

AN ABSTRACT OF THE THESIS OF

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Title: COMPARISON OF INSTRUCTIONAL TELEVISION AND AUDIO-
TUTORIAL METHODS WITH THE TRADITIONAL METHOD OF
TEACHING BODY MEASUREMENT, PATTERN ALTERATION,
AND GARMENT FITTING

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The purpose of this study was to compare the effectiveness of television lectures and television lectures reinforced with two types of recorded media (audio-slide kits and super 8mm movies with sound) with the traditional lecture method of teaching three selected lessons of clothing construction. The research was conducted winter and spring terms of 1970, using members of the clothing construction course, CT 213X.

Criterion for measurement was pre- and post-testing of the students. Results indicated that television was the least effective method of teaching. There were no significant differences among the other three teaching methods. Subjective evaluation of students' work by laboratory instructors indicated that students who were in the group taught by television and super 8mm movies were most often ranked

"excellent" and "good" for the four assignments evaluated.

Student opinions revealed that students were generally more favorable than unfavorable toward recorded media. The most negative response was that of students who viewed television and objected to not being able to ask questions during or immediately after the telecast.

As a result of this study recommendations were that: more development of media be done in the field of clothing and textiles, discussion periods follow television lectures, handout materials be developed for use with television lectures, more work be done with single concept films, accessibility to reinforcement materials be implemented, and further research be done using a multi-media approach to teach clothing concepts.

Comparison of Instructional Television and Audio-tutorial
Methods with the Traditional Method of Teaching Body
Measurement, Pattern Alteration, and Garment Fitting

by

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COMPARISON OF INSTRUCTIONAL TELEVISION AND AUDIO-TUTORIAL METHODS WITH THE TRADITIONAL METHOD OF TEACHING BODY MEASUREMENT, PATTERN ALTERATION, AND GARMENT FITTING

INTRODUCTION

Explosion of population, knowledge, and technology has caused the life style, cultural setting, and environment of today's citizen to undergo change. There are more people, more knowledge, and more technology to affect every person and how he lives.

Because there are more people to be educated, more knowledge to be learned, and more educational equipment with which to learn, the teaching-learning process is undergoing change. Today's student arrives at school full of information gleaned from the electronic "surround" of his environment. He is often referred to as a "nuclear" student gleaning information from many sources outside the educational structure, in comparison with the linear book-oriented student of yesteryear who was thought of as an "empty bucket" or a "blank page" when beginning his schooling (5).

The expansion of knowledge creates problems for the teacher as well as the student. The teacher's role is becoming more that of a tutor-guide and the student's role is that of a self-learner. Today teaching and learning follow a decision-making process of choice and rejection on the part of both the teacher and the student. Even so, some teaching-learning situations are not efficient because they are

linear¹. Linear learning gives the student one choice of method with which to learn, usually a combination of a textbook and a lecture or a lecture-demonstration.

Slow adaptation in the use of multi-media² by institutions that train teachers causes an educational lag (14). Many public school systems use multi-media as an approach to learning while colleges and universities are cited as the biggest offenders in retaining a linear method of teaching and learning. It has been reported that only 15 percent of the multi-media used in the public school systems is used by colleges and universities (27).

As the expansion of learning and student population increases, all levels of education, especially higher education, are being admonished to keep up with the expansion of the technology of the modern world.

Thomas Boardman states

Teaching is communication. . . It doesn't matter how well a teacher knows his subject field. . . if he doesn't communicate, he isn't teaching (2, p. 289).

Teachers, whether in the public schools or universities, are competