foods we should or should not eat. Unfortunately, much of this advice is confusing.

Some of this confusion exists because we do not know enough about nutrition to identify an ideal diet for each individual. People differ, and their food needs vary, depending on their age, sex, body size, physical activity, and other conditions, such as pregnancy or illness.

But today, what advice should you follow in choosing and preparing the best foods for you and your family?

The guidelines below are suggested for most Americans. They do not apply to people who need special diets because of diseases or conditions that interfere with normal nutrition. These people may require special instruction from trained dietitians in consultation with their own physicians. To maintain health and well-being:

- Eat a variety of foods.
- Maintain desirable weight.
- Avoid too much total fat, saturated fat, and cholesterol.
- Eat foods with adequate starch and fiber.
- Avoid too much sugar.
- Avoid too much sodium.
- If you drink alcoholic beverages, do so in moderation.

The guidelines help us make informed choices about our diets. The object is to get the right balance of nutrients without overdoing the salt or the calories, primarily the calories from fats, sugars, and alcohol.

These guidelines are intended for people who are already healthy. No guidelines can guarantee a person's health or well-being. An individual's health depends on many things, including heredity, life-style, personality traits, mental health, attitudes, and environment, in addition to diet.

Food alone cannot make you healthy. But good eating habits based on moderation and variety can help keep you healthy and even improve your health.

### Eat a Variety of Foods

You can get the vitamins and minerals you need for good health by eating a variety of foods. Choosing a wide selection of fruits, vegetables, whole grain and enriched breads and cereals, dairy products, legumes,

meat, fish, and poultry products will provide a balanced diet.

Adding variety to our diets is not hard. Most of us vary the way we eat from day to day. It is a good idea nutritionally. If you pick different foods from within each group of foods, you increase the range of nutrients in your diet. Over a period of days, you should come out about right.

To increase the variety of foods:

- Provide more servings of fruits and vegetables.
- Frequently include dark green vegetables, citrus fruits, dry bean and pea dishes, and starchy vegetables.
- Serve more grain products, especially whole grains.

### Maintain Desirable Weight

If you need to lose weight, do so gradually. A steady loss of one to two pounds a week until you reach your goal is a relatively safe approach, and the desired weight more likely will be maintained.

If you want to lose weight:

- Start by cutting back on fats and sugars.
- Cut back on serving sizes.
- Eat slowly and limit second helpings.
- Increase your physical activity.

### Avoid Too Much Total Fat, Saturated Fat, and Cholesterol

Several factors have been linked to heart disease. Among them are high levels of blood cholesterol, high blood pressure, diabetes, a history of heart disease in the family, and obesity.

Populations like ours with diets relatively high in fat (especially saturated fat) and cholesterol tend to have high blood cholesterol levels. Individuals within these populations have a greater risk of having heart attacks than individuals within populations that have diets containing less fat.

Eating extra saturated fat, high levels of cholesterol, and excess calories will increase blood cholesterol in many people. Of these, saturated fat has the greatest influence. There are, however, wide variations among individuals, variations that are related to heredity and to the way each person's body uses cholesterol.

Some people can have diets high in saturated fats and cholesterol and still maintain desirable blood cholesterol levels. Other people, unfortunately, have high blood cholesterol levels even if they eat low-fat, low-cholesterol diets.

There is controversy about what recommendations are appropriate for healthy Americans. But for the U.S. population as a whole, it is sensible to reduce daily consumption of fat. This suggestion is especially

appropriate for individuals who have other cardiovascular risk factors, such as smokers or those with family histories of premature heart disease, high blood pressure, and diabetes.

To lower the amount of fat, saturated fat, and cholesterol in your diet:

- Select lean hamburger and lean roasts, chops, and steaks that are trimmed of visible fat.
- Choose more fish and poultry.
- Drain meat drippings.
- Limit the amount of margarine or other fats used on bread and vegetables.
- Emphasize low-fat milk and skim milk and other low-fat dairy products and reduce the amount of fat in other foods when whole milk or cheese is used.
- Cut down the amount of fat used in recipes, added to foods in cooking, or added at the table.
- Broil, bake, steam, or boil foods rather than fry them; especially limit breaded or batter-fried foods.
- Avoid excessive intake of egg yolks.
- Use fewer creamed foods and rich desserts.
- Limit the amount of salad dressing used.
- Experiment with meatless meals by substituting dried beans, peas, tofu, and other bean products.

### Eat Foods with Adequate Starch and Fiber

To have enough starch and fiber in your diet:

- Select more vegetables and fruits.
- Include potatoes, sweet potatoes, yams, corn, peas, and dried beans more often.
- Emphasize whole grain cereal products, such as whole wheat breads, cereals, oatmeal, brown rice, and bulgur.

When you make these changes, it may seem that you are eating more food than you are used to eating. Because you are cutting down on the concentrated calories from fats and sweets and adding more servings of fruits, vegetables, and whole grains, your diet is bulkier. There are fewer calories, but the volume is larger. Nutritionally, this increase is an advantage. You are getting more nutrients and fiber for your calories. Because the bulkier diet makes you feel full, it may help curb your appetite. Even so, this diet may take some getting used to.

People who count calories often will not eat starchy foods like potatoes, breads, and grains. They think starches are fattening. Actually, starches are no more fattening than any other food. The question is how much you eat and how much fat or sugar and other sweeteners you add to the starches. Fats have more than two times the calories of starch. Sugar has no more calories than starch, but sugary foods add little more than calories to your diet.

APPENDIX G

LETTER FROM BILL HONIG,  
SUPERINTENDENT OF PUBLIC INSTRUCTION,  
STATE OF CALIFORNIA

RE: STATE BOARD POLICIES




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**CALIFORNIA STATE DEPARTMENT OF EDUCATION**


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**721 Capitol Mall; P.O. Box 944272**


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**Sacramento, CA 94244-2720**


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**Bill Honig**


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**Superintendent**


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**of Public Instruction**


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July 10, 1987

TO: District Superintendents of Schools  
 County Superintendents of Schools  
 School Board Presidents

SUBJECT: New State Board Policies

The relationship between dietary intake and students' learning abilities is well documented and demonstrated in our classrooms on a daily basis. For this reason, the State Board of Education (SBE) and the State Department of Education (SDE) have long been committed to the importance of nutrition to California's children. I am writing to urge you to carefully review the newly adopted State Board of Education policies and use them to develop local policies.

Integral to the quality of foods available to our students is the child nutrition program operation within each local education agency (LEA). A food service operation within the LEA ensures that students have access to low cost, nutritious meals. It is important that district administrators and school board members appreciate the complexity of the expectations which are placed upon child nutrition programs, and lend active support to their successful operation.

To demonstrate its support of child nutrition programs the SBE has recently adopted new policies on these topics to serve as a model to, and provide guidance for, SBE and LEA decision-making processes. I urge you to share the enclosed policies with others such as principals and teachers in your LEA. I also urge school boards to use these policies to develop a locally tailored nutrition policy.

The State Department of Education and the State Board believe that these policies will assist districts in improving the nutrition services available in California's schools, provide more positive examples for students, and provide much-needed support for Child Nutrition Program operations.

If you have any questions regarding these policies, please contact Caroline Roberts, Child Nutrition Consultant of the Child Nutrition and Food Distribution Division at (916) 445-0850 or toll-free (800) 952-5609.

Best Regards,

*Bill Honig*

Bill Honig  
 Superintendent of Public Instruction

Attachments

A:edo

APPENDIX H

CALIFORNIA STATE BOARD OF EDUCATION  
POLICY STATEMENT: LOCAL EDUCATION AGENCIES  
NUTRITIVE QUALITY OF FOODS AVAILABLE TO STUDENTS  
IN CALIFORNIA PUBLIC SCHOOLS

## CALIFORNIA STATE BOARD OF EDUCATION

## POLICY STATEMENT

<b>SUBJECT:</b>	Local Education Agencies - Nutritive Quality of Foods Available to Students in California Public Schools
<b>REFERENCES:</b>	"Food and Beverage Sales on Public School Campuses" by the Child Nutrition Advisory Council

The California State Board of Education believes (1) that food available on school premises should provide for the nutritional well-being of children; (2) that food available be considered as carefully as, and consistent with, other educational support materials; and (3) that food be prepared in ways that ensure optimal student acceptance while retaining nutritive quality. The Board further believes that some guidance and limitations on food choices in the school environment are needed to foster a lifetime of healthful eating habits.

