Proposals for strengthening the teaching of a clothing care unit with emphasis on home laundering in secondary schools in Montana

Mary Lou Cook
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PROPOSALS FOR STRENGTHENING THE TEACHING OF A CLOTHING CARE UNIT WITH EMPHASIS ON HOME LAUNDERING IN SECONDARY SCHOOLS IN MONTANA

by

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B.A. Montana State University, 1947

Presented in partial fulfillment of the requirements for the degree of Master of Arts

MONTANA STATE UNIVERSITY

1961

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[Signatures]

Chairman, Board of Examiners

Dean, Graduate School

Date
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M. L. C.
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CHAPTER I

INTRODUCTION

The great changes that have taken place in family living and in
technology have resulted in a need for special education in laundering.
Today laundering is a science. To properly care for the new fibers and
finishes, it is necessary to apply various sciences and develop skill in
problem solving.¹

It has even been necessary for three separate industries to pace
their work together—the textile developments, laundry equipment advances,
and laundry product innovations. Each is and must be closely interwoven
and interdependent if they are to meet the needs and wants of today's
family. They must be aware of the family needs separately and together
as their products are used in the household.²

The problem of detergents and their use is also a national one.
America is so clean it is unclean in that our water is being polluted.
The efficient laundry cleaner, the detergent, is causing this concern.
Chemically a detergent is composed of a surfactant, a builder, a corro-
sion inhibitor, a anti-redeposition agent, suds stabilizers or suppress-
sors, fabric fluorescers or brighteners, and the perfume. It is the
surfactant (surface active agent, presently alkyl benzene sulfonate, or

¹Evelyn Carlisle, "Demonstrating Home Laundering," 11th National

²Anne Lyng, "Interdisciplinaryism—Laundry Aids and Their
Effects on Textiles and Laundry Equipment," Speech, American Home Eco-
ABS) which reduces the surface tension between soil and water and fabric and water and suspends the soil to prevent redispersing on the fabric. It is the surfactant which does not break down in the sewage disposal plants, termed bio-degradability, and foams at extremely low concentrations. By 1965 the entire detergent industry will have converted from the present branched-chain benzene compounds known as ABS to a new family of materials known as linear alkylate sulfonates or LAS. These are subject to faster decomposition by bacteria and detergents will not cause foaming in water supplies after they have been given adequate biological treatment. Nine states have proposed bills which would establish standards for detergents and ban those not complying. The Muskie Bill passed by the Senate October 16, 1963, adds a new section to the Federal Water Pollution Control Act aimed at preventing further pollution of such waters in the public interest. 

Many clothes are ruined by improper laundering. A lack of knowledge and understanding of the factors involved leads to results that cannot be accepted by present day standards for good grooming. The garment may rapidly become one that is not usable. The student will have more clothes in wearable condition at less cost because proper care lengthens the life of attractiveness.

When the mothers of our students were in high school they worked with four natural fibers, cotton, linen, wool, and silk, and possibly two man-made ones, rayon, which then included acetate, and nylon. Today, in addition to the natural fibers, there are now more than 240 different

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3Ibid.

fibers or modifications. For example, there are 94 types of nylon, 35 types of acrilics. The mixing and blending of these fibers adds to this complexity.5

The homemaker needs to become familiar with the general characteristics of the broad groups of fibers (of which there are now 16) in order to properly care for the textile product. It is further complicated in that when a fabric is made of one particular fiber, the fiber properties generally carry over into the fabric but may be modified by yarn and fabric structure and by finishes. When two or more fibers are combined in a fabric, some of the individual fiber properties may be lost or modified. Generally fibers are grouped as natural or man-made. The natural are sub-divided into cellulosic and protein. The man-made have been grouped in generic classifications defined by the Federal Trade Commission in the Rules and Regulations for the Textile Fiber Products Identification Act of 1960.6

The American Home Laundry Manufacturers' Association, recognizing the complexity of the problem, established in 1961 a research fund, in memory of Elaine Knowles Weaver, professor of home economics at Ohio State University. They have stated their purpose and policy as follows:

The Elaine Knowles Weaver Fund was established by the American Home Laundry Manufacturers' Association to provide monies for study, research, teaching or development of teaching materials, which will contribute to better home laundering techniques, better home management of laundry, better teaching of home


laundering, more basic knowledge of home laundering or to help worthy students continue their studies in these fields.

Grants may be made up to $2,000 per year, and may be allocated to a single applicant or divided among several applicants. Grants may be made to the following:

1. An institution, for use in ways consistent with the purpose of the fund.

2. A single project, conducted either in an institution or elsewhere, by an individual or a group.

3. An individual (graduate student, institution staff member or other person) for advanced research or study.

To be eligible for a grant, a proposal must:

1. Show likelihood of making a substantial and worthy contribution to the home laundering field.

2. Be outstanding among those submitted.


Grants, if made, will be made before June 30 each year.7

In 1963 the first project grant of the Elaine Knowles Weaver Fund for grants in the field of home laundering was awarded to Kent State University. The researchers at Kent State University used this to review the literature in the field of home laundry and develop a bibliography of the last fifty years on material pertaining to home laundry problems with emphasis in four areas: management, equipment, chemicals, and textiles.

Also in this era the automatic washer and dryer have come to be accepted equipment in the homes. If families do not have this equipment in the home, they have access to a laundromat in the area and many use these part time. The knowledge of how to use this equipment is

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desirable for our students.

Laundering is one of the mechanics of living. It can become a very difficult one for the mother of young children who must have a clean white shirt every morning for her husband to wear to work. Ellen H. Richards, first president of the American Home Economics Association (1909-1911, said:

Home Economics stands for—
The freedom of the home from the dominance of things and their due subordination to ideals.
The simplicity in material surroundings which will most free the spirit for the more important and permanent interest of the home and of society.8

"Women are not born adequate or inadequate as home managers. Each reacts to her work according to her education or lack of it and previous experiences, together with the thought, judgment, and foresight she possesses," said Genevieve W. Schulbert.9

It seems this statement would put the burden of instruction back on the homemaking classes. This study also showed that one out of six of her selected group of young homemakers favored making the courses practical. The group also recognized the need for basic knowledge in care and recognition of new fabrics.10

Since care of clothing is such a rapidly changing subject, it is becoming difficult for it to be properly taught at home. A trip through a supermarket may show a wall full of different types of laundry aids or

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10Ibid.
supplies. As these must be purchased the students need to learn what to expect from them and how money management is involved.

**Statement of the Problem**

The major purpose of this study was to gain information which might lead to improvement in the instruction of the clothing care unit, with emphasis on home laundering, in the homemaking departments of Montana high schools. It was the purpose of this study to learn what is being done, but not to evaluate present instruction. It will propose a unit of study and ask teachers for voluntary evaluation.

The following assumptions were used in formulating this plan:

A. Homemaking education is concerned with present family living as well as future family living.

B. Homemaking education should be concerned with applying modern science to make homes more comfortable, more sanitary, and more satisfying to the family members.

C. Home laundering is important to the secondary school students who are concerned with their appearance, to which proper care of clothing makes a vital contribution.

D. Home laundering has progressed from the flat rock in the river stage to a complex management problem requiring scientific and mechanical knowledge to meet exacting standards and this should be incorporated in homemaking education units.

E. A knowledge of what is now being done in the secondary

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schools is desirable in order to make proposals for strengthening the teaching of a home laundering unit.

F. It is necessary to know what facilities are available for the teaching of this unit before an approach can be formulated.

G. It may be necessary to further point up the need for the unit since several state guides (not Montana's) do not include this unit in their recommendations.

It was assumed also that instruction in home laundering in secondary schools would be of value to the student in understanding problems encountered in everyday living, in care of her clothing leading to improved personal appearance, in less need of money expenditure for new clothing, and in improved family relationships.

It was reasonable to assume that the information uncovered through this study would be of value to high school teachers and to the State Department of Home Economics in working on the State Guide which was in the process of revision. It would give a means of assessing the present program of home laundering as carried on throughout the state for it was assumed there would be a sufficient return on the questionnaire to validate the results of that part of the study.

**Delimitations**

This study was limited to the gathering of information which would prove useful in improving or in organizing a unit of study on home laundering as a part of the clothing care unit in the Montana secondary schools' homemaking departments. It was limited to grades nine through twelve and included only those schools with those grades.
Limitations

There was a possibility that individuals might not answer the questionnaire as accurately and objectively as possible. The study might be limited by persons not completing and returning the questionnaires.

There was difficulty in finding current resource material since fabrics, machines, and laundering products change and develop rapidly. It was limited by that resource material which could be obtained from commercial sources, very recent textbooks, and up-to-date periodicals.

Definition of Terms

**Home Economics.** A discipline that draws from the biological, physical, and social sciences, and the humanities the content needed to help people solve problems of food, clothing, shelter, and relationships, and that deals with the development of understandings, skills, and attitudes essential to the improvement of the ways of living of individuals, families, and community groups. 12

**Homemaking Education.** A program of instruction and organized experiences offered at the high school level, designed to help students solve problems of personal and family life and assume homemaking responsibilities. 13

**Home Management.** An area of study dealing with the problems involved in making the best use of the human and material resources of the community groups.


13 Ibid.
home so as to ensure the optimum development of the family, both as a
group and as individuals in their relationships with one another and
with society.\footnote{14}

**Housing** (industrial arts; home economics). A curriculum area
designed to develop both a technical knowledge of the problems of plan-
ning, buying, constructing, and maintaining a unit dwelling and a social
understanding of the universal problem of shelter.\footnote{15}

**Launder.** To wash, or wash and iron, clothing or household
linens.\footnote{16}

**Laundering.** The act or process of washing or cleansing.\footnote{17}

**Laundromat.** A commercial establishment in which automatic wash-
ing machines for clothes and other linens are installed for the use of
individual customers.\footnote{18}

**Laundry.** A collection of clothes or household linens to be
laundered, or (2) a commercial establishment where laundering is done.\footnote{19}

**Project.** A significant, practical unit of activity having educa-
tional value and aimed at one or more definite goals of understanding;
involves investigation and solution of problems and, frequently, the
use and manipulation of physical materials; planned and carried to com-
pletion by the pupils and teacher in a natural "real-life" manner.\footnote{20}

\footnote{14}{Ibid.}
\footnote{15}{Ibid., p. 274.}
\footnote{16}{Webster's Third New International Dictionary (Springfield,
\footnote{17}{Ibid.}
\footnote{18}{Ibid.}
\footnote{19}{Ibid.}
\footnote{20}{Good, op. cit., p. 421.}
Secondary School. Synonym, High School. The school division following the elementary school, comprising most often grades 9 to 12 or grades 7 to 12, and sometimes including grades 13 and 14. In this study it will mean grades 9 to 12. 21

Textiles and Clothing. (Home economics). An area of study in which students learn to plan, select, buy, make, and care for clothing. 22

Unit. (1) A major subdivision of a course of study, a textbook, or a subject field, particularly a subdivision in the social studies, practical arts, or sciences; (2) an organization of various activities, experiences, and types of learning around a central problem, or purpose, developed cooperatively by a group of pupils under teacher leadership; involves planning, execution of plans, and evaluation of results; see project. 23 (Both definitions will be used).

Methods and Procedure

The method used in this study was a questionnaire survey. The following procedures were employed:

1. A library search was made of recent textbooks, articles in professional magazines, commercial material by industries, and unpublished literature. This search yielded information concerning current trends and problems in clothing care, with emphasis on home laundering as a part of the secondary school teaching.

2. A questionnaire 24 was sent out to all the secondary school

21 I b i d ., p. 267. 22 I b i d ., p. 568.
23 I b i d ., p. 587.
24 See Appendix.
homemaking teachers in Montana. The questionnaire includes four types of questions:

(a) Statistical material about size of school, departments and equipment available.
(b) Personal data concerning the teacher.
(c) Attitudes and opinions on the teaching of home laundering in clothing care units in their classes.
(d) Report of actual material taught, when, and for how long.

3. A unit of work on clothing care with emphasis on home laundering was planned for two weeks from the material sent in by the teachers on the questionnaire. In doing this, the American Home Laundry Manufacturers' Association plan of 1960 was also used. Copies of both of these plans are included in the Appendix of this thesis.\textsuperscript{25}

Organization of Remainder of Thesis

Chapter II, "Review of Literature," reviews the history of laundering and the equipment used for it. It reviews selected studies which might apply to teaching this unit in the secondary school and current trends in home economics and the teaching of home laundering in clothing care.

Chapter III, "Analysis of Data and Discussion," gives the results of these data under the following headings: (1) the distribution and return of the questionnaire; (2) data from the questionnaire; (3) summary of the data.

Chapter IV, "Summary."

\textsuperscript{25}Ibid.
CHAPTER II

REVIEW OF LITERATURE

History of Laundering

The purpose of this chapter was to provide a background to be used as a basis for evaluating the problem. It was necessary to cover some of the historical as well as modern developments to understand how laundering grew from a comparatively simple but arduous and time-consuming task to one that of all household chores is becoming infinitely more complex. This complexity is occurring in spite of revolutionary changes by all related industries to simplify it.

Care of clothing and the need to keep clean can be traced back to the first lady who washed her leopard skin on the rocks by the side of the stream—in cold water. Somehow she discovered a ridged rock made a better washboard and the first equipment was in use. It is not many generations back to the washboard and wash tubs in the side yard with bar soap shaved in to approximate soap flakes. Clothes were boiled, for the combination of lye and boiling water were the bleaches of the day, with bluing in the final rinse for whiteness. But the need of the housewife for fabric knowledge was not great. The family laundry included cottons and linens, with only an occasional specially handled silk or woolen garment.¹

The equipment manufacturers have at all times tried to help speed

up and simplify one of the most ever-present of all homemaking tasks. Early models with agitators built like milking stools were made of wood and powered by hand or water. Before electricity on the farm, many homemakers used conventional washers with gasoline powered motors. Electric powered conventional washers with rubber roller wringers for water extraction dominated the field until after World War II. Many are still being used in homes with less than average income.

About 55 per cent of the homemakers will be washing their loads in the regular cycles of today's automatics and 45 per cent of them will be using a wringer washer. The teacher must be up to date on automatic washer developments, but she also must maintain perspective. She cannot forget wringers, since about half of the homemakers will still be using them.

The first automatic washer, a Bendix, was introduced at the Louisiana State Fair in 1937. It was a tumble type washer with unusual installation requirements. The design for the agitator-type automatic washer was delayed for ten years and during this time synthetic detergents were developed. Up to this time some new fabrics were developing but their revolutionary aspects and full potential had not been recognized.

In 1956 the home laundry appliance industry sold more than 4.3 million washers. Eighty-four per cent of these are estimated to be in use at the present time. These machines are top loading, agitator type

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with a choice of hot or warm wash water, one agitation and spin speed,
and the programming for laundering ordinary cotton or linen fabrics is
still the same. There are no automatic dispensing features on these
models. The 1960 Federal Census indicated that 7½ per cent of the Amer-
ican homes have washers. However, common sense indicates many are not
the latest models.\(^4\)

The following step involved an effort by the machine manufactur-
ers to incorporate all the new information on the proper care of the
rapidly progressing textile developments into their machines. The
control panel became very complex and the service potential rose rapidly.
Contributing to this, also, was the replacement for the old bar laundry
soap. This included:

- Heavy-duty soaps
- Light-duty granular soaps
- Light-duty flake soaps
- Powdered specialty soaps
- Liquid specialty soaps
- Heavy-duty high-sudsing granular synthetic detergents
- Heavy-duty high-sudsing liquid synthetic detergents
- Heavy-duty high-sudsing pelletized synthetic detergents
- Heavy-duty low-sudsing granular synthetic detergents
- Heavy-duty low-sudsing pelletized synthetic detergents
- Heavy-duty low-sudsing liquid synthetic detergents
- Light-duty normal-sudsing granular synthetic detergents
- Light-duty normal-sudsing liquid synthetic detergents

and the developing bleaches, softeners, conditioners:

- Liquid chlorine-based bleaches
- Two or more types of granular chlorine-based bleaches
- Pre-measured dry chlorine-based bleaches
- Granular perborate oxygen-based bleaches
- Liquid oxygen-based bleaches
- Granular monopersulfate light-duty bleaches
- Granular water softeners
- Granular water conditioners
- Liquid water conditioners

\(^4\)Ibid.
Granular household cleansers
Liquid household cleansers
Liquid fabric conditioners
Liquid starches
Plastic starches
Spray starches
Liquid bluings
Dry bluings

Multiply all of these types by brands available.5

Clothing fibers were being developed rapidly. They appeared under brand names, in blends, and with treatments or finishes carrying trademark names. In 1960 the Fiber Products Identification Act required labeling as to fiber content of all fibers included in a fabric if present in more than 5 per cent or 5 per cent or more of total fiber weight, and the use of the generic name along with the brand name on the labels. The use of the sixteen generic classes simplified the amount of information required to launder correctly.6

This movement to simplification was also developing in simplified control panels on machines and a classifying of laundering aids into a workable group.

However, in doing this the housewife must be educated to understand. A heavy-duty detergent is a must for good laundering. The homemaker must make the decision among the many brands and special advantages of each, such as the premeasured tablet. A bleach is a necessary laundry additive. The homemaker must decide on liquid or powder, oxygen-based or chlorine-based. Whether or not she wishes to use a fabric conditioner is her decision, and if she is not yet using one she probably will be in the future as it is one of the most rapidly growing laundry additives.

5Ibid., p. 11. 6Ibid., p. 13.
The kind of water in the home will determine if a water conditioner is used. Starch is being supplanted by fabric finishes and bluing by optical brighteners included in the detergents.\footnote{Ibid., p. 12.}

Concurrently with the development of the washer was that of the dryer. Our first lady hung her washed leopard skin over a tree limb and hoped it would not blow off. Then, as far as women were concerned, a great scientific advance was made—the clothespin. It was not until about 1900 that the hand powered, wooden-tubbed washers appeared on the market. Very shortly a wringer was added and provided a practical way to remove water from wet clothes. Next came the spinner—a spin extractor without air or heat and a disadvantage of setting wrinkles badly. It was the principle of the spin with the addition of controlled air and controlled heat that provided today's automatic dryer. With this dryer the average homemaker with a family of four saves up to 300 hours, or 37\( \frac{1}{2} \) eight-hour days, each year over that expended in carrying clothes to the outside line, pinning up, and taking down. Current studies also show that dryer owners bought about half as many clothes as those without dryers.\footnote{Robert L. Brentnall, "What is Modern Drying," 16th National Home Laundry Conference, Atlanta, Georgia, October, 1962, pp. 39-43.}

Nor has the finishing of these garments by ironing been neglected. However, as far as equipment goes it seems to lag behind. In the memory of our grandmothers are the sad irons, heated on the stove, tested with a wet finger, carried to an ironing board to begin smoothing. When a removable wooden handle for the iron appeared, it was a definite improvement for it stayed cool. Families without electricity eventually were
able to secure gas heated irons which were pumped up like Coleman lamps. When electricity came, the iron was one of the very first pieces of accepted electrical equipment. Almost every household could afford one. The design was much the same as today, though it is now lighter, thermostatically controlled, and called a dry iron. Steam irons were introduced after World War II, and the steam and spray iron is a 1960 product.

Basically, ironing boards are still much the same—padded boards shaped to accommodate clothing sizes. They may be lowered or raised so the operator may sit or stand while ironing. Some flip out for a wider area for shirt ironing. In 1959 the Lauru study was reported at the Laundry Conference. Its purposes were:

1. A comparison of muscular effort expended in ironing with an Ironrite ironer and ironing with a hand iron.
2. A comparison of muscular effort expended in hand ironing while standing and hand ironing while sitting down.
3. A comparison of cardiac recuperation after ironing with an Ironrite ironer and after ironing with a hand iron.

Among other findings came one which reversed popular belief, for hand ironing while sitting down required from 32 per cent to 38 per cent more effort and from 16 per cent to 20 per cent more time than hand ironing while standing.

Because of the time and energy saving shown, this study justified the ironer in the family, but as yet this piece of equipment has not had universal acceptance. The study gave this comparison: Ironer ironing

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required only 34.3 per cent as much time, or about one-third, as ironing by hand and required only 7.8 per cent as much effort or less than one-twelfth as much effort as hand ironing. The expenditure of energy has real significance to the homemaker who is handicapped.

With the drip-dry and wash-and-wear fabric trends, the use of the ironer has not been rapidly increasing in the home. It has the disadvantage of needing skill in its operation, and the homemaker must take time to learn how and then practice this knowledge. How much the ironer can do is partly in proportion to the skill and experience of the user.

In an article, "What is Modern Finishing?", Ruth Krustev has said:

Modern finishing of fabrics begins with the selection of garments; may be affected by washing temperature; can be improved or made easier with starch and fabric conditioners; is greatly minimized through the use of a dryer.

Preparation for ironing saves valuable time. And, the items remaining to be ironed can be done swifter automatically, or ironed "band box" smooth with a combination steam and dry iron.

Trends in Current Research

Since the teacher must be able to help students evaluate current equipment, products and fabrics in the light of their needs and values, as well as help them acquire the skills necessary for operation and the ability to solve present and future problems in the care of these, some reading was done on the research currently being reported.

According to Spafford and Amidon:

11 Ibid., p. 25.


Encouraging students to learn more about the world in which they live and rapid changes taking place in it, and to develop the ability to solve new problems as they arise are important goals for education today. The studies reported . . . have value in extending our field of knowledge. They have value also in offering a variety of suggestions regarding procedures which teachers may use to encourage curiosity and to teach techniques of problem solving. They can be used both in classroom teaching and in developing home experiences.\footnote{14}

The new fabrics made from new fibers and blends are usually presented as washable. A study by Trost was designed to find out the amount of shrinkage to be expected with certain fabrics when washed under ordinary conditions and the extent to which manufacturer's claims as to washability were supported by performance. Four fabrics were used in the study --one made of 100 per cent wool; two, wool and manmade fiber blends, and one, 100 per cent manmade. Results showed:

1. The amount of shrinkage decreased as the amount of manmade fiber increased.

2. Wool treated to render it unshrinkable did not shrink but had a tendency to stretch in the filling yarn after three washings.

3. Total shrinkage had not occurred by the fifth washing in any fabric.

4. Shrinkage was influenced more by fiber content than the detergent used.\footnote{15}

Neher conducted a study to find out the effect of four different laundry solutions on the shrinkage, breaking strength, and colorfastness of cotton and cotton-Dacron, cotton-Orlon, and cotton-nylon. The laundry


solutions used were a neutral soap, a light-duty or neutral syndet, a heavy-duty alkaline syndet, and tap water. Among the results of her study was that the materials used accounted for more differences than the washing solutions. 16

A study by Smith was designed to compare the soil-removing ability of two controlled, sudsing synthetic detergents at four concentrations and two types of automatic home washers—an agitator and a tumbler type; and to find out if differences in soil removed or redeposited and color change in fabric were due to differences in detergents or concentrations of detergents, or to differences in machines. The results of the study showed no differences in results between the two detergents used. As the concentration increased, the cleansing action increased. As the testing progressed, however, the detergent gradually became more difficult to rinse from the fabrics. The agitator-type washer gave results superior to the tumbler type throughout the experiment. 17

A study carried out by Young was set up to test the effect of laundering and drycleaning upon five spun rayon fabrics—four labeled as washable and crease resistant by the manufacturer, and one so advertised by a department store. All the fabrics gave satisfactory performance in drycleaning. The results, in general, indicated that these fabrics would give satisfactory performance during a reasonable wear


period if the garments were carefully made and commercially drycleaned. Performance of the fabrics, however, was unsatisfactory by both machine and hand laundering. Shrinkage in the warp ranged from 2.5 per cent to 9.2 per cent after the first laundering and increased progressively through the test period. Shrinkage in the filling did not exceed a satisfactory amount for two fabrics. Other changes in the fabrics were generally acceptable. Colorfastness was excellent in four of the five fabrics. Four fabrics remained soft after laundering. The breaking strength and crease recovery, as a whole, showed little change. If these materials were bought as piece goods, pre-shrinkage would eliminate the most serious weakness in the fabrics. They would, however, not be satisfactory if bought in ready-to-wear garments.\textsuperscript{18}

A similar study by Bones was designed to test the performance of wool-nylon blends having different percentage composition in drycleaning and hand laundering. Three wool-nylon blends were used, and the tests were for dimensional stability, crease recovery, breaking strength, elongation, and colorfastness. Insofar as the materials used in this study were concerned, Bones concluded that due to excessive shrinkage, washable wool-nylon blends should be drycleaned and not laundered. Hand laundering also resulted in a faded appearance and a harsher, stiffer fabric than drycleaning. Crease recovery was excellent, and strength and elongation were not greatly changed by either cleaning method. She also recommended that antistatic finishes be applied to wool-nylon blends.

especially those containing a large proportion of nylon.\(^{19}\)

Little information is available to help the consumer in removing stains from blended and combination fabrics when the fibers used are chemically different. The primary purpose of a study by Davis was to find out the effectiveness of stain-removal methods on cotton and cotton-blended fabrics. Six fabrics, all containing some cotton, and all light blue, were used in the study. Three were blended fabrics, cotton-silk, cotton-Orlon, and cotton-Dacron; two were combination fabrics, cotton-nylon, cotton-acetate; and one was pure cotton. All were stained with grape juice, uncooked egg yolk, machine oil, merthiolate, and nail polish. These were selected as common examples of a fruit, protein, grease, dye-like, and pigment stain. From three to six methods of stain removal were tried on each stain. Hand laundering using plain water and detergent was tried on all stains. Other methods used were damp cloth, acetone, amyl acetate, carbon tetrachloride, denatured alcohol, glycerine, vinegar, chlorine bleach, mild oxidizing bleach, sodium bicarbonate, and benzene. A panel of five persons—a homemaker, two graduate students, a high school science teacher, and a college teacher of textiles and clothing—rated the success in removing stains. The method used was considered satisfactory if the sample showed no appreciable change in color and texture on either side of the fabric, and/or if there was no appreciable amount of stain remaining on either side. Grape juice and merthiolate were the most difficult stains to remove from all fabrics. Grape juice stains, which had stood 2 h hours, could not be removed

satisfactorily from any of the fabrics listed by any of the six methods tried. Ordinary hand washing was somewhat effective on the pure cotton. Cotton and cotton-silk were the only materials from which merthiolate could be effectively removed. Acetone removed nail polish successfully from cotton-silk, cotton-nylon, cotton-Orlon, and cotton-Dacron. Amyl acetate was effective on all the fabrics except the pure cotton. No method was entirely satisfactory on cotton. Machine oil was removed satisfactorily from all the fabrics by the use of both carbon tetrachloride and benzene followed by hand washing with water and a detergent. Hand laundering was rated satisfactory for all the fabrics, except cotton-silk and cotton-nylon. Cotton-silk and cotton-Orlon were the only fabrics from which uncooked egg yolk was satisfactorily removed by all three methods used—hand washing, sponging with a damp cloth, applying carbon tetrachloride or benzene followed by hand washing. Hand laundering proved unsatisfactory for 100 per cent cotton, cotton-nylon, cotton-acetate, and cotton-Dacron, but the stain was removed by the other two methods.  

The Home Economics Research Service in the United States Department of Agriculture has compiled and published titles of completed theses in home economics for many years. At present the American Home Economics Association is doing this with the assistance of the U. S. Office of Education. The original purpose was to stimulate research for developing knowledge for teaching programs and to help prevent duplication of

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research effort. 

There is a wide range of subjects at this time that are of interest to the teacher in her teaching of clothing care by laundering. It will be necessary for her to endeavor to keep up with the textile field for:

Fiber content is one criterion for what care should be given a fabric to insure proper satisfaction in use. The type of yarn, closeness and firmness of construction, permanency of finish, and colorfastness are also important factors in determining the proper care for a fabric. 

It requires an awareness of how thoroughly laundering problems and techniques permeate every area of homemaking as illustrated by this quote from Mrs. William J. Bollman:

Home laundering is a part of every area in our homemaking program. In clothing we consider laundering when we discuss consumer buying and wardrobe planning. When we sew, pressing is as important as the actual stitching. We even do some washing and drying for the purpose of pre-shrinking a piece of material.

In foods work, where we stress the importance of cleanliness, our laundry equipment is put to practical use. Stain removal is done here also.

In our discussions of home planning and interior decoration, facilities for laundering are a most important part of the overall picture. In choosing furniture and accessories for the home, the questions of launderability always arises.

The child care unit always includes a discussion of clothing for baby's needs, and again laundering techniques are important.

In home nursing, we are concerned with dressing the sick person comfortably, in garments that are easily laundered. Linens, bedding, curtains, etc., in the sick room are also a laundering problem.

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23 Amber C. Ludwig, "This is How You are Teaching Home Laundering," What's New in Home Economics, October, 1962.
Trends in Education

The author's study was done for the purpose of strengthening the teaching of a clothing care unit with emphasis on home laundering in Montana secondary schools. It seemed that any material relative to how this unit was taught in schools would be relevant.

In 1956 a survey was made on the teaching of home laundering by Amber C. Ludwig, editor of Equipment and the House of What's New in Home Economics. In 1962 the magazine's readers were again surveyed to try to find out how much progress had been made in six years. In the 1956 survey the most troublesome problems were: How to find time for a unit; how to motivate the unit; how and where to get clothes to wash; how to mesh class periods with equipment cycles; and how to provide student laboratory experience. The 1962 survey showed that the teachers no longer found time a problem. The least amount of time spent was five lessons in one week and the most was 23 lessons over six weeks. Three-fourths of the teachers spent from 8 to 12 lessons. Motivation was stimulated by interest in personal grooming, by impending need to soon have total care of own wardrobes. The clothes to wash were secured from laboratory linens and those provided by teacher and students. By careful planning, and using duplicate articles of clothing so some were in each cycle of the laundering, it was possible to illustrate washing, drying, and ironing procedures all in one class. It meant the instructor had to do some cycles in previous sessions. Home assignments and the cooperation of the mothers helped supplement the laboratory experience. Rotating teams were used at school and some teachers used the local self-service laundry. In summing up this report Ludwig said: 
All the reports showed an awareness of the importance of the laundering unit. Enthusiasm, creativity, and thoroughness were much in evidence. There was an encouraging number of instances where home and school cooperated in a mutual learning process. It is also evident that these teachers are free from the frustration and helplessness shown in earlier surveys. They are using a wide range of background materials, adapting them to their own needs.

In short, this is indeed a progress report. Yet there is still one element of disappointment. The total response to our questionnaire was only about one out of six. The number of excellent reports on which we based this article was smaller still. We hope that excellent laundry units are being taught by a considerable percentage of teachers who were not surveyed or who did not choose to participate in this study. Nevertheless the survey indicates that many more teachers need to get in the act before the laundry teaching millennium has arrived.  

In 1963 a two-week workshop was held at the San Fernando Valley State College, Northridge, California, on the care and use of textiles for secondary and junior college home economics teachers, extension home advisors and other interested home economists. It covered the following topics and activities:

The properties and characteristics of natural and man-made textile fibers.
Legislation and commercial or industrial standards affecting the consumer such as the Textile Fiber Products Identification Act and L-22 Standards.
The relation of fabric structure to care.
Engineered fabrics such as modern blends and functionally finished fabrics.
Developments in fibers and fabrics for specialized use.
As a part of the emphasis on textile care these subjects were discussed in detail:
Detergents and other laundry aids and their correct use.
The use and care of modern laundry equipment.
Laundry experiments to demonstrate proper care of textile fibers and fabrics, which were based on the use of automatic washers and dryers and various selected laundry agents.
The importance of the water and controlled temperatures of the water supply.  

24 Ibid.
It was demonstrated that most textile courses can be taught more effectively when laundry principles are integrated into the course. Using textiles is a part of our daily living and most of them can be properly and economically cared for at home with good basic knowledge of the principles involved.26

At Kent State University, in 1963, a study was made of "Laundry Practices and Procedures of Homemakers in Northern Ohio." The purposes of this study were to identify difficulties in obtaining satisfactory laundry results, to point the way to areas requiring research, and to equate the problems of this area with those of other areas. This paragraph quoted from this study shows how large an economic problem laundering is:

Statistics show that today's homemaker spends less and less time in the laundry. The fact remains, however, that working mothers consider laundry one of the 'big problems.' Women spend from two to six hours a week in an effort to keep clothes ready to wear. There is a money investment of approximately $1,055.00 in launderable items plus another $325.00 in equipment. Then the cost for laundry supplies is from $2.00 to $6.00 weekly.27

The United States Department of Labor predicts a 25 per cent increase in the number of women in the labor force by 1970 over 1960. One-third of the total labor force in the United States today are women and of this one-third well over half are married women more than 35 of age. This group of more than 35 also includes the largest group of

26 Ibid.

As more women enter the labor force it becomes more important that they be able to understand their homemaking chores more fully. If mother's method of laundering as taught to daughter is not adequate, the secondary school must provide instruction.

Secondary school homemaking classes cannot and should not be separated from homes. President Catherine T. Dennis of the American Home Economics Association, in noting the first half century of AHEA, said:

Home economics is the field of knowledge and service primarily concerned with strengthening family life through educating the individual for family living, improving the services and goods used by families, conducting research to discover the changing needs of individuals and families and the means of satisfying these needs.

And Frances Gallogly wrote:

Teaching the child to be a better homemaker is one of the basic purposes of home economics instruction. Instruction in home economics should result in developing in students the ability to compare new household products, to read labels with comprehension, to select household equipment with discrimination, and to make decisions and evaluate results in home management. The equipment of a home economics laboratory, if done imaginatively and with the basic aims of home economics instruction in mind, can serve effectively to achieve these results.

Homemaking education is tied directly to the homes and should

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work through the home in all areas possible. Home laundering is an ideal area for this. To strengthen our teaching of home laundering is to strengthen our total program and this area of work should carry through the total program. It is an ideal area in which to allow students to meet problems, to make decisions, and to direct their own activities to solve the problem. In this way we educate.
CHAPTER III
ANALYSIS OF DATA AND DISCUSSION

The major purpose of this study was to gain information which might lead to improvement of instruction of the clothing care unit with emphasis on home laundering in the homemaking departments of Montana high schools. In order to do this, information was obtained from (1) a study of the literature, and (2) from a questionnaire sent to all the homemaking teachers of grades 9 through 12 in the state of Montana. Results were tabulated.

The material in this chapter is presented in the following order:

(1) The distribution and return of the questionnaire;
(2) Data from the questionnaire; and
(3) Summary of the data.

The Distribution and Return on Questionnaire

One questionnaire was mailed to the homemaking teacher in each high school in the state of Montana. The mailing list was compiled by obtaining the complete list of teachers of homemaking for the school year 1963-64 from Miss Flora Martin, State Supervisor of Homemaking Education, Office of Superintendent of Public Instruction of the State of Montana.1 Accompanying each questionnaire was a letter2 explaining the purpose of the questionnaire and enclosing a stamped, self-addressed envelope to reply. One hundred sixty-seven questionnaires were sent

1See Appendix.
2Ibid.
out and 147, or 86 per cent, were returned.

Results

TABLE I
TOTALS OF MATERIAL

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of questionnaires sent out</td>
<td>167</td>
</tr>
<tr>
<td>Number of questionnaires returned</td>
<td>147</td>
</tr>
<tr>
<td>Percentage of return (on base of 129 used)</td>
<td>86%</td>
</tr>
<tr>
<td>Number who do teach laundering</td>
<td>82 or 63%</td>
</tr>
<tr>
<td>Number who do not teach laundering</td>
<td>34 or 26%</td>
</tr>
<tr>
<td>Place of laundering in units of work:</td>
<td></td>
</tr>
<tr>
<td>(parts taught in more than one unit)</td>
<td></td>
</tr>
<tr>
<td>Clothing</td>
<td>60</td>
</tr>
<tr>
<td>Housing</td>
<td>15</td>
</tr>
<tr>
<td>Management</td>
<td>36</td>
</tr>
<tr>
<td>Other</td>
<td>25</td>
</tr>
<tr>
<td>Number who stated they felt value in teaching unit</td>
<td>99</td>
</tr>
<tr>
<td>Number who answered with a question mark</td>
<td>3</td>
</tr>
<tr>
<td>Number who stated they felt no value in teaching unit</td>
<td>8</td>
</tr>
<tr>
<td>Number who left blank</td>
<td>19</td>
</tr>
</tbody>
</table>

Using the figures of the Montana Education Directory for the year

3 Of the 147 questionnaires returned, 18 were omitted because they did not include the 9th grade.

4 Thirteen, or 10 per cent, left this part of the questionnaire blank.
1962-63, the following table classifies high schools by size.

**TABLE II**

<table>
<thead>
<tr>
<th>Size of High School</th>
<th>Public Schools</th>
<th>Private Schools</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>500 or more students - senior high</td>
<td>15</td>
<td>2</td>
<td>17</td>
</tr>
<tr>
<td>500 or more students - junior high</td>
<td>6</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>200 to 500 students - senior high</td>
<td>25</td>
<td>5</td>
<td>30</td>
</tr>
<tr>
<td>200 to 500 students - junior high</td>
<td>1</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>100 to 200 students - high school</td>
<td>47</td>
<td>5</td>
<td>52</td>
</tr>
<tr>
<td>50 to 100 students - senior high</td>
<td>46</td>
<td>4</td>
<td>50</td>
</tr>
<tr>
<td>50 to 100 students - junior high</td>
<td>1</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Under 50 students - high school</td>
<td>37</td>
<td>2</td>
<td>39</td>
</tr>
</tbody>
</table>

**TOTAL ACCREDITED SCHOOLS IN STATE**

196

In the 196 schools, there were 167 teachers of homemaking. The large schools have more than one teacher and most of the very small ones do not include homemaking in their curriculum. Only three teachers are included from schools of under 50 students.

It was hoped in submitting the questionnaire that all questions would be checked. There is such a marked difference in the teaching of this material and in the types of schools that this was not possible. The number reporting on each question, as well as the answers, were given

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so the totals would not be in error.

Of the 111 teachers reporting equipment, 76 teachers reported having automatic washers, only three reported conventional machines. It should be noticed that in Anne Lyng's speech at the American Home Economics Association meeting in June, 1961, she reported: "About 55 per cent of the homemakers will be washing these loads in the regular cycles of today's automatics and 45 per cent of them will be using a wringer washer."6

The larger schools have the larger pieces of equipment and have them located in their departments. The smaller schools tend to share equipment with other departments and it is often located outside the homemaking departments.

In the schools of under 100 students, only nine of 47 (or about one-fifth) had a washer available. In those over 500, all of the 14 schools reporting had this piece of equipment—only school in this group did not return the questionnaire. If the school had an automatic washer, it had a dryer. There were only six schools reporting the washer without the dryer. There were only seven schools (nine teachers) reporting ironers. This piece of equipment is not in the schools and its use is not taught.

Not everyone checked the small equipment section, but 106 teachers indicated steam irons; 62 indicated dry irons. Only 53 checked sinks as part of their equipment.

Twenty-nine teachers indicated that they had a laundromat close

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by and several of them mentioned that they made use of it in their unit teaching.

Equipment Available in Schools

Table III shows the laundering equipment in the school and if it is located in the department. This information is given by size of the school.

TABLE III
EQUIPMENT AVAILABLE IN SCHOOLS

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Size of Schools</th>
<th>Totals by Teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>500 plus</td>
<td>200-499</td>
</tr>
<tr>
<td>Washer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Automatic</td>
<td>14 (25 teachers)</td>
<td>21</td>
</tr>
<tr>
<td>Conventional</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Dryer</td>
<td>14 (26 teachers)</td>
<td>19</td>
</tr>
<tr>
<td>Ironer</td>
<td>4 (6 teachers)</td>
<td>1</td>
</tr>
<tr>
<td>Hand Iron</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Steam</td>
<td>17 (25 teachers)</td>
<td>35</td>
</tr>
<tr>
<td>Dry</td>
<td>12 (20 teachers)</td>
<td>21</td>
</tr>
<tr>
<td>Laundromat</td>
<td>5 (6 teachers)</td>
<td>9</td>
</tr>
<tr>
<td>Sink</td>
<td>9 (11 teachers)</td>
<td>19</td>
</tr>
<tr>
<td>Other</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Located in</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Department</td>
<td>18 (29 teachers)</td>
<td>22</td>
</tr>
<tr>
<td>Located elsewhere in School</td>
<td>0</td>
<td>10</td>
</tr>
</tbody>
</table>
One hundred nineteen teachers responded to the question, "Do you teach a home laundering unit in your homemaking classes?" Of this number 86 do teach laundering and 33 do not. Of those who do teach it there were 53 twelfth grade classes, 39 eleventh, 35 tenth, and 33 ninth. Several of the teachers cover this material all four years varying the depth to the class level and approaching it through different units—clothing care, management, housing. Some teach it intensively only two of the four years.

Variation of Teaching of Home Laundering Unit

Table IV summarizes by size of school whether or not laundering was taught and, if taught, when it was taught.

TABLE IV
VARIATION OF TEACHING (INDIVIDUAL TEACHER RESPONSE)

<table>
<thead>
<tr>
<th>Schools by Size</th>
<th>Teachers Responding by Size of School</th>
<th>Whether or Not Unit Taught</th>
<th>Year in Which Taught</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>500 or more</td>
<td>35</td>
<td>19</td>
<td>16</td>
</tr>
<tr>
<td>200-499</td>
<td>31</td>
<td>27</td>
<td>4</td>
</tr>
<tr>
<td>100-199</td>
<td>33</td>
<td>27</td>
<td>6</td>
</tr>
<tr>
<td>50-99</td>
<td>17</td>
<td>11</td>
<td>6</td>
</tr>
<tr>
<td>Under 49</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Totals</td>
<td>119</td>
<td>86</td>
<td>33</td>
</tr>
</tbody>
</table>

This question was asked on the questionnaire: "Do you do the department laundry at school? Or is it sent out to a commercial laundry?"
Does another department—as athletic—use your equipment? If yes, please designate." One hundred seven teachers replied.

Most of the departments did their own laundry, with 63 doing it at school. Twenty-six indicated that they also did another department's laundry and these included athletic and science departments and lunchroom. They frequently said the custodian used the equipment. Only 18 schools indicated the department's laundry was sent to the commercial laundry. There were 13 schools who indicated they had another solution. These solutions included the teacher taking it home, sending it home with students, student or teacher doing it at the laundromat, or, in one case, the custodian doing it.

How Laundry Handled in School

Table V shows how laundry is handled in the homemaking departments by the size of the school.

TABLE V

HOW LAUNDRY HANDLED BY SIZE OF SCHOOLS

<table>
<thead>
<tr>
<th>Method</th>
<th>500 or more</th>
<th>200-499</th>
<th>100-199</th>
<th>50-99</th>
<th>Under 50</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do Department's Laundry at School</td>
<td>14</td>
<td>20</td>
<td>19</td>
<td>9</td>
<td>1</td>
<td>63</td>
</tr>
<tr>
<td></td>
<td>(25 teachers)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do Other Departments' Laundry</td>
<td>--</td>
<td>10</td>
<td>9</td>
<td>6</td>
<td>1</td>
<td>26</td>
</tr>
<tr>
<td>Sent to Commercial Laundry</td>
<td>1</td>
<td>7</td>
<td>6</td>
<td>3</td>
<td>1</td>
<td>18</td>
</tr>
<tr>
<td>Other (Take home, laundromat, custodian, send with girls)</td>
<td>--</td>
<td>5</td>
<td>5</td>
<td>3</td>
<td>0</td>
<td>13</td>
</tr>
</tbody>
</table>
The question, "How much time do you allow for this unit of work?" was asked. Sixty-four teachers answered.

The time allowed for the unit to be taught varied from two to three days to four weeks. Eighty-three classes spent one week; 26, two weeks; four, three weeks; and one, four weeks on this unit. Twenty-three schools and 30 teachers indicated they did not teach this at all.

Time Allowed for Unit Taught

The length of time allowed by the teachers for this unit was classified by the size of the school in Table VI.

<table>
<thead>
<tr>
<th>Size of School</th>
<th>One Week</th>
<th>Two Weeks</th>
<th>Three Weeks</th>
<th>Other</th>
<th>Unit Not Taught</th>
</tr>
</thead>
<tbody>
<tr>
<td>500 or more</td>
<td>19</td>
<td>4</td>
<td>1</td>
<td>-</td>
<td>9 (16 teachers)</td>
</tr>
<tr>
<td>200 to 499</td>
<td>29</td>
<td>5</td>
<td>2</td>
<td>-</td>
<td>3</td>
</tr>
<tr>
<td>100 to 199</td>
<td>27</td>
<td>14</td>
<td>1</td>
<td>-</td>
<td>7</td>
</tr>
<tr>
<td>50 to 99</td>
<td>8</td>
<td>3</td>
<td>-</td>
<td>1 (4 wks.)</td>
<td>4</td>
</tr>
<tr>
<td>Under 50</td>
<td>--</td>
<td>--</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>83</strong></td>
<td><strong>26</strong></td>
<td><strong>4</strong></td>
<td><strong>1</strong></td>
<td><strong>23</strong></td>
</tr>
</tbody>
</table>

The question was asked, "How long are your class periods and how many a week do you have?" One hundred ten teachers replied.

Length of class time varied from 15-minute classes held four times a week to 50-minute classes held ten times a week, or from 180 minutes
to 500 minutes of class time per week. The most common time was 55 minutes, five times a week, and this was true in 30 schools.

There is wide variation in teaching time available in classrooms across the state. This undoubtedly accounts for many of the differences in subject matter coverage that appear in a study of this type. Since this is beyond the control of teachers it can only be recorded as a variable.

Length of Class Time

Table VII illustrates the variation in time available for teaching by schools in the state.

<table>
<thead>
<tr>
<th>Times in Minutes</th>
<th>No. of Schools Reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td>180 minutes a week</td>
<td>1</td>
</tr>
<tr>
<td>220 to 235 minutes a week</td>
<td>11</td>
</tr>
<tr>
<td>250 minutes a week</td>
<td>14</td>
</tr>
<tr>
<td>270 to 285 minutes a week</td>
<td>13</td>
</tr>
<tr>
<td>300 to 315 minutes a week</td>
<td>33</td>
</tr>
<tr>
<td>343 to 360 minutes a week</td>
<td>4</td>
</tr>
<tr>
<td>420 to 450 minutes a week</td>
<td>3</td>
</tr>
<tr>
<td>500 minutes a week</td>
<td>1</td>
</tr>
</tbody>
</table>

The questionnaire then asked what type of water the teacher had
in her area and the type of laundering products that she used. One hundred thirty-one teachers replied to the question.

The answer indicated a wide variation in water types in the state. Soft water was reported by 37 per cent, or 49 teachers. Of these, 44 reported naturally soft and five chemically softened. Hard water was reported by 40 per cent, or 53 teachers; very hard water by 17 per cent, or 23 teachers; and chemically softened water by 15 per cent, or six teachers. There were other water conditions that made laundering difficult, including iron in the water and a special problem of the water running through a coal mine and that deposit settling in hot water.

The coverage of products used by the teachers is reported by percentage. Seventy-three per cent indicated they used detergents and 19 per cent indicated they used soap. It is interesting to note here that Anne Lyng, at the AHEA annual meeting in 1961, said:

> At least 95 women out of 100 will be using a laundry detergent, regardless of the type of machine they own. The remaining 5 per cent will use a traditional soap. It may interest you to know that the soap market has dwindled to the point where there is no longer even one built laundry soap in total national distribution. It may further interest you to know that this is the result of consumer preference and this preference is based on the superior performance of detergents when hardness minerals are present in the water. Since water of zero grain hardness is essentially non-existent, the detergents are even preferred in the so-called soft water areas where hardness actually runs from 1 to 3 grains per gallon and where soap does a good job.\(^7\)

She also had this to say of all-purpose soaps:

> The all-purpose soaps can also be used for all washable fabrics. The determining factor between use of soap or detergent is water hardness. In soft water an all-purpose soap can be used with complete satisfaction. As a matter of fact, you can even use soap in water of moderate hardness if you use

\(^7\text{Ibid.}\)
enough of it or if a supplementary water softener is used. If you do wash with soap in hard water, it is very important to use the water softener in the rinse as well as in the wash.8

Fifty-nine per cent, or 75, of the teachers use bleach. Anne Lyng stated that eight out of ten U. S. homemakers bleach just about half of all their wash loads. She also stated that 85 per cent of all bleach consumed is liquid chlorine-type with the various dry bleaches accounting for the other 15 per cent.9

Water and Products Used

Table VIII classifies the type of water the teachers reported and gives the per cent of products reported most used.

TABLE VIII
WATER AND PRODUCTS USED
(131 Teachers Reporting)

<table>
<thead>
<tr>
<th>Type of Water</th>
<th>Per cent Having</th>
<th>No. of Teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soft water</td>
<td>37%</td>
<td>44 (naturally soft) 5 (chemically softened)</td>
</tr>
<tr>
<td>Hard water</td>
<td>40%</td>
<td>53</td>
</tr>
<tr>
<td>Very hard water</td>
<td>17%</td>
<td>23</td>
</tr>
<tr>
<td>Chemically softened water</td>
<td>4.5%</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>100%</td>
<td>131</td>
</tr>
</tbody>
</table>

Products Most Used       Per cent

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Soap</td>
<td>18%</td>
</tr>
<tr>
<td>Detergents</td>
<td>70%</td>
</tr>
<tr>
<td>Bleach</td>
<td>57%</td>
</tr>
<tr>
<td>Water softeners</td>
<td>27%</td>
</tr>
<tr>
<td>Fabric softeners</td>
<td>22%</td>
</tr>
<tr>
<td>Bluing</td>
<td>9%</td>
</tr>
<tr>
<td>Other</td>
<td>3.8%</td>
</tr>
</tbody>
</table>

8Ibid.  9Ibid.
Material Covered in Unit

"If you teach this unit, will you tell me briefly what is covered in it?" This question was asked and 67 teachers replied. Their answers are listed below in Table IX and have been placed in order of frequency.

<table>
<thead>
<tr>
<th>Subject Matter Taught</th>
<th>Number of Teachers Who Listed This Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>Washing Products - Use of bleaches, detergents, soaps, water softeners, starches, etc.</td>
<td>52</td>
</tr>
<tr>
<td>Correct method of ironing and pressing (including men's shirts)</td>
<td>29</td>
</tr>
<tr>
<td>Stain removal</td>
<td>28</td>
</tr>
<tr>
<td>Steps in good laundering and washing procedures</td>
<td>24</td>
</tr>
<tr>
<td>Sorting</td>
<td>24</td>
</tr>
<tr>
<td>Pre-treating and preparation (including spotting, soaking)</td>
<td>19</td>
</tr>
<tr>
<td>Water temperature</td>
<td>18</td>
</tr>
<tr>
<td>Operation and care of automatic equipment</td>
<td>17</td>
</tr>
<tr>
<td>Care of different fibers, fabrics and colors (including woolens)</td>
<td>14</td>
</tr>
<tr>
<td>Hand washing nylons, undergarments, etc. (also how to use machine here)</td>
<td>13</td>
</tr>
<tr>
<td>Laundry equipment - types (including ironing)</td>
<td>13</td>
</tr>
<tr>
<td>Drying (including correct dryer temperature)</td>
<td>11</td>
</tr>
<tr>
<td>Washing sweaters (woolen and other) and blocking</td>
<td>10</td>
</tr>
<tr>
<td>Comparison of cost and convenience (laundromat, automatic, etc.)</td>
<td>9</td>
</tr>
</tbody>
</table>

(Continued)
### Table IX. Material Covered in Unit (Continued)

<table>
<thead>
<tr>
<th>Subject Matter Taught</th>
<th>Number of Teachers Who Listed This Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>Storing methods (including folding and clothes closets)</td>
<td>8</td>
</tr>
<tr>
<td>Types of water</td>
<td>8</td>
</tr>
<tr>
<td>Dry cleaning and operation of coin-operated dry cleaners</td>
<td>5</td>
</tr>
<tr>
<td>Arrangement of laundry center</td>
<td>5</td>
</tr>
<tr>
<td>Special care clothes and laundry jobs</td>
<td>4</td>
</tr>
<tr>
<td>Care of clothes after washing</td>
<td>4</td>
</tr>
<tr>
<td>Importance of mending and special attention to patch pockets, necks, cuffs</td>
<td>4</td>
</tr>
<tr>
<td>Hanging</td>
<td>4</td>
</tr>
<tr>
<td>Importance of rinsing</td>
<td>4</td>
</tr>
<tr>
<td>Time and cycle for washing</td>
<td>3</td>
</tr>
<tr>
<td>Labeling--read and study</td>
<td>3</td>
</tr>
<tr>
<td>Buying of clothes as to care</td>
<td>3</td>
</tr>
<tr>
<td>Terminology</td>
<td>2</td>
</tr>
<tr>
<td>Care of non-washables</td>
<td>2</td>
</tr>
<tr>
<td>Using laundromats</td>
<td>2</td>
</tr>
<tr>
<td>Types and effects of agitation</td>
<td>2</td>
</tr>
<tr>
<td>Sprinkling</td>
<td>1</td>
</tr>
<tr>
<td>Selecting quality products and deciding what standards to set</td>
<td>1</td>
</tr>
<tr>
<td>Daily, weekly and seasonal care</td>
<td>1</td>
</tr>
<tr>
<td>Directions of manufacturer are important</td>
<td>1</td>
</tr>
<tr>
<td>Water heaters, size, etc.</td>
<td>1</td>
</tr>
</tbody>
</table>
Objectives of Unit as Taught

"Would you briefly state your major objectives for this unit, please?" To this question 89 teachers replied. The following Table X is a list of their objectives, listed in order of frequency.

**TABLE X**

**OBJECTIVES**

<table>
<thead>
<tr>
<th>Major Objectives of Unit as Taught</th>
<th>No. of Teachers Listing</th>
</tr>
</thead>
<tbody>
<tr>
<td>To teach techniques of laundry, including sorting, water temperature, folding to save ironing</td>
<td>49</td>
</tr>
<tr>
<td>To know fabrics you buy and care for; to know how to handle new fibers and finishes for household and wardrobe</td>
<td>42</td>
</tr>
<tr>
<td>To inform about laundry products</td>
<td>31</td>
</tr>
<tr>
<td>To understand stains and removal methods</td>
<td>22</td>
</tr>
<tr>
<td>To develop ability to plan and purchase laundry unit with storage of supplies for convenience</td>
<td>21</td>
</tr>
<tr>
<td>To help a girl gain ability to add life and beauty and save money in properly caring for clothes</td>
<td>20</td>
</tr>
<tr>
<td>To help a girl gain ability to use and care for equipment</td>
<td>18</td>
</tr>
<tr>
<td>To help students shoulder responsibility for care of own and family clothes</td>
<td>16</td>
</tr>
<tr>
<td>Ironing and pressing</td>
<td>16</td>
</tr>
<tr>
<td>To teach grooming and effect of laundry on a garment through personal daintiness by laundry (including use of antiperspirant)</td>
<td>15</td>
</tr>
<tr>
<td>To understand characteristics of various fibers</td>
<td>13</td>
</tr>
<tr>
<td>To save labels, hang tags, and follow directions, including equipment manuals</td>
<td>12</td>
</tr>
<tr>
<td>Washing and pressing of woolens</td>
<td>11</td>
</tr>
</tbody>
</table>

(Continued)
Table X. Objectives (Continued).

<table>
<thead>
<tr>
<th>Major Objectives of Unit as Taught</th>
<th>No. of Teachers Listing</th>
</tr>
</thead>
<tbody>
<tr>
<td>To stir up a pride and satisfaction in doing a laundry to get the best results (to enjoy it)</td>
<td>7</td>
</tr>
<tr>
<td>Help to understand water and choice of laundry product</td>
<td>5</td>
</tr>
<tr>
<td>To get more wear with laundry care—to see correlation between life of article and laundry practice</td>
<td>4</td>
</tr>
<tr>
<td>To teach when to machine wash, when to hand wash</td>
<td>3</td>
</tr>
<tr>
<td>To give experience in working with different fabrics and show economy of doing own hand washing, including sweaters and better washables</td>
<td>3</td>
</tr>
<tr>
<td>To help student become a better homemaker</td>
<td>3</td>
</tr>
<tr>
<td>To show importance of cleanliness to health and appearance</td>
<td>2</td>
</tr>
<tr>
<td>To help a student gain self-assurance in knowing her clothes are properly cared for</td>
<td>2</td>
</tr>
<tr>
<td>To learn proper storage of clothing</td>
<td>2</td>
</tr>
<tr>
<td>To learn use and care of iron</td>
<td>2</td>
</tr>
<tr>
<td>To learn how to get information and to solve problems of procedures and principles</td>
<td>2</td>
</tr>
<tr>
<td>To teach machine dying for coordinating colors in wardrobe or rooms</td>
<td>1</td>
</tr>
<tr>
<td>To teach management—saving time, energy, and money through laundering</td>
<td>1</td>
</tr>
<tr>
<td>Less clothing needed especially with growing children if have automatic laundering</td>
<td>1</td>
</tr>
<tr>
<td>To help student become a more informed member of society</td>
<td>1</td>
</tr>
</tbody>
</table>

Suggestions for Plan

The following suggestions were made by 29 teachers replying as to what should go into a unit plan.
Demonstrations
Friction causing wool shrinkage
Ironing temperature effects
On techniques of ironing
On washing
On sprinkling--not soaking
On value of Calgon in our water here
Washing machine dying
Bleeding Madras and how it bleeds
Hand wash, as a white brassiere showing how to keep white in
hard water, Calgon in water, place bluing in water, use
Ivory soap. Rinse in hard water, the final rinse in
Calgon water.
Of soap left in clothes (use handkerchief) and stripping soap
left in clothes
Water hardness test
Student demonstration and experiments
Calgon and suds experiments
Stain removal and spot removal
Try different kinds of soaps and detergents including new cold
water ones

Comparison test ironing clothes (apron and blouse) that:
1. had been sprinkled with cold water
2. warm water sprinkled
3. unsprinkled, using a steam and spray iron

The easiest and best job was done on clothes (in order)
1. sprinkled with warm water
2. sprinkled with cold water
3. steam-spray ironed
4. unsprinkled

Washing sweater
Use different detergents--such as Woolite
Use warm water vs. cold water
Use wool sweater and synthetic sweater

Make a time and motion study on arrangement of laundry equipment

Class in mending, patching, repairing, reweaving woolens (tears)

Actual sorting of a laundry
Each girl show how a garment should be hung

Field Trips
To laundromat
Commercial laundry
Appliance dealers

Style show of properly and improperly washed garments

Be sure to allow for all types of washes at homes
Student activities
Make a card file of fabrics and care
Make a card file of stains and bleaches
Make out a ditto sheet with questions to be filled out from reference reading
Make charts showing effect of bleach on colorfast, non-colorfast and different fibers
Actual experience doing laundry after thorough study
Research reports on a comparison of washers and dryers available to homemakers

Stripping clothes once or twice a year when you want to change product. Wash clothes through a cycle of just water softener to remove film of present product.

Need suggestions on care of white Dacron
The need for care of delicate fabrics--homemakers are prone to machine wash and dry everything

Review occasionally the practical application
Stress neatness and organization of equipment
Emphasize importance of diluting liquid bleach
Calgon and ammonia will remove film from nylon blouse, etc.
A display of as many of the kinds of laundry products as possible is a good introduction to selecting suitable ones to use.

Resource People Used
Four teachers indicated they used experts outside the school to help with this unit. The resource people used were:

Montana-Dakota Utilities Demonstrator
Polly Pacific--a laundry demonstrator from Power company
A laundromat owner who is well-educated in good laundering procedures
A demonstrator who is a representative from the Ironrite dealer showed students how to operate the Ironrite. Then each student brought a blouse from home and came in on her own time to iron it on Ironrite.

Source Material Reported
Eighty-seven teachers replied to the question asking what source material they used for reference. These are listed in order of frequency
of use with the most used placed first.

**Texts**

*Management for Better Living*—Starr, revised  
Pub. D. C. Heath and Company, Boston

*Homemaking for Teen-Agers*, Book I—McDermott and Nicholas  

*Homemaking for Teen-Agers*, Book II—McDermott and Nicholas

*Dress*—Oerke  
Pub. Bennett, Peoria, Illinois

*Teen Guide to Homemaking*—Barclay, Champion  
Pub. McGraw-Hill

*Experiences in Clothing*—Pollard  
Pub. Ginn Co.

*Clothing Construction and Wardrobe Planning*—Lewis, Powers, Kettunen  
Pub. Macmillan

*Management for You*—Fitzsimmons, White  

*Building Your Home Life*—Wallace and McCuller  

*Fashion and Fabrics*—Rathbone, Tarpley, East and Ahern  

*Thresholds to Adult Living*—Craig  
Pub. Bennett

*Experiences in Homemaking*—Laiten and Miller  
Pub. Ginn Co.

*How to Look and Dress*—Carson  
Pub. McGraw-Hill

*Your Home and You*—Greer  
Pub. Allyn and Bacon

*Fabric and Dress*—Rathbone and Tarpley  
Pub. Houghton Mifflin Co., Boston, Massachusetts

*Clothing for Teens*—Todd, Roberts  
Pub. Heath

*Tomorrow's Homemaker*—Lewis, Lewis, Banks  
Pub. Macmillan
Housing and Home Management--Lewis, Burns, Segner  
Pub. Macmillan

Textiles for Teens--Marcella Howard Ellett  

Introduction to Textiles--Evelyn E. Stout  

Sheildon, Wisconsin

Government Pamphlets

Home Laundering--June Richardson  
Agricultural Experiment Station, Bozeman, Montana

Stain Removal  
U. S. D. A., Washington, D. C.

Extension Service Publication  
Bozeman, Montana

Easier Washing, Circular h38, Jan. 1953--Margaret P. McCordic and Louise A. Young, Agricultural Extension Service, University of Wisconsin, Madison, Wisconsin

Methods and Equipment for Home Laundering  

Pamphlet on Hard Water  
Bozeman, Montana

Automatic Clothes Dryers  
U. S. D. A., Washington, D. C.

Professional Magazines

What's New in Home Economics

Practical Forecast

Co-Ed

Commercial Material


Pamphlets--The Procter and Gamble Co., Home Economics Dept., P. O. Box 322, Cincinnati 1, Ohio
Our Modern Washday—The Procter and Gamble Co., Ivorydale Technical Center, I. T. C. Building, Cincinnati, Ohio

A Man's Shirt is a Woman's Problem—Arrow Shirt Co.

Focus on Family Wash—Procter and Gamble

Out With Spots and Stains—Purex Corporation, 30 E. 40th St., New York 16, N. Y.

Washday Wonders—Procter and Gamble

Let's Wash—General Foods Corporation, 250 North St., White Plains, N. Y.

Pamphlets by Johnson's Wax—Consumer Education Dept., B. C. Johnson & Son, Inc., Racine, Wisconsin

Rit Dye Pamphlets—Rit, Best Foods Div., Corn Products Company, Indianapolis, Indiana


Pamphlets from Home Laundry Institute of Mansanto Chemical Co., St. Louis, Mo.


All About Home Laundering—American Gas Association, 420 Lexington Ave., New York 17, N. Y.

Home Laundering Reference Handbook—Westinghouse Electric Corporation, 245 E. Fourth St., Mansfield, Ohio

Home Laundering Principles—Westinghouse Electric Corporation

Home Laundering Guide—Westinghouse Electric Corporation

The How's and Why's of Good Laundering—Purex Corporation

Timely Starching Tips for Teen-Agers—Niagara Starch, Home Service Department, Corn Products Refining Company, 17 Battery Place, New York 4, N. Y.

Reconditioning Dacron, Dacron and Cotton Garments—Calgon, Inc.

A Short Course in Family Laundering—Speed Queen, a Division of McGraw-Edison Company, Ripon, Wisconsin

The Kitchen Reporter—Kelvinator, Division of American Motors Corporation, 14250 Plymouth Road, Detroit, Michigan
Your Guide to White Clothes—General Foods Corporation

All About Laundering—Monsanto Chemical Company, 445 Park Ave., New York, New York

Know Your Laundry Recipes—The Maytag Company
  5 cents each unless you mention Mary Behrens

Let’s Cook Up a Wash—Norge Sales Corporation, subsidiary of Borg-Warner Corporation, Merchandise Mart Plaza, Chicago, Ill.

Care of Orlon Acrylic Fiber—Caldon, Inc.

How to Keep White Nylon Lovely as New—Purex Corporation, Ltd., 30 East 40th St., New York 16, N. Y.

Lovely Clothes Deserve Loving Care—Celanese Corporation, 180 Madison Avenue, New York 16, N. Y.


Wool Responds Beautifully to Easy Care—Pendleton Woolen Mills, Portland, Oregon

With the Greatest of Care—Commercial Service Department, General Foods Corporation, 20 Park Avenue, New York 17, N. Y.

Formula for Cleanest Washes—Clorox Company, 850 142nd Avenue, Oakland, California

Film Strips

Our Modern Washday, Procter and Gamble

Washday Wonders, Procter and Gamble

Focus on Family Wash, Procter and Gamble

The Cleaning and Whitening Magic of Bleach, Clorox Company

Out With Spots and Stains, Purex Corporation, Ltd.

Cleanest Wash, Clorox Company

Today’s Easier Washday, Procter and Gamble

Films

The Great White Way to Good Laundering, color, sound, 14 min., free loan, Modern Talking Picture Service, Inc., c/o Harig’s Inc., 2100 North 45th Street, Seattle 3, Washington
Two Hour Miracle, color, sound, free loan, 11 min., E. I. DuPont de Nemours & Co., 1007 Market Street, Wilmington 98, Delaware

Under "Other" sources of reference material, these teachers listed:

- Women's magazines
- Labels on fabrics
- Personal experience
- Notes from college
- The Good Housekeeping Guide to Wash and Wear
- Sears pamphlets and displays
- Samples of darning and mending

Representative Comments on Value

The question was asked of the teachers, "Do you feel there is value in teaching home laundering?" To this, the following comments are representative answers.

**Equipment Problem**

I am not satisfied because of the lack of equipment. Want dealers to come and demonstrate, if possible.

I believe much of automatic repair is often the fault of the operator. They need instruction for better results, raises standards of performance in any type of washer.

I feel that with the modern equipment nowadays and the different types of products to make clothes cleaner and last longer, the students should study and learn to do correctly. Many homemakers do not understand some of the factors.

Most of the girls have not had an opportunity to use washer and dryer.

Most people abuse either machine or garment, or at least do not use appliance as much as they could.

I feel this phase of home ec. is terribly neglected due to lack of sufficient funds and equipment, especially in small schools.

I believe there is much to be gained by this unit. However, we feel automatic washers, etc., are too expensive and so easily operated that it does not warrant their purchase for this unit alone.

**New Knowledge**

Most of the girls have very little knowledge of ironing, pressing
laundering, removing spots, etc.

I feel the girls should begin to understand the care of clothing and proper ways to care for their own and other clothing. Will also help appreciate care of their clothes.

Many girls do not know enough about bleaches or drip-dry materials.

Care of clothing lengthens life of attractiveness. Girls do much of this at home and should know how to do it correctly.

This is a branch of home economics where everyone needs to learn a new and easier way of doing the task. With all the newer synthetics each person needs more knowledge of how to care for these fabrics the best and easiest way.

Need much more in informational pamphlets. Have large gaps in that which is available.

Doing the family laundry is one of the biggest tasks the housewife has. No matter what method or equipment she uses, it becomes so "daily".

I believe students need the knowledge. I had friends in college who had no idea how to sort clothes. I think it is important to the homemaker to know the products available and how to save time, energy, and money.

Junior High girls are not taught at home and it is frightening without knowledge.

Like you said in your letter, I feel very inadequately prepared to teach this unit well. Much has changed in fibers as well as available equipment and products which they need to know about in order to make their clothes last and look nice.

**Clothing Care**

Too many girls are ruining garments by improper care and laundering.

Besides learning skills involved in laundry, girls learn to appreciate their clothing and take better care of them.

Students are apt to follow method used by mothers without knowing why or how different fibers should be handled.

These children do not have many clothes so I feel it essential they learn to care for those they have, to look as neat as possible and lengthen their life.

Many girls aren't responsible for their own laundry at home and some don't seem to use the automatic at home. It teaches them
to think before they buy. By so doing it will mean less ironing and less care of clothing. Overwashing can spoil a garment as well as underwashing.

Laundry is important in getting value out of clothing and household articles you make or buy. No home can function properly without good laundry practices and an understanding of "why".

Students seem to have very little knowledge of laundry procedure. When they were shown examples of poor and good laundry procedures they were amazed.

They will handle clothes all their lives and they will become more varied in the methods of cleaning because of their fibers.

**Opposition**

Feel students are too immature for laundry unit in junior high.

Ironing might be valuable, washing "No", as most girls learn this at home and would be bored at school.

With present day facilities most girls do not have trouble with laundry.

Our students are those of middle class families. Their mothers for the most part do their own laundry. I do not feel this is necessary in school, but I do give them brochures, pamphlets, etc. to take home.

**Teaching**

Would be of more value as a separate unit.

We teach about clothes and should include care.

I have not taught it as a separate unit because I have not been able to figure out a plan for it. Incorporating it in other units seems to be a better way and yet I do not feel that we cover the subject adequately.

We lack equipment. They want to do as mother does. Because it is a learning they will so often do as mother does without reasoning why.

Occasionally there will be girls in the classes that have never had the opportunity to help with the laundering at home. Girls taking terminal year and about to be married evince more interest in this work.

There is a need for it, but classes are not interested. (Hard to motivate). Many do it at home because mothers work.
From these comments can be seen the wide variation in approach, teaching, and objectives of the teachers of the state in this unit. They do not use the same texts or resource material. Many of their attitudes show in the miscellaneous remarks. However, it did seem that most of them felt the value of the unit outweighed the difficulties encountered.

From the material sent in on the questionnaires a two-week unit plan was worked out using the reference materials, objectives, and suggestions of the teachers. The plan was taught to a class of 8 boys and 8 girls in Homemaking III. The plan is included in the Appendix. The American Home Laundry Manufacturers' Association also has a laundering plan which they published in 1960. This plan was studied and material used from it. A copy of this plan is also in the Appendix.

One hundred seventeen of the 117 teachers, or 79 per cent, who returned the questionnaire indicated they would like to receive the unit plan. Eight, or .05 per cent, said they would not like to receive it; and 22, or 14 per cent, left the question blank. The teachers requesting it received a copy of the unit plan worked out from the questionnaire and a copy of the American Home Laundry Manufacturers' Association Plan published in November, 1960.
CHAPTER IV

SUMMARY

In order to gain information as to what is currently being done in Montana schools about home laundering as part of the clothing care unit, to evaluate this material in light of the current research studied for the review of literature, and to prepare a unit of study adaptable for secondary teaching, a survey was made of the homemaking departments in Montana secondary schools having grades 9 through 12.

Results were tabulated and the material taught recorded according to the number of teachers using this material. Their source material and suggestions were also recorded. The major objectives were listed and the number of teachers using them given. From this material a unit plan was worked out. This plan, along with a copy of the "Suggested Outline for the Teaching of Home Laundering" recommended by the Home Economics Committee of the American Home Laundry Manufacturers' Association in November, 1960, was sent to each teacher who requested it.¹ Seventy-nine per cent of the teachers returning the questionnaire asked for this.

There was an 86 per cent return on the questionnaire and of those returning, 63 per cent, or 82 teachers, do teach home laundering; 26 per cent, or 34 teachers, do not. This differed from the reply of 99 teachers, or 76 per cent, who believed there was value in teaching the unit; 8 teachers, or .05 per cent, who felt there was no value; 3 who replied

¹See Appendix.
with a ?, and 19 teachers who left the question blank.

A unit on laundering as such was not usually taught. The material was most often incorporated in the clothing unit as clothing care, with 60 teachers indicating this. Thirty-six teachers taught it in the management unit. Fifteen incorporated it in the housing unit and stressed laundry planning. Twenty-five teachers indicated they taught it in other units, with several teaching it in foods and nutrition.

The larger schools had the equipment for teaching this unit, but the teachers did not indicate the enthusiasm for teaching the unit that some of those in smaller schools did. In several schools with no large equipment the teachers taught theory in the classrooms and did laboratory work in the laundromat or homes where mothers allowed them to use the equipment. Some teachers appeared discouraged by the lack of equipment or inconvenience of its location and felt they were perhaps slighting the material because of these physical difficulties.

These same differences appeared in how the department laundry was handled. The equipment, or lack of it, was still the controlling factor. All of the schools of over 500 students had the equipment and did their own laundry. Of the schools of less than 500, 49 did their own laundry, 26 did one or more other department's laundry; 17 sent it to a commercial laundry; and 13 used some other solution including taking it home, doing it at the laundromat, or having girls assume the responsibility.

The time allowed for the unit was usually one week. In the schools of over 500 students, nine, including 16 teachers, indicated they did not teach it at all. Nineteen teachers allowed one week; four, two weeks; and one, three weeks. About one-fourth of these teachers did not teach this unit. In schools of under 500 students, only 14 teachers of 103,
or about one-sixth, indicated they did not teach the unit. Many of these lacked the major pieces of equipment.

Because of the great variety in length of class periods across the state—from 40-minute classes seven times a week to 90-minute classes five times a week—it is difficult to make an assumption as to allowable time. However, 59 schools out of these 110 schools reporting fell in the time area of 55-minute classes five times a week through 60-minute classes five times a week. This represents 53 per cent.

The unit that was planned and is included in the appendix uses a 50-minute period seven times a week as that was the author's time schedule and the unit was taught as a part of the thesis work. It was taught over a three-week period rather than two, but two classes were cut for school activities and it was felt it would be a better unit if it were paced more rapidly. The unit attempted to coordinate and use material from the questionnaires, but varied as must all units due to different situations, student need, and teaching aptitude and situation. It was sent to the teachers requesting it, not as a model but as one way it might be done. The teacher should apply the unit to her situation.

Across the state of Montana water was found from soft, 34 per cent, to very hard, 18 per cent, with 42 per cent having hard water. Eight per cent have very hard water that is chemically softened. The products were used in the teaching of laundering and were to provide a sampling for the students. If the questionnaire was understood, it indicated a wide divergence from the practices of homemakers as surveyed in the Kent University study or the statements of Anne Lyng, Associate Director of Home Economics, Soap Development Division of the Procter and Gamble Company, in which she says 95 out of 100 women are using a laundry
detergent rather than a soap and that eight out of ten of the U. S.
homemakers bleach about half of their wash loads. Only 57 per cent
of the teachers indicated they used bleach, 70 per cent indicated they
used detergents and 18 per cent indicated they used soap. The 3.8 per
cent who indicated other listed this as the various forms of starch.

There was a wide divergence of material covered in the summary
paragraphs. The conclusions by the teachers showed an awareness of
the changing problem and of the interrelationship of the textiles,
equipment, and products.

Seventy-nine per cent of the teachers returning the questionnaire
requested the unit plan. There were 149 returns. It included the 147
questionnaires returned and two teachers who sent the return in blank,
but asked for the plan in notes. This indicated an interest in the
material.

Conclusions and Recommendations

There is an awareness by Montana secondary teachers of the laun-
dering aspects of clothing care and the need for the subject to be
included in the work of the homemaking classes. It may be included in
several units and it is possible to relate the unit through the entire
year's work. If a more concentrated area is taught, the generalizations
stressed may be reviewed in connection with later subject matter ap-
proaches. The teachers' answers showed thoroughness, and creativity in
meeting their problems, limitations, and in providing motivation.

1Anne Lyng, "Interdisciplinarianism—Laundry Aids and Their Ef-
fects on Textiles and Laundry Equipment," Speech, American Home Economics
Home laundry is not simple, it is complex, with an interrelationship of textiles, equipment, and laundry products that constantly presents a need to keep up-to-date. More information needs to be given to the teachers, or the sources from which they may obtain this information provided. A summer workshop could be the answer to the quick catch-up on textiles with laundering implications, a field that has moved so rapidly since 1950.

