

AN ABSTRACT OF THE THESIS OF

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Title: An Evaluation of the Effectiveness of a Nutrition Education
Workshop for Home Economics Teachers

Abstract approved: Elizabeth Johnson

The effectiveness of a three-hour nutrition education workshop for home economics teachers given in 18 locations in Oregon was evaluated based on responses from 138 teachers. Changes in knowledge of and attitude toward four nutrition topics (fast foods, vegetarianism, weight control, and food exchanges) were measured using questionnaires completed at the beginning of the workshop, at the end of the workshop, and one month later. Teacher background, teacher reaction to the workshop, and incorporation of workshop material into the classroom were also assessed.

Statistically significant positive changes were found in both knowledge and attitude immediately after the workshop. These changes were retained to a significant degree one month later in all areas of knowledge but for only two areas of attitude (fast foods and food exchanges). Change in knowledge was not found to be related to the number of years employed, the academic degree, the length of time since a college nutrition course had been taken, the teacher's source of recent nutrition information or previous workshop

attendance. Most of the teachers (88-99%) found the workshop useful, the right length of time, and at a convenient hour. Over half (51%) of the teachers who returned the final questionnaire indicated they had used workshop material in their classroom within the month following the workshop.

Similar results were found when responses from 76 non-home economics teachers, who also attended the workshop, were analyzed for changes in knowledge and attitude.

An Evaluation of the Effectiveness of a
Nutrition Education Workshop for
Home Economics Teachers

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Christina May Stark

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APPROVED:

Associate Professor of Foods and Nutrition
in charge of major

Head of Department of Foods and Nutrition

Dean of Graduate School

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Typed by Mary Ann Airth for Christina May Stark

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AN EVALUATION OF THE EFFECTIVENESS OF A NUTRITION EDUCATION
WORKSHOP FOR HOME ECONOMICS TEACHERS

INTRODUCTION

Junior and senior high school home economics teachers can be the major source of nutrition information for both their students and the general public (Dwyer et al., 1970; Sodowsky, 1973; Henneman et al., 1976). For many people, graduation from high school means an end to any formal nutrition education. The home economics teachers' role as nutrition educators requires that they keep up-to-date in the field of nutrition. This involves more than just acquiring the latest facts. They need to be aware of the changing focus and trends in nutrition so they can be better prepared to teach nutrition and to answer questions. Studies have shown that the prevalence of nutrition misconceptions among junior high and senior high school students is quite high (Tiffit and Stanton, 1972; Johnson and Hart, 1977). It is important that home economics teachers do not contribute to these misconceptions.

A study of 71 home economics and health teachers in Oregon (Skinner, 1979) found that teachers' knowledge of nutrition was significantly correlated to high school learning in terms of students' nutrition knowledge and dietary intake. Although teenage nutrition is not as deficient as was once presumed (Thomas and Call, 1973), obesity, dental caries, anemia, and low levels of vitamin A, ascorbic acid, and calcium have been identified as significant problems for some of the population (Ten State Nutrition Survey, 1972; Huenemann, 1973). If teenagers are going to improve their eating habits, they

must have the nutrition knowledge and motivation to do so. Home economics teachers can potentially play a significant role in this respect assuming they have accurate knowledge and positive attitudes themselves.

Home economics teachers often teach more than just foods and nutrition. Clothing and textiles, family resource management, human development, and living environments are other subjects commonly taught. A great deal of time and energy would be required for a teacher to try single-handedly to keep up in all these fields. This is usually more time and energy than is available in addition to a full-time job of teaching.

At the White House Conference on Food, Nutrition, and Health, it was recommended that

"because of continuous expansion of knowledge in nutrition and food science, advancements in food technology, and developments in educational techniques, a strong continuing education program must be provided both for teacher-educators and school personnel." (White House Conference on Food, Nutrition, and Health, 1970, p. 151).

Workshops, extension courses, in-service programs, individualized instruction, and educational television were suggested ways to accomplish the in-service education.

One source of funding for continuing or in-service education is outlined in Public Law 94-482 "Education Amendments of 1976". This law states that grants to states will be made to assist them in conducting consumer and homemaking education programs with nutrition education as a priority area. The results of a needs assessment done

by the Home Economics Education Department at Oregon State University during the Spring of 1978 indicated nutrition was an area where home economics teachers felt they needed some additional training. As a result of this survey, and using grant money available through Public Law 94-482, a nutrition education workshop was planned to be given in 18 different geographical areas in Oregon.

A three-hour, after school format with volunteer attendance was chosen for a number of reasons: 1) funding did not permit a more extensive workshop such as the type where graduate or in-service credit is given; 2) a short, non-credit workshop kept teachers' time and cost to a minimum and therefore more teachers could be reached; 3) released time could not be used as it is the choice of each individual school district to decide released time policy and this project focused on teachers throughout the entire state; and 4) this format would be familiar to the audience since three-hour after school workshops had been used in the past and were well-received.

This suggests that a three-hour nutrition education workshop is a practical way to deliver in-service training to home economics teachers, but is it an effective way? Little evaluation of in-service programs in general has been done (Meeth, 1978). This was pointed out by one statewide survey of 646 Tennessee teachers (Brimm and Tollett, 1974) where only 13% agreed with the statement "there is adequate follow-up to determine the effects of in-service activities in my system". As the in-service workshop becomes a major means for teacher improvement (Meeth, 1978), evaluation needs to be done to determine if this goal is being met.

The purpose of this study was to evaluate the effectiveness of a three-hour nutrition education workshop for home economics teachers in 18 locations throughout Oregon. The objectives were to determine:

1) if a three-hour workshop can make positive changes in nutrition knowledge and attitudes and if these changes are retained one month later;

2) which type of participant benefits most from this type of workshop in terms of an increase in knowledge;

3) how home economics teachers feel about the usefulness and convenience of this type of workshop; and

4) whether information and material from a three-hour workshop is translated into classroom teaching.

The hypothesis was that a three-hour workshop, which is a common format for in-service education, is a useful and convenient way to conduct in-service education and positive changes in knowledge and attitude are possible. It was also hypothesized that educational background and work experience influence these changes, and that information and materials presented at the workshop will be incorporated into classroom teaching.

REVIEW OF LITERATURE

Although home economics teachers are the primary source of nutrition information for many people, little research has been done to assess the nutrition knowledge and attitudes of this group. One exception was the study of home economics and health teachers in Oregon (Skinner, 1979). General nutrition knowledge and attitudes were assessed in order to determine teacher characteristics related to effective nutrition education for adolescents. Results showed the teachers were least knowledgeable in the areas of both applied nutrition and recent nutrition information. These low-level scores were consistent with other findings about nutrition educators including elementary teachers, public health nurses, and physicians (Petersen and Kies, 1972; Schwartz, 1976; Krause and Fox, 1977).

Teachers have indicated they have few recent sources of nutrition information (Skinner, 1979). Teachers and administrators often hear about problems and new developments in nutrition primarily from public sources such as television, newspapers, and popular magazines (Lovett et al., 1970; Eash and Rasher, 1976). There exists a need for better teacher education in nutrition.

Effectiveness of In-service Education

By definition, in-service teacher education programs are carried out while the recipients are actually engaged in the profession of teaching. Various in-service formats are utilized including in-service days where released time is given, summer and weekend workshops,

evening classes, and after school workshops and meetings. These can provide a favorable learning situation since the information and skills taught can be immediately implemented. In-service education has been criticized, however, for being inadequate and not meeting teachers' needs (Edelfelt, 1974). Proposed reasons for lack of success include the fact that planning is often done by educators other than teachers, teachers' personal time is often required to attend, and not enough emphasis is put on improving teacher performance (Todhunter, 1972; Edelfelt 1974). Poor planning, inadequate execution, and lack of proper evaluative procedures have also been named (Brimm and Tollett, 1974).

On the brighter side, in-service education has been receiving increasing attention due to such interrelated factors as a reduction in teacher turnover in grades K-12 and a decreased enrollment in colleges of education (Wilen and Kindsvatter, 1978; Meeth, 1978). The reduced turnover results in greater faculty stability which better lends itself to in-service programs. As institutions realize that faculty members will be with them for many years, more time and energy are being spent on staff improvement. The in-service workshop has become a primary method for this professional development with improved teaching as a focus (Meeth, 1978). The decreased enrollment in colleges of education may result in more college faculty time being available to devote to in-service programs.

Another reason proposed for the recent attention given in-service programs is the increased concern over accountability in

education. As funding gets tighter, communities want evidence of effective teaching, and school districts are turning to in-service education as a means to improve teacher competence. It becomes critical then that in-service programs are effective in achieving their overall goal which should be to improve professional performance (Wilens and Kindsvatter, 1978). Since students' needs are subject to change, effective in-service education should help a teacher adapt to these changes (Brimm and Tollett, 1974).

Little research has been done to determine what types of in-service activities are most effective. A few studies have focused on teachers' attitudes and preferences toward various in-service education programs. One study was conducted in South Dakota where a random sample of 1,239 teachers representing every school district was surveyed to determine preferences for different in-service programs (Zigarmi et al., 1977). Results showed that receiving assistance from another teacher as well as observing fellow teachers were highly useful in-service activities. Only moderately useful were workshops or courses carried out on a college campus, with the exception of a two-week summer workshop sponsored by the South Dakota Education Association focusing on "current trends" which was judged to be highly useful. Moderately useful were faculty meetings, reading professional journals, and activities planned by teachers' professional organizations. The more common types of workshops, such as full-day, half-day, and two-hour workshops conducted by outside consultants or one-day regional workshops involving several school systems were

judged less useful. The least useful activity was in-service programs presented by educational sales representatives.

A statewide research study in Tennessee involved approximately one percent of the teachers from each of the state's school districts (Brimm and Tollett, 1974). Teachers were asked to respond (on a five point scale: strongly agree, agree, uncertain, disagree, strongly disagree) to 34 statements on in-service education. Ninety percent of the teachers agreed (six percent disagreed) that "one of the most important ways to judge the effectiveness of an in-service program is whether the teacher uses the results of the training in the classroom". Eighty-seven percent agreed (five percent disagreed) that "one of the most motivating in-service activities is an opportunity to become acquainted with new teaching practices or innovative programs." In considering the realities of in-service education, 63% of the teachers agreed (20% disagreed) that "most teachers do not like to attend in-service activities". Forty-nine percent agreed (24% disagreed) that "transfer of concepts presented and skills taught in in-service programs to the problems of daily classroom life and school operations is minimal". Only 13% agreed (65% disagreed) that "there is adequate follow-up to determine the effects of in-service activities in my system".

Another study was conducted in Indiana to analyze the needs and concerns of middle and junior high school teachers regarding in-service education (Underwood and Underwood, 1977). The need and desire to improve teaching effectiveness and instruction were indicated.

However, the lack of supervisory assistance and support aimed at the professional growth of teachers was the major concern.

In contrast to the above results, a New Hampshire study of an Experimental Schools Program (Peters and Schnare, 1976) found that teachers and administrators both perceived workshops as being an effective training vehicle whereby new methods, techniques, and skills could be learned. Subject matter and content were named as the characteristics most crucial to the success of a given workshop. The carry-over effect of workshops was brought out when the teachers agreed with a statement that they did try techniques learned in a workshop in their classrooms.

The above studies deal with in-service education in general. How do teachers feel about in-service nutrition education specifically? An assessment of the needs of schools for improving nutrition education was conducted for the National Dairy Council (Eash and Rasher, 1976). Both teachers and administrators, representing about two-thirds of the nations' school districts, were surveyed. In regard to the role of nutrition education in-service programs, both teachers and administrators agreed that the main constraint was the limited amount of teacher time available. Teachers named meeting time and/or location of the in-service program as the second constraint while administrators listed the cost of in-service as second. Workshops, either during school, after school, or during the summer were considered the best way to provide in-service training for the implementation of a new nutrition curriculum by both groups. Not

surprisingly, teachers favored in-service training during school hours while administrators chose school time and free time about equally. The need for well-organized concise programs was indicated by both groups.

Similar results were obtained from a sample of 2,160 elementary teachers in New Jersey and New York (Cook et al., 1977). These teachers preferred short workshops on released time. When asked, more than half said they would probably attend a three-hour nutrition workshop. Seventy percent of the home economics and health teachers surveyed in an Oregon study indicated an interest in attending a workshop on nutrition (Skinner, 1979). In addition to learning about nutrition information, other teachers wanted innovative and creative methods for teaching nutrition (Sodowsky, 1973).

In-service education was one of three needs that was named in every case when 20 widely different local associations were surveyed in a 1973-74 National Education Association assessment of teachers' needs (Edelfelt, 1974). Clearly, the desire for good, effective in-service programs, including those in nutrition is present, but for the most part, this desire has not been fulfilled.

Recommendations for In-service Education

Ways to improve in-service education have been suggested. Wilen and Kindsvatter(1978) suggested that the needs of teachers must play a direct role in the design of an in-service program. In addition, a major source of program directors and consultants should be from local

colleges and universities. Programs should either be held during regular school days or compensation for teachers' time should be made. Their reasoning was to avoid a negative attitude at the start from those teachers who feel an imposition is being made upon their time. This timing of in-service programs is also a critical factor in creating a positive environment for effective learning.

Another method suggested for improving in-service education involves evaluation. Commonly, evaluation of in-service workshops is limited to the participants' immediate impressions of the experience (Meeth, 1978). Wilen and Kindsvatter (1978) suggested that program evaluation should be done immediately upon completion and then again at a later date to determine the extent the in-service objectives were translated into teacher behavior in the classroom. The second evaluation is needed because, although a teacher may attain the immediate objectives of a program, this is no guarantee there will be implementation at the teaching level. If the purpose of a given in-service program is to enrich and improve teacher instructional performance in the classroom, then it is important that there be some visible evidence of application. According to Wilen and Kindsvatter, the extent of the transfer of in-service objectives to the classroom must be measured before any in-service program can be considered successful.

This does not mean that the only valid evaluation of a workshop should be done later within the classroom. The change in teacher behavior, which can come about through changes in knowledge and

attitude, is a legitimate objective in itself. Evaluations of in-service education need not be linked to student learning (Rubin, 1972).

Although teachers may not unanimously choose the in-service workshop as their favorite form of in-service education, the limits in funding and teacher time keep it as a desirable alternative. As an in-service vehicle, several workshop characteristics have been noted that may contribute to more effective programs. First of all, the in-service workshop should be practical so there can be the transfer of skills into the classroom. Workshops should also be used to better acquaint teachers with newer teaching methods (Ferguson, 1975). Another favorable characteristic is brevity. It has been pointed out that often a two-day workshop accomplishes more than a three-day workshop (Meeth, 1978). The longer time requires more breaks and unless new stimuli are introduced, there is a declining ability to absorb new material. Therefore, both the length of time and the time of day itself must be convenient for participants in order to have a successful workshop (Ernst, 1974).

The use of tests of knowledge, skills, and/or attitudes acquired during the workshop can be useful. Specifically, pre-tests and post-tests can be used to help measure the long term value of a workshop (Meeth, 1978). Also, sometime after the workshop an activity can be done where former participants are asked to perform some task in their daily work, which can help them synthesize what they learned. The best type of evaluation is on-going and covers not only the initial

workshop session but any follow-up activity as well (Meeth, 1978).

In-service Programs in Nutrition

An in-service nutrition education workshop for teachers is not a new idea. The need to update teachers in nutrition knowledge and teaching techniques has been identified (Petersen and Kies, 1972; Todhunter, 1972; Cortes and Standal, 1973; Henneman et al., 1976; Cook et al., 1977; Grogan, 1978; Levine et al., 1979). Lack of teacher preparation in the field of nutrition has been cited as a reason that nutrition education in the schools has been disorganized and ineffective in the past (O'Farrell and Kendrick, 1972). A strong base of nutrition knowledge is important to effective teaching (Skinner, 1979). Providing teachers with the tools they need to teach nutrition as well as encouraging them to incorporate good nutrition into their own lives have also been emphasized as priorities (Cortes and Standal, 1973). Although the White House Conference on Food, Nutrition, and Health recommended that nutrition be an integral part of the curriculum of every school (White House Conference on Food, Nutrition, and Health, 1970), it would be impractical for nutritionists and dietitians to take on this task in addition to their other full-time responsibilities. The training of teachers and especially home economics teachers to be effective nutrition educators is the logical alternative. Some states have set up guidelines for in-service nutrition education workshops (Callahan, 1973).

Most reports of in-service nutrition education programs have focused on elementary teachers (Lovett et al., 1970; McDonald and Owen, 1970; Sodowsky, 1973; Cooper and Philp, 1974) although home economics teachers have been included in some programs (Henneman et al., 1976; Grogan, 1978). The length of these programs has varied from three hours (Cooper and Philp, 1974) to seven hours (Sodowsky, 1973), from two days (Lovett et al., 1970) to five days (McDonald and Owen, 1970), and from three weeks (Henneman et al., 1976) to three months (Grogan, 1978). Various types of evaluation have been done to determine their effectiveness.

A three-hour workshop sponsored by the Ontario (Canada) Milk Marketing Board was evaluated to determine if elementary teachers could teach their students how to select a balanced meal (Cooper and Philp, 1974). Students who had a chance to receive nutrition education as a result of their teacher having attended the workshop were compared with a control group of students. Students' change in knowledge was measured by their ability to choose a balanced meal from questions given on a worksheet. Applied nutrition knowledge was assessed by asking students to record what they had eaten for breakfast that day. A personal visit with the teachers and a questionnaire given five to nine months later were used to determine the degree of implementation of workshop material as well as teacher reaction to the workshop. This workshop was considered successful by the authors because 70% of the teachers who had attended the workshop had incorporated nutrition material into their classrooms. In

addition, their students' nutrition knowledge and eating behavior were significantly improved as compared to the control group of students.

Elementary teachers were the participants of a nutrition workshop conducted in Oklahoma (Sodowsky, 1973). This workshop consisted of seven hours of meeting time during an in-service week. The program's immediate effectiveness was determined using a written questionnaire given at the close of the workshop. The long-range effectiveness was measured with another questionnaire completed five months later. Analysis of these results indicated the degree to which the workshop material was accepted and put into classroom use. All teachers reported a desire to integrate material immediately after the workshop. The follow-up showed that most had actually done so.

A two-day nutrition education training program sponsored by the Dairy Council of California was evaluated by testing both the second grade teachers who received the training and their students (Lovett et al., 1970). The teachers were administered a written test before and after the two-day training session to assess the amount of learning. A 69% increase in their average scores indicated the high degree of improvement. Using the materials and methods learned during the training program, the teachers implemented a three-week nutrition education unit into their classroom. Student change in nutrition knowledge and applied nutrition knowledge as a result of this unit were measured with a written test given before and immediately after the

unit. The results showed significant increases in both areas.

A five-day nutrition education workshop was held in Alabama involving both elementary and secondary teachers (McDonald and Owen, 1970). A pre-test was given to assess individual teacher's basic knowledge of nutrition although a post-test was not done to determine change. An evaluation form was distributed to the teachers at the conclusion of the workshop. Results showed that almost all of the teachers felt the workshop was well-organized and would recommend it to others. In addition they felt they had received ideas they could take back into their classrooms. No follow-up was done to see if this actually took place.

Nutrition education programs for home economics teachers have been conducted and evaluated although those reported have been relatively long in duration, e.g. three weeks (Henneman et al., 1976) and three months (Grogan, 1978). In both of the examples, in-service or graduate credit was given for attendance.

In the three-week summer workshop (Henneman et al., 1976), an evaluation was done at two different times. At the conclusion of the workshop, teachers were asked to rate interest appeal and perceived usefulness of presentations in seven subject areas. These included 1) Toward a less meat-centered diet; 2) Weight control; 3) Diet and heart disease; 4) Nutrition in pregnancy, infancy, and early childhood; 5) Health foods and food fads; 6) Factors influencing food choices; and 7) Meal management principles. The teachers were polled again at the end of the following school year and asked

to describe any new learning experiences they had used in their classrooms which could be related to the workshop. In addition, they were asked if they would repeat the teaching experience and if not, why not. On the first questionnaire the teachers gave all the presentations at the workshop favorable ratings. The follow-up questionnaire had a low response rate (11 out of 20 teachers returned the questionnaire). The authors suggested this could be due to its timing (end of the year) and the open-ended question format. All of those who did respond and who had taught a nutrition unit that year, had included units used in the workshop in their own teaching. In general, they felt that concentrated sessions presented by nutrition faculty on certain topics was an efficient way to get current nutrition information. Visuals and displays of supplementary reading material were also cited as useful. Teachers' professional journals may offer descriptions of nutrition books and audiovisuals, but not many of these resources are purchased either because of their cost and/or the inability to inspect them before buying. The actual experiencing of some potential classroom activities was also seen as valuable. If teachers have to translate new information into learning experiences on their own, lack of time and skill may lead to the omission of many ideas. Home economics teachers appreciate, as any teacher would, ready-made activities that can be implemented immediately into the classroom.

A more extensive teacher in-service for nutrition education was conducted in Pennsylvania (Grogan, 1978). Thirty-five teachers

including home economics, health, science, physical education, and social studies teachers were involved. The course included 30 hours of instruction held during the evening over a three-month period. Several means of evaluation were done. Changes in knowledge were measured with a test consisting of 50 multiple-choice and true and false questions given before and after the course. In addition, teachers were asked to comment on how well they felt course objectives had been met. After completion of the course, teachers were visited at least twice in their classrooms in order to assess the teachers' progress in incorporating course material into their own curriculum. Students' change in knowledge and dietary behavior, as a result of their teachers having attended the in-service course, was also measured. Students completed a three-day diet record and took the same test as was given to the teachers both before and after their exposure to the integrated nutrition curriculum. Both the teachers and students had significant increases in nutrition knowledge although there was no significant change in students' diets. Teachers' comments about the course were favorable and 90% stated they felt better prepared to integrate nutrition education into their curriculum. The classroom visits showed that at least 70% were doing so.

Other more subjective measures of success include reactions from school administrators, teachers, curriculum specialists, parents, and the students themselves. Enthusiastic support by these groups may contribute to the feelings of success for in-service nutrition education programs (Lovett et al., 1970; Sodowsky, 1973; Grogan, 1978).

Methods of Assessing Nutrition Knowledge and Attitude

Successful nutrition education can be seen as the application of sound nutrition knowledge into daily practice (Carruth and Anderson, 1977). One measure of success of a nutrition education workshop is whether the participants have gained any knowledge in nutrition. However, an increase in nutrition knowledge does not necessarily lead to application of that knowledge (Poolton, 1972, Schwartz, 1975; Guthrie, 1978). Attitude has been identified as one variable that affects both the acquisition of knowledge and its later application (Carruth and Anderson, 1977). Attitude may even affect behavior independent of knowledge (Petersen and Kies, 1972). In a study of high school graduates, nutrition knowledge was found to be significantly correlated to nutrition attitude and nutrition attitude was correlated to nutrition behavior, but no correlation was found between knowledge and behavior (Schwartz, 1975).

Teachers' attitudes can have an effect on changing students' dietary patterns (Baker, 1972; Head, 1974). However, teacher knowledge was the only teacher characteristic found to be significantly correlated with student learning at both the knowledge and behavioral levels (Skinner, 1979). Therefore, in order to predict the effect of an in-service nutrition education workshop, teachers' attitudes and knowledge should both be measured. These measurements in turn may reflect the potential amount of change possible as a result of an intervention program (Carruth and Anderson, 1977).

Instruments designed to assess nutrition knowledge and attitudes of teachers have been limited to general nutrition topics. Petersen and Kies (1972) developed a questionnaire for measuring the nutrition knowledge and attitudes of elementary teachers. A more recent nutrition test, again for elementary teachers, was designed to assess their ability to interpret lay literature on nutrition as well as their knowledge of general nutrition subject matter (Carver and Lewis, 1979). Home economics teachers were one of four adult groups used to test a questionnaire designed to measure nutrition knowledge (Préfontaine, 1975). Another questionnaire was developed to measure nutrition knowledge and attitudes specifically of home economics and health teachers, but again, the subject matter was general nutrition (Skinner, 1979). In the studies listed above, the teachers were not involved in a treatment such as a workshop and therefore the instruments were not used as a pre- and/or post-test.

In order to measure change in knowledge and attitude as a result of a treatment the pre-/post-test design is often used. This familiar format consists of developing a test to measure the area of concern, administering the test, performing the treatment, then readministering the same test. The pre-test is given for a number of reasons. First of all, it is used to determine how much room there is for change. If individuals are already very knowledgeable in an area or if they already have a fairly positive attitude toward a subject, a treatment may not show much favorable change. Secondly, a pre-test is necessary if the results are to be stated in such a way as to define which

group(s) benefited most from the treatment or even as a way to assign individuals to groups prior to the treatment. Thirdly, if experimental and control groups are being used, the pre-test can be used to double check the randomness of the assignments (Selltiz et al., 1976).

Examining the difference in pre- and post-test scores will give an indication of the effect of the treatment. A criticism of the pre-test/post-test format (Fruin and Davison, 1978) is that the natural phenomenon, known as regression toward the mean, may be read erroneously as change. This occurs because an individual's test score, whether it be above or below the mean, will naturally tend to move closer to the mean if the same test is given to him or her a second time, regardless of any treatment. The phenomenon becomes stronger the greater the distance from the mean. As long as the difference scores from the entire sample are examined, it is possible to avoid this influence. In other words, subjects should not be divided or matched according to their pre-test scores (i.e. "high" scores versus "low" scores) and individual results should not be compared.

Another consideration with any test instrument is the factor of error. Since every measurement score contains some error, the pre-test/post-test format can compound this error because the difference scores are assumed to contain the error from both the pre- and post-tests. Therefore, the resultant score may reflect a "change", but to assume it is solely due to the treatment may be misleading. By

recognizing this fact and by making the test as reliable as possible, the interpretation of difference scores can provide insights and understandings into human learning and attitude change (Fruin and Davison, 1978).

RESEARCH PROCEDURES

Preliminary Organization

The decision to conduct in-service nutrition education workshops for home economics teachers in Oregon was based on a needs assessment survey conducted by the School of Home Economics at Oregon State University in the spring of 1978. Nutrition was the area in which home economics teachers indicated they needed more in-service training.

A three-hour, after school workshop was chosen to conduct the in-service training. The home economics teachers were accustomed to attending this type of workshop for other in-service programs. Attendance was voluntary with no compensation for teacher time provided. By using this format, a greater number of workshops could be held making the program available to more teachers throughout the state. Eighteen locations in Oregon were chosen to provide a good geographic distribution and reasonably easy access to the greatest number of teachers. Dates for the workshops were planned so that they did not coincide with school holidays.

An assistant professor of Home Economics Education at Oregon State University was designated as coordinator of the project. Her role included arranging the dates and exact locations of the 18 workshops (Figure 1) and identifying contact persons at each location. Regional Career Coordinators assisted by confirming the dates and locations in their areas as well as identifying potential contact

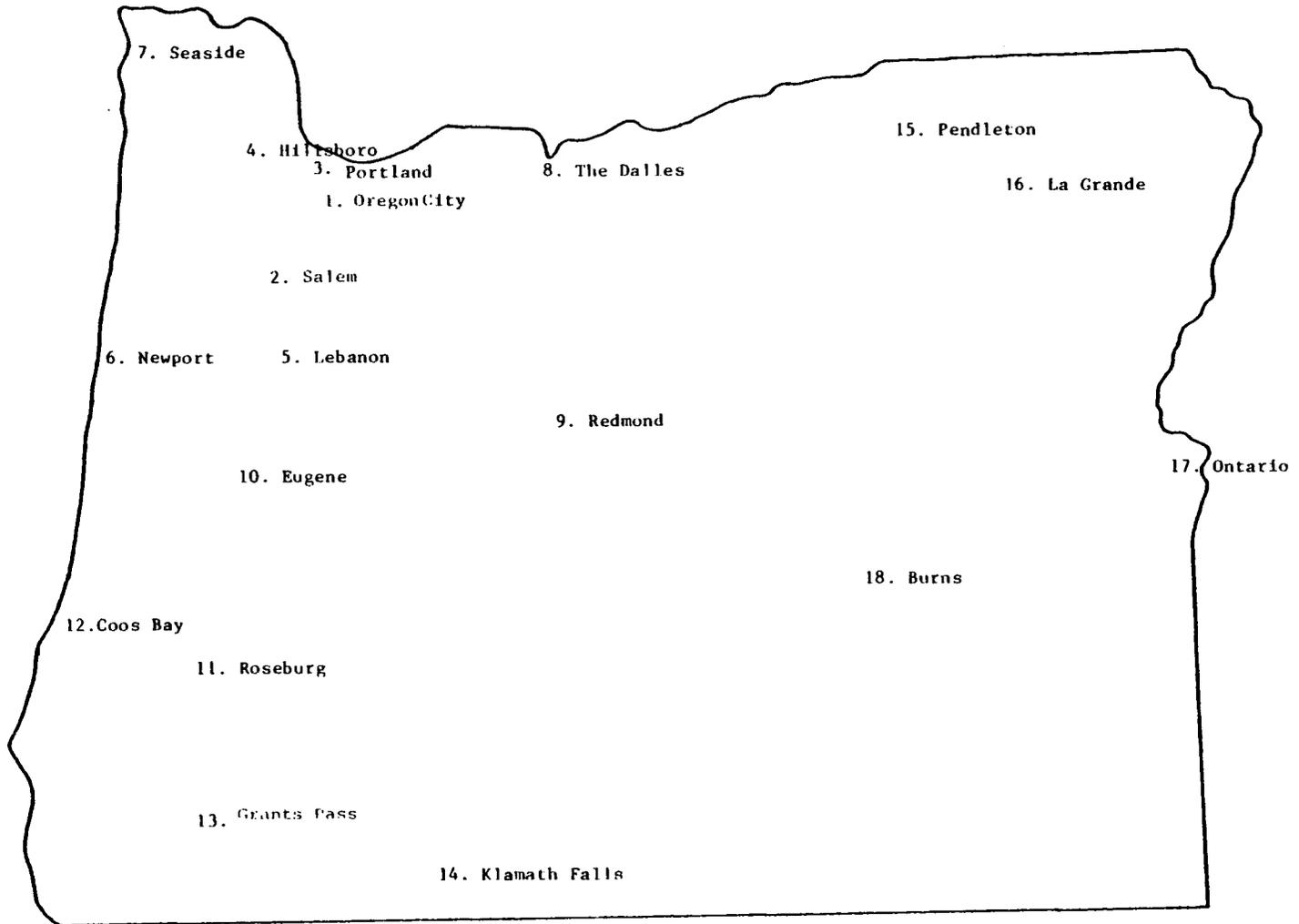


Figure 1. Locations in Oregon of the 18 Nutrition Education Workshops

persons or hostess teachers. With two exceptions, all workshops were held from 4:00 - 7:00 p.m. One location requested meeting from 6:00 - 9:30 p.m. so a meal could be included, and another requested meeting from 4:30 - 7:30 p.m. due to a later school dismissal time.

Once the dates and locations were determined, announcements were mailed. The announcement consisted of a one-page description of the workshop (Appendix A) and a reservation card to be returned. A total of 633 announcements were mailed to junior high and senior high school home economics teachers. In addition, 14 community college home economics departments, 65 home economics extension personnel, and 17 Regional Career Coordinators were sent announcements. Although the workshop was not designed specifically for these latter groups, it was felt that they could also benefit from the information and teaching ideas being presented.

Workshop Design

To identify some of the current nutrition concerns of home economics teachers, home economics and nutrition related journals were reviewed. Suggestions from the faculty of the Oregon State University Department of Home Economics Education were also considered. The current concerns were compiled into a list of ten topics. These were:

- 1) Recent research in nutrition
- 2) Teenage pregnancy and nutrition
- 3) Weight control -- fad diets

- 4) The fast food phenomenon
- 5) Food additives.
- 6) Nutrition for the athlete
- 7) Toward a less meat-centered diet
- 8) Food exchange groups - an easy way to estimate what
you're eating
- 9) Retaining the nutritive value of food
- 10) Other

To help determine which of the ten topics would be covered, a random sample of 20% of the approximately 600 home economics teachers in the state was surveyed. A letter was sent listing the ten topics and asking the teachers to indicate their first, second, and third choices for the topics to be covered at the workshop (Appendix B). Fifty-two percent of the letters were returned. A comparison of the mean rankings indicated which topics were chosen most often. T-tests showed no significant difference in rank between the following:

- 1) Weight control - fad diets
- 2) Toward a less meat-centered diet
- 3) The fast food phenomenon
- 4) Food exchange groups - an easy way to estimate what
you're eating
- 5) Teenage pregnancy and nutrition

Once the topics were identified, preparation for the actual workshop presentations began. Teaching resources, such as pamphlets, books, games, filmstrips, posters, etc. covering each topic and

appropriate for use in a junior or senior high school home economics class were reviewed and ordered. The resources were put on display during the workshop accompanied by an annotated bibliography giving a brief description of each and its source.

The objectives of the workshop were: 1) to provide nutrition information; 2) to demonstrate techniques for teaching nutrition; and 3) to familiarize participants with a variety of instructional materials suitable for nutrition education. An approximate time schedule for the workshop was as follows:

- | | |
|-----------|---|
| 4:00-4:15 | Welcome, introductions, explanation of how to use bibliography |
| 4:15-4:30 | Completion of pre-questionnaire |
| 4:30-4:55 | Filmstrip and discussion on vegetarianism |
| 4:55-5:15 | Vegetarian snack break used as a learning activity |
| 5:15-5:35 | Filmstrip and discussion on weight control |
| 5:35-6:15 | Explanation of food exchanges using magnetic board and worksheets |
| 6:15-6:30 | Slide/tape show and discussion on fast foods |
| 6:30-6:45 | Completion of post-questionnaire |
| 6:45-7:00 | Inspection of resources on display |

Details of the three-hour workshop plan are given in Appendix C.

Evaluation Instruments

Existing instruments designed to measure the nutrition knowledge and attitudes of home economics teachers covered a wide range of

nutrition topics. Since only a limited number of topics were to be covered at the workshop, it was necessary to design a questionnaire to measure knowledge and attitudes specifically in these areas.

In order to determine the type of information reaching the public concerning the five topic areas, sources of information such as cookbooks, a monthly magazine for vegetarians, fast food television advertisements, diet books, and teen and women's magazines were reviewed. Commonly held misconceptions were particularly noted. Scientific literature and commercial teaching materials, such as books, filmstrips, and teachers' guides, were also reviewed for further information on current nutrition knowledge and attitudes. The above information was incorporated into both knowledge and attitude items for the questionnaires.

As the time schedule for the workshop became finalized, it became obvious that in order to provide adequate coverage of each topic, one topic would need to be omitted as a formal presentation. A decision was made to omit teenage pregnancy and nutrition as a discussion topic, therefore any questionnaire items pertaining to this topic were withdrawn. Available teaching resources on teenage pregnancy and nutrition were still included in the display materials and in the bibliography. In addition, the focus for "Toward a less meat-centered diet" was modified to vegetarianism. The final areas in which knowledge and attitude were measured were:

- 1) Fast foods
- 2) Vegetarianism

3) Weight control

4) Food exchanges

A true or false format with a "don't know" option was selected for measuring knowledge. The "don't know" option was added to minimize guessing as well as to help put the participants at ease when answering the questionnaire. The true or false format has been used in the past to measure nutrition knowledge of various groups (Eppright et al., 1970; Petersen and Kies, 1972; Schwartz, 1975; Schwartz, 1976; Vickstrom and Fox, 1976; Sims, 1976; Krause and Fox, 1977; Grotkowski and Sims, 1978; Carver and Lewis, 1979).

A five-point Likert scale was chosen to measure attitude with "Agree Strongly", "Agree", "Uncertain", "Disagree" and "Disagree Strongly" as possible responses. The ease of responding and familiarity of categories (Carruth and Anderson, 1977) as well as its ease of construction and good reliability (Oppenheim, 1966) make it a desirable method for measuring attitudes. Nutritional attitudes of others involved in nutrition education have been measured with this format (Petersen and Kies, 1972; Vickstrom and Fox, 1976; Carruth and Anderson, 1977; Lohr and Carruth, 1979; Skinner, 1979).

Following principles of achievement test construction as described by Gronlund (1977), knowledge and attitude items for each topic were written. These items were read by faculty members and graduate students from the Departments of Foods and Nutrition and Home Economics Education at Oregon State University. Comments were requested on the accuracy and clarity of each item and any other

suggestions were welcomed. A total of 45 knowledge and 29 attitude items were selected for the pilot test. The number of true statements and false statements was approximately equal as well as the number of positive and negative attitude statements.

The items were arranged on the questionnaire so that the attitude items for a certain topic were followed by the knowledge items for that same topic. Instructions briefly defining the topic area in question were included. It is considered desirable to group together items that measure the same learning outcome (Gronlund, 1977). The respondent's concentration can stay focused on one topic which makes the test-taking process easier and can lead to more accurate results.

The pre-, post- and delayed questionnaires contained the same set of knowledge and attitude items. The order of both the general topic area itself and questions within each topic area were randomized separately between the pre- and post-questionnaire. The arrangement of the knowledge and attitude items on the delayed questionnaire was identical to the pre-questionnaire.

To determine which participants benefited most from the workshops, questions relating to their specific occupation and educational background were included on the pre-questionnaire. Participant reaction to the usefulness and convenience of the workshop was measured with questions on the post-questionnaire. The actual incorporation of workshop information and material into classroom teaching was measured with the delayed questionnaire.

The format for these additional questions was based on suggestions from the Survey Research Center at Oregon State University. Multiple-choice type questions as well as open-ended questions were utilized. The aim was to make the questionnaire as easy to complete as possible and yet allow some freedom of expression in responses.

To insure anonymity, participants were instructed to record the last four digits of their home phone number on each questionnaire. This method, as suggested by Selltitz (1976), allows for the comparison of data from the same individual at different points in time.

Approval of Human Subjects Committee

Approval of procedure and test instruments was requested and granted from the Oregon State University Committee for the Protection of Human Subjects in accordance with the university regulations regarding research with human subjects.

Pilot Test

The initial pre- and post-questionnaires were tested at a pilot workshop held on February 6, 1979, in Corvallis, Oregon. There were eight participants including faculty members, graduate students, and former home economics teachers. These participants were given the pre-questionnaire, presented the same information that was to be included in all the future workshops, and then given the post-questionnaire. In addition, these participants were asked to write any comments or

suggestions they had on the questionnaires concerning ambiguity, wording, definition of terms, or misleading statements.

Evaluation of the pilot pre- and post-questionnaires included an analysis of each item to determine changes in response. It involved calculating the percent of correct responses by the whole group for each knowledge item on the pre-questionnaire and comparing this value with the percent of correct responses on the post-questionnaire. If a knowledge item yielded a 100% or nearly 100% correct response on the pre-questionnaire, if there was a negative change in score, or if participants indicated the item was unclear, the item was either discarded or revised. Similarly, if the response to an attitude item on the questionnaires was 100% or nearly 100% in any one response category, or if the participants felt an item was ambiguous, it was revised or omitted.

After the revisions were completed, additional pilot testing was conducted at the first two of the 18 workshops since these responses would be more representative of the sample population. Following the same item analysis as described above, each item was assessed and minor revisions were made. The final test instrument consisted of 20 attitude items and 30 knowledge items (Appendix D).

Selection of Sample

The participants in the study included any person attending one of the 16 nutrition education workshops following the first two used as pilot tests. Although announcements had been sent, a number of

individuals participated who were invited by word of mouth from others. Since the focus of the study was home economics teachers, the final sample was broken down into two populations and analyzed separately. One group consisted of junior high school, senior high school, and community college home economics teachers. The other group included home economics extension personnel, food service workers, college students, dietitians, college faculty members, home economists in business, substitute teachers, and health teachers.

Data Collection

The pre-questionnaire was administered at the beginning of the workshop before any presentations were made on the four topics. The fact that it was a "pre"-questionnaire was not mentioned nor was any reference made to a "post"-questionnaire or "delayed" questionnaire. At the conclusion of the presentations, just before participants were allowed to inspect the teaching materials on display, they were asked to complete a post-questionnaire. Names and addresses taken from a sign-in sheet were used as the mailing list to send out the delayed questionnaire one month later.

Statistical Analysis

Scoring the questionnaires followed procedures recommended by Oppenheim (1966) and the Survey Research Center at Oregon State University. Attitude items were assigned a direction so that a positive attitude toward the topic (either fast foods, vegetarianism, weight control or food exchanges) was given a high score. Therefore, if the statement was written in a positive manner, five points were given

for "agree strongly", four points for "agree", three points for "uncertain", two points for "disagree" and one point for "disagree strongly". If the statement was written in a negative manner, then scoring was reversed, i.e., five points were given for "disagree strongly", four points for "disagree" and so on. Therefore the highest attitude score possible for each section or topic was the number of items in that section multiplied by five. Possible scores ranged from 20 to 30 points. A person's knowledge score was computed by giving one point for each correct answer. Possible scores for each knowledge section ranged from seven to nine points.

A computer analysis of the data was conducted with the aid of a consultant from the Computer Center at Oregon State University. The computer program Statistical Programs in the Social Science (Nie et al., 1975) was used for the analysis of all questionnaire items except the open-ended questions.

Paired t-tests were used to determine if there were any significant changes in knowledge or attitude in any of the four topic areas, (fast foods, vegetarianism, weight control, and food exchanges) as well as in overall knowledge (defined as the sum of the four individual scores) between pre- and post-scores, pre- and delayed scores, and post- and delayed scores. The mean score and standard deviation for each topic were calculated for each time period. The analysis was done for both home economics teachers and others.

A one-way analysis of variance was used to determine if any significant changes in the home economics teachers' overall knowledge were dependent upon the following: the number of years employed, the academic degree, the length of time since a college nutrition course

had been taken, the teacher's primary source of recent nutrition information, and attendance at a nutrition workshop within the past two years. To determine if these factors were independent of each other, each pair of factors was cross tabulated and a Chi² test was done.

Correlation coefficients were calculated for the home economics teachers' responses to find out if knowledge of a certain topic was correlated with attitude toward that topic within the same time period. For example, the correlation between the mean fast food knowledge score and the mean fast food attitude score was determined for each questionnaire. Frequency tables were set up to examine teacher response to questions regarding teaching experience and background as well as teacher reaction to the workshop itself.

RESULTS AND DISCUSSION

Workshop Participants

A total of 280 people attended the 18 workshops (Table 1). Since the questionnaires were pilot tested at the first two workshops, only the last sixteen workshops were included in the final evaluation. Therefore the potential sample size was 256. A total of 214 participants completed both pre- and post-questionnaires (Table 2). Of these, 138 (65%) were home economics teachers, either at a junior high school (25%), senior high school (31%), combination junior and senior high school (4%), or at a community college (5%).

A total of 137 participants from the 214 who had completed both the pre- and post-questionnaire returned the delayed questionnaire by mail approximately one month after the workshop (Table 2). This represents about a 64% return. The majority of the delayed questionnaires (69%) were from home economics teachers either at a junior high school (20%), senior high school (39%), combination junior and senior high school (4%) or at a community college (6%).

The home economics teachers varied in teaching experience, education, and nutrition background (Table 3). There were more teachers (35%) who had taught 0-3 years than any other group, although various time spans were represented. Most of the teachers had only bachelor degrees (80%) while some had master degrees (20%). Almost all of the teachers (93%) taught foods and nutrition as part of their home economics curriculum. Clothing and textiles, human development,

Table 1. Number of participants at workshops by location and occupation

| | Home Ec. Teachers: Jr. High School | Sr. High School | Jr. & Sr. High School | Community College | Extension Personnel | Food Service Workers | Dietition | Home Ecs. in Business College Faculty | College Students | Other Occupations | | |
|-------------------------------|---------------------------------------|-----------------|--------------------------|-------------------|---------------------|-------------------------|-----------|--|------------------|-------------------|-----------|------------|
| Workshops Used for Pilot Test | | | | | | | | | | | | |
| Oregon City | 4 | 3 | | | | | | | 1 | | | |
| Salem | 3 | 9 | | 1 | 1 | | | 1 | | 1 | | |
| Total | 7 | 12 | | 1 | 1 | | | 1 | 1 | 1 | 24 | |
| Workshops Used for Evaluation | | | | | | | | | | | | |
| Portland | 8 | 10 | | 1 | 1 | | 1 | 1 | 1 | 3 | | |
| Hillsboro | 5 | 9 | 1 | | 2 | | 1 | 1 | 6 | 1 | | |
| Lebanon | 3 | 4 | | | 1 | | | 2 | 2 | 1 | | |
| Newport | 2 | 3 | 1 | | 1 | | | 2 | 2 | 1 | | |
| Seaside | 2 | 3 | 3 | | | 16 | 1 | | | | | |
| The Dalles | 2 | 6 | 1 | | 1 | | | | | 4 | | |
| Redmond | 5 | 4 | | 1 | | | | | | 1 | | |
| Eugene | 10 | 7 | 3 | 1 | 1 | | 3 | 1 | 2 | 3 | | |
| Roseburg | 3 | 9 | | 3 | 2 | 2 | 3 | 1 | 1 | | | |
| Coos Bay | 2 | 7 | | 3 | 1 | | | | | | | |
| Grants Pass | 5 | 9 | | 1 | 1 | | | | | 1 | | |
| Klamath Falls | 3 | 3 | | | 1 | | | | | | | |
| Pendleton | 3 | 4 | 1 | | 3 | | | | | 2 | | |
| La Grande | 3 | 4 | | | 1 | | | | 1 | 1 | | |
| Ontario | 2 | 4 | | 1 | 1 | | | | | 1 | | |
| Burns | 1 | 2 | 1 | | 1 | | | | | | | |
| Total | 59 | 88 | 11 | 11 | 18 | 18 | 8 | 4 | 5 | 15 | 19 | 256 |

Table 2. Number of workshop participants
completing questionnaires

| | <u>Pre and Post</u> | | <u>Pre, Post, and Delayed</u> | |
|--------------------------------------|---------------------|----------|-----------------------------------|----------|
| | <u>Number</u> | <u>%</u> | <u>Number</u> | <u>%</u> |
| Home economics teachers | | | | |
| Junior High School | 53 | 25 | 28 | 20 |
| Senior High School | 66 | 31 | 53 | 39 |
| Combination Jr. & Sr. High School | 9 | 4 | 6 | 4 |
| Community College | 10 | 5 | 8 | 6 |
| Other | <u>76</u> | 35 | <u>42</u> | 31 |
| Total | 214 | | 137 | |

Table 3. Teaching experience, education, and nutrition background of home economics teachers completing pre- and post-questionnaires (n=138)

| <u>Years employed</u> | <u>Number</u> | <u>%</u> |
|--|---------------|----------|
| 0-3 | 48 | 35 |
| 4-6 | 25 | 18 |
| 7-10 | 28 | 20 |
| 11-15 | 16 | 12 |
| >15 | 21 | 15 |
| <hr/> | | |
| <u>Degree -highest</u> | | |
| bachelor | 110 | 80 |
| master | 28 | 20 |
| <hr/> | | |
| <u>Areas of home ec. taught</u> (more than one area could be checked by a teacher) | | |
| Foods & nutrition | 128 | 93 |
| Clothing & textiles | 113 | 82 |
| Human development | 85 | 62 |
| Family resource management | 69 | 50 |
| Living environments | 71 | 51 |
| <hr/> | | |
| <u>Years since last college nutrition course</u> | | |
| 0-3 | 45 | 33 |
| 4-6 | 33 | 24 |
| 7-10 | 28 | 20 |
| 11-15 | 8 | 6 |
| >15 | 24 | 17 |
| <hr/> | | |
| <u>Main source of recent nutrition information</u> | | |
| Newspapers, popular magazines, and books | 48 | 35 |
| Radio, TV | 0 | 0 |
| Professional journals | 36 | 26 |
| Colleagues | 7 | 5 |
| Other | 27 | 20 |
| Combination of the above | 20 | 14 |
| <hr/> | | |
| <u>Attendance at a nutrition education workshop within the last two years</u> | | |
| yes | 45 | 33 |
| no | 91 | 66 |
| no answer | 2 | 1 |

individual and family resource management, and living environments were all taught by at least 50% of the teachers.

One-third of the teachers had taken a college nutrition course within the last three years. About one-sixth (17%) had not had a college nutrition course for at least 15 years. The remainder had taken a college nutrition course from 3-15 years ago. When asked their one main source of recent nutrition information, about one-third (35%) of the teachers indicated newspapers, popular magazines, and paperbacks. Slightly over one-fourth (26%) indicated professional journals. Colleagues were given as a source of recent information by a few (5%) while no one answered radio or television. The fact that teachers often rely on popular sources for nutrition information has been brought out by other workers as well (Lovett et al., 1970; Eash and Rasher, 1976; Levine et al., 1979). The remainder either answered other sources or gave a combination of the above choices. Two-thirds of the teachers had not attended any other workshop, seminars, or conferences on nutrition in the last two years.

Workshop's Effect On Knowledge And Attitude

The workshop did have an influence on changing knowledge and attitudes. A comparison between the mean scores for knowledge and attitude in all four topic areas showed significant differences between the pre-, post-, and delayed questionnaire values in almost all cases. The values for home economics teachers and their levels of significance are shown in Tables 4, 5, 6 and 7.

Table 4. Change in knowledge and attitude scores of home economics teachers between pre- and post-questionnaire

| <u>Knowledge</u> | <u>n</u> | Possible Score | Pre mean ± SD | Post mean ± SD | Change ± SD | t value |
|---------------------|----------|----------------|------------------|-------------------|----------------|------------|
| Fast Food | 137 | 7.0 | 4.8±1.2 | 6.0±0.9 | 1.2±1.4 | 10.04** |
| Vegetarianism | 138 | 9.0 | 4.7±1.5 | 7.0±1.3 | 2.3±1.6 | 16.82** |
| Weight Control | 137 | 7.0 | 4.2±1.6 | 5.4±1.1 | 1.2±1.2 | 11.72** |
| Food Exchanges | 135 | 7.0 | 3.4±1.7 | 5.9±0.9 | 2.5±1.7 | 16.82** |
| Overall | 133 | 30.0 | 17.2±3.7 | 24.4±2.6 | 7.2±3.4 | 24.66** |
| <u>Attitude</u> | | | | | | |
| Fast Food | 137 | 25.0 | 15.9±3.2 | 16.9±3.1 | 1.0±2.7 | 4.41** |
| Vegetarianism | 138 | 30.0 | 20.2±3.3 | 20.8±3.3 | 0.6±2.6 | 2.53* |
| Weight Control | 137 | 25.0 | 17.4±2.7 | 18.8±2.1 | 1.4±2.5 | 6.34** |
| Food Exchange | 135 | 20.0 | 14.7±2.2 | 16.6±1.6 | 1.9±2.3 | 9.35** |

*p ≤ .05

**p ≤ .01

Table 5. Change in knowledge and attitude scores of home economics teachers between post- and delayed questionnaire

| <u>Knowledge</u> | <u>n</u> | Possible Post mean Score | ± SD | Delayed mean ± SD | Change ± SD | t value |
|---------------------|----------|-----------------------------|----------|-------------------------|----------------|------------|
| Fast food | 95 | 7.0 | 6.0±0.9 | 5.3±1.0 | -0.7±1.1 | -6.26** |
| Vegetarianism | 96 | 9.0 | 7.2±1.3 | 6.1±1.6 | -1.1±1.7 | -6.40** |
| Weight Control | 95 | 7.0 | 5.4±1.1 | 5.1±1.2 | -0.3±1.0 | -2.94** |
| Food Exchange | 95 | 7.0 | 6.0±0.9 | 5.2±1.1 | -0.8±1.4 | -5.44** |
| Overall | 93 | 30.0 | 24.7±2.7 | 21.9±3.4 | -2.8±3.1 | -8.64** |
| <u>Attitude</u> | | | | | | |
| Fast Food | 95 | 25.0 | 17.0±3.2 | 16.9±3.4 | -0.1±2.2 | -0.50 |
| Vegetarianism | 96 | 30.0 | 20.8±3.4 | 20.2±3.5 | -0.6±2.5 | -2.26* |
| Weight Control | 95 | 25.0 | 18.9±2.1 | 17.9±2.4 | -1.0±2.2 | -4.60** |
| Food Exchange | 95 | 20.0 | 16.6±1.7 | 15.6±2.1 | -1.0±1.8 | -5.57** |

*p ≤ .05

**p ≤ .01

Table 6. Change in knowledge and attitude scores of home economics teachers between pre- and delayed questionnaire

| <u>Knowledge</u> | <u>n</u> | Possible Score | Pre mean ± SD | Delayed mean ± SD | Change ± SD | t value |
|---------------------|----------|----------------|------------------|----------------------|----------------|------------|
| Fast Food | 96 | 7.0 | 4.7±1.3 | 5.3±1.0 | 0.6±1.3 | 4.71** |
| Vegetarianism | 96 | 9.0 | 4.8±1.5 | 6.1±1.6 | 1.3±1.8 | 6.88** |
| Weight Control | 95 | 7.0 | 4.3±1.5 | 5.1±1.2 | 0.8±1.2 | 6.55** |
| Food Exchange | 95 | 7.0 | 3.4±1.7 | 5.2±1.1 | 1.8±1.7 | 10.22** |
| Overall | 94 | 30.0 | 17.5±3.7 | 21.9±3.4 | 4.4±3.6 | 12.05** |
| <u>Attitude</u> | | | | | | |
| Fast Food | 96 | 25.0 | 16.0±3.1 | 16.9±3.3 | 0.9±2.6 | 3.23** |
| Vegetarianism | 96 | 30.0 | 20.2±3.3 | 20.2±3.5 | 0.0±2.2 | 0.05 |
| Weight Control | 95 | 25.0 | 17.5±2.6 | 17.9±2.4 | 0.4±2.5 | 1.52 |
| Food Exchange | 95 | 20.0 | 14.7±2.2 | 15.6±2.1 | 0.9±2.4 | 3.67** |

**p ≤ 0.1

Table 7. Direction and significance of change in knowledge and attitude scores of home economics teachers between pre-, post-, and delayed questionnaire

| Knowledge | Pre to Post | Post to Delayed | Pre to Delayed |
|-----------------|-------------|-----------------|----------------|
| Fast Food | ** + | ** - | ** + |
| Vegetarianism | ** + | ** - | ** + |
| Weight Control | ** + | ** - | ** + |
| Food Exchange | ** + | ** - | ** + |
| Overall | ** + | ** - | ** + |
| <u>Attitude</u> | | | |
| Fast Food | ** + | - | ** + |
| Vegetarianism | * + | * - | + |
| Weight Control | ** + | ** - | + |
| Food Exchange | ** + | ** - | ** + |

*p \leq .05

**p \leq .01

The mean scores for all areas of knowledge (fast foods, vegetarianism, weight control, food exchanges, and overall knowledge) increased significantly ($p \leq .01$) from the pre- to the post-questionnaire (Table 4). A significant amount of knowledge ($p \leq .01$) was lost one month later (Table 5). In spite of this loss, the mean score one month later was still significantly higher ($p \leq .01$) than the pre-questionnaire score. (Table 6). In other words, the workshop did have an effect on increasing teachers' knowledge in the four topic areas presented and a significant amount of that knowledge was retained one month later (Table 7). Other nutrition education programs of longer duration have demonstrated an increase in nutrition knowledge of teachers from pre- to post-test, however the retention of this information over a period of time was not measured (Lovett et al., 1970; Grogan, 1978).

The mean scores for all areas of attitude measured (fast foods, vegetarianism, weight control, and food exchanges) increased significantly from the pre- to post-questionnaire ($p \leq .01$ except for vegetarianism where $p \leq .05$) (Table 4). With the exception of fast foods, a significant drop in attitude score ($p \leq .05$ for vegetarianism and $p \leq .01$ for weight control and food exchanges) occurred one month later (Table 5). For two areas of attitude, fast foods and food exchanges, the scores one month later were still significantly higher ($p \leq .01$) than the original scores on the pre-questionnaire (Table 6). For the other two areas of attitude, vegetarianism and weight control, the scores one month later were not significantly higher than the

pre-questionnaire scores. Although the workshop did have an effect on changing attitudes after a three-hour period, the change was not necessarily retained after one month (Table 7).

Similar results were found for non-home economics teachers (Tables 8, 9, 10, and 11). For all areas of knowledge, the mean scores were significantly higher ($p \leq .01$) on the post-questionnaire than the pre-questionnaire (Table 8). Except for vegetarianism, there was a significant drop in knowledge scores ($p < .05$ for fast food and weight control knowledge and $p \leq .01$ for food exchange knowledge and overall knowledge) one month later (Table 9). However, the knowledge scores on the delayed questionnaire were still significantly higher ($p \leq 0.1$) than the original scores on the pre-questionnaire (Table 10).

For the group of non-home economics teachers, the mean scores for all areas of attitude increased significantly ($p \leq .05$ for fast foods and $p \leq .01$ for food exchanges, weight control, and vegetarianism) from pre- to post-questionnaire (Table 8). Only in the case of food exchange attitude was there a significant drop ($p \leq .05$) in attitude score one month later (Table 9). However, when comparing the delayed questionnaire scores with the pre-questionnaire scores, vegetarianism attitude was the only area where there was a significant difference ($p \leq .05$) (Table 10). The overall change in knowledge and attitude scores for the non-home economics teachers is shown in Table 11.

Table 8. Change in knowledge and attitude scores of non-home economics teachers between pre- and post-questionnaire

| <u>Knowledge</u> | <u>n</u> | Possible Score | Pre Mean ± SD | Post Mean ± SD | Change ± SD | t value |
|---------------------|----------|----------------|------------------|-------------------|----------------|------------|
| Fast Food | 76 | 7.0 | 4.6±1.5 | 5.8±1.0 | 1.2±1.4 | 7.43** |
| Vegetarianism | 76 | 9.0 | 5.1±1.7 | 7.0±1.5 | 1.9±1.5 | 11.23** |
| Weight Control | 76 | 7.0 | 4.2±1.7 | 5.2±1.3 | 1.0±1.2 | 8.02** |
| Food Exchange | 76 | 7.0 | 4.3±1.7 | 6.0±0.9 | 1.7±1.6 | 9.35** |
| Overall | 76 | 30.0 | 18.2±4.6 | 24.0±3.4 | 5.8±3.2 | 16.04** |
| <u>Attitude</u> | | | | | | |
| Fast Food | 76 | 25.0 | 16.0±3.5 | 16.6±3.0 | 0.6±2.5 | 2.20* |
| Vegetarianism | 76 | 30.0 | 19.7±3.8 | 20.7±4.0 | 1.0±2.6 | 3.50** |
| Weight Control | 76 | 25.0 | 16.9±4.5 | 18.7±2.6 | 1.8±4.4 | 3.55** |
| Food Exchange | 76 | 20.0 | 16.1±2.1 | 16.8±1.7 | 0.7±2.1 | 2.79** |

* $p \leq .05$

** $p \leq .01$

Table 9. Change in knowledge and attitude score of non-home economics teachers between post- and delayed questionnaire

| <u>Knowledge</u> | <u>n</u> | Possible Score | Post Mean \pm SD | Delayed Mean \pm SD | Change \pm SD | t value |
|---------------------|----------|----------------|--------------------|-----------------------|-----------------|---------|
| Fast Food | 41 | 7.0 | 5.6 \pm 1.1 | 5.3 \pm 1.1 | -0.3 \pm 0.9 | -2.40* |
| Vegetarianism | 41 | 9.0 | 7.0 \pm 1.4 | 6.9 \pm 1.2 | -0.1 \pm 1.1 | -0.83 |
| Weight Control | 41 | 7.0 | 5.2 \pm 1.4 | 4.9 \pm 1.3 | -0.3 \pm 0.8 | -2.50* |
| Food Exchange | 41 | 7.0 | 5.9 \pm 1.0 | 5.4 \pm 1.5 | -0.5 \pm 1.3 | -2.71** |
| Overall | 41 | 30.0 | 23.9 \pm 3.6 | 22.6 \pm 3.7 | -1.3 \pm 2.1 | -3.97** |
| <u>Attitude</u> | | | | | | |
| Fast Food | 41 | 25.0 | 16.4 \pm 2.0 | 16.4 \pm 3.4 | -0.0 \pm 2.4 | -0.13 |
| Vegetarianism | 41 | 30.0 | 20.2 \pm 4.2 | 20.1 \pm 4.2 | -0.1 \pm 1.9 | -0.49 |
| Weight Control | 41 | 25.0 | 18.3 \pm 2.5 | 17.9 \pm 2.7 | -0.4 \pm 2.0 | -1.37 |
| Food Exchange | 41 | 20.0 | 16.7 \pm 1.6 | 16.3 \pm 1.4 | -0.4 \pm 1.1 | -2.11* |

*p \leq .05

**p \leq .01

Table 10. Change in knowledge and attitude scores of non-home economics teachers between pre- and delayed questionnaires

| <u>Knowledge</u> | <u>n</u> | Possible Score | Pre Mean ± SD | Delayed Mean ± SD | Change ± SD | t value |
|---------------------|----------|----------------|------------------|----------------------|----------------|------------|
| Fast Food | 41 | 7.0 | 4.6±1.5 | 5.3±1.1 | 0.7±1.4 | 3.15** |
| Vegetarianism | 41 | 9.0 | 5.2±1.5 | 6.9±1.2 | 1.7±1.4 | 7.49** |
| Weight Control | 41 | 7.0 | 4.3±1.5 | 5.0±1.3 | 0.7±0.8 | 5.15** |
| Food Exchange | 41 | 7.0 | 4.2±1.3 | 5.4±1.5 | 1.2±1.7 | 4.45** |
| Overall | 41 | 30.0 | 18.3±3.8 | 22.5±3.7 | 4.2±2.9 | 9.27** |
| <u>Attitude</u> | | | | | | |
| Fast Food | 41 | 25.0 | 15.9±3.4 | 16.4±3.4 | 0.5±2.6 | 1.35 |
| Vegetarianism | 41 | 30.0 | 19.3±4.2 | 20.1±4.2 | 0.8±2.3 | 2.08 * |
| Weight Control | 41 | 25.0 | 17.4±5.4 | 17.9±2.7 | 0.5±5.7 | 0.54 |
| Food Exchange | 41 | 20.0 | 16.2±2.0 | 16.4±1.4 | 0.2±1.7 | 0.81 |

*p ≤ .05

**p ≤ .01

Table 11. Direction and significance of change in knowledge and attitude scores of non-home economics teachers between pre-, post-, and delayed questionnaires

| | Pre to Post | Post to Delayed | Pre to Delayed |
|---------------------|-------------|-----------------|----------------|
| Fast Food | +** | -* | +** |
| Vegetarianism | +** | - | +** |
| Weight Control | +** | -* | +** |
| Food Exchange | +** | -** | +** |
| Overall | +** | -** | +** |
| <u>Attitude</u> | | | |
| Fast Food | +* | - | + |
| Vegetarianism | +** | - | +* |
| Weight Control | +** | - | + |
| Food Exchange | +** | -* | + |

*p \leq .05

**p \leq .01

Factors Affecting Change in Knowledge

For the most part, the significant changes in the home economics teachers' overall knowledge were not dependent upon any of the following factors: the number of years employed, the academic degree, the length of time since a college nutrition course had been taken, the main source of recent nutrition information, or attendance at a nutrition workshop within the past two years (Table 12). There were only two exceptions. The change in overall knowledge score from the post- to the delayed questionnaire was dependent upon the number of years employed, and the change in overall knowledge score from pre- to post-questionnaire was dependent upon the source of recent nutrition information.

When examining the relationship between factors affecting change in overall knowledge score, it was found that the number of years employed was not independent of either the academic degree or the length of time since the last college nutrition course (Table 13). Therefore, it cannot be assumed that the number of years employed is an independent factor influencing the change in score. Similarly, the teachers' main source of recent nutrition information was not independent of the attendance at a nutrition workshop so again, it cannot be assumed as the sole influence on the change in overall knowledge score. It was noted that these two factors influenced change in overall knowledge scores in only one out of three possible time periods (pre- to post-, post- to delayed, and pre- to delayed). Overall then, it would seem that there is not one type of teacher that

Table 12. Factors affecting change in overall knowledge score of home economics teachers

| | <u>Change in overall knowledge score</u> | | |
|--|--|------------------------|-----------------------|
| | <u>pre to post</u> | <u>post to delayed</u> | <u>pre to delayed</u> |
| Number of years employed | N.S. | * | N.S. |
| Academic degree | N.S. | N.S. | N.S. |
| Last college nutrition course | N.S. | N.S. | N.S. |
| Source of nutrition information | ** | N.S. | N.S. |
| Previous nutrition workshop attendance | N.S. | N.S. | N.S. |

N.S. not significant

* $p < .05$

** $p < .01$

Table 13. Relationships between factors affecting change in overall knowledge scores of home economics teachers

| | Number of years employed | Academic degree | Source of nutrition information | Last college nutrition course |
|---|--------------------------------|--------------------|---------------------------------------|-------------------------------------|
| Academic degree | ** | | | |
| Source of nutrition informa- tion | N.S. | N.S. | | |
| Last college nutrition course | ** | N.S. | N.S. | |
| Previous nutrition workshop attendance | N.S. | N.S. | * | N.S. |

N.S. not significant

*p < .05

**p < .01

benefited most in terms of an increase in knowledge both immediately after the workshop and one month later.

Correlations between Knowledge and Attitude

Some positive correlations were found between knowledge and attitude scores for the home economics teachers (Table 14). For two of the topics, vegetarianism and weight control, there was some correlation between knowledge and attitude although not consistently for all three time periods. Vegetarianism knowledge and attitude scores were significantly correlated ($p \leq .05$) on both the pre- and delayed questionnaires, but not on the post-questionnaire. Weight control knowledge and attitude scores were significantly correlated on the post-questionnaires ($p \leq .05$) and on the delayed questionnaire ($p \leq .01$). There was no significant correlation between fast food knowledge and fast food attitude or between food exchange knowledge and food exchange attitude on any of the questionnaires. This would indicate that for the last two topics, and in some cases for the first two, a teacher with a high knowledge score will not necessarily have a positive attitude toward the topic. Thus, a person could be very knowledgeable about the nutritional value of fast foods and yet not think too highly of fast foods themselves. Another person may be just as knowledgeable about fast food nutrition and at the same time think highly of them. Therefore,

Table 14. Correlation coefficients between home economics teachers' knowledge and attitude mean scores for each topic at three time periods

| <u>Knowledge vs Attitude</u> | <u>Beginning of Workshop</u> | <u>End of Workshop</u> | <u>One month after Workshop</u> |
|------------------------------|------------------------------|------------------------|---------------------------------|
| Fast Food | 0.02 | 0.01 | -0.03 |
| Vegetarianism | 0.21* | 0.07 | 0.24* |
| Weight Control | 0.10 | 0.21* | 0.28** |
| Food Exchange | 0.10 | -0.01 | 0.16 |

*p \leq .05

**p \leq .01

when all teachers were considered together, no consistent trend would be shown.

The fact that knowledge of and attitude toward a subject did not necessarily correlate has been shown in other studies. Little relationship was found between elementary teachers' knowledge of nutrition and attitude toward teaching nutrition (Peterson and Kies, 1972). However, Schwartz (1975) did a study of high school graduates and found nutrition knowledge significantly correlated to their attitude toward food and nutrition.

Teacher Reaction to the Workshop

The teachers' reaction to the workshop was overwhelmingly positive (Table 15). Ninety-eight teachers (71%) felt the workshop was "very useful" while 38 teachers (28%) felt it was "somewhat useful." Only two teachers (1%) felt the workshop was "not too useful" and no one responded that it was "not at all useful." When asked to indicate how or in what way the workshop was useful to them, the following comments were noted as being typical. "(The workshop was) a good refresher for me as well as gave me new material in fast foods, vegetarianism, and food exchanges." "(I) learned some new methods for presenting nutrition information and was introduced to several excellent filmstrips/tapes." "(I) now have current sources of up-to-date information at my fingertips in the bibliography." "DiETING and fast foods are of major concern to my students and I needed the reinforcement of review in

Table 15. Home economics teachers' responses to the workshop (n=138)

| | <u>number</u> | <u>%</u> |
|---|---------------|----------|
| <u>How useful was the workshop?</u> | | |
| very useful | 98 | 71 |
| somewhat useful | 38 | 28 |
| not too useful | 2 | 1 |
| not at all useful | 0 | 0 |
| <u>Would you recommend the workshop to your colleagues?</u> | | |
| yes | 136 | 99 |
| no | 0 | 0 |
| no answer | 2 | 1 |
| <u>Was the workshop held at a convenient hour?</u> | | |
| yes | 127 | 92 |
| no | 11 | 8 |
| <u>If not at a convenient hour, which would you attend?</u> | | |
| Saturday a.m. | 2 | 1 |
| earlier in the day | 2 | 1 |
| 3:30 p.m. | 1 | 1 |
| 4:30-7:30 p.m. | 1 | 1 |
| 5:00-7:30 p.m. | 1 | 1 |
| 6:00-9:00 p.m. | 1 | 1 |
| 7:00-10:00 p.m. | 2 | 1 |
| (answered it was convenient) | (128) | (93) |
| <u>Was the workshop the right length?</u> | | |
| just right | 121 | 88 |
| too short | 14 | 10 |
| too long | 1 | 1 |
| no answer | 2 | 1 |
| <u>If not long enough which would you attend?*</u> | | |
| all day in-service | 12 | 9 |
| all day Saturday | 3 | 2 |
| 3 hrs/wk/4 weeks | 1 | 1 |
| one week during summer | 4 | 3 |
| other | 2 | 1 |
| (answered "right length") | (121) | (88) |

*a person could check more than one response therefore percent does not equal 100

these areas." When asked if they would recommend the workshop to their colleagues, 136 teachers (99%) answered yes. The remaining two teachers did not answer the question.

The teachers' enthusiasm for the workshop would seem to contradict the finding that the workshop format is not so well-received by teachers (Zigarmi et al., 1977). However, the teachers' reaction is in agreement with findings of those who specifically looked at nutrition education workshops (McDonald and Owen, 1970; Eash and Rasher, 1976; Henneman et al., 1976; Cook et al., 1977; Skinner, 1979). In all cases, a nutrition education workshop was named by teachers as a desirable method of in-service education.

The time of day and the length of the workshop also appealed to the majority of the teachers. A total of 127 teachers (92%) felt the workshop was held at a convenient hour. Those who did not feel it was at a convenient hour would have preferred it either later in the day or on a Saturday morning (4:30, 5:00, 6:00, and 7:00 p.m. were suggested starting times). The workshop was "just the right length" for 121 teachers (88%), while too short for 14 teachers (10%). One teacher felt it was too long, and two teachers did not respond. An all-day in-service program was the top choice for those who felt it was too short although a few said they would also attend an all-day workshop on a Saturday or a one-week summer workshop.

Incorporation of Workshop Information and Materials into Classroom Teaching

When asked if they had used any materials or information from the

workshop in their work within the last month, of those who returned the delayed questionnaire, 49 teachers (51%) responded that they had, and 47 teachers (49%) responded that they had not. Their response seems high in light of the fact that one month is a relatively short time for a teacher to integrate new curriculum. This would be especially true for the last month of the school year as was the case for many of the participants. Some of the ways they had incorporated materials or information were explained in open-ended comments such as: "(I have) used (what I learned) as background information in discussions. I have also ordered some of the reference materials and have used those."; "(I) ordered the two filmstrips. (I have used) the amino acid information to support my protein lecture"; "(I) began the explanation of food exchange groups. I also held a discussion in Foods class about fast foods and how the students could choose a nutritional meal."

When asked if they planned to incorporate any workshop materials or information in their work in the future, 91 teachers (95%) answered yes, three teachers (three percent) answered no, and two teachers did not respond. Ways in which they planned to use the information and materials in the future were some of the following: "I have written to and received information from the fast food companies which I plan to use in class."; "I've ordered some of the audio-visual material you showed and will use them. I plan to use the exchange list handout in my nutrition class."; "I plan to use the snack idea and the information concerning vegetarianism."; "I

would like to do more using the food exchange tables with my students who are constantly going on some 'diet'."

Although other studies have shown that teachers often feel there is a minimal transfer of information and skills from an in-service program to the classroom (Brimm and Tollett, 1974), the degree of incorporation found in the present study was high. When follow-up evaluation was done for other nutrition education programs, similar results were found (Sodowsky, 1973; Cooper and Philp, 1974; Grogan, 1978). All three studies found that over half of the teachers who participated in in-service nutrition education programs were utilizing information and materials in their classroom.

SUMMARY AND CONCLUSIONS

A three-hour nutrition education workshop was conducted for home economics teachers in 18 locations throughout Oregon. The purpose of this study was to evaluate the effectiveness of the workshop in terms of changes in knowledge of and attitude toward the four topics presented. The topics were fast foods, vegetarianism, weight control, and food exchanges. Possible factors affecting change in knowledge such as teaching experience, education, and nutrition background were examined. In addition, teacher reaction to the usefulness of the workshop and the degree of incorporation of information and material from the workshop into classroom teaching were measured. A total of 138 home economics teachers participated in the study.

It was found that a three-hour nutrition education workshop can make statistically significant positive changes in both knowledge and attitude. The mean scores for all areas of knowledge and attitude measured in this study were significantly higher immediately after the three-hour time period. After one month, these changes were retained to a significant degree for all areas of knowledge, but for only two areas of attitude, fast foods and food exchanges. For two topics, vegetarianism and weight control, the significant change in attitude immediately after the workshop was not present one month later.

There did not appear to be one type of teacher that benefited most in terms of an increase in knowledge from the workshop. In general, the number of years employed, the academic degree, the length of time since a college nutrition course had been taken, the

main source of recent nutrition information and attendance at a nutrition education workshop within the past two years had no effect on change in knowledge.

The teacher reaction to the usefulness of the workshop was overwhelmingly positive. Ninety-nine percent of the teachers indicated that they found the workshop either very useful or somewhat useful and would recommend it to their colleagues. The workshop was also held at a convenient hour and was the right length for approximately 90% of the teachers. At least from the teachers' perspective, it would seem that a three-hour after school workshop can be a practical format for in-service education.

Sixty-four percent of the teachers returned the questionnaire given one month later. Over half (51%) indicated that they had already used some of the material and information from the workshop in their classroom teaching. Almost all (95%) of the teachers indicated they planned to incorporate workshop information and materials into their future work.

The positive changes that occurred in knowledge and attitude show that this type of workshop can be an effective means of nutrition education. However, to conclude that all types of home economics teachers can benefit from this workshop may be misleading. It must be kept in mind that the participants at the workshop came voluntarily and without compensation for their time. It seems logical to assume that their interest in improving their nutrition knowledge and teaching skills may be higher than the majority of

those who did not attend. The increase in knowledge of this group of teachers, who presumably were highly motivated to learn, could be greater than if a true random sample of teachers had attended the workshop.

Even with a motivated audience, it should not be assumed that all three-hour, after school workshops will be effective. This workshop had certain elements that helped contribute to its success. These included the assessment of teachers' needs in advance, the careful planning and organization of the three-hour time block, the pace and variety of activities provided, and the degree of teacher involvement. Consideration must be given to such factors in planning an in-service workshop.

Too often an evaluation of an in-service program is done only immediately after the program and no follow-up is implemented. The real test of a program is if there are lasting results. The evaluation indicates that not only can a three-hour nutrition education workshop be considered a success immediately following it, but a positive impact can still be measured one month later.

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APPENDICES

Appendix A

Workshop Announcement



NUTRITION EDUCATION INSERVICE

Coordinated by Dr. Jane Promnitz
Home Economics Education, Oregon State University
Consumer - Homemaking Funded Project
Oregon Department of Education



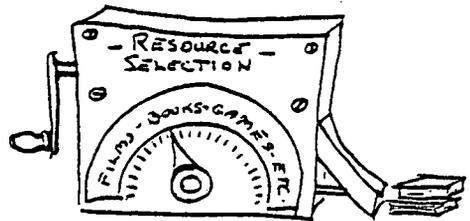
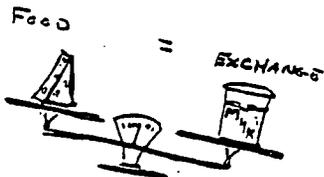
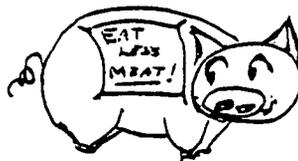
Nutrition education workshops will be held in 18 locations in Oregon this spring. A survey of 20% of Oregon home economics teachers has determined that the topics to be covered will include: recent research in nutrition, nutritional needs of pregnant teenagers, weight control, the fast food phenomenon, less meat-centered diets, and food exchange groups -- an easy way to estimate what you're eating.



A variety of teaching techniques which have proved successful in teaching nutrition to junior and senior high students will be demonstrated. Current resources will be available for review accompanied by an annotated bibliography providing information needed for ordering the resources you will be viewing. An update on research findings for each of the topics will be included. Please bring your Oregon curriculum guide, Nutrition and Foods, to the workshop with you.



In order to have sufficient materials available we must know in advance which workshop you plan to attend. Dates, times, and locations are listed on the back of this page. Please complete the enclosed card and return it immediately. See you this spring!



NUTRITION EDUCATION WORKSHOPS

Spring, 1979

| DAY AND DATE | TIME | LOCATION* |
|----------------|--------------|--|
| Tues., Feb. 13 | 4:00-7:00 pm | Moss Junior High School, 19761 S. Beavercreek Rd., Oregon City |
| Thur., Feb. 15 | 4:00-7:00 pm | Bldg. 22, Rm. 125, Chemeketa Comm. Col., 4000 Lancaster Or., Salem |
| Tues., Feb. 27 | 4:00-7:00 pm | Rm. 65B, Madison High School, 2735 NE 82nd, Portland |
| Wed., Feb. 28 | 4:00-7:00 pm | Hillsboro Senior High School, 3285 SW Rood Bridge Rd., Hillsboro |
| Thur., Mar. 1 | 4:00-7:00 pm | Lebanon Union High School, S. 5th St., Lebanon |
| Mon., Mar. 12 | 4:00-7:00 pm | OSU Marine Science Center Meeting Room, South Beach, Newport |
| Thur., Mar. 15 | 4:00-7:00 pm | Seaside High School, 1901 N. Holladay, Seaside |
| Tues., Mar. 27 | 6:00-9:30 pm | The Dalles High School, 10th and Washington St., The Dalles |
| Thur., Mar. 29 | 4:00-7:00 pm | Redmond High School, 675 SW Rimrock Or., Redmond |
| Mon., Apr. 9 | 4:00-7:00 pm | Winston Churchill High School, 1850 Bailey Hill Rd., Eugene |
| Tues., Apr. 10 | 4:00-7:00 pm | Indian Room, Umpqua Community College, Roseburg |
| Wed., Apr. 11 | 4:00-7:00 pm | Oelwood 21, Southwestern Oregon Community College, Coos Bay |
| Tues., Apr. 17 | 4:30-7:30 pm | Grants Pass High School, 522 NE Olive St., Grants Pass |
| Thur., Apr. 19 | 4:00-7:00 pm | Henley High School, 8245 Highway 39, Klamath Falls |
| Mon., Apr. 30 | 4:00-7:00 pm | Pendleton High School, 1800 NW Carden, Pendleton |
| Tues., May 1 | 4:00-7:00 pm | La Grande Middle School, 4th and M St., La Grande |
| Wed., May 2 | 4:00-7:00 pm | Ontario Jr. High School, 521 SW 3rd Ave., Ontario |
| Thur., May 3 | 4:00-7:00 pm | Burns Union High School, 1100 Oregon Ave., Burns |

FOR FURTHER INFORMATION CONTACT DR. JANE PROMNITZ AT:

Home Economics Education
 #20 Milam Hall
 Oregon State University
 Corvallis, OR 97331
 (Phone: 754-3101)

27 Prairie View Or.
 Aurora, OR 97002
 (Phone: 678-1751)

OR

*Meetings will be held in the home economics department unless indicated otherwise.

Appendix B

Letter sent to random sample of
Home Economics Teachers

School of Education
Vocational-Technical
Division



Corvallis, Oregon 97331

December 1, 1978

Dear Home Economics Teacher:

Please help us plan the Nutrition Education Workshops to be held in 18 areas of the state this spring. They should meet your needs! We are surveying only a sample of the home economics teachers in Oregon, so your response is extremely important.

At your request (via the in-service questionnaire last spring), the emphasis will be on teaching techniques for a variety of areas in nutrition education, but there are so many areas of nutrition education we must limit ourselves. Please complete the enclosed form by ranking the three topics that would be most helpful to you. We don't promise to include every area you rank, but popular vote will help make this a more relevant educational experience.

If you have any materials or teaching ideas for nutrition education that you are willing to share please send them to us. Thanks for your cooperation. You'll be hearing from us again after Christmas as to what you've decided will be included in the workshops. See you in the spring!

Sincerely,

A handwritten signature in cursive script that reads "Jane Promnitz".

Jane Promnitz
Assistant Professor
Home Economics Education

A handwritten signature in cursive script that reads "Christina Stark".

Christina Stark
Graduate Assistant
Home Economics Education

enclosure
jmp

DIRECTIONS: Indicate the three (3) topics you would most like to see included in the workshop. Place 1 in the blank beside your first choice, 2 for your next choice, and 3 for your final choice. MARK ONLY THREE CHOICES, then fold, staple or tape, and mail immediately.

_____ Recent Research in Nutrition (Suggested Area: _____)

_____ Teenage Pregnancy and Nutrition

_____ Weight Control -- Fad Diets

_____ The Fast Food Phenomenon

_____ Food Additives

_____ Nutrition for the Athlete

_____ Toward a Less Meat-Centered Diet

_____ Food Exchange Groups -- An Easy Way to Estimate What You're Eating

_____ Retaining the Nutritive Value of Food

_____ Other (Please Specify) _____

Appendix C

A Three-Hour Nutrition Education Workshop
for Home Economics Teachers

A Three-Hour Nutrition Education Workshop
for Home Economics Teachers

The selection of nutrition education as the topic for an in-service workshop was based on a needs assessment conducted in the spring of 1978. Twenty percent of the home economics teachers in Oregon were surveyed to determine which specific topics in nutrition would be dealt with in the workshop. The topics identified were vegetarianism, weight control, food exchanges, fast foods, and teenage pregnancy (no presentation was done on teenage pregnancy during the workshop due to time limitations). A variety of teaching materials pertinent to these topics was ordered.

The goals of the workshop were: 1) to provide nutrition information; 2) to demonstrate techniques for teaching various nutrition topics; and 3) to familiarize the participants with a variety of instructional materials suitable for nutrition education in the classroom. The general plan for the workshop is shown on the following page.

Except for a few workshops where other arrangements were necessary, all workshops were held in the home economics classroom of the hosting junior or senior high school or community college. Tables and countertops were used for displaying materials and serving the snack. Wherever possible, the teachers were seated with access to a writing surface so they could fill out the questionnaires and worksheets and take notes if desired. Visibility of the screen for

General Plan of the Three-Hour Workshop

| | <u>Approximate time</u> (minutes) |
|---|--------------------------------------|
| I. Introduction | |
| A. Participants signed in listing name and address on sheet provided | 5 |
| B. Welcome, introductions | 5 |
| C. Handout and explanation of bibliography | 5 |
| D. Completion of pre-questionnaire | 15 |
| II. Vegetarianism | |
| A. General discussion | 5 |
| B. Filmstrip | 20 |
| C. Explanation of complementary proteins | 5 |
| D. Snack break | 15 |
| III. Weight Control - Food Exchange Groups | |
| A. Filmstrip | 20 |
| B. Explanation of food exchange groups | 10 |
| C. Meal-planning using food exchange groups | |
| 1. Explanation (magnetic chalkboard) | 20 |
| 2. Practice (worksheet) | 10 |
| IV. Fast Foods | |
| A. Slides | 5 |
| B. General discussion | 10 |
| V. Closing | |
| A. Completion of post-questionnaire | 15 |
| B. Inspection of resources on display | 15 |

viewing the filmstrips and slides was also a consideration in the seating arrangement.

Each hostess teacher was asked to provide the following equipment:

Electric coffee urn filled with hot water
 Easel with ledge (to hold magnetic chalkboard)
 Filmstrip projector
 Stand for projector
 Screen

The remaining materials were taken to each workshop location and consisted of the following

Equipment

Carousel slide projector (with extra bulb)
 Cassette tape recorder
 Extension cord (25 foot)
 Magnetic chalkboard (see presentation section in weight control/food exchange lesson for details on construction)
 Strips of posterboard with magnetic tape on back
 Chalk
 Sponge (used for erasing chalkboard)
 Labels for each resource display table
 (Sign saying "Fast Foods", "Vegetarianism", etc.)
 Name tags, marking pens, sign-in sheets

Food items for snack

Whole wheat crackers, peanut butter, cheese cubes, sunflower seeds, carrot sticks, apple slices, coffee,

tea, hot chocolate (all instant), non-dairy creamer,
sugar

Equipment needed for serving snack

Large paper plates with basket type holders (for serving)

Plastic bowls (for serving)

Small paper plates (for eating)

Napkins

Styrofoam cups

Plastic spoons (for beverages)

Plastic knives (for serving peanut butter)

Spatula (for scooping out peanut butter from jar)

Vegetable peeler (for carrots)

Cutting board

Knife (to cut apples and carrots)

Plastic container with lid (for cut-up apples placed in
salt water to prevent browning)

Salt (for apples)

Slotted spoon (to remove apples from water)

Toothpicks (for cheese cubes)

Plastic bags (to transport cheese and carrots)

Plastic wrap (to cover food before serving)

Cooler and "blue ice" (for transporting perishables)

Red and white checked tablecloth (for decoration)

Picnic basket (for decoration)

Materials given to workshop participants (examples follow lesson plans)

1. "Nutrition Education. A Selected Bibliography. Fast Foods, Teenage Pregnancy, Vegetarianism, Weight Control." Compiled by Jane Lewis Promnitz, Home Economics Education, Oregon State University, 1979.
2. "All You Ever Wanted to Know About Vegetarian Diets - But Were Afraid to Ask." Oregon State University Extension Service. SP 12-151, 2/76. (2 pages)
3. "Complementing Your Proteins", Oregon State University Extension Service, SP 50-162, Rev. 1/79. (2 pages)
4. Food Exchange Groups (untitled) adapted for use in weight control lesson, originally back to back on one sheet of paper.
5. "Food Exchange Lists" - description of how to use these .
6. "1200 Calorie Meal Plan" (exercise to test knowledge of food exchanges).
7. Pre-questionnaire (Appendix D).
8. Post-questionnaire (Appendix D).

Teaching resources (for display)

One copy of each resource listed in "Nutrition Education. A Selected Bibliography" - includes filmstrips and slides used in presentations. See lesson plans for specific resources needed for each topic.

The approximate format used to present each topic is contained in the following lesson plans. Specific resources needed for each topic are taken from the overall list of resources used at the workshop.

Lesson: Vegetarianism

Objectives: To help the participants:

- a) name reasons why people are vegetarians.
- b) distinguish between lacto-ovo and total vegetarians
- c) define complementary proteins
- d) select complementary proteins from a group of snack foods.

Resources: Filmstrip set "Vegetarianism in a Nutshell"
(Complete reference page 95 in "Nutrition Education A Selected Bibliography", Appendix C)
"Complementing Your Proteins" (pages 101-102, Appendix C)
"Everything You've Always Wanted to Know About Vegetarian Diets" (pages 99-100, Appendix C)
Food items for snack (detailed list pages 74-75, Appendix C)
Equipment needed to serve snack (detailed list, page 75 Appendix C)

Optional

Display of materials listed in
"Nutrition Education - A Selected Bibliography"
pertaining to Vegetarianism (pages 94-95, Appendix C)

Advance Preparation: Set up filmstrip and cassette. Prepare food for snack and set out ready to serve covered with plastic wrap.

Presentation: 45 minutes

Introduction:

(Begin group discussion.)

Is anyone a vegetarian?

Does anyone know any vegetarians?

What are your/their reasons for being a vegetarian?

Reasons include economy, health, religion, ethics, and ecology.

(Show filmstrip - "Vegetarianism in a Nutshell")

(Distribute handouts: "Everything You've Always Wanted to Know About Vegetarian Diets" and "Complementing Your Proteins". Discuss main points.)

Generalizations:

1. Vegetarianism can be a nutritionally sound way of eating.
2. A lacto-ovo vegetarian diet includes milk, milk products, and eggs as well as plant foods.
3. A total vegetarian diet needs to be supplemented with a source of vitamin B₁₂.
4. A protein food low in an essential amino acid can be combined with a protein food rich in that amino acid to make a complete or complementary protein.
5. Legumes and grains are examples of two groups of foods that form complementary proteins when eaten together.

Other examples of complementary protein groups are listed on the "Complementing Your Proteins" handout. Note which two boxes are not connected by arrows (grains and nuts and seeds). Note where peanuts are located (legumes).

(Explain snack as learning activity. Foods chosen here are only suggestions - many others are possible).

To practice choosing complementary proteins, there will be a snack. Please number off (participants sound off 1, 2, 3, etc.). Those with odd numbers will be total vegetarians for the snack and those with even numbers will be lacto-ovo vegetarians.

Before proceeding with the snack, who will be able to eat which foods? The snack consists of whole-wheat crackers, (both groups can eat these), peanut butter (both groups), cheese (only lacto-ovo vegetarians), sunflower seeds (both groups), carrot sticks (both groups), apple slices (both groups), coffee and tea (both groups), hot chocolate (only lacto-ovo vegetarians), sugar and non-dairy creamer (both groups).

In addition to following the type of vegetarian diet assigned, try to get a complete protein. What are ways to do this? (Whole-wheat crackers and peanut butter, sunflower seeds and peanut butter, cheese alone or on crackers, hot chocolate alone).

(Dismiss group for snack and allow time for visiting as well as time to start viewing materials on display.)

Lesson: Weight control and food exchanges

Objectives: To help the participants:

- a) examine the disadvantages of some common fad diets.
- b) name some behavior modification techniques
- c) emphasize the role of exercise in weight control
- d) define food exchanges
- e) use food exchanges in planning a low-calorie meal plan.

Resources: Filmstrip set "How to Lose Weight" (complete reference on page 97 in "Nutrition Education A Selected Bibliography", Appendix C)

Magnetic chalkboard (description in presentation section)

Easel to support chalkboard

Strips of posterboard (magnetic tape on back) listing various foods (see presentation section of this lesson)

Chalk, sponge (eraser)

Food Exchange Groups (untitled) (pages 103-104, Appendix C)

"Food Exchange Lists" (page 105, Appendix C)

"1200 Calorie Meal Plan" (page 106, Appendix C)

Optional

Display of materials listed in "Nutrition Education - A Selected Bibliography" pertaining to weight control (pages 96-98, Appendix C)

Advance preparation: Set up filmstrip and cassette.

Set up magnetic chalkboard on easel.

Presentation: 60 minutes

Introduction

(Begin group discussion.)

How many have students on weight control diets?

Are these sound weight control diets?

What are some other fad diets?

What are the drawbacks to these diets?

Some drawbacks of fad diets are

- 1) Initial weight loss can be mainly water
- 2) Not-nutritionally balanced meals
- 3) Monotonous menus
- 4) Faulty eating habits not improved

The following filmstrip "How to Lose Weight" is listed in the bibliography. Note factors brought out in the filmstrip other than restricted calorie diets that aid in weight control.

(Show filmstrip. Discuss main points.)

Generalizations

1. The best way to lose weight is on a nutritionally sound diet.
2. Exercise aids in weight control because it, burns calories, keeps you occupied, makes you feel good about yourself and helps regulate an internal mechanism in the brain that controls when you feel hungry and full.
3. Behavior modification can also aid in weight control. Techniques include: keep a food diary (to discover what situations trigger you to eat), eat slowly, eat in only one place, put

your fork down between bites, reward yourself, drink water between meals, others?

Note the filmstrip emphasized calories and calorie charts. Another way to plan nutritionally balanced low-calorie menus without calorie charts is to use food exchanges.

The food exchange system is one where foods are grouped according to their protein, carbohydrate, fat and calorie content.

(Distribute Food Exchange Groups (untitled) and "Food Exchange Lists".)

Note how each exchange provides a certain number of grams of protein, carbohydrate, and fat.

How many calories in one gram of protein? (four) carbohydrate? (four), fat? (nine)

By using these values, the number of calories provided by each exchange is calculated.

(Review each food exchange group and highlight the following facts.)

1. Meat exchange

Also called high protein exchange group. What else is on the list besides meat? (cheese, beans, eggs, tofu, peanut butter) Note dry beans include one bread exchange and peanut butter includes two fat exchanges. On more detailed lists, the meat exchange group is divided into low fat, medium fat, and high fat meat exchanges. For simplicity, average values were used here.

2. Vegetable exchange

One exchange actually provides about 25 calories, but because one is encouraged to eat more vegetables, the term "negligible" has been used for our purposes. Note this does not include the starchy vegetables.

3. Fruit exchange

Note quantity of a food determines the number of exchanges it provides. Compare apple, grape, and orange juice.

4. Milk exchange

Note 1 cup skim milk - 1 milk exchange

1 cup low-fat milk = 1 milk exchange plus 1 fat exchange

1 cup whole milk = 1 milk exchange plus 2 fat exchanges

5. Bread exchange

Note this group includes more than just breads (crackers, cereals, noodles, rice, tortillas, etc.) Starchy vegetables are also in this group because they are higher in carbohydrates and calories. Note some items also include one fat exchange.

6. Fat exchange

Note this group includes more than just oil and butter (avocado, cream cheese, nuts, etc.)

7. Miscellaneous exchange

Note these equal the value of one bread exchange, plus many have added fat exchanges.

(The next activity was used to help participants visualize meal planning using food exchanges. A magnetic chalkboard was made by using a 28 inch by 48 inch automotive oil drip pan and covering it with dull finish black contact vinyl. Very thin strips of contrasting blue contact vinyl were used to make a grid on it, as illustrated. Strips of colored posterboard were cut and magnetic tape was put on one side. The other side had the name and quantity of a certain food item printed on it. As the strips were placed on the chalkboard, the participants were asked to call out the name and number of food exchanges it provided. The answers were written in with chalk.)

| | Meat | Veg | Fruit | Milk | Bread | Fat |
|---|------|-----|-------|------|-------|-----|
| posterboard strips 1/2 C. orange juice | | | 1 | | | |
| magnets (back side) 1 egg | 1 | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| Total | | | | | | |

oil drip pan (28" x 48")

thin strips of blue contact vinyl

Let's examine a day's menu and look at the number of food exchanges it provides. (As you record each exchange on the chalkboard, do not erase the numbers until going over all three meals. You will need to add up the numbers to get the total exchanges for the day. The following menu was used in the workshop, but it is only offered as a suggestion.)

Breakfast

1/2 cup orange juice
1 egg
1/2 English muffin
1 teaspoon margarine
1 cup skim milk

Exchanges

1 fruit
1 meat
1 bread
1 fat
1 milk

Note not all foods equal exactly one exchange.

| <u>Lunch</u> | Exchanges |
|-------------------------|-------------|
| ¼ cup tuna | 1 meat |
| 1 tablespoon mayonnaise | 3 fat |
| 2 slices bread | 2 bread |
| ½ cup carrots | 1 vegetable |
| 1 small banana | 2 fruit |
| ½ cup skim milk | ½ milk |

Note not all foods provide only one type of exchange

| <u>Dinner</u> | Exchanges |
|-----------------------|--------------------|
| 4 oz. hamburger | 4 meat |
| 1 oz. cheese | 1 meat |
| ½ cup tomatoes | 1 vegetable |
| 1 cup noodles | 2 bread |
| ½ cup green beans | 1 vegetable |
| ½ cup spinach | 1 vegetable |
| 1 tablespoon dressing | 1 fat |
| ½ cup yogurt (skim) | ½ milk |
| 1 medium peach | 1 fruit |
| ½ cup ice cream | 1 bread plus 2 fat |

} spagehetti

How can we estimate the calories from this menu?

Add up the number of exchanges and multiply by calories per exchange.

| | |
|--------------|-----------------------|
| In this case | 7 meat x 75 calories |
| | 4 veg. x negligible |
| | 6 fruit x 40 calories |
| | 2 milk x 80 calories |
| | 6 bread x 70 calories |
| | 7 fat x 45 calories |
| | <hr/> |
| | 1600 calories |

The following worksheet will help you practice calculating a low-calorie meal plan.

(Distribute "1200 Calorie Meal Plan".)

Note - breakfast has already been filled in. Lunch will be done as a group. Fill in lunch as we do it. (Have board erased from previous exercise.)

(Get suggestions for lunch and fill in on magnetic chalkboard. Ask group to call out number and type of exchanges.)

Dinner will be filled in by each person separately. Check off the boxes at the top of the worksheet to make sure you've included enough exchanges without going over the number allowed for 1200 calories. The one exception is the vegetable group where the suggested number of exchanges is just a minimum. You can have more here.

(Allow time for participants to fill out worksheets. Circulate around to answer questions and observe progress.)

Lesson: Fast Foods

Objectives: To help the participants:

- a) name some reasons why fast food outlets are popular
- b) examine the nutritional value of some typical fast food meals
- c) name some nutritional disadvantages of fast food meals
- d) suggest ways to improve food choices at fast food outlets

Resources: Slide set "The Fast Food Phenomenon" (available as a filmstrip - complete reference on page⁹⁰ in "Nutrition Education. A Selected Bibliography", Appendix C)

Optional

Display of materials listed in "Nutrition Education. A Selected Bibliography" pertaining to fast foods
(pages 89-90, Appendix C)

Advance Preparation: Set up slides (or filmstrip) and cassette

Presentation: 15 minutes

Introduction:

(Begin group discussion.)

Has anyone eaten in a fast food outlet this week? This month?

Do you think about nutrition?

In what way?

The following slide show (available as a filmstrip) is called "The Fast Food Phenomenon".

(Show slides. Discuss main points.)

Generalizations

1. Some reasons fast food outlets are popular are speed, economy, consistent quality and sanitation.
2. Fast food meals are generally adequate in protein.
3. Most fast food meals are low in vitamin A, vitamin C, and fiber.
4. Fast food meals may be too high in sugar, salt, fat, and calories for some people.
5. Ways to improve food choices at fast food outlets include substituting milk for a milk shake or cola drink, ordering from the salad bar, and bringing fruit items from home for dessert.

(Point out that many fast food companies have nutritional analyses of their products available on request .)

NUTRITION EDUCATION

A Selected Bibliography

Fast Foods
Teenage Pregnancy
Vegetarianism
Weight Control

Jane Lewis Promnitz
Home Economics Education
Oregon State University

Consumer-Homemaking Funded Project
Oregon Department of Education
Spring, 1979

FAST FOODS

| Title | Form - Content | Price | Publisher and Address | Comment |
|--|---|-------|--|---------|
| <u>Nutritional Analysis of Food Served at McDonald's Restaurants</u> | Booklet with in-depth analysis of all products | free | McDonald's Corporation McDonald's Plaza Oakbrook, IL 60521 | |
| <u>The Pizza Hut Story</u> | Booklet describing history and growth of chain. Glossy poster with nutrition information. | free | Pizza Hut, Inc. 9111 E Douglas Wichita, Kansas 67207 | |
| No title | Small leaflets giving nutritional composition of all products | free | International Dairy Queen, Inc. PO Box 35286 Minneapolis, MN 55435 | |
| "Fast Foods" | Article in pamphlet - <u>Dietetic Currents</u> , Vol. 5, No. 5, Sept-Oct, 1978. | free | Ross Laboratories Columbus, OH 43216 | |
| No title | One page sheet listing nutrition composition of various sandwiches | free | Arby's, Inc. 4944 Belmont Ave. Youngstown, OH 44505 | |
| No title | One page sheet listing calories and general composition of most products (no vitamins or minerals given). | free | Taco Bell 17381 Red Hill Ave. Irvine, CA 92714 | |
| No title | One page sheet listing calories and general composition of most products (no vitamins or minerals given). | free | Der Wienerschnitzel 4440 Von Karman Ave. Newport Beach, CA 92660 | |
| No title | One page sheet giving general composition and percent of U.S.R.D.A. for entire dinner | free | Kentucky Fried Chicken Cor. PO Box 32070 Louisville, KY 40232 | |

| Title | Form - Content | Price | Publisher and Address | Comment |
|--------------------------|---|---------|--|---------|
| No title | One page sheet with calorie and carbohydrate values | free | Skipper's Fish & Chips, Inc. Bellefield Office Park Woodridge Building, Suite 220 1715 114th S.E. Bellevue, WA 98004 | |
| The Fast Food Phenomenon | 48-frame color filmstrip six-minute cassette tape with audible tone, and script | \$24.00 | Christina Stark 3415 SW Chintimini Ave. Corvallis, OR 97330 | |

Teenage Pregnancy

| Title | Form - Content | Price | Publisher and Address | Comment |
|---|---|---|---|---------|
| <u>Alcohol and Your Unborn Baby</u> | 14 page Pamphlet, 1978 | free | US Dept. of Health, Education and Welfare National Institute on Alcohol Abuse and Alcoholism 5600 Fishers Lane Rockville, MD 20857 | |
| <u>Be Good to Your Baby Before It Is Born</u> | 16 page booklet | free | The National Foundation - March of Dimes 702 Woodlark Bldg. Portland, OR 97204 | |
| <u>The Beginning of Life</u> | Filmstrip, Cassette, Filmstrip guide | 9.50 | Vitamin Information Bureau, Inc. 664 N. Michigan Ave. Chicago, IL 60611 | |
| <u>Eat Well for You and Your Baby Who Is On the Way</u> | Pamphlet, 4 pages, 1970 GPO: 1970 OF-408-835 | .10 | Office of Child Development Children's Bureau US Dept of Health, Education and Welfare Washington, D.C. 20201 | |
| <u>Expecting?</u> | Pamphlet, 6 pages, 1972 | free | Our Baby's First Seven Years 5841 Maryland Ave. Chicago, IL 60637 | |
| <u>Food and Pregnancy</u> | Pamphlet | free | The National Foundation - March of Dimes 702 Woodlark Bldg. Portland, OR 97204 | |
| <u>Food and You - Nutrition and Its Function</u> | Pamphlet, 12 pages, 1971 | .12 | Our Baby's First Seven Years 5841 Maryland Ave. Chicago, IL 60637 | |
| <u>Food for the Teenager During Pregnancy</u> | 24 page Pamphlet Color illustrations | .80 (minimum charge of \$1.00 for each mail order) | Superintendent of Documents US Government Printing Office Washington, D.C. 20402 | |

| Title | Form - Content | Price | Publisher and Address | Comment |
|--|--|-------|---|---------|
| <u>Foundations for Life - Mother Is the Builder</u> | Pamphlet, 4 pages, 1971 | .15 | Our Baby's First Seven Years 5841 Maryland Ave. Chicago, IL 60637 | |
| <u>Nutrition and Pregnancy</u> | Pamphlet | free | The National Foundation - March of Dimes 702 Woodlark Bldg. Portland, OR 97204 | |
| <u>PEP Kit</u> | Parenthood Education Program for teenagers, Materials deal with health care, preparation for child-bearing, and maternal nutrition. Kit contains teachers guide, multiple copies of 4 comic books, fetal developmental time-line chart, 3 sets of information cards, 3 posters | 30.00 | Supply Division The National Foundation March of Dimes 1275 Mamoroneck Ave. White Plains, NY 10605 | |
| <u>Pregnancy</u> | Teaching Kit Publication code: KF-0756 | 1.50 | American Dietetic Association 430 N Michigan Ave. Chicago, IL 60611 | |
| <u>Pregnancy and Nutrition</u> | Bibliographic listings of printed and audio-visual educational materials 7 pages, 1979 | 2.50 | Society for Nutrition Education National Nutrition Education Clearing House 2140 Shattuck Ave., Suite 1910 Berkeley, CA 94704 | |
| <u>The Pregnant Adolescent - Medical, Psychological, and Social Care</u> | Pamphlet, 7 pages, 1970 L.S. No. 70-24 | free | National Library of Medicine Literature Search Program Reference Section US Dept of Health Education and Welfare 8600 Rockville Pike Bethesda, MD 20014 | |

| Title | Form - Content | Price | Publisher and Address | Comment |
|-------------------------------------|---|-------|--|---------|
| <u>Prenatal Care</u> | Pamphlet, 92 pages, 1970 No. 027A | .20 | Office of Child Development Children's Bureau US Dept of Health, Education, and Welfare Washington, D.C. 20201 | |
| <u>Prenatal Nutrition</u> | Poster | 3.00 | Vitamin Information Bureau, Inc. 664 N. Michigan Ave. Chicago, IL 60611 | |
| <u>When Your Baby Is On The Way</u> | Pamphlet, 30 pages, 1973 GPO: 1973 0-506-573 | .45 | Superintendent of Documents US Government Printing Office Washington, D.C. 20402 | |

VEGETARIANISM

| Title | Form - Content | Price | Publisher and Address | Comment |
|---|---|--|--|---------|
| <u>A Vegetarian Diet</u> | By Shirley P. Moore and Mary P. Byers Paperback book | 3.95 | Woodbridge Press Publishing Co. PO Box 6189 Santa Barbara, CA 93111 | |
| <u>Can Vegetarianism Be Justified</u> | Audiocassette, 25 minutes By J.G. Short, 1976 | 9.50 | Spenco Medical Corporation Box 8113 Waco, TX 76710 | |
| <u>Diet for a Small Planet</u> | By France Moore Lappe Paperback book 410 pages, includes recipes | 2.50 (.50 for postage & handling) | Ballatine Mail Sales P.O. Box 100 Westminster, MD 21157 | |
| <u>How To Go Meatless With Protein On Your Side</u> | Teaching Kit | Free Limit: 1/educator | Campbell Soup Company Home Economics Department Campbell Place Camden, NJ 08101 | |
| <u>Laurel's Kitchen - A Handbook for Vegetarian Cookery and Nutrition</u> | By Laurel Robertson, Carol Flinders, and Bronwen Godfrey Paperback Book includes recipes & nutrition charts, 647 pages | 3.95 | Nilgire Press Box 477 Petaluma, CA 949 52 | |
| <u>Meat and the Vegetarian Concept</u> | Pamphlet, 19 pages, 1976 | 1 copy free with self- addressed #40 envelope | National Live Stock and Meat Board 444 N. Michigan Ave. Michigan, IL 60611 | |
| <u>Vegetarian</u> | Teaching Kit - leaflets Publication Code: KT-0754 | 2.00 | American Dietetic Association 450 N. Michigan Ave. Chicago, IL 60611 | |

| Title | Form - Content | Price | Publisher and Address | Comments |
|---|--|-------------------|--|----------|
| <u>Vegetarian Diets</u> | Booklet, 1974 | Not Determined | National Academy of Science National Research Council 2101 Constitution Ave. Washington, D.C. 20418 | |
| <u>Vegetarians and Vegetarian Diets, February, 1979</u> | Annotated bibliography professional and popular books, pamphlets, articles and audio-visual materials | 3.00 | Society for Nutrition Education National Nutrition Education Clearing House 2140 Shattuck Ave, Suite 1110 Berkeley, CA 94704 | |
| <u>Vegetarianism in a Nutshell</u> | Filmstrip, color, cassette 14 minutes, 84 frames Teachers guide-1 page | 29.75 | The Polished Apple 3742 Seahorn Drive Malibu, CA 90265 | |

WEIGHT CONTROL

| Title | Form - Content | Price | Publisher and Address | Comment |
|--|---|----------|--|---------|
| <u>A Boy and His Physique</u> | 32 pages, booklet | .60 | Oregon Dairy Council 10505 S.W. Barbur Blvd. Portland, OR 97219 | |
| <u>A Dozen Diets for Better or for Worse</u> | 25 pages | 2.75 | California Dietetic Association Los Angeles District 1609 Westwood Blvd, #203 Los Angeles, CA 90024 | |
| <u>A Girl and Her Figure</u> | 28 pages, booklet | .60 | Oregon Dairy Council 10505 S.W. Barbur Blvd. Portland, OR 97219 | |
| <u>The Calorie Game</u> | Boxed Board and Materials for 2-6 players Suggestions for teachers 1972, by H.T. Spitze | 9.95 | Games That Teach Graphics Company PO Box 331 Urbana, IL 61801 | |
| <u>Change Your Habits to Change Your Shape</u> | Paperback book, 126 pages (student workbook format) by Joanne Ikeda | 4.95 | Bull Publishing Co. PO Box 208 Palo Alto, CA 94302 | |
| <u>Comparison Cards</u> | 60 cards, 11" x 8 1/2" 28 page teacher guide, 2 spirit masters. Colorful bar graphs illustrating the nutrient profiles of 57 popular foods. | 5.50 | Oregon Dairy Council 10505 S.W. Barbur Blvd. Portland, OR 97219 | |
| <u>Do's and Dont's of Weight Control</u> | 18 posters, 11" x 14", to help promote physical fitness. By Larry Spiegel (II 4612-5) | 7.00/set | J. Weston Walch, Publisher Box 658 Portland, Maine 04104 | |
| <u>Eat and Stay Slim</u> | Hardback book on food exchanges - includes recipes 96 pages. | 3.95 | Better Homes and Gardens Meredith Corporation Des Moines, IA | |

| Title | Form - Content | Price | Publisher and Address | Comment |
|--|--|-------|--|---------|
| <u>Eye It Before You Diet</u> | 32 page booklet by Elizabeth B. Spannake | free | The Sugar Association, Inc. 1511 K Street NW Washington, D.C. 20005 | |
| <u>Fad Dieting Portfolio</u> | Teaching Kit, by Martha Mapes | 3.00 | Cornell University Dept. of Communication Arts Roberts Hall Ithaca, NY 14850 | |
| <u>Food and Your Weight</u> | Pamphlet, 37 pages GPO: 1973 0-471-210 | .35 | Superintendent of Documents US Government Printing Office Washington, D.C. 20402 | |
| <u>Four Steps to Weight Control</u> | Pamphlet, 32 pages, 1969 No. 380 L.W. (6-72) | free | Metropolitan Life Insurance Co. Health and Welfare Division 1 Madison Ave. New York, NY 10010 | |
| <u>Good Loser: The Weight Control Game</u> | Boxed board and materials for 2-6 players, 1972 | 9.95 | Games That Teach Graphics Company PO Box 331 Urbana, IL 61801 | |
| <u>The Healthy Way to Weigh Less</u> | Pamphlet, 5 pages, No. OP-322 | free | Council on Foods and Nutrition American Medical Association Order Department 535 N. Dearborn St. Chicago, IL 60610 | |
| <u>How to Lose Weight</u> | Two parts - filmstrips, cassette tape, guide. | 55.00 | Sunburst Communications Department TG Pleasantville, NY 10570 | |
| <u>Its a Snap</u> | Single page student work- sheets, 24 sheets | 4.00 | Nutrition Educators, Inc. 3625 W 65th St. Edina, Minnesota 55435 | |

| Title | Form - Content | Price | Publisher and Address | Comment |
|--|---|-------|--|---------|
| <u>Nutrition and Diseases 1973;</u> <u>Part I - Obesity and Fad Diets</u> | Booklet, 143 pages GPO: 1973 94-722-0 | 1.50 | Superintendent of Documents US Government Printing Office Washington, D.C. 20402 | |
| <u>On the Beam</u> | Spiral bound book Balanced eating activity model, individualized teen weight control, by Susan Barker and Diana Swanson | 10.00 | Nutrition Educators, Inc. 3625 W 65th St. Edina, Minnesota 55435 | |
| <u>Overweight and Obesity: Causes,</u> <u>Fallacies, Treatment</u> | Book, soft cover, 1975 B.Q. Hafen, Ed. 410 pages | 6.95 | Brigham Young University Press 205 University Press Bldg. Provo, UT 84602 | |
| <u>Weight Control</u> | Teaching Kit - Leaflets Publication Code: KT-0755 | 1.50 | American Dietetic Association 430 N. Michigan Ave. Chicago, IL 60611 | |
| <u>Weight Control Source Book</u> | 20 page booklet. Reviews published information on weight problems | .75 | Oregon Dairy Council 10505 S.W. Barbur Blvd. Portland, OR 97219 | |

. ALL YOU EVER WANTED TO KNOW ABOUT
VEGETARIAN DIETS
BUT WERE AFRAID TO ASK

People in many parts of the world have been successful vegetarians for centuries. If you have chosen to follow a vegetarian eating pattern, you will need to choose your food carefully. Meat, fish and poultry supply important amounts of protein, calories and vitamin B₁₂, if these foods are eliminated you must choose other foods that will supply these important nutrients.

What is a vegetarian? Let's define some terms.

Total Vegetarian - one who eats only plant foods such as vegetables, fruits, legumes, grains and cereals. A total vegetarian eats no foods from animal sources such as meat, fish, poultry, eggs, milk and cheese.

Lacto-ovo-vegetarian - one who drinks milk and eats milk products and eggs as well as plant foods.

Semi-vegetarian - one who eats fish and poultry as well as milk, milk products, eggs and plant foods.

Wise Vegetarian - one who eats a variety of foods and follows the basic four food guide.

* * * * *

You can be a WISE vegetarian no matter what level of vegetarianism you choose. Here are some principles to follow in choosing your food.

To be a Lacto-ovo-vegetarian:

Reduce all empty calorie foods.

Especially eliminate those high in sugar or fats such as candy, soda pop, snack foods and pastries. You must eat a larger amount of vegetarian foods to meet the body's need for protein, calories, vitamins and minerals.

Increase intake of all four food groups.

You need an adequate supply of calories that also contain the nutrients needed for good health.

Delete meat from the meat group and increase meat substitutes.

Meat substitutes such as dry beans, peas, lentils, soybeans, peanuts, almonds, cashews, peanut butter, tofu, eggs and meat analogs -- Textured Vegetable Protein (TVP) and simulated meat products from Loma Linda, Worthington, Morning Star and Bontrae can be used in place of meats, fish and poultry.

Vegetable proteins are used more completely by the body if you eat them in combinations. For example, if you eat beans and rice at the same time the proteins from both foods are used more completely than if you eat only beans or only rice. You can eat several vegetables and cereals by choosing combination dishes or by selecting a variety of foods for each meal.

Increase the intake of milk and milk products.

The milk group is important because of the protein and vitamin B₁₂ it supplies when meat is removed from the diet.

Increase the intake and variety of vegetables and fruits.

Green leafy vegetables are particularly important because of the vitamins and minerals they contain.

Increase the intake of breads and cereals.

Whole grain products are especially important because they supply B-vitamins and iron.

* * * * *

To be a Total Vegetarian:

Follow the above recommendations for lacto-ovo-vegetarians, EXCEPT:

Delete milk and milk products and eggs.

Animal milk may be replaced by fortified soy milk.

Increase foods that supply the calcium, protein and riboflavin found in the milk group.

- 1) Fortified soybean milk (calcium, protein, riboflavin)
- 2) Green leafy vegetables (calcium, riboflavin)
- 3) Soybeans, other dry beans and peas, nuts (protein and riboflavin)

Increase variety and amount of vegetables, fruits, breads, and cereals.

Supplement your diet with vitamin B₁₂

Because vitamin B₁₂ is found only in foods from animal sources, you need to get the needed B₁₂ from a supplement or by using a soy product that is fortified with vitamin B₁₂.

* * * * *

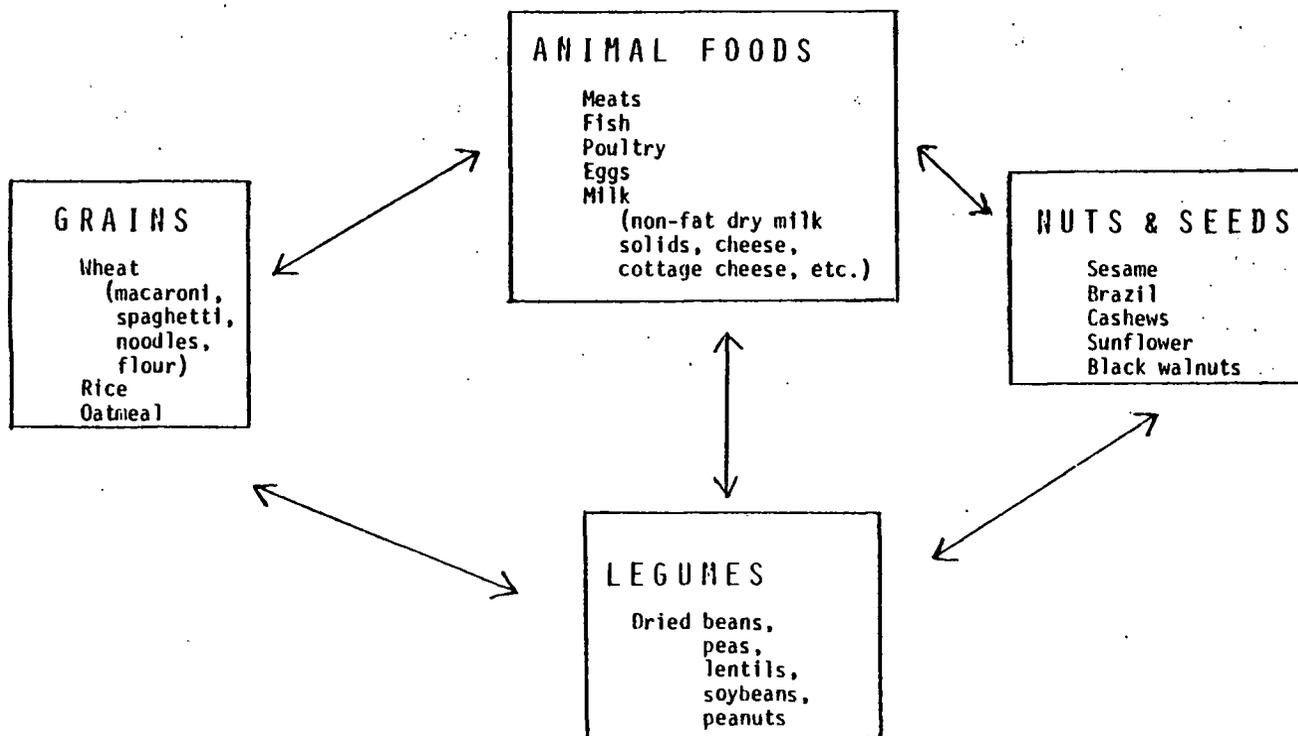
IF YOU CHOOSE TO BE A VEGETARIAN - - -

BE A WISE VEGETARIAN

Prepared By:
Margaret Lewis, R.D.
Extension Nutrition Specialist

COMPLEMENTING YOUR PROTEINS

Of 22 amino acids that make up protein, your body can not manufacture eight of them. These eight are called essential amino acids because they must be gotten, already made, from food. If a protein food is low in one or two essential amino acids, you may "complete" the protein by eating it with another protein food that is rich in those same one or two essential amino acids. In the diagram below, arrows indicate foods that may be eaten together to complement (or complete) the proteins. For information on amounts of these protein foods to serve together, see the reverse side of this page.



Adapted from "Diet for a Small Planet"
by Frances Moore Lappe

GUIDE TO COMPLEMENTING YOUR PROTEINS

To get adequate protein, one should eat two servings of high protein foods a day in addition to milk foods, fruits and vegetables and breads and cereals. A serving of high protein foods should provide 15-20 grams of protein.

COUNT AS A SERVING:

3-4 ounces raw lean meat, poultry, fish
 2-3 ounces cooked
 2 eggs
 2/3 cup non-fat dry milk solids
 2 ounces cheese (American, Swiss, cheddar)
 1/2 cup cottage cheese
 1 cup cooked legumes
 1/4 cup peanut butter
 1/2 cup seeds, black walnuts
 1/3 cup Brazil nuts
 3/4 cup cashews

When two or more protein foods are eaten at the same meal, they should together make a serving. Check recipes used and the total menu to be sure that at least one total serving of high protein foods will be available for each person. If not, adjust the recipe or the menu.

Following are some examples of protein food combinations providing 15-20 grams of complete protein. Each serving of the following dishes provides:

Chili Con Carne:

3/4 cup cooked beans
 1 ounce ground beef (uncooked weight)

Lentil Loaf:

1/2 cup cooked lentils
 1/3 cup cashews

Baked Beans

1 cup cooked beans
 At the same meal, milk was served as a beverage.

Soybean Loaf:

1/2 cup cooked soybeans
 3 tablespoons non-fat dry milk solids
 1/2 egg

Lentil Soup:

1/2 cup cooked lentils
 1/2 ounce cooked ham

1 MEAT EXCHANGE equals:

Negligible carbohydrate
7 grams protein
5 grams fat
75 calories



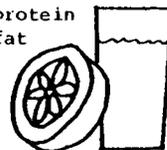
1 VEGETABLE EXCHANGE equals:

Negligible carbohydrate
Negligible protein
Negligible fat
Negligible calories



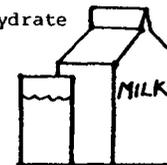
1 FRUIT EXCHANGE equals:

10 grams carbohydrate
Negligible protein
Negligible fat
40 calories



1 MILK EXCHANGE equals:

12 grams carbohydrate
8 grams protein
Negligible fat
80 calories



Count as 1 exchange:

| | |
|-------------------------------------|--------------------|
| Cheese, Cheddar or Swiss type | 1 oz or 1 slice |
| Cold Cuts | 1 oz or 1 slice |
| Cottage Cheese, low fat | 1/3 cup |
| Dry beans, peas or lentils, cooked* | 1/2 cup |
| Egg | 1 |
| Fish | 1 oz |
| crabmeat | 1/4 cup |
| shrimp, clams | |
| oysters | 5 sm. |
| tuna | 1/4 cup |
| Frankfurter | 1 |
| Meat | 1 oz or |
| beef | 1 slice |
| lamb | 3 1/4" x 2" x 1/4" |
| liver | or |
| pork | 1/4 cup |
| poultry | |
| Peanut Butter** | 2 Tbsp |
| Soybean curd (tofu) | 1/4 cup |

*includes 1 bread exchange
**includes 2 fat exchanges

Count as 1 exchange:

(serving size as desired)

| |
|----------------|
| Bean sprouts |
| Beets* |
| Broccoli |
| Cabbage |
| Carrots* |
| Cauliflower |
| Celery |
| Cucumber |
| Dill Pickles |
| Eggplant |
| Green onions |
| Greens |
| Lettuce |
| Mushrooms |
| Onions* |
| Peppers, green |
| Radishes |
| Sauerkraut |
| Spinach |
| String beans |
| Summer Squash |
| Tomato |
| Tomato juice |
| Zucchini |

*limit these to 1/2 cup

Count as 1 exchange:

| | |
|------------------|----------|
| Apple | 1/2 med. |
| Apple juice | 1/3 cup |
| Applesauce | 1/2 cup |
| Apricots | 2 |
| Banana | 1/2 sm. |
| Berries | 1/2 cup |
| Cantaloupe | 1/4 sm |
| Cherries | 10 lrg. |
| Dates | 2 |
| Figs | 1 |
| Grapefruit | 1/2 |
| Grapefruit juice | 1/2 cup |
| Grapes | 12 |
| Grape juice | 1/4 cup |
| Nectarine | 1 sm. |
| Orange | 1 sm. |
| Orange juice | 1/2 cup |
| Papaya | 3/4 cup |
| Peach | 1 med. |
| Pear | 1 sm. |
| Pineapple | 1/2 cup |
| Pineapple juice | 1/3 cup |
| Plums | 2 med. |
| Prunes | 2 med. |
| Raisins | 2 Tbsp |
| Tangerine | 1 med. |
| Watermelon | 1 cup |

Fruits can be used in the raw, dried, cooked, canned or frozen form so long as no sugar has been added.

Count as 1 exchange:

| | |
|---------------------------------------|---------|
| Skim milk | 1 cup |
| Dry skim milk powder | 1/3 cup |
| Evaporated skim milk | 1/2 cup |
| Buttermilk | 1 cup |
| Yogurt, plain(made from skim milk) | 1 cup |
| Low fat (2%) milk* | 1 cup |
| Whole milk** | 1 cup |
| Evaporated whole milk** | 1/2 cup |
| Yogurt, plain(made from whole milk)** | 1 cup |

*includes 1 fat exchange
**includes 2 fat exchanges

1 BREAD EXCHANGE equals:

15 grams carbohydrate
2 grams protein
Negligible fat
70 calories

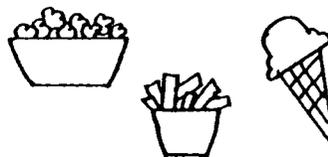


1 FAT EXCHANGE equals:

Negligible carbohydrate
Negligible protein
5 grams fat
45 calories



MISCELLANEOUS EXCHANGES



KEEP

IN
MIND:

Count as 1 exchange:

Bagel 1/2
Biscuit (2"dia.) 1
Bread 1 slice
Bread crumbs 3 Tbsp
Cereal, cooked 1/2 cup
Cornbread* 2" cube
Crackers
 graham 2
 round, butter type* 5
 saltines 5
English muffin 1/2
Flour 2 Tbsp
Hamburger or hot dog bun 1/2
Muffin, plain* 1
Noodles, spaghetti etc, cooked 1/2 cup
Rice, bulgur, barley, cooked 1/2 cup
Roll, small 1
Tortilla 6" 1
Wheat germ, bran 1/4 cup
Starchy Vegetables
 corn, sweet 1/3 cup or 1 sm ear
 Parsnips 2/3 cup
 Peas, green 1/2 cup
 Potato 1 sm or 1/2 cup
 Pumpkin 3/4 cup
 Squash, winter 1/2 cup
 Sweet potato or yam 1/4 cup

*includes 1 fat exchange

Count as 1 exchange:

Avocado (4" dia.) 1/8
Bacon, crisp 1 slice
Butter 1 tsp
Cream
 heavy 1 Tbsp
 half & half 2 Tbsp
 sour 2 Tbsp
Cream Cheese 1 Tbsp
Margarine 1 tsp
Nuts
 almonds 10 whole
 peanuts 10 whole
 pecans 2 large
 walnuts 6 small
Oil 1 tsp
Salad dressing
 French or Italian 1 Tbsp
 Mayonnaise 1 tsp
Shortening, lard 1 tsp

Count as 1 BREAD exchange:

Banana bread* 3"x3"x1/2" slice
Cake, no icing* 1/20 plain cake mix
Chinese noodles* 1/2 cup
Doughnut, plain* cake type 1
Fig Newton bar 1-1 oz
Gelatin, flavored 1/2 cup
Gingerbread 1"x1"x2"
Gingersnaps 5 small
Ice cream, regular vanilla** 1/2 cup
Ice cream cone, empty 2
Ice Milk* 1/2 cup
Pancake(5"x1/2")* 1
Popcorn, plain 3 cups
Potato or corn chips** 15 med.
Potatoes, french fried*(2"x1/2") 8 pieces
Pretzels (3 1/2"x 1/2") 25
Sherbet 1/3 cup
Sponge cake, or angel cake 1" cube
Vanilla wafers 4
Waffle(5"x1/2") 1

*includes 1 fat exchange

**includes 2 fat exchanges

- Each teaspoon of sugar adds 20 calories.

- Alcohol calories count too.

| type & amount | equal in calories to: |
|-------------------|-----------------------|
| Beer, 12oz, reg | 4 fat exchng. |
| Daiquiri, 3 1/2oz | 3 fat exchng. |
| Martini, 3 1/2oz | 3 fat exchng |
| Wine, 3 1/2 oz | 2 fat exchng |
| Tom Collins, 10oz | 4 fat exchng. |

- Foods seasoned with herbs & spices, vinegar & bouillon give variety & add interest.

- Foods should be measured periodically to check portion size.

- Eating slowly helps you feel full with less food.

- Exercise is important- include it regularly.

FOOD EXCHANGE LISTS

WHAT ARE FOOD EXCHANGES?

Food exchanges are a way of categorizing foods into groups to aid in meal planning. Each food exchange is a measure of calorie and nutrient values. Foods within the same exchange list have a similar calorie, carbohydrate, protein, and fat content. That is why the term "exchange" is used. Any food within each list can be "exchanged" or substituted for another in that same list.

The amount of food, or its serving size, determines the number of exchanges it supplies. That's why some foods may supply more than one exchange or a fraction of an exchange. In addition, certain foods may belong to more than one exchange group.

WHO USES FOOD EXCHANGE LISTS?

Anybody can use them who is interested in planning balanced meals or meals for special diets. People who are diabetic and need to watch their carbohydrate intake or dieters who want to watch their calorie intake will find exchange lists particularly helpful.

HOW ARE FOOD EXCHANGE LISTS USED IN MEAL PLANNING?

Since foods within the same list can be exchanged for one another, it is easy to plan meals to equal the number of exchanges you want. For example, if you want 1 bread exchange at breakfast, you have your choice of either:

- 1 slice bread or
- 1/2 English muffin or
- 1/2 cup cooked cereal or
- any other item from the bread exchange list.

This enables you to add variety to your meals.

In addition, food exchanges simplify reducing by:

- counting calories for you.
- assuring that you get a well-balanced diet since foods are used from various food groups.
- allowing you to choose, within an exchange group, the foods you prefer or have on hand so you don't need to buy something special.
- providing menus that can be adapted for the rest of the family.

1200 CALORIE MEAL PLAN

For a 1200 calorie diet, the following number of exchanges are allowed:

- 7 meat exchanges
- 2 vegetable exchanges
- 3 fruit exchanges
- 2 milk exchanges
- 4 bread exchanges
- 3 fat exchanges

Using the exchange lists, complete the one-day menu so that it equals the total number of exchanges given. Remember, you may distribute the number of exchanges eaten at each meal as desired - just don't exceed the total for the day. Check the boxes above the make sure all the exchanges are used. Breakfast has been done for you.

BREAKFAST

| Food & Amount | Meat | Vegetable | Fruit | Milk | Bread | Fat |
|--------------------------|------|-----------|-------|------|-------|-----|
| Egg, 1 boiled | 1 | | | | | |
| Grapefruit juice, 1/2 c. | | | 1 | | | |
| Skim Milk, 1/2 c. | | | | 1/2 | | |
| Bagel, 1/2 | | | | | 1 | |
| Margarine, 1 tsp | | | | | | 1 |

LUNCH

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SNACK

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Total Exchanges 7 2 3 2 4 3

Appendix D

Questionnaires

Attitude responses worth five points and correct knowledge responses have been underlined for this appendix.

Pre-Questionnaire

-1-

The following questionnaire will be used to evaluate this nutrition education workshop. Please help us with this evaluation by reading each statement and answering it to the best of your ability. All answers will be strictly confidential and no names will be used in any way with the data provided by them. Our request that you write the last four digits of your home phone number is solely for the purpose of coding this questionnaire.

Please write the last four digits of your home phone number. _ _ _ _

The following statements apply to fast foods - those foods bought at the chain restaurants that feature hamburgers, pizza, chicken, fish and chips, tacos, etc. Please read each statement and circle the answer corresponding closest to your opinion.

| | <u>Agree Strongly</u> | <u>Agree</u> | <u>Uncertain</u> | <u>Disagree</u> | <u>Disagree Strongly</u> |
|--|---------------------------|--------------|------------------|-----------------|------------------------------|
| 1. Most fast foods are "junk" foods. | <u>AS</u> | A | U | D | <u>DS</u> |
| 2. A hamburger cooked at home is better for you than a hamburger cooked at a fast food restaurant. | <u>AS</u> | A | U | D | <u>DS</u> |
| 3. I like the food at fast food restaurants. | <u>AS</u> | A | U | D | DS |
| 4. A person should eat at fast food restaurants as little as possible. | <u>AS</u> | A | U | D | <u>DS</u> |
| 5. Fast food restaurants are a convenient way for me to get a nutritious meal. | <u>AS</u> | A | U | D | DS |

Please circle whether you think the following statements are true, false, or you don't know.

| | <u>True</u> | <u>False</u> | <u>Don't Know</u> |
|--|-------------|--------------|-----------------------|
| 6. A typical fast food meal of fried chicken, mashed potatoes, coleslaw, and a roll is low in vitamin A. | <u>T</u> | F | DK |
| 7. A large hamburger, fries, and a shake equal about 2500 calories. | T | <u>F</u> | DK |
| 8. Fast foods are low in fiber. | <u>T</u> | F | DK |
| 9. The percentage of fat in most fast food meals is greater than 50%. | T | <u>F</u> | DK |
| 10. A typical fast food meal of pizza and a cola is low in vitamin C. | <u>T</u> | F | DK |
| 11. The number of fast food restaurants is leveling off. | T | <u>F</u> | DK |
| 12. Most fast food meals are inadequate in protein. | T | <u>F</u> | DK |

-2-

The following statements apply to an eating style known as vegetarianism. Please circle the answer corresponding closest to your opinion.

| | <u>Agree Strongly</u> | <u>Agree</u> | <u>Uncertain</u> | <u>Disagree</u> | <u>Disagree Strongly</u> |
|--|---------------------------|--------------|------------------|-----------------|------------------------------|
| 1. Vegetarianism is just a fad. | AS | A | U | D | <u>DS</u> |
| 2. I feel better when I eat meatless meals. | <u>AS</u> | A | U | D | DS |
| 3. Nutritionally speaking, the total vegetarian is asking for trouble. | AS | A | U | D | <u>DS</u> |
| 4. I would like to incorporate more vegetarian meals into my diet. | <u>AS</u> | A | U | D | DS |
| 5. I feel a dinner without meat is just not a complete meal. | AS | A | U | D | <u>DS</u> |
| 6. A vegetarian diet would become boring after awhile. | AS | A | U | D | <u>DS</u> |

Please circle the appropriate answer.

| | <u>True</u> | <u>False</u> | <u>Don't Know</u> |
|---|-------------|--------------|-----------------------|
| 7. The protein in a peanut butter sandwich is complete. | <u>T</u> | F | DK |
| 8. Certain plant proteins, when eaten alone, are complete proteins. | T | <u>F</u> | DK |
| 9. Cheese can complement the protein in nuts. | <u>T</u> | F | DK |
| 10. Lentils and rice will make a complete protein. | <u>T</u> | F | DK |
| 11. A total vegetarian diet has no significant source of vitamin B ₁₂ . | <u>T</u> | F | DK |
| 12. A total vegetarian eats only vegetables. | T | <u>F</u> | DK |
| 13. Peanuts and soybeans are examples of the nuts and seeds group. | T | <u>F</u> | DK |
| 14. Most Americans eat two times the Recommended Dietary Allowance for protein. | <u>T</u> | F | DK |
| 15. A lacto-ovo vegetarian eats no red meat, but does eat fish, poultry, dairy products and eggs. | T | <u>F</u> | DK |

-3-

The following statements apply to weight control and weight loss diets. Please circle the answer corresponding closest to your opinion.

| | <u>Agree</u> <u>Strongly</u> | <u>Agree</u> | <u>Uncertain</u> | <u>Disagree</u> | <u>Disagree</u> <u>Strongly</u> |
|---|---------------------------------|--------------|------------------|-----------------|------------------------------------|
| 1. Going on a diet means cutting out my favorite foods. | AS | A | U | D | <u>DS</u> |
| 2. Dieters should eat three meals a day with no snacks. | AS | A | U | D | <u>DS</u> |
| 3. Calorie charts are not necessary for a weight loss diet. | <u>AS</u> | A | U | D | DS |
| 4. Four servings from the breads and cereals group are too many for a weight loss diet. | AS | A | U | D | <u>DS</u> |
| 5. It's just as easy to gain weight on a nutritious food, as on an empty calorie food. | <u>AS</u> | A | U | D | DS |

Please circle the appropriate answer.

| | <u>True</u> | <u>False</u> | <u>Don't</u> <u>Know</u> |
|---|-------------|--------------|-----------------------------|
| 6. Regular exercise helps to control your appetite. | <u>T</u> | F | DK |
| 7. With a low carbohydrate diet, the initial weight loss is mainly water. | <u>T</u> | F | DK |
| 8. Certain foods contain enzymes that burn up fat. | T | <u>F</u> | DK |
| 9. You can become fat on a high protein diet. | <u>T</u> | F | DK |
| 10. Margarine has fewer calories than butter. | T | <u>F</u> | DK |
| 11. Carbohydrates have the same number of calories as an equal weight of protein. | <u>T</u> | F | DK |
| 12. Following a specific diet is a behavior modification technique. | T | <u>F</u> | DK |

-4-

The following statements apply to food exchanges - the system where foods are grouped according to their protein, carbohydrate, fat and calorie content. Please circle the answer corresponding closest to your opinion.

| | <u>Agree Strongly</u> | <u>Agree</u> | <u>Uncertain</u> | <u>Disagree</u> | <u>Disagree Strongly</u> |
|--|---------------------------|--------------|------------------|-----------------|------------------------------|
| 1. Learning the exchange lists is more trouble than it's worth. | <u>AS</u> | A | U | D | <u>DS</u> |
| 2. I would use the food exchange system to plan a low calorie diet. | <u>AS</u> | A | U | D | DS |
| 3. Food exchange lists would allow me a variety in planning meals. | <u>AS</u> | A | U | D | DS |
| 4. Food exchanges are only useful for special diets like diabetic diets. | AS | A | U | D | <u>DS</u> |

Please circle the appropriate answer.

| | <u>True</u> | <u>False</u> | <u>Don't Know</u> |
|--|-------------|--------------|-----------------------|
| 5. Some meat exchanges also include fat exchanges. | <u>T</u> | F | DK |
| 6. Bacon is in the fat exchange group. | <u>T</u> | F | DK |
| 7. Sugars and honey are a food exchange group. | T | <u>F</u> | DK |
| 8. A potato can be substituted for a slice of bread in the food exchange system. | <u>T</u> | F | DK |
| 9. One fruit exchange equals 1/2 cup of either apple, grape, or orange juice. | T | <u>F</u> | DK |
| 10. A bread exchange equals about 70 calories. | <u>T</u> | F | DK |
| 11. One egg supplies about the same amount of protein as one ounce of meat. | <u>T</u> | F | DK |

-5-

1. Please check your present position.

- Home economics teacher in a middle or junior high school
 Home economics teacher in a senior high school
 Home economics teacher in a community college
 Extension personnel
 Other (please specify _____).