To safeguard the health of students, the California State Board of Education recommends that local governing boards adopt the following policies:

- o Certain foods which contribute little other than calories should not be sold on school campuses. These foods include carbonated beverages, nonfruit soft drinks, candies in which the major ingredient is sugar, frozen nonfruit ice bars, and chewing gum with sugar.
- o Snack foods which are available at times other than meal times should be of good nutritional quality. Recommended snack foods include nuts, dried and fresh fruits, frozen and regular yogurt, juices, cheese, seeds, sandwiches, and milk.
- o Foods offered for sale as money-making projects for schools should also be of good nutritional quality. These foods should reflect the concepts from health and nutrition education taught in the classroom.
- o Students should be involved in choosing foods offered in the school food service program.
- o Inasmuch as possible, foods available should be moderate in their salt, sugar, and fat content, in accordance with the U.S. Department of Agriculture's and U.S. Department of Health and Human Services' "Dietary Guidelines for Americans."

Related Policy Statements: Local Education Agencies - Food and Beverage Sales on Public School Campuses

Local Education Agencies - Food Service and Nutrition Education

Adopted 2/87

SHPSBF

APPENDIX I

CALIFORNIA STATE BOARD OF EDUCATION  
POLICY STATEMENT: LOCAL EDUCATION AGENCIES  
FOOD SERVICE AND NUTRITION EDUCATION

## CALIFORNIA STATE BOARD OF EDUCATION

## POLICY STATEMENT

<b>SUBJECT:</b>	Local Education Agencies - Food Service and Nutrition Education
<b>REFERENCES:</b>	"Food and Beverage Sales on School Campuses" by the Child Nutrition Advisory Council

The California State Board of Education believes that (1) nutritional status helps determine the overall quality of health; (2) schools play an influential role in the development of lifelong eating habits; and (3) appropriate training of school district personnel is essential to a comprehensive health and nutrition education program.

The State Board of Education, therefore, recommends the following:

1. Local school districts and county offices should provide comprehensive health and nutrition education programs to teachers, food service personnel, students, and parents to assist students in making healthful food choices and districts in using the child nutrition program as a learning laboratory.
2. Local school districts and county offices should provide health, nutrition, and food service education and training to their food service personnel to enhance the quality and nutritional integrity of child nutrition programs.
3. Any proposed legislation providing funding for training of school district and county office business personnel should also include provisions for training of child nutrition program directors.

Related Policy Statements: Local Education Agencies - Food and Beverage Sales on Public School Campuses

Local Education Agencies - Nutritive Quality of Foods Available to Students in California Public Schools

Adopted 2/87

SNPSBE



APPENDIX J

CALIFORNIA STATE BOARD OF EDUCATION  
POLICY STATEMENT: LOCAL EDUCATION AGENCIES  
FOOD AND BEVERAGE SALES ON PUBLIC SCHOOL CAMPUSES

## CALIFORNIA STATE BOARD OF EDUCATION

## POLICY STATEMENT

<b>SUBJECT:</b>	Local Education Agencies - Food and Beverage Sales on Public School Campuses
<b>REFERENCES:</b>	"Food and Beverage Sales on School Campuses" by the Child Nutrition Advisory Council

The State Board of Education recommends that local education agency and county office governing boards adopt policies which address all of the following issues:

1. A plan for cooperation between food services and fund-raising groups
2. A description of the assignment of income derived from food sales and a plan for and purpose of such income
3. A policy addressing the on-campus use or restriction of outside food vendors
4. A plan for policy implementation
5. A description of the local enforcement procedure
6. A statement summarizing the district's or county office's nutrition policy

The policy should apply to all school-approved groups, including but not limited to students, teachers, parents, booster groups, and outside vendors. Enforcement of the policy shall be the responsibility of the on-site administrator, not the food service director. It would be appropriate for elementary school policies to be more restrictive than those for junior and senior high schools. Local policies that are more restrictive than existing state or federal laws and regulations are also acceptable.

Related Policy Statements: Local Education Agencies - Nutritive Quality  
of Foods Available to Students in California Public Schools

Local Education Agencies - Food Service and Nutrition Education

Adopted 2/87

SMPSBE

APPENDIX K

NUTRITION PHILOSOPHY STATEMENT  
CHILD NUTRITION AND FOOD DIVISION  
OF CALIFORNIA DEPARTMENT OF EDUCATION

CHILD  
NUTRITION



# Nutrition Philosophy Statement

## Child Nutrition and Food Distribution Division

The relationship between nutrition and health is well documented. To assist children in attaining optimal physical and mental development, the Child Nutrition and Food Distribution Division has as its goal to provide high-quality nutrition programs as an integral part of the total educational experience for children. Effective child nutrition programs combine the delivery of nutritious meals with nutrition education. The Child Nutrition and Food Distribution Division shall provide leadership and direction in the development of quality nutrition programs.

### Methods of Implementation

To promote the well-being of children through improved nutrition and to implement the statement of philosophy, the Child Nutrition and Food Distribution Division shall do the following:

1. Increase participation and involvement in all nutrition programs through program promotion.
2. Investigate, analyze, and disseminate information regarding current nutrition issues and food service administration.
3. Define and maintain standards through the use of professionals qualified by education and experience.
4. Define performance standards and develop criteria to promote improved nutritional quality of food service in participating agencies.
5. Coordinate and collaborate with program sponsors, professional associations, and other state agencies.
6. Plan, coordinate, and conduct nutrition education programs to promote wellness.
7. Advise agencies to optimize nutritional uses of USDA-donated foods.
8. Recommend the following dietary guidance for school meal programs:
  - a. Provide a variety of nutritious foods.
  - b. Provide adequate, but not excessive, calories.
  - c. Limit intake of simple sugars, total fat, and sodium.
  - d. Limit intake of foods that contribute little other than calories.
  - e. Increase consumption of fruits, vegetables, and whole grains.
  - f. Promote moderation and balance in dietary habits.

APPENDIX L

LAWDALE SCHOOL DISTRICT  
FOOD SERVICE ASSESSMENT SURVEY

RESULTS OF THE  
LAWDALE SCHOOL DISTRICT  
FOOD SERVICE ASSESSMENT SURVEY  
CONDUCTED ON  
MARCH 18, 1987

To: All School Administrators  
From: Dr. Jim Waters, Superintendent  
Re: Child Nutrition Program/Food Service Department

The District would like your input in assessing the Food Service Department and to give guidance as to the direction it should take. Please take a few minutes to answer the following questions.

\* \* \* \* \*

1. Overall, our District's Food Service Department is doing a good job.

16 Administrators answered this question.

2 Strongly Agree  
9 Agree  
1 No Opinion  
4 Disagree  
— Strongly Disagree

2. The meals served by the Food Service Department are of high nutritional quality.

16 Administrators answered this question.

1 Strongly Agree  
6 Agree  
1 No Opinion  
9 Disagree  
— Strongly Disagree

3. The appearance of the meals served by the Food Service Department is good.

17 Administrators answered this question.

1 Strongly Agree  
6 Agree  
4 No Opinion  
5 Disagree  
1 Strongly Disagree

Lawndale School District/Food Service Assessment Survey  
 March 18, 1987  
 Page 2 of 6

4. The District's Food Service Department is effective in meeting the needs of the children in the district.
- 17 Administrators answered this question.
- 2 Strongly Agree  
4 Agree  
2 No Opinion  
7 Disagree  
2 Strongly Disagree  
 \_\_\_ Not Applicable
5. The District's Food Service Department is effective in meeting the needs of the district staff.
- 17 Administrators answered this question.
- 2 Strongly Agree  
8 Agree  
1 No Opinion  
4 Disagree  
2 Strongly Disagree  
 \_\_\_ Not Applicable
6. The Child Nutrition Program can be a vehicle for enhancing the educational program of the District.
- 17 Administrators answered this question.
- 8 Strongly Agree  
7 Agree  
2 No Opinion  
 \_\_\_ Disagree  
 \_\_\_ Strongly Disagree  
 \_\_\_ Not Applicable
7. The attitude of the majority of the students in my school in relation to the school lunch program is positive.
- 17 Administrators answered this question.
- \_\_\_ Strongly Agree  
5 Agree  
4 No Opinion  
2 Disagree  
1 Strongly Disagree  
2 Not Applicable

Lawndale School District/Food Service Assessment Survey  
 March 18, 1987  
 Page 3 of 6

8. A student advisory group can play an important role in changing the attitudes of the students towards the school lunch and breakfast programs.

17 Administrators answered this question.

5 Strongly Agree  
5 Agree  
4 No Opinion  
2 Disagree  
 Strongly Disagree  
1 Not Applicable

9. The Food Service Department is in tune with the educational goals of the district.

17 Administrators answered this question.

Strongly Agree  
5 Agree  
3 No Opinion  
7 Disagree  
2 Strongly Disagree  
 Not Applicable

10. Most of the teachers at my school would welcome in-service training in nutrition education.

14 Administrators answered this question.

1 Strongly Agree  
5 Agree  
4 No Opinion  
3 Disagree  
1 Strongly Disagree  
3 Not Applicable

11. The Food Service staff have a positive attitude toward serving the students of the district?

17 Administrators answered this question.

2 Strongly Agree  
8 Agree  
3 No Opinion  
3 Disagree  
1 Strongly Disagree  
 Not Applicable



Lawndale School District/Food Service Assessment Survey  
March 18, 1987  
Page 4 of 6

12. What are the two biggest areas the Food Service Department should address itself to immediately?

15 Administrators answered this question.

- A. Increase participation, having staff do a better job at schools, getting meals served more quickly, nutritional value of meals, quality of food (it is all frozen or from cans), less processed foods, the appearance of the meals, balanced diet, larger portions for older students, one serving size for K-2 and yet another for 3-4, 5-6, 7-8, quality of food attractively served, improved participation, health compliance with their employment practices and district policies etc..., deliver and serve food on time, quality.
- B. Better organization, better ticket system, quantity (the 7th and 8th grade students need larger portions), more food that is appealing to students and nutritional quality of the food, it is often much too salty and cold, quality and variety of foods, consistency of food on the menu, appearance of food on the tray, quality of food for older children (3-8), safety, morale of foodservice staff, larger servings on menu items would be a big help, quality.

13. What are the two program enhancements that you feel the Food Service Department should implement to improve its image with the students?

17 Administrators answered this question.

- A. Advisory committee holding meetings with foodservice aid, speed up service, eliminate the choices which are not popular, on pizza days serve only pizza, some days one line is huge and the other is short, don't offer a choice, better tasting food, possibly a regular opportunity for student input, variety of food, more variety of menus, it seems some things come up too frequently, quantity of food (extra food for big appetites), more variety of food offered, getting through lunch lines faster.
- B. Student's survey regarding lunch menus, student contests for creating an innovative and healthy menu for a day, a choice of more or optional meals, survey students, staff and parents, more foods that can be thrown, presentation and foods look good, larger portions for Junior High, improved ticket situation, don't offer a choice, choice of entrees,

Lawndale School District/Food Service Assessment Survey  
 March 18, 1987  
 Page 5 of 6

14. What are two program enhancements that you feel the Food Service Department could implement to improve its image with the staff?

17 Administrators answered this question.

- A. Foodservice Director could be part of staff nutrition education committee, also, Anderson has nutrition education grant materials from two year grant that can be used by school district, better organization, treat students better, less processed food, nutrition information, my belief is that a teacher who likes a server likes it and those who don't couldn't be pleased by hiring a French chef, clean and adequate silverware, salt and pepper shakers, more variety of foods offered, better service and larger servings, clean adequate utensils including salt and pepper shakers.
- B. Staff surveys regarding lunches, lunch menus, employee to employee relationships, varied menu and staff survey input, some input in scheduling meals, more fresh tasting food, takes too much educational time (lunch counts), lost tickets etc., appear to listen, send out questionnaire to staff.

15. If you could use one word to describe the Food Service Department of the District it would be.

17 Administrators answered this question.

Frustration, bureaucratic, fast food, inadequate, working, surviving, excellent, (2) inadequate, nourishing, efficient, better than adequate, unprepared, (2) adequate, indifferent.

16. Indicate your years of service as a school administrator.

17 Administrators answered this question.

2 0-5  
    6-10  
4 11-15  
4 16-20  
5 21-25  
1 Over 25

Lawndale School District/Food Service Assessment Survey  
March 18, 1987  
Page 6 of 6

17. How long have you been an Administrator in this school district?

16 Administrators answered this question.

3 0-5  
    6-10  
1 11-15  
3 16-20  
9 21-25  
    Over 25

18. Indicate your administrative level.

17 Administrators answered this question.

7 K-6  
3 K-8  
1 7-8  
7 District Office

APPENDIX M

CALIFORNIA SCHOOL EMPLOYEES ASSOCIATION  
LEGISLATIVE BULLETIN NO. 12-87

SACRAMENTO OFFICE  
 Governmental Relations Office  
 1127 11th St., Ste. 346,  
 Sacramento 95814

ROUTE SLIP FOR CHAPTERS	
President	_____
Exec. Comm.	_____
Others	_____
_____	_____
To _____	for FILE



**CALIFORNIA SCHOOL EMPLOYEES ASSOCIATION**  
 2350 Paragon Drive / P.O. Box 640  
 San Jose, California 95106  
 Phone: (408) 263-8000

BULLETIN: LEGISLATIVE BULLETIN NO. 12-87		DATE: June 12, 1987
SUBJECT: AB 660 (LEONARD) - TEACHERS' UNIONS ATTACK CLASSIFIED FUNDING		
D I S T R I B U T I O N	(For Action) Chapter Presidents; Regional Representatives; Field Representatives	
	(For Information) Members, Board of Directors; Alternate Area Directors; Assistant Regional Representatives; Chairpersons. Standing Committees; Members, PACE, Legislative, and Retirement Committees; Regional Political Action Coordinators; Chapter Political Action Chairpersons; Field Directors; Field Office Secretaries; Organizing Director; Governmental Relations Office; Headquarters Staff.	
PREVIOUS BULLETIN INFORMATION: Legislative Bulletin No. 11-87, dated 5/22/87 and titled "Governmental Relations Report (GRR)," was given general distribution.		

**A. SUBJECT MATTER**

The United Teachers of Los Angeles (UTLA) has sponsored legislation to change the formula for calculation of teacher salaries in a way that directly attacks classified employees. A coalition of teacher unions, including the California Teachers Association (CTA) and the California Federation of Teachers (CFT) are supporting this legislation.

AB 660 (Leonard) will change the formula to require school districts to pay a greater percentage of their budget to teachers and to utilize a large percentage of food service and transportation funds for teacher salaries. This measure results in a shift of funds to teacher salaries at a direct cost to classified employees. This shift will reduce funds available for classified and other salaries, educational programs, and will cut deeply into food service and transportation budgets.

Since 50 percent or more of the school district budget will be mandated for teacher salaries, food service and transportation budgets will be cut in half. In addition, instructional aides will be removed from the formula, resulting in money being shifted away from instructional aides to teachers.

AB 660 will ultimately result in cutbacks and layoffs of classified employees because a greater proportion of the fixed budget will have to be spent on teacher salaries.

**B. REQUIRED ACTION**

CSEA strongly opposes AB 660 and urges all classified employees to write your local Senator and Assemblymember to advise them of your opposition to this bill.

CALIFORNIA SCHOOL EMPLOYEES ASSOCIATION

*Wally Blice*  
 Wally Blice  
 Executive Director

DL:qmd

**LEGISLATIVE ALERT                      LEGISLATIVE ALERT**

**Teachers' Unions Attack Classified Jobs in School Budgets**

THIS LEGISLATIVE REPORT IS AN URGENT LEGISLATIVE ALERT FROM EXECUTIVE DIRECTOR, WALLY BLICE.

This alert requests your immediate action against AB 660 (Leonard) which will decimate thousands of classified employees' jobs and educational programs in California's public schools.

AB 660 (Leonard) passed out of the Assembly Education Committee on June 10, 1987 after teachers' unions modified the bill at the last second to attack classified jobs.

AB 660 would cut the funds available for aides, food service, transportation, and educational programs by shifting an additional 10-15 percent of current school district funds into teachers' salaries. That means districts will have to cut 10-15 percent out of their budgets, as income remains fixed. Most of these cuts will fall on classified employees.

Witnesses on behalf of the United Teachers of Los Angeles (UTLA), the California Federation of Teachers (CFT-AFT), and the California Teachers Association (CTA-NEA) stated that "instructional aides only reduce the paper burden and aides are often illiterate." Ed Foglia, CTA President, stated, "Nobody else in schools teach kids but classroom teachers, and teachers must come first." And, "AB 660 would go towards reducing class size."

AB 660 does not mandate decreased class size or any other educational reform. Since facilities are not even available to deal with decreased class size, the money will simply go to increasing teachers' salaries at the expense of educational programs, special education, aides, food service, transportation, and other classified employees. The net result will be wholesale layoffs of classified employees.

The following action is required by all who receive this alert.

1. Phone your legislators' district offices and urge them to vote NO on AB 660 (Leonard).
2. Write letters to your legislators at the state Capitol to vote NO on AB 660 (Leonard).

CALIFORNIA SCHOOL EMPLOYEES ASSOCIATION

*Wally Blice*  
Wally Blice  
Executive Director

WB:DL:sb

Distribution: Chapter Presidents; Regional Representatives; Field Representatives; Members, Board of Directors; Alternate Area Directors; Assistant Regional Representatives; Regional Political Action Coordinators; Chapter Political Action Chairpersons; Chairpersons, Standing Committees; Members, Legislative Committee; Members, PACE Committee; Members, Members, Public Relations Committee; Retirement Committee; Field Directors; Governmental Relations Office; Field Office Secretaries; Headquarters Staff

APPENDIX N

RANKING OF RESEARCH NEEDS OR PROBLEM  
AREAS IN SCHOOL FOOD SERVICES

Table 2. Ranking of Research Needs or Problem Areas in School Food Service<sup>1</sup>

Priority No. <sup>2</sup>	Description	Needs study	Does not Need study	Undecided	No response
1	Research the types of computer systems and supporting software that would have the widest application to school food service	84 %	11 %	4 %	1 %
2	Identify trends and variables affecting future needs in school food service programs	83	6	6	5
3	Determine effective techniques to make the best use of available resources and increase productivity in school food services	70	12	15	3
4	Determine methods, using computer technology, to integrate more effectively school food service recordkeeping processes into central school system organizations	69	17	11	3
5	Assess the effects of promotion and other factors on program participation at various grade levels, including such factors as environment, nutrition education, menu patterns, prices charged, etc.	69	14	13	4
6	Determine the effects of a combined school food service and nutrition education program on school attendance, nutritional understanding, class work, physical health and mental attitudes.	68	14	15	3
7	Determine the effects of alternate foods and meal patterns on participation, total nutrient intake, food waste, cost and program administration	64	16	16	4
8	Develop methods for planning food service facilities by determining equipment capacities, costs at varying levels of capacity and productivity levels of alternative food service systems	59	20	18	3
9	Evaluate purchasing standards and develop constructive recommendations to industry and/or governmental regulatory agencies for improved standards	59	20	17	4
10	Study quality, cost, and effectiveness of school breakfast and school lunch programs, by type and size of programs	57	27	13	3
11	Develop methods to use in evaluating school food service programs at local, state and U.S. levels	55	25	15	5
12	Formulate standardized recipes and develop production methods and new equipment requirements for production units of varying sizes and types of foodservice	54	29	13	4
13	Develop nutritionally adequate alternative foods, in forms that are acceptable to school food service clientele	53	25	17	5
14	Develop automated decision support systems for managers, by applying techniques of operations research to budget and inventory controls, personnel management, and other resources	50	14	33	3
15	Identify appropriate levels of funding, including appropriate escalators for inflation and benefits for various school food service programs	50	22	23	5
16	Develop student evaluations of taste and acceptability qualities of food served	50	31	16	3
17	Study temperature and time relationships of foods, including studies on energy usage, microbiological safety, and nutritional quality	48	26	21	5
18	Assess the value of USDA commodities, comparing the value of bonus vs. entitlement commodities, and develop procedures for determining costs to the schools of using donated commodities	45	34	16	5
19	Test training and educational programs that have been developed for school food service personnel (both English and non-English speaking)	44	25	26	5
20	Identify ways to use physically and mentally handicapped personnel food service operations more fully	33	32	31	4

<sup>1</sup> N-157 questionnaires returned.<sup>2</sup> Ranked ordered from those considered most to least in need of study.



APPENDIX O  
FACTOR ANALYSIS



Factor Analysis (Eigen Value Summary)

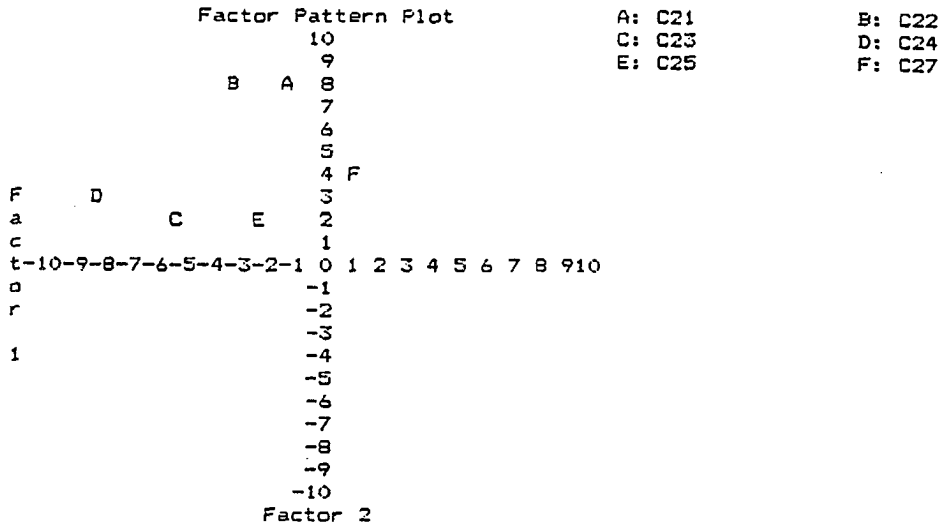
DDDB:ALITASUR

No.	Eigenvalue	Percent	Cumulative Percent
1	3.3814	56.36	56.36
2	0.7122	11.87	68.23
3	0.6632	11.05	79.28
4	0.5072	8.45	87.73
5	0.4345	7.24	94.98
6	0.3015	5.02	100.00

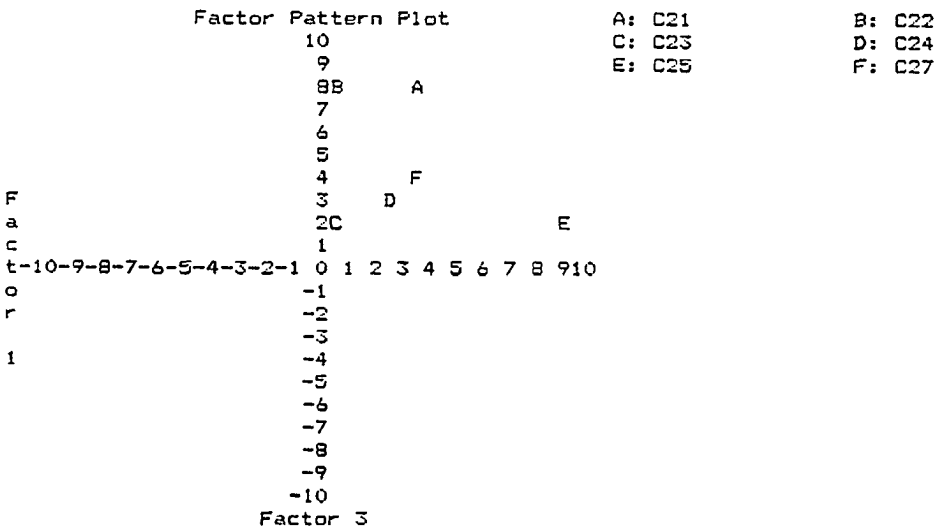
Factor Analysis (Eigen Vectors)

DDDB:ALITASUR

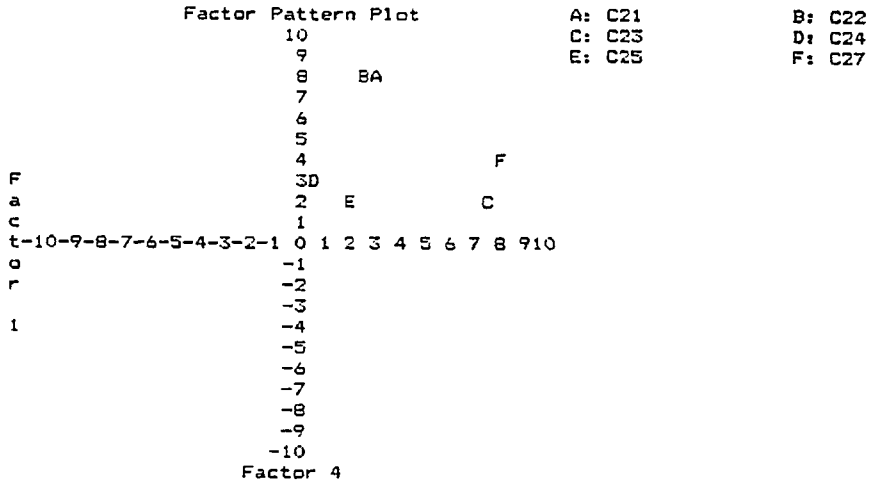
Variable	Factor 1	Factor 2	Factor 3	Factor 4	Communality
C21	0.4520	0.1622	-.0826	-.5157	0.8489
C22	0.4301	-.1346	-.4436	-.4236	0.8600
C23	0.4211	-.0388	-.2827	0.6893	0.8946
C24	0.3761	-.7219	0.1109	0.1397	0.8675
C25	0.3713	0.0393	0.8390	-.0566	0.9359
C27	0.3926	0.6567	-.0156	0.2382	0.8573



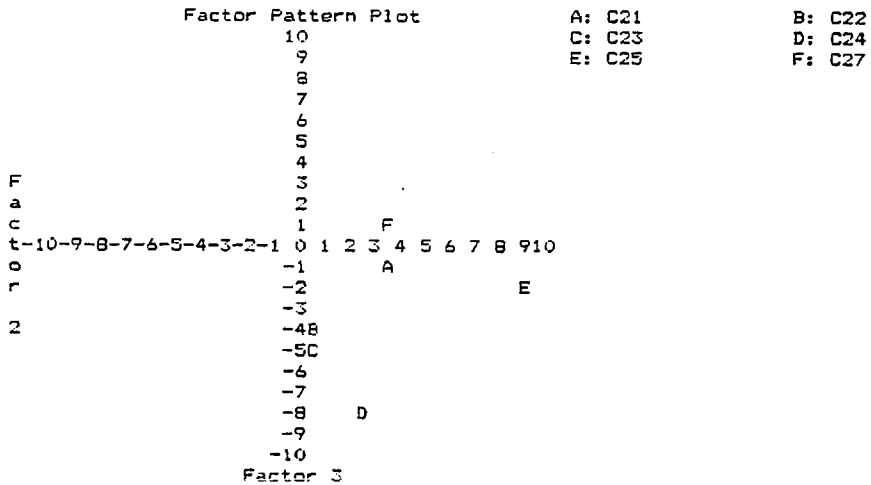
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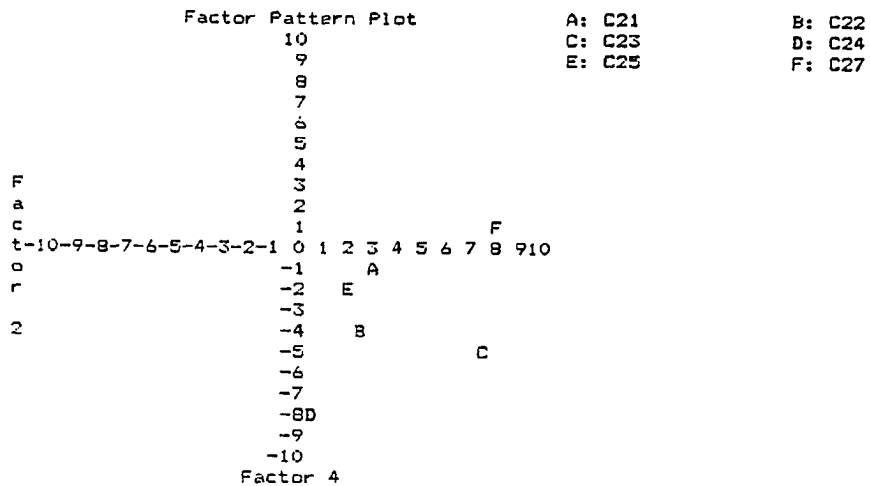
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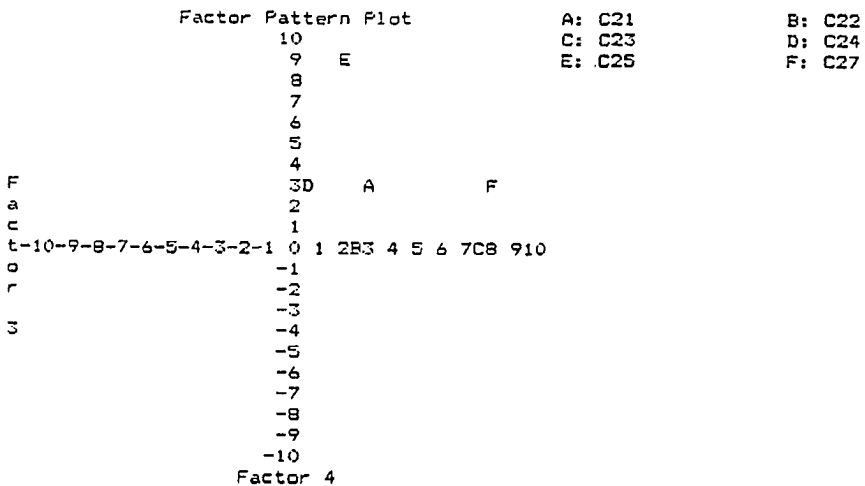
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Enter DDY to continue, or ESC to quit --



Enter DDY to continue, or ESC to quit --

Factor Analysis (Descriptive Statistics)

DDDB:ALITASUR

Variable	Mean	Standard Deviation	Communality
C21	4.519607	.6997935	0.74747
C22	4.45098	.623428	0.68135
C23	4.5	.685782	0.61665
C24	4.529412	.5576806	0.66184
C25	3.990196	.8843535	0.55145
C26	4.343136	.8383754	0.58287
C27	3.980392	.7172608	0.53504
C28	3.558824	.9499719	0.75812
C29	4.09804	.7107353	0.53964
C30	3.333334	1.074763	0.72768
C31	4.519609	.5581156	0.54383
C32	3.686274	1.15167	0.50548
C33	4.745099	.5573323	0.59179
C34	3.088236	1.219503	0.75250
C35	3.225491	1.00402	0.80897
C36	3.578431	1.146983	0.67626
C37	3.598039	1.101393	0.65050
C38	3.450981	1.0305	0.65514
C39	4.078432	1.011677	0.65247

Enter DDY to continue, or ESC to quit --

Factor Analysis (Correlations)

DDDB:ALITASUR

	C21	C22	C23	C24	C25	C26
C21	1.0000	0.6377	0.5261	0.4805	0.5043	0.0981
C22	0.6377	1.0000	0.5790	0.5025	0.3852	0.2314
C23	0.5261	0.5790	1.0000	0.4660	0.4326	0.2325
C24	0.4805	0.5025	0.4660	1.0000	0.4523	0.2641
C25	0.5043	0.3852	0.4326	0.4523	1.0000	0.2049
C26	0.0981	0.2314	0.2325	0.2641	0.2049	1.0000
C27	0.5728	0.4407	0.5032	0.2985	0.4524	0.2912
C28	0.0355	0.1554	0.1444	-.0033	0.1244	0.1298
C29	0.4739	0.4579	0.3860	0.3923	0.3954	0.2753
C30	0.0834	0.0690	-.0269	-.0826	-.1111	0.2124
C31	0.2905	0.3443	0.4010	0.4117	0.3514	0.3546
C32	0.2043	0.1163	0.2257	0.1533	0.1039	0.3279
C33	0.1653	0.0492	0.2850	0.2155	0.0953	0.3374
C34	0.0038	-.0268	0.0888	0.1927	0.1018	-.0590
C35	0.0993	-.0059	-.0503	0.0676	0.0917	0.0366
C36	0.1646	-.0223	0.0189	0.1666	-.0139	0.1004
C37	0.2737	0.1224	0.1507	0.0920	0.1789	0.2366
C38	0.3858	0.2505	0.3082	0.2868	0.1896	0.1515
C39	0.4873	0.2573	0.2426	0.1889	0.2554	0.1664

Enter DDY to continue, or ESC to quit --





```

Factor Analysis
*****
(Correlations)
*****
C39
C21 0.4873
C22 0.2573
C23 0.2426
C24 0.1889
C25 0.2554
C26 0.1664
C27 0.3160
C28 0.1600
C29 0.3334
C30 0.1852
C31 0.3129
C32 0.2678
C33 0.1412
C34 0.0585
C35 0.0409
C36 0.2421
C37 0.5262
C38 0.4501
C39 1.0000
Enter DRY to continue, or ESC to quit --

```

Factor Analysis (Eigen Value Summary)

DDDB:ALITASUR

No.	Eigenvalue	Percent	Cumulative Percent
1	5.2639	27.70	27.70
2	1.9119	10.06	37.77
3	1.5387	8.10	45.87
4	1.2788	6.73	52.60
5	1.2056	6.35	58.94
6	1.0400	5.47	64.42
7	0.8294	4.37	68.78
8	0.7686	4.05	72.83
9	0.7596	4.00	76.82
10	0.6726	3.54	80.36
11	0.6422	3.38	83.74
12	0.5927	3.12	86.86
13	0.5441	2.86	89.73
14	0.4635	2.44	92.17
15	0.4079	2.15	94.31
16	0.3545	1.87	96.18
17	0.2952	1.55	97.73
18	0.2510	1.32	99.05
19	0.1796	0.95	100.00

Enter DDY to continue, or ESC to quit --

Factor Analysis (Eigen Vectors)

DDDB:ALITASUR

Variable	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Communality
C21	0.3296	-.1635	0.1090	0.2708	0.0035	0.7475
C22	0.2913	-.2766	-.1123	0.1623	-.0414	0.6813
C23	0.3018	-.2464	-.0794	-.0853	-.0028	0.6167
C24	0.2730	-.2521	0.1193	-.1627	-.2580	0.6618
C25	0.2644	-.2660	0.0599	-.0572	0.0286	0.5514
C26	0.1995	0.1765	-.2654	-.2879	-.2491	0.5829
C27	0.3017	-.0957	-.0034	0.0804	0.0026	0.5350
C28	0.1116	0.1271	-.2265	-.2865	0.5060	0.7581
C29	0.3007	-.0665	-.1629	0.0569	0.0621	0.5396
C30	0.0750	0.4362	-.2739	0.1884	-.2784	0.7277
C31	0.2774	0.0716	-.1105	-.0835	-.2896	0.5438
C32	0.1959	0.3015	-.1466	-.0651	0.0136	0.5055
C33	0.1597	0.1421	-.1795	-.5189	-.0210	0.5918
C34	0.0291	-.0957	0.5112	-.4882	0.1121	0.7525
C35	0.0661	0.2552	0.3480	-.1811	-.1422	0.8090
C36	0.0935	0.2330	0.4247	0.0972	-.4350	0.6763
C37	0.2165	0.3580	0.1862	0.0619	0.2853	0.6505
C38	0.2509	0.1700	0.1932	0.1620	0.2979	0.6551
C39	0.2589	0.2206	0.1652	0.2490	0.2341	0.6525

Enter DDY to continue, or ESC to quit --





Factor Analysis  
 Variable Factor 1 Factor 2 Factor 3 Factor 4 Factor 5 Communality  
 C21 0.7796 0.0600 0.3437 0.0771 -0.0921 0.7475  
 C22 0.8108 0.1254 0.0535 -0.0088 0.0601 0.6813  
 C23 0.7149 -0.1198 0.1002 -0.2515 0.0605 0.6167  
 C24 0.6637 -0.2693 -0.0015 -0.2891 -0.2547 0.6618  
 C25 0.7069 -0.1647 0.0559 -0.0405 0.1011 0.5514  
 C26 0.1946 0.1410 0.0581 -0.7215 -0.0289 0.5829  
 C27 0.6681 0.0680 0.2355 -0.1032 0.0561 0.5350  
 C28 0.1004 0.0139 0.1749 -0.1791 0.7995 0.7581  
 C29 0.5882 0.1056 0.2891 -0.2648 0.0941 0.5396  
 C30 0.7178 0.1309 -0.2820 -0.2820 -0.3326 0.7277  
 C31 0.4795 0.1668 0.1259 -0.4788 -0.1394 0.5438  
 C32 0.0585 0.1515 0.4470 -0.5221 -0.0188 0.5055  
 C33 0.0823 -0.1639 0.0628 -0.7195 0.1875 0.5918  
 C34 0.0364 -0.0555 -0.8174 0.0750 -0.0580 0.7525  
 C35 0.0203 -0.0293 0.0696 -0.0025 0.0181 0.8090  
 C36 0.0203 -0.0293 0.2658 -0.0992 -0.6596 0.6763  
 C37 0.0769 0.0034 0.7517 -0.1535 0.0828 0.6505  
 C38 0.2484 -0.0909 0.7585 -0.0763 -0.0295 0.6551  
 C39 0.2739 0.0668 0.7532 -0.0417 -0.0433 0.6525

Enter DBY to continue, or ESC to quit --

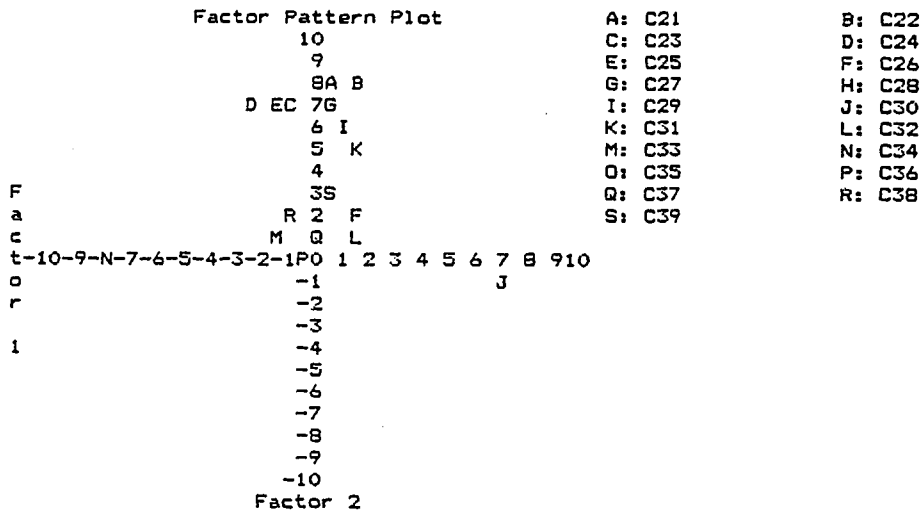
Factor Analysis  
 Variable Factor 6 Communality  
 C21 -0.0591 0.7475  
 C22 0.0415 0.6813  
 C23 0.1191 0.6167  
 C24 -0.0192 0.6618  
 C25 -0.0985 0.5514  
 C26 -0.0174 0.5829  
 C27 -0.1219 0.5350  
 C28 -0.2143 0.7581  
 C29 0.1413 0.5396  
 C30 -0.3337 0.7277  
 C31 -0.1469 0.5438  
 C32 0.0798 0.5055  
 C33 -0.0373 0.5918  
 C34 -0.2634 0.7525  
 C35 -0.8949 0.8090  
 C36 -0.3993 0.6763  
 C37 -0.2215 0.6505  
 C38 0.0556 0.6551  
 C39 -0.0458 0.6525

Enter DBY to continue, or ESC to quit --

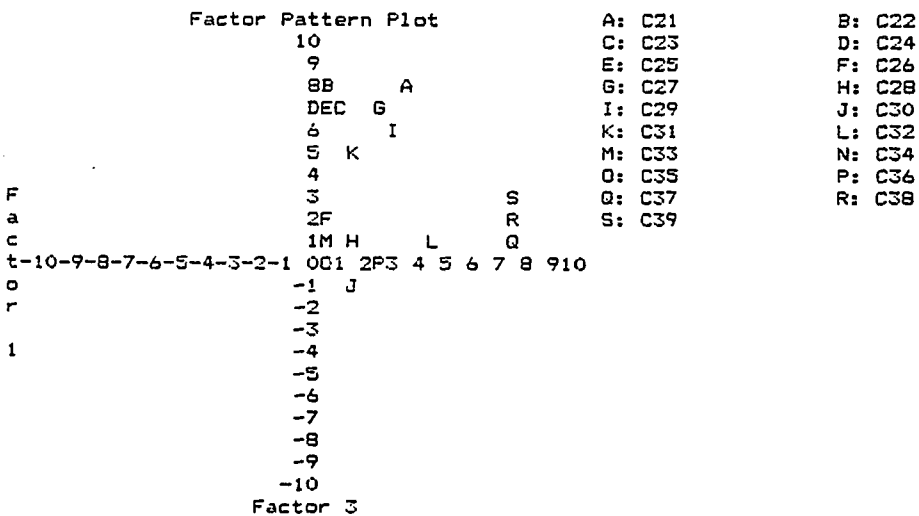
Factor Analysis  
 Variable Factor 6 Communality  
 C21 -0.0591 0.7475  
 C22 0.0415 0.6813  
 C23 0.1191 0.6167  
 C24 -0.0192 0.6618  
 C25 -0.0985 0.5514  
 C26 -0.0174 0.5829  
 C27 -0.1219 0.5350  
 C28 -0.2143 0.7581  
 C29 0.1413 0.5396  
 C30 -0.3337 0.7277  
 C31 -0.1469 0.5438  
 C32 0.0798 0.5055  
 C33 -0.0373 0.5918  
 C34 -0.2634 0.7525  
 C35 -0.8949 0.8090  
 C36 -0.3993 0.6763  
 C37 -0.2215 0.6505  
 C38 0.0556 0.6551  
 C39 -0.0458 0.6525

Enter DBY to continue, or ESC to quit --

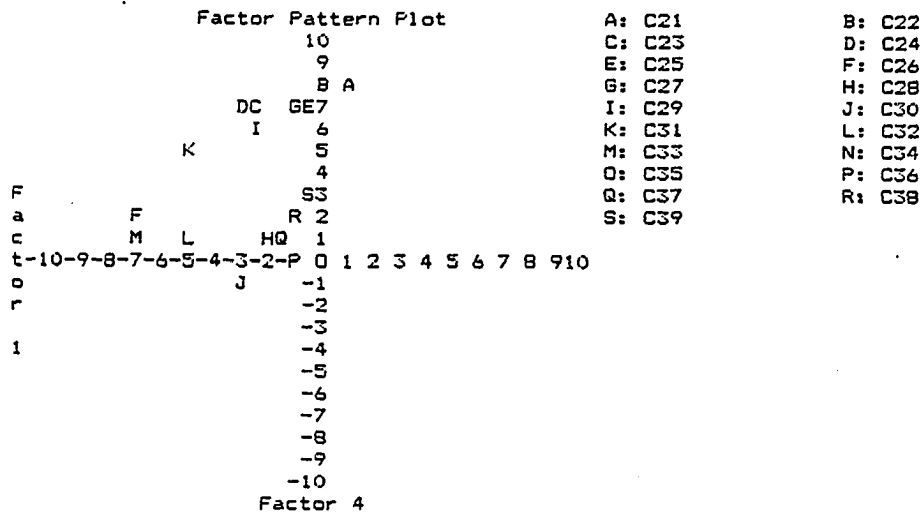
Factor Analysis  
 Variable Factor 6 Communality  
 C21 -0.0591 0.7475  
 C22 0.0415 0.6813  
 C23 0.1191 0.6167  
 C24 -0.0192 0.6618  
 C25 -0.0985 0.5514  
 C26 -0.0174 0.5829  
 C27 -0.1219 0.5350  
 C28 -0.2143 0.7581  
 C29 0.1413 0.5396  
 C30 -0.3337 0.7277  
 C31 -0.1469 0.5438  
 C32 0.0798 0.5055  
 C33 -0.0373 0.5918  
 C34 -0.2634 0.7525  
 C35 -0.8949 0.8090  
 C36 -0.3993 0.6763  
 C37 -0.2215 0.6505  
 C38 0.0556 0.6551  
 C39 -0.0458 0.6525



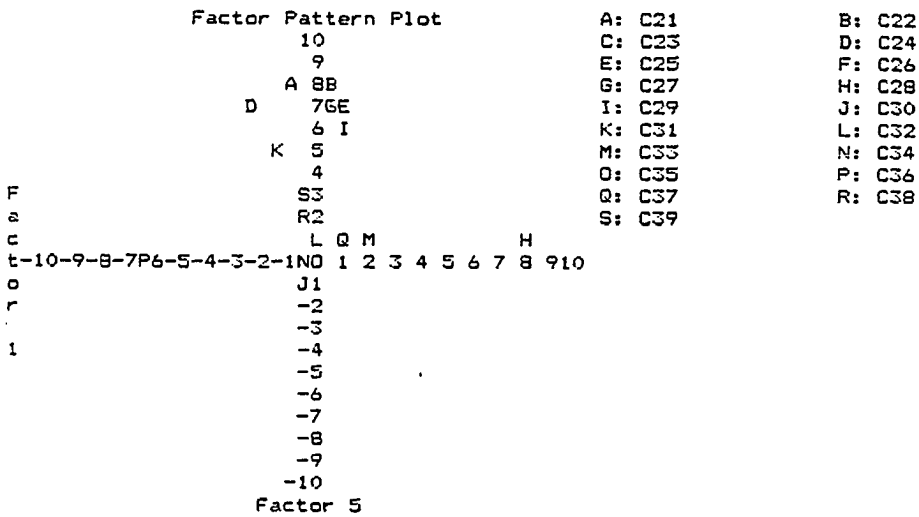
Enter DDY to continue, or ESC to quit --



Enter DDY to continue, or ESC to quit --



Enter DDY to continue, or ESC to quit --



Enter DDY to continue, or ESC to quit --

```

Factor Pattern Plot
  10
  9
  ABB
  G D C
  6 I
  K 5
  4
  S3
  FR
  Q M L
t-10-0-8-7-6-5-P-3N2-1 0 1 2 3 4 5 6 7 8 9 10
o
r
l
  J
  -1
  -2
  -3
  -4
  -5
  -6
  -7
  -8
  -9
  -10
Factor 6

```

```

A: C21
C: C23
E: C25
G: C27
I: C29
K: C31
M: C33
O: C35
Q: C37
S: C39
B: C22
D: C24
F: C26
H: C28
J: C30
L: C32
N: C34
P: C36
R: C38

```

Enter DDY to continue, or ESC to quit --

```

Factor Pattern Plot
  10
  9
  8
  7 J
  6
  5
  4
  3
  2 K L
  1F GIA S
t-10-9-8-7-6-5-4-3-2-1 001H2P3 4 5 6 700 910
o
r
2
  C
  -1
  -2M
  -D
  -4
  -5
  -6
  -7
  -8N
  -9
  -10
Factor 3