There is much work being done by the industries and they realize that only satisfied consumers will demand their products. They need to reach these consumers, and future consumers, with educational material leading to the realization of the full potential of the product. They want to work with and through educators. By using the commercial material published by their home service departments and provided without charge for students, teachers may become current in their information for classes. This must be presented as commercial material that tends to advertise.
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**D. ENCYCLOPEDIA ARTICLES**


**E. UNPUBLISHED MATERIALS**


APPENDIX
HOME LAUNDERING UNIT - Two Weeks - Taught in Homemaking III - 7 50-minute periods a week - Double laboratory periods on Tuesday and Thursday

<table>
<thead>
<tr>
<th>Aspects</th>
<th>Objectives</th>
<th>Generalizations</th>
</tr>
</thead>
<tbody>
<tr>
<td>(From State Guide)</td>
<td>(Competences from State Guide)</td>
<td></td>
</tr>
<tr>
<td>#1 Design, selection, construction, and care</td>
<td>#1 Establish values which give meaning to personal, family, and community living; select goals appropriate to these values.</td>
<td>1. Cleanliness of clothing is important to health and appearance.</td>
</tr>
<tr>
<td>of clothing; and its psychological and social significance.</td>
<td></td>
<td>2. Selection of clothing and textiles in influenced by resources available for care.</td>
</tr>
<tr>
<td>#3 Management in use of resources so values and goals of the individual, family or society may be attained.</td>
<td></td>
<td>3. Clothing will last longer, look better, and, therefore, money will be saved, if clothing is properly cared for.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4. In order to get the family wash clean in any machine, an all-purpose, or built, laundry product is needed, sufficient water soft enough for it to function, and cold or hot in temperature as the fiber dictates.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5. Characteristics of fibers influence their care.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6. Wash and wear fabrics (thermoplastic textiles) are heat pliable and therefore need a cycle that cools down both in washing and drying to avoid permanent wrinkling.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>7. The greatest cause of wool shrinkage is agitation in the presence of moisture and heat.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>8. Properly used chlorine bleaches may be effectively used for almost all fibers except silk and wool or blends of them.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>9. Reading and application of information on labels, hang tags, equipment manuals are essential to proper care of garments and functioning of equipment and efficient use of products.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10. Good management (time, energy and money) can be taught and illustrated through desirable laundry plannings and practices.</td>
</tr>
</tbody>
</table>
Background Information

Texts


Sheets on Stain Removal from Maytag information.


A. Knowledge Level

Read textbook and assignments.
McDermott and Nicholas, pp. 170-203.

Lecture Technique - Water hardness and effect on soap, detergent.
Surface tension of water.


Read sheets on stain removal.
Read hand outs - "A Short Course in Home Laundering," by Speed Queen, a div. of McGraw-Edison Co., Ripon, Wis. "Know Your Laundry Recipes."
"Handbook of Starching," by Faultless Starch Co., Kansas City, Mo.
"Magic of Bleach," by Clorox.

B. Comprehension Level

Film Strip - "Focus on Family Wash" by Procter and Gamble.

Demonstration of water hardness test. Comparison of soaps and syndets and reports made from information available on package.

Film strip - "Washday Wonders," by P. & G.

Teacher demonstration - How to use cleaning fluid and outline general procedures.

C. Application Level

Sort clothes into five categories and choose water temperature for each.

Doing water hardness test on own water. Test surface tension of water. Determine types of rinse water to use with various types of soaps and syndets. Use thermometer and hands to check water temperatures for hot - 140-160°F; warm - 100-110°F; cold - up to 90°F.

Operation of school machines. Student demonstration of hand washing sweater.

Remove stains.

D. Analysis Level

Assignment sheet - with different types of fabrics and garments to be classified by sorting for washer loads, as "Sturdy white and colorfast", "delicate items", and to water temperature.

Analyze different washing actions in different ways of washing, as Woolite - soak and rinse, wash board, different types of agitators and tumblers. Watch colored cloth in machine to see action.

Write laboratory reports on stains removed, how and why.

Written list of articles at home to be laundered with proper recipe to be used for each.

An individual experiment to be done at home over weekend on dampening and ironing and written up for Monday.

E. Synthesis Level

Written paper from lab. on "What is a soap, what is a syndet."

Collect hang tags and show how aid in laundering garments.

Ability to proceed in stain removal and to properly classify stain.

Adaptation of laundry recipes for conventional washers.

F. Evaluation Level

Discussion to develop criteria for judging good laundering.

Written lab. reports and observations of work.

Written comparison sheets of washers and dryers.

Written report of sprinkling and ironing experiment.

(Continued)
A. Knowledge Level
(Continued)
Read "A Man's Shirt is a Woman's Problem" and "What Every Girl Should Know About Men's Shirts," by Cluett Peabody & Co., Inc., Education Service Dept., 530 Fifth Ave., New York 36, N. Y.

B. Comprehension Level
(Continued)
Teacher led discussion with some demonstration - ironing and pressing, heat of iron and fibers, right amount of moisture, care of irons, selection of ironing boards.

C. Application Level
(Continued)
Each student iron a shirt or blouse under supervision of two girls who gave demonstration.

D. Analysis Level
(Continued)
One garment each (may be aprons)
1. Use warm water to dampen.
2. Use cold water to dampen.
3. Iron dry. If have steam iron, iron with steam.
Evaluate which is easier and how effective. Evaluate this ironing with weekend assignment.
Written paragraph contrasting iron and iron operation and results. Show samples of clothing - have students tell if washable or not and why. Analyze what need for laundry center plan - equipment, including water heater location, space. Discussion of field trip.

E. Synthesis Level

F. Evaluation Level
Plan with paper should be evaluated.
Quiz = 50 points - over unit.
Justify in writing why the plan is, or is not, good.

Draw a laundry center plan.
Mending - do a sample.

"Laundry Planning Portfolio for Home Economists," by Maytag.

Field Trip - laundromat, commercial laundry, dry cleaning establishment, appliance dealer, super market.

All the appliance books from laundry equipment you can obtain.

List from their wardrobe clothes requiring each type of care and why.

Samples of mends.
UNIT PLAN FOR TEACHING HOME LAUNDERING IN CLOTHING CARE UNIT

Purpose:

To teach these generalizations so the student may use them to meet experiences:

1. Clothing will last longer, look better, and, therefore, money will be saved, if properly cared for.

2. Cleanliness of clothing is important to health and appearance.

3. Reading and application of information on labels, hang tags, equipment manuals, are essential to proper care of garments and functioning of equipment and efficient use of products.

4. Good management (time, energy, and money) can be taught and illustrated through desirable laundry plannings and practices.

Activities:

Read textbook assignments.
Demonstration of water hardness test.
   No. K0058.
Comparison of soaps and detergents.
Test surface tension of water.
Determine types of rinse water to use with soaps and detergents.
Check water temperatures.
Sorting of laundry.
Pre-treatment of laundry.
Laundering.
Stain removal.
Operation of machines.
Student demonstration of hand washing.
Ironing experiment.
Student demonstration of ironing a shirt and then participation of all.
Sprinkling.
Ironer demonstration and experience.
Plan a laundry center.
Do a sample mend.
Field trip to laundromat, commercial laundry, dry cleaning establishment, appliance dealer, super market.

Sources of Information:

Management for Better Living, Starr, revised.
Homemaking for Teen-Agers, Book II, McDermott and Nicholas.

Young Homemakers Equipment Guide, Peet.

"Maytag Teacher's Portfolio".

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The Procter and Gamble Co., Ivorydale Technical Center, I. T. C.
Building, Cincinnati, Ohio.

Pamphlets by Calgon Corporation, P. O. Box 1346, Pittsburgh, Pennsylvania.

"Formula for Cleanest Washes."
Clorox Company, 850-2nd Avenue, Oakland, California.

"Magic of Bleach" by Clorox Company.

"Your Guide to Whiter, Brighter Clothes" (bluing)

"Lovely Clothes Deserve Loving Care".
Celanese Corporation of America, 180 Madison Avenue, New York 16, N.Y.

"A Short Course in Home Laundering".
Speed Queen, Div. of McGraw-Edison Co., Ripon, Wisconsin.

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Faultless Starch Co., Kansas City, Missouri.

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"What Every Girl Should Know About Men's Shirts".

Film Strip, "Focus on Family Wash," by The Procter and Gamble Company.

Film Strip, "Washday Wonders," by The Procter and Gamble Company.

Film Strip, "The Cleaning and Whitening Magic of Bleach," by Clorox Company.

Film, "The Great White Way to Good Laundering," by Purex Corporation,
30 East 50th Street, New York, New York, and which may be secured through, Modern Talking Picture Service, c/o Rarig's, Inc., 2100 North 45th Street, Seattle 3, Washington.
Methods of Evaluation:

Daily work
- Written sheets on laundry sorting
- Laboratory report sheets on stain removal
detergents
water tension
water hardness
water temperatures
- Written list of articles using laundry recipes
- Observation of use of equipment
  - stain removal
  - ironing with iron
  - ironing with ironer
- Comparison sheet of washers, dryers, ironers
- Report on sprinkling and ironing experiment
- Written paragraph contrasting iron and ironer operation and results
- A laundry center plan with justification of plan in writing
- A sample mend
- Student demonstration
  - hand washing
  - ironing a man's shirt

Quiz
How would you:
- sort
- use water temperature
- remove these stains
evaluate ironing skill with true-false statements, as
  - If you use a steam iron you never use a press cloth.
- plan a laundry center
TEACHING HOME LAUNDRY

SUGGESTED OUTLINE FOR THE TEACHING OF HOME LAUNDERING

November, 1960

Recommended by Home Economists Committee, American Home Laundry Manufacturers' Association.

SUGGESTED OUTLINE FOR THE TEACHING OF HOME LAUNDERING

This outline has been constructed to contain the basic elements of home laundry in such a way that they can be expanded, contracted, or otherwise adapted to special purposes—limited only by the needs of the user and the ingenuity of the teacher. Consequently, although the AHLMA Home Economists Committee recommends including all basic elements and seeking all goals listed, it strongly recommends against any direct application mechanically or by rote—use your own variation!

This outline of five lessons is recommended by AHLMA's Home Economists Committee for use in many different ways, including but certainly not limited to:

1. Use as one-week, five-day sequence in homemaking courses in high school and college.

2. Expansion into two or more weeks' work on some laundry. (This is preferred.)

3. Incorporate in extension, 4-H Club and other home laundry programs.

4. Application to one-day home laundry conferences for homemakers.

5. Special training for teachers, demonstrators and home laundry appliance salesmen at retail.

This outline is presented in three sections:

1. Recapitulation and Goals
Lesson 1

"What goes on in the Laundry . . . and Before"

Goals:
1. to gain personal experience with the laundry in her home.
2. to survey fibers, fabrics, and constructions.
3. to survey soils on these fabrics.
4. to realize how much of the homemaker's time is spent on laundry and how important it is to do laundry well and efficiently.

Lesson 2

"The Equipment We Use in the Laundry"

Goals:
1. to have personal contact with all kinds of equipment—especially the most modern, efficient, and labor saving.
2. to learn the basic mechanics of:
   a. washers
   b. dryers
   c. combination washer-dryers
   d. ironers
3. to have experience with home laundry advertising, selling methods, and prices.
4. to use at least one kind of each machine.

Lesson 3

"Our Wash Load and Laundry Supplies"

Goals:
1. to have personal contact with laundry supplies and aids.
2. to learn the basic purposes of:
   a. detergents
   b. softeners
   c. bleaches
   d. finishes
   e. others
3. to have experience with home laundry supplies, advertising, selling methods, and prices.
4. to use at least one kind of each product.

Lesson 4

"Doing a Laundry"
Goals:
1. to integrate lessons in fabrics, equipment, supplies.
2. to learn the importance of pre-treatment and finishing care.

Lesson 5
"Summary of Good Laundry Practices"

Goals:
1. to review and evaluate the experiences of lessons 1, 2, 3, and 4.
2. to learn to want high standards of finished laundry.
3. to learn to want high standards of efficiency in her own laundry work.
4. to appreciate the proportion of the whole homemaking job which laundry occupies.

LESSON 1 - "What Goes on in the Laundry . . . and Before"

Assignment
Start notebook on laundry.

Help with family laundry.

Report on sorting, types of soil and stains, items bleached and when, items starched, washing products used, time involved, number of loads, temperature. Each student could be assigned to bring in one or two garments for laundering (or for classroom use).

Estimate the amount of time spent doing laundry in your own home.

Read articles and advertisements in today's newspapers and this month's magazines about washable clothes and linens.

Lesson
Discussion of assignment: Why we launder
1. health and comfort
2. appearance

Fibers, Fabrics and Finishes
1. natural 1. moisture reaction
2. chemical 2. wrinkle resistance
   (synthetic) 
3. blends

Garment selection for launderability
1. yarn construction
2. fiber
3. fabric content
4. printing and dyeing
Discussion of soil and stain removal and pre-treatment.
1. body soils
2. grease
3. earth
4. dyes
5. specific stains

Suggested Activity
Have students classify garments according to fiber classification, fabric and finish.