2. How many years have you been employed in this or a similar position?

- 0 - 3 years
 4 - 6 years
 7 - 10 Years
 11 - 15 years
 over 15 years

3. What is your highest earned degree?

- associate level
 bachelor level
 masters level
 doctoral level
 other (please specify _____).

4. What year did you receive this degree?

_____ year

5. How long ago was your last college level nutrition course?

- 0 - 3 years
 4 - 6 years
 7 - 10 years
 11 - 15 years
 over 15 years

6. What is your one main source of recent nutrition information? (Check only one)

- newspapers, popular magazines and paperbacks
 radio, television
 professional journal(s) (please specify which one(s) _____).
 colleagues
 other (please specify _____).

7. What area(s), if any, of home economics do you teach? (Check as many as apply)

- Nutrition and foods
 Clothing and textiles
 Human development and the family
 Individual and family resource management
 Living environments

8. In the last two years have you attended any workshops, seminars, or conferences on nutrition other than this one?

- yes
 no

Post-Questionnaire

-1a-

The following questionnaire will be used to evaluate this nutrition education workshop. Please help us with this evaluation by reading each statement and answering it to the best of your ability. All answers will be strictly confidential and no names will be used in any way with the data provided by them. Our request that you write the last four digits of your home phone number is solely for the purpose of coding this questionnaire.

Please write the last four digits of your home phone number. .

The following statements apply to food exchanges - the system where foods are grouped according to their protein, carbohydrate, fat and calorie content. Please circle the answer corresponding closest to your opinion.

| | <u>Agree Strongly</u> | <u>Agree</u> | <u>Uncertain</u> | <u>Disagree</u> | <u>Disagree Strongly</u> |
|--|---------------------------|--------------|------------------|-----------------|------------------------------|
| 1. I would use the food exchange system to plan a low-calorie diet. | <u>AS</u> | A | U | D | DS |
| 2. Learning the exchange lists is more trouble than it's worth. | AS | A | U | D | <u>DS</u> |
| 3. Food exchanges are only useful for special diets like diabetic diets. | AS | A | U | D | <u>DS</u> |
| 4. Food exchange lists would allow me a variety in planning meals. | <u>AS</u> | A | U | D | DS |

Please circle the appropriate answer.

| | <u>True</u> | <u>False</u> | <u>Don't Know</u> |
|---|-------------|--------------|-----------------------|
| 5. Sugars and honey are a food exchange group. | T | <u>F</u> | DK |
| 6. One egg supplies the same amount of protein as one ounce of meat. | <u>T</u> | F | DK |
| 7. Bacon is in the fat exchange group. | <u>T</u> | F | DK |
| 8. Some meat exchanges also include fat exchanges | <u>T</u> | F | DK |
| 9. A bread exchange equals about 70 calories. | <u>T</u> | F | DK |
| 10. A potato can be substituted for a slice of bread in the food exchange system. | <u>T</u> | F | DK |
| 11. One fruit exchange equals 1/2 cup of either apple, grape, or orange juice. | T | <u>F</u> | DK |

-2a-

The following statements apply to weight control and weight loss diets. Please circle the answer corresponding closest to your opinion.

| | <u>Agree Strongly</u> | <u>Agree</u> | <u>Uncertain</u> | <u>Disagree</u> | <u>Disagree Strongly</u> |
|--|---------------------------|--------------|------------------|-----------------|------------------------------|
| 1. It's just as easy to gain weight on a nutritious food, as on an empty calorie food. | <u>AS</u> | A | U | D | DS |
| 2. Dieters should eat three meals a day with no snacks. | AS | A | U | D | <u>DS</u> |
| 3. Going on a diet means cutting out my favorite foods. | AS | A | U | D | <u>DS</u> |
| 4. Four servings from the breads and cereals groups are too many for a weight loss diet. | AS | A | U | D | <u>DS</u> |
| 5. Calorie charts are not necessary for a weight loss diet. | <u>AS</u> | A | U | D | DS |

Please circle the appropriate answer.

| | <u>True</u> | <u>False</u> | <u>Don't Know</u> |
|--|-------------|--------------|-----------------------|
| 6. With a low carbohydrate diet, the initial weight loss is mainly water. | <u>T</u> | F | DK |
| 7. Margarine has fewer calories than butter. | T | <u>F</u> | DK |
| 8. Carbohydrates have the same number of calories as an equal weight of protein. | <u>T</u> | F | DK |
| 9. You can become fat on a high protein diet. | <u>T</u> | F | DK |
| 10. Regular exercise helps to control your appetite. | <u>T</u> | F | DK |
| 11. Certain foods contain enzymes that burn up fat. | T | <u>F</u> | DK |
| 12. Following a specific diet is a behavior modification technique. | T | <u>F</u> | DK |

-3a-

The following statements apply to fast foods - those foods bought at the chain restaurants that feature hamburgers, pizza, chicken, fish and chips, tacos, etc. Please read each statement and circle the answer corresponding closest to your opinion.

| | Agree Strongly | Agree | Uncertain | Disagree | Disagree Strongly |
|--|-------------------|-------|-----------|----------|----------------------|
| 1. A hamburger cooked at home is better for you than a hamburger cooked at a fast food restaurant. | <u>AS</u> | A | U | D | <u>DS</u> |
| 2. Fast food restaurants are a convenient way for me to get a nutritious meal. | <u>AS</u> | A | U | D | DS |
| 3. A person should eat at fast food restaurants as little as possible. | AS | A | U | D | <u>DS</u> |
| 4. Most fast foods are "junk" foods. | AS | A | U | D | <u>DS</u> |
| 5. I like the food at fast food restaurants. | <u>AS</u> | A | U | D | DS |

Please circle the appropriate answer.

| | <u>True</u> | <u>False</u> | <u>Don't Know</u> |
|--|-------------|--------------|-----------------------|
| 6. A large hamburger, fries, and a shake equal about 2500 calories. | T | <u>F</u> | DK |
| 7. A typical fast food meal of fried chicken, mashed potatoes, coleslaw, and a roll is low in vitamin A. | <u>T</u> | F | DK |
| 8. Fast foods are low in fiber. | <u>T</u> | F | DK |
| 9. The percentage of fat in most fast food meals is greater than 50%. | T | <u>F</u> | DK |
| 10. The number of fast food restaurants is leveling off. | T | <u>F</u> | DK |
| 11. A typical fast food meal of pizza and a cola is low in vitamin C. | <u>T</u> | F | DK |
| 12. Most fast food meals are inadequate in protein. | T | <u>F</u> | DK |

-4a-

The following statements apply to an eating style known as vegetarianism. Please circle the answer corresponding closest to your opinion.

| | <u>Agree Strongly</u> | <u>Agree</u> | <u>Uncertain</u> | <u>Disagree</u> | <u>Disagree Strongly</u> |
|--|---------------------------|--------------|------------------|-----------------|------------------------------|
| 1. I would like to incorporate more vegetarian meals into my diet. | <u>AS</u> | A | U | D | DS |
| 2. I feel a dinner without meat is just not a complete meal. | AS | A | U | D | <u>DS</u> |
| 3. Nutritionally speaking, the total vegetarian is asking for trouble. | AS | A | U | D | <u>DS</u> |
| 4. Vegetarianism is just a fad. | AS | A | U | D | <u>DS</u> |
| 5. I feel better when I eat meatless meals. | <u>AS</u> | A | U | D | DS |
| 6. A vegetarian diet would become boring after awhile. | AS | A | U | D | <u>DS</u> |

Please circle the appropriate answer.

| | <u>True</u> | <u>False</u> | <u>Don't Know</u> |
|---|-------------|--------------|-----------------------|
| 7. Cheese can complement the protein in nuts. | <u>T</u> | F | DK |
| 8. The protein in a peanut butter sandwich is complete. | <u>T</u> | F | DK |
| 9. Peanuts and soybeans are examples of the nuts and seeds group. | T | <u>F</u> | DK |
| 10. Certain plant proteins, when eaten alone, are complete proteins. | T | <u>F</u> | DK |
| 11. A lacto-ovo vegetarian eats no red meat, but does eat fish, poultry, dairy products and eggs. | T | <u>F</u> | DK |
| 12. A total vegetarian diet has no significant source of vitamin B ₁₂ . | <u>T</u> | F | DK |
| 13. Most Americans eat two times the Recommended Dietary Allowance for protein. | <u>T</u> | F | DK |
| 14. A total vegetarian eats only vegetables. | T | <u>F</u> | DK |
| 15. Lentils and rice will make a complete protein. | <u>T</u> | F | DK |

-5a-

1. How useful would you say this workshop has been for you personally?

- very useful (go on to question 1a.)
 somewhat useful (go on to question 1a.)
 not too useful (go on to question 1b.)
 not at all useful (go on to question 1b.)

1a. Please indicate how or in what ways the workshop was useful to you.

1b. Please indicate how or in what ways the workshop was not useful to you.

2. Was this workshop held at a convenient hour of the day for you?

- yes (skip to question 3)
 no (go on to question 2a.)

2a. If it was not a convenient hour of the day for you, what time would you have preferred?

_____ time

3. Did you feel this workshop was not long enough, too long, or just right?

- not long enough (go on to question 3a.)
 too long (skip to question 4)
 just right (skip to question 4)

3a. If you felt this workshop was not long enough, which type of workshop would you attend?

- all day in-service day
 all day Saturday
 3 hours once a week for 4 weeks
 one week during the summer
 other (please specify _____)

4. Would you recommend this particular workshop to your colleagues?

- yes
 no

5. Please describe how or in what ways, if any, you might use the information from this workshop in your work.

Delayed Questionnaire

School of
Home Economics



Corvallis, Oregon 97331 (503) 754-3551

Dear Workshop Participant:

You will already be familiar with the enclosed questionnaire as a similar one was distributed at the nutrition education workshop you attended approximately one month ago.

As the last step in the evaluation, I would appreciate it if you could fill out the enclosed questionnaire. I am interested in your initial responses, so please do not look up any answers, but just respond to the best of your ability.

Again, for the sole purpose of coding this questionnaire, I remind you to include the last four digits of your home phone number as long as that has not changed since the workshop. If you do have a new number, please use the same last four digits of the phone number you used at the workshop.

When completed, enclose the questionnaire in the stamped envelope provided and write your name and address on that envelope only. Please return the questionnaire by _____. A secretary will be opening the envelopes and recording which ones have been returned so that we do not send reminders to those who have already returned their questionnaire. All answers will be strictly confidential and no names will be used in anyway with the data provided by them.

Thank you for your cooperation in this evaluation. Your presence at the workshop was also appreciated.

Sincerely,

Christina Stark

Christina Stark
Graduate Student in Foods and Nutrition
School of Home Economics
Oregon State University
Corvallis, OR 97331

-1-

Please write the last four digits of your home phone number. _____

The following statements apply to fast foods - those foods bought at the chain restaurants that feature hamburgers, pizza, chicken, fish and chips, tacos, etc. Please read each statement and circle the answer corresponding closest to your opinion.

| | <u>Agree Strongly</u> | <u>Agree</u> | <u>Uncertain</u> | <u>Disagree</u> | <u>Disagree Strongly</u> |
|--|---------------------------|--------------|------------------|-----------------|------------------------------|
| 1. Most fast foods are "junk" foods. | AS | A | U | D | <u>DS</u> |
| 2. A hamburger cooked at home is better for you than a hamburger cooked at a fast food restaurant. | AS | A | U | D | <u>DS</u> |
| 3. I like the food at fast food restaurants. | <u>AS</u> | A | U | D | DS |
| 4. A person should eat at fast food restaurants as little as possible. | AS | A | U | D | <u>DS</u> |
| 5. Fast food restaurants are a convenient way for me to get a nutritious meal. | <u>AS</u> | A | U | D | DS |

Please circle whether you think the following statements are true, false or you don't know.

| | <u>True</u> | <u>False</u> | <u>Don't Know</u> |
|--|-------------|--------------|-----------------------|
| 6. A typical fast food meal of fried chicken, mashed potatoes, coleslaw, and a roll is low in vitamin A. | <u>T</u> | F | DK |
| 7. A large hamburger, fries, and a shake equal about 2500 calories. | T | <u>F</u> | DK |
| 8. Fast foods are low in fiber. | <u>T</u> | F | DK |
| 9. The percentage of fat in most fast food meals is greater than 50%. | T | <u>F</u> | DK |
| 10. A typical fast food meal of pizza and a cola is low in vitamin C. | <u>T</u> | F | DK |
| 11. The number of fast food restaurants is leveling off. | T | <u>F</u> | DK |
| 12. Most fast food meals are inadequate in protein. | T | <u>F</u> | DK |

-2-

The following statements apply to an eating style known as vegetarianism. Please circle the answer corresponding closest to your opinion.

| | <u>Agree Strongly</u> | <u>Agree</u> | <u>Uncertain</u> | <u>Disagree</u> | <u>Disagree Strongly</u> |
|--|---------------------------|--------------|------------------|-----------------|------------------------------|
| 1. Vegetarianism is just a fad. | <u>AS</u> | A | U | D | <u>DS</u> |
| 2. I feel better when I eat meatless meals. | <u>AS</u> | A | U | D | DS |
| 3. Nutritionally speaking, the total vegetarian is asking for trouble. | AS | A | U | D | <u>DS</u> |
| 4. I would like to incorporate more vegetarian meals into my diet. | <u>AS</u> | A | U | D | DS |
| 5. I feel a dinner without meat is just not a complete meal. | AS | A | U | D | <u>DS</u> |
| 6. A vegetarian diet would become boring after awhile. | AS | A | U | D | <u>DS</u> |

Please circle the appropriate answer.

| | <u>True</u> | <u>False</u> | <u>Don't Know</u> |
|---|-------------|--------------|-----------------------|
| 7. The protein in a peanut butter sandwich is complete. | <u>T</u> | F | DK |
| 8. Certain plant proteins, when eaten alone, are complete proteins. | T | <u>F</u> | DK |
| 9. Cheese can complement the protein in nuts. | <u>T</u> | F | DK |
| 10. Lentils and rice will make a complete protein. | <u>T</u> | F | DK |
| 11. A total vegetarian diet has no significant source of vitamin B ₁₂ . | <u>T</u> | F | DK |
| 12. A total vegetarian eats only vegetables. | T | <u>F</u> | DK |
| 13. Peanuts and soybeans are examples of the nuts and seeds group. | T | <u>F</u> | DK |
| 14. Most Americans eat two times the Recommended Dietary Allowance for protein. | <u>T</u> | F | DK |
| 15. A lacto-ovo vegetarian eats no red meat, but does eat fish, poultry, dairy products and eggs. | T | <u>F</u> | DK |

-3-

The following statements apply to weight control and weight loss diets. Please circle the answer corresponding closest to your opinion.

| | <u>Agree</u> <u>Strongly</u> | <u>Agree</u> | <u>Uncertain</u> | <u>Disagree</u> | <u>Disagree</u> <u>Strongly</u> |
|---|---------------------------------|--------------|------------------|-----------------|------------------------------------|
| 1. Going on a diet means cutting out my favorite foods. | <u>AS</u> | A | U | D | <u>DS</u> |
| 2. Dieters should eat three meals a day with no snacks. | <u>AS</u> | A | U | D | <u>DS</u> |
| 3. Calorie charts are not necessary for a weight loss diet. | <u>AS</u> | A | U | D | <u>DS</u> |
| 4. Four servings from the breads and cereals group are too many for a weight loss diet. | <u>AS</u> | A | U | D | <u>DS</u> |
| 5. It's just as easy to gain weight on a nutritious food, as on an empty calorie food. | <u>AS</u> | A | U | D | <u>DS</u> |

Please circle the appropriate answer.

| | <u>True</u> | <u>False</u> | <u>Don't</u> <u>Know</u> |
|---|-------------|--------------|-----------------------------|
| 6. Regular exercise helps to control your appetite. | <u>T</u> | F | DK |
| 7. With a low carbohydrate diet, the initial weight loss is mainly water. | <u>T</u> | F | DK |
| 8. Certain foods contain enzymes that burn up fat. | T | <u>F</u> | DK |
| 9. You can become fat on a high protein diet. | <u>T</u> | F | DK |
| 10. Margarine has fewer calories than butter. | T | <u>F</u> | DK |
| 11. Carbohydrates have the same number of calories as an equal weight of protein. | <u>T</u> | F | DK |
| 12. Following a specific diet is a behavior modification technique. | T | <u>F</u> | DK |

-4-

The following statements apply to food exchanges - the system where foods are grouped according to their protein, carbohydrate, fat and calorie content. Please circle the answer corresponding closest to your opinion.

| | <u>Agree Strongly</u> | <u>Agree</u> | <u>Uncertain</u> | <u>Disagree</u> | <u>Disagree Strongly</u> |
|--|---------------------------|--------------|------------------|-----------------|------------------------------|
| 1. Learning the exchange lists is more trouble than it's worth. | AS | A | U | D | <u>DS</u> |
| 2. I would use the food exchange system to plan a low calorie diet. | <u>AS</u> | A | U | D | DS |
| 3. Food exchange lists would allow me a variety in planning meals. | <u>AS</u> | A | U | D | DS |
| 4. Food exchanges are only useful for special diets like diabetic diets. | AS | A | U | D | <u>DS</u> |

Please circle the appropriate answer.

| | <u>True</u> | <u>False</u> | <u>Don't Know</u> |
|--|-------------|--------------|-----------------------|
| 5. Some meat exchanges also include fat exchanges. | <u>T</u> | F | DK |
| 6. Bacon is in the fat exchange group. | <u>T</u> | F | DK |
| 7. Sugars and honey are a food exchange group. | T | <u>F</u> | DK |
| 8. A potato can be substituted for a slice of bread in the food exchange system. | <u>T</u> | F | DK |
| 9. One fruit exchange equals 1/2 cup of either apple, grape, or orange juice. | T | <u>F</u> | DK |
| 10. A bread exchange equals about 70 calories. | <u>T</u> | F | DK |
| 11. One egg supplies about the same amount of protein as one ounce of meat. | <u>T</u> | F | DK |

1. Please check your present position.

- Home Economics teacher in a middle or junior high school
 Home Economics teacher in a senior high school
 Home Economics teacher in a community college
 Extension personnel
 Other, (please specify: _____)

2. In the past month, have you used any of the materials or information presented at the nutrition education workshop in your work?

- Yes
 No

If yes, please specify how or in what way.

3. Do you plan to incorporate any of the workshop materials or information in your work in the future?

- Yes
 No

If yes, please specify how or in what way.