```

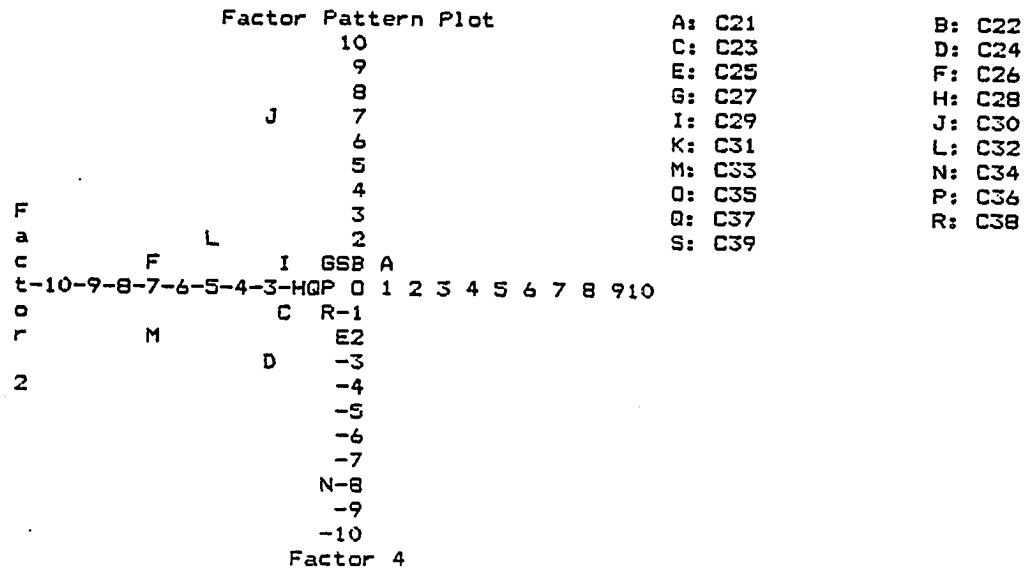
```

A: C21
C: C23
E: C25
G: C27
I: C29
K: C31
M: C33
O: C35
Q: C37
S: C39
B: C22
D: C24
F: C26
H: C28
J: C30
L: C32
N: C34
P: C36
R: C38

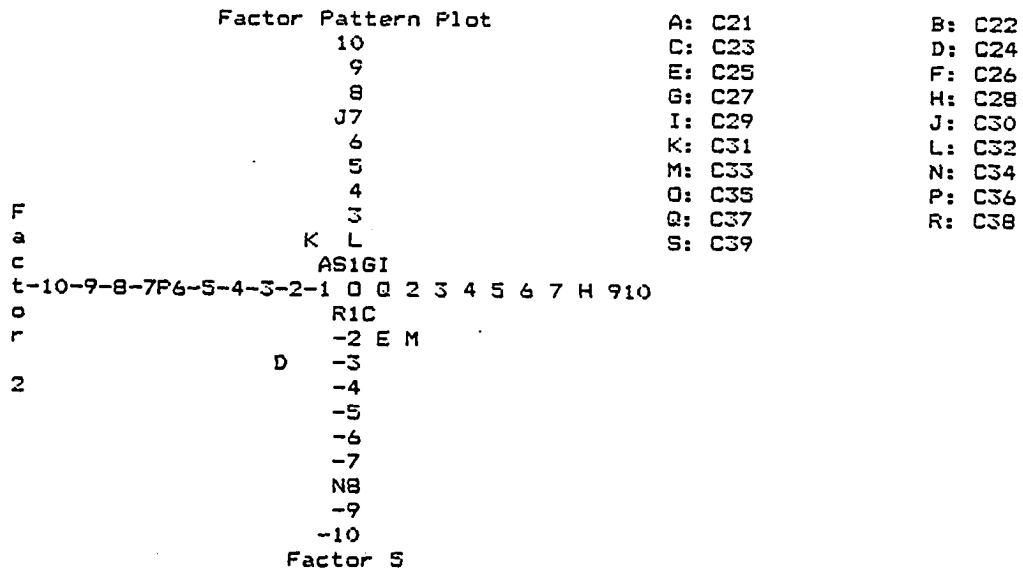
```

Enter DDY to continue, or ESC to quit --





Enter DDY to continue, or ESC to quit --



Enter DDY to continue, or ESC to quit --

```

Factor Pattern Plot
      10
      9
      8
      J 7
      6
      5
      4
      F 3
      a   K 2 L
      c   GSFB I
t-10-0-8-7-6-5-P-3-0-1 0 1 2 3 4 5 6 7 8 9 10
o      -1RC
r      EM2
      -D
      2  -4
      -5
      -6
      -7
      N  -8
      -9
      -10
      Factor 6
  
```

```

A: C21
C: C23
E: C25
G: C27
I: C29
K: C31
M: C33
O: C35
Q: C37
S: C39

B: C22
D: C24
F: C26
H: C28
J: C30
L: C32
N: C34
P: C36
R: C38
  
```

Enter DDY to continue, or ESC to quit --

```

Factor Pattern Plot
      10
      9
      QRSB
      7
      6
      5
      L 4
      F   I P 3 A
      a   H G 2
      c   M K JC NEO
t-10-9-8-7-6-5-4-D-2-1 0 1 2 3 4 5 6 7 8 9 10
o      -1
r      -2
      -3
      3  -4
      -5
      -6
      -7
      -8
      -9
      -10
      Factor 4
  
```

```

A: C21
C: C23
E: C25
G: C27
I: C29
K: C31
M: C33
O: C35
Q: C37
S: C39

B: C22
D: C24
F: C26
H: C28
J: C30
L: C32
N: C34
P: C36
R: C38
  
```

Enter DDY to continue, or ESC to quit --

```

Factor Pattern Plot
  10
   9
  SB Q
   7
   6
   5
   L
  A 3 I
  2G
K NOCE M
t-10-9-8-7-6-5-4-3D2-1 0 1 2 3 4 5 6 7 8 9 10
o
r
3
-1
-2
-3
-4
-5
-6
-7
-8
-9
-10
Factor 5

```

```

A: C21
B: C22
C: C23
D: C24
E: C25
F: C26
G: C27
H: C28
I: C29
J: C30
K: C31
L: C32
M: C33
N: C34
O: C35
P: C36
Q: C37
R: C38
S: C39

```

Enter DDY to continue, or ESC to quit --

```

Factor Pattern Plot
  10
   9
  Q SBR
   7
   6
   5
  4 L
  P A3 I
  H G 2
  J N KEMFBC
t-10-9-8-7-6-5-4-3-2-1 D 1 2 3 4 5 6 7 8 9 10
o
r
3
-1
-2
-3
-4
-5
-6
-7
-8
-9
-10
Factor 6

```

```

A: C21
B: C22
C: C23
D: C24
E: C25
F: C26
G: C27
H: C28
I: C29
J: C30
K: C31
L: C32
M: C33
N: C34
O: C35
P: C36
Q: C37
R: C38
S: C39

```

Enter DDY to continue, or ESC to quit --

```

Factor Pattern Plot
      10
      9
      8
      7
      6
      5
      4
      3
      2
      1
      A 1
t-10-9-8-7-6-5-4-3-2-1SOBE 2 3 4 5 6 7 8 9 10
o      P
r      RIG
4      D JSCI
      -2 Q
      -4
      K -L
      -6
      F7 M
      -8
      -9
      -10
Factor 5

Enter DDY to continue, or ESC to quit --

```

```

Factor Pattern Plot
      10
      9
      8
      7
      6
      5
      4
      3
      2
      1
      A1
t-10-0-8-7-6-5-4-3-2-ESOB1 2 3 4 5 6 7 8 9 10
o      P N G-1R
r      Q -2
4      J -D CI
      -4
      K -5 L
      -6
      MF
      -8
      -9
      -10
Factor 6

Enter DDY to continue, or ESC to quit --

```

```

Factor Pattern Plot
      10
      9
      H 8
      7
      6
      5
      4
      3
F      M2
a
c      Q G 1BCI
t-10-0-8-7-6-5-4J3-2-1SFRL 2 3 4 5 6 7 8 9 10
o      N K A1
r      -2
      -D
S      -4
      -5
      -6
      P  -7
      -8
      -9
      -10
      Factor 6

```

```

A: C21
C: C23
E: C25
G: C27
I: C29
K: C31
M: C33
O: C35
Q: C37
S: C39

```

```

B: C22
D: C24
F: C26
H: C28
J: C30
L: C32
N: C34
P: C36
R: C38

```

Enter DDY to continue, or ESC to quit --