Have students sort garments according to washer instruction books and hang tags.

Remove stains from garments brought in by students or provided by teacher.

LESSON II - "The Equipment We Use in the Laundry"

Assignment
Visit local appliance dealers and investigate two brands of an appliance you have been assigned to study (washer, dryer, combination, or ironer). Indicate prices and at least two features of the economy model, the top-of-the-line model, and an in-between model (you will have looked at six appliances of one kind).

Include two different types of washing action.

Review current magazines and newspapers for articles and advertisements on laundering and pictures of appliances.

Bring to class clippings of different brands and types.

Lesson
1. Kinds of Washers
   - automatic
   - semi-automatic
   - wringer
   - spinner
   - top-loading
   - front loading

   Washing Action
   - eccentric
   - oscillating
   - reciprocating
   - undulating
   - tumbler

2. Features of each—e.g., wash and rinse water temperatures, wash and rinse speeds, programming; lint filter, dispensers, suds return, water level control, types of fill—time and pressure.
3. Installation

4. Warranty


6. Repair service problems
   locating service
   information for serviceman

Dryers
1. Fundamentals
   air-flow
   tumbling
   heat
2. Controls
   timer
   automatic shut-off
   temperature
3. Features
   de-wrinkler, freshener Ozone Lamp
   sprinkler
   lint trap
4. Moisture Disposal
   condenser
   exhaust
5. Kind of Fuel and Installation
   electricity—115 or 230 volt installation
   gas
6. Warranty
7. Care
8. Repair service

Combinations
1. combination of above principles
2. comparison to separate units
3. installation

Ironers
1. heat
2. pressure
3. friction
4. instruction
5. controls

Irons
1. dry
2. steam
3. a. flash
4. b. kettle

Suggested Activity

If there is no equipment in the classroom, make arrangements to visit
a local utility company, appliance dealer--or homes with new home
laundry appliances.
LESSON III - "Our Wash Load and Laundry Supplies"

Assignment

Visit a local supermarket or grocery store. List different laundry aid products you find.

What is each supposed to do?

How should they be used?

Which ones are used in your home?

Classify.

Lesson

List laundry products by type and discuss purpose and procedure for using each and necessary precautions.

Detergents
  composition of soaps and detergents
  light duty
  all purpose
  liquid and granular
  low and high sudsing
  heavy duty
  (general purpose household cleaners)

Bleaches
  chlorine type
  dry and liquid
  oxygen type

Water Conditioners
  conditioners
  softeners
  mechanical

Fabric Softeners

Bluing

Sort clothes and set up for next lesson so students can start washer at beginning of next class session and cycle will be completed by end of period.

Starches
  types of starch
  how to starch

Tinting and Dyeing

Suggested Activity

Demonstrate difference between soap and detergent in hard water. (A light duty liquid detergent may best dramatize this.)

Demonstrate the difference in density between various products to explain varying package requirements.
Figure the cost of washing a load of clothes, using various laundry products.

Demonstrate effect of water softeners and conditioners when soap is used in hard water.

Demonstrate effect of fabric softeners by rinsing two towels, one with fabric softener and one without. Demonstrate effect on ironing.

Demonstrate anti-static property of fabric softener.

Sort clothes into loads as bleaches and detergents are discussed.

Make comparable solutions of different types, hot water, instant cold water, liquid. Compare prices of each.

Starch a garment by hand.

Starch a load of garments in the washer.

LESSON IV - "Doing a Laundry"

Assignment

Review a washer, dryer and iron instruction manual. (Many students will have instruction books available to read.) List 10 facts that you feel are most important.

Start saving hang tags from your purchases. Visit a local store and read the hang tags on 10 articles. If hang tags are not found on articles, can the sales person supply helpful information? What fiber combinations did you find? What were the washing instructions?

Lesson

Doing a Wash
1. Place clothes in machine
2. Add detergent, bleach, and rinse-aids--importance of adding at right time.
3. Set washer controls
4. Discuss entire cycle

Drying a Wash
Demonstrate proper settings for various loads which class has sorted.
Demonstrate other uses of a dryer.
1. Importance of proper heat selection
2. Do not overdry
3. When to underdry
4. Drying and restoring wash n' wear
5. Fluffing
6. Damp drying--starched garments
7. Sprinkling
Ironing
Sprinkling—half of surfaces
Starching—less of automatic ironing
Fold wet into dry sections.
Set thermostat according to fabric composition.

Suggested Activity

Pretreat garments.
Students can help teacher as she goes through appliance operation.
Have each student set the washer controls for various loads.
Have each student set the dryer controls for various loads.
Stop dryer from time to time to look at clothes. Feel them.
Deliberately overdry a sample.
Have students practice knee controls on ironer with cloth training roll
after observing demonstration. If instructor has ironer training have
each student bring in one garment, or assign one student to present a
demonstration. Iron according to recommended procedure.

LESSON V - "Summary of Good Laundry Practices"

Assignment

Bring to class one article such as a sweater, pleated skirt, fancy
blouse, a tablecloth or bedspread, that you or your mother have trouble
laundering.

Lesson

Review laundry procedure for items brought to class. Each student could
explain correct procedure orally for one garment or each student could
write procedure as garments are shown, i.e., list washing cycle, temper­
ature and time, use of bleach.

Suggested Activity

Laundry the problem garments or articles with the owner's permission,
preferably garments of particular interest to the group.
LETTER ACCOMPANYING QUESTIONNAIRE

P. O. Box 408
Hamilton, Montana
November 7, 1963

Dear,

With the rapid changes taking place in fabrics, their fiber content and methods of laundering care, it was my feeling that I was not adequately covering this in my homemaking classes in high school. As I studied the material I became more interested and am now working on this for my Master's thesis at M. S. U. The title is "Proposals for Strengthening the Teaching of a Clothing Care Unit with Emphasis on Home Laundering in Homemaking Education in Secondary Schools in Montana."

I should like to involve you! I have prepared a questionnaire which I am including with this letter, along with a stamped, self-addressed envelope. I would appreciate it if you will take the time to fill it out and give me your comments and reactions.

I plan to work out a unit in this area. If you would like a copy, check that square and when it is completed I shall send a copy to you.

It is my hope that this work can be of value in our curriculum guide work. I will relate it to a competency and try to get double value--you know, good management, a home economics field.

The material will be presented in a statistical form, so if you do not want to sign your name, that is fine. Miss Martin, State Home Economics Supervisor, knows that I am working on this material and asking your help, and has given her approval of the plan.

I realize you are busy, but please HELP! Thank you.

Sincerely yours,

Homemaking Teacher
Corvallis High School

enclosures (2)
QUESTIONNAIRE ON HOME LAUNDERING UNIT TAUGHT IN MONTANA HIGH SCHOOLS

I think the questions are self-explanatory. Fill in the blanks when specific information is requested and drop in a check at the point of your answer on the other questions. I tried to save your time.

I. a. Your name ________________________________ (if you wish)

b. School ________________________________________

c. Size of high school _____________________________

d. Total number enrolled in Homemaking ____________

e. Number enrolled in Homemaking III _____________

f. Number enrolled in Homemaking IV _______________

g. Your experience - Number of years you have taught Homemaking ___

h. Are you married ________ or single ________

II. a. Do you teach a home laundering unit in your homemaking classes?

   yes __________

   no __________

b. At what level do you teach this?  

   9th grade ________

   10th grade ________

   11th grade ________

   12th grade ________

   other ________

c. Do you teach this as a part of a clothing unit ________

   housing unit ________

   management unit ________

   other ________

d. Would you briefly state your major objectives for this unit, please:
III. a. What equipment do you have available to teach this?

- washer
- automatic
- conventional
- dryer
- ironer
- hand iron
- steam
- dry
- Laundromat* close by
- sink
- other

b. Is your equipment in your department?
   yes
   no
   Or located elsewhere in the school?
   yes
   no
   If elsewhere, where?

c. What type of water do you have in your area?
   soft
   hard
   very hard
   softened by chemical action

d. What type products do you use?
   soap
   detergent
   bleach
   water softener
   fabric softener
   bluing
   other: (please list)

e. Do you do the department laundry at school?
   yes
   no
   Or is it sent out to a commercial laundry?
   yes
   no

f. Does another department - as athletic - use your equipment?
   yes
   no

If yes, please designate

Laundromat - a commercial establishment in which automatic washing machines for clothes and other linens are installed for the use of individual customers.
e. How successful do you feel this unit is for you?

very successful ______
moderately successful ______
unsuccessful ______

Any comments:

f. What source material do you use for reference?

text
pamphlets put out by commercial organizations ______
film strips ________________________________
professional magazines ______________________
other __________________________________________

If it is not too much trouble, I would like title or examples, please. Miss Martin has indicated she would appreciate publisher's names and addresses along with titles.

V. Would you be interested in receiving a copy of the unit plan when it is worked out?

yes ________
no ________
IV. a. Do you feel there is value in teaching this unit on home laundering?

yes _________

no _________

Please explain your answer briefly.

b. If you teach this unit, will you tell me briefly what is covered in it? Just a list will be adequate.

c. How much time do you allow for this unit of work - by grade?

9th grade _________

10th grade _________

11th grade _________

12th grade _________

other _________

How long are your class periods - by grade?

9th grade _________

10th grade _________

11th grade _________

12th grade _________

other _________

And how many a week do you have - by grade?

9th grade _________

10th grade _________

11th grade _________

12th grade _________

other _________

d. Do you have some suggestions for me to incorporate in my unit plan? Something you have found extremely valuable. Please jot it down here or on the back if you need more space.
Dear Mrs. Luoma:

If you have not yet completed and returned the questionnaire concerning a home laundering unit, will you please try to find a time and place to do so. We need your ideas. If it sifted to the bottom of a pile (as my mail sometimes does) I will be glad to send you another form. In order for the survey to be accurate and really indicative of the state, each reply is important.

Thank you for your time and I am looking forward to hearing from you.

Sincerely yours,
Dear

As you can no doubt tell, I am not moving too rapidly myself in dealing with the laundering questionnaire. I find I have complications with teaching full time, running a home and guiding a family. I am sure most of you have the same complications. I do plan to write this thesis this summer and very much want it to represent a true picture of our Montana schools.

Several of you have written saying your information would not be valuable, but it will contribute to the total picture. I need just as much as you can fill in. A couple of you have indicated it got shuffled out and a couple were sure they were too late. And there are a few I just have not heard from! I do not want you to think I am too persistent, but I should like very much to add your school to the statistics.

Therefore, I am again sending you a copy of the questionnaire, the original letter, and a stamped, addressed envelope for the return. Please, take a little while to think it out and with pencil in hand jot in as many answers as you can. I shall very much appreciate your help.

Sincerely yours,

Mrs. Mary Lou Cook
MONTANA HOME ECONOMICS TEACHERS
Tentative 1963-64

Mrs. Ruth Koler  Absarokee  Mrs. Mary Thurston  Box Elder
Mrs. Kay Nelson  Alberton  Mrs. Juanita Stutman Bozeman Sr.
Winifred Scott  Anaconda Sr.  Mrs. Patricia Dolvin Wilson Jr.
Eileen O'Leary  Anaconda Jr.  Mrs. Clara Engle Bozeman
Jeannette Bach  Augusta  Mrs. Nelda Thornberg Bridger
Mrs. Margaret Swigert  Bainville  Margaret Finley Browning
Virginia Everett  Baker  Mrs. Dorothy Williams Butte
Mrs. Gladys Considine  Belgrade  Myrtle Stewart
Mrs. Evangeline LeBarra  Belt Valley  Carol Kallio Butte Jr.
Mrs. Florence Eslick  Bigfork  Marion Nankervis
Mrs. Helen Maxwell  Big Sandy  Ann Frances
Mrs. Helen Sherwood Sweet Grass Co. Billings Sr.
Mrs. Marjorie Nielsen  Billings West  Diane Drew
Elizabeth Robocker  Garfield Jr. Billings
Susan Wetzel  Lincoln Jr. Billings
Connie Kyle  Mrs. Margaret Woolston Billings
Mrs. Mildred Christian  Lewis & Clark Jr., Billings
Mrs. Georgia Sparks  Billings
Mrs. Margaret Rhodes  Lockwood Jr. Billings
Mrs. Margaret Dawson  Jefferson Co. Boulder
Mrs. Margaret Thursto Sweet Grass Co.
Mrs. Alice Myron  Chester
Mrs. Naomi Ingwalson  Chinook
Jo Staff  Choteau
Mrs. Ruth Dreyer  Circle
Mrs. Agnes Cada  Columbia Falls
Mrs. Betty Schilling
Mrs. Lucile Nelson  Columbus
Patricia McGee  Conrad
Mrs. Marjorie Boettcher  Conrad Elem.
Mrs. Mary Lou Cook  Corvallis
Esther Stuff  Cut Bank
Elizabeth York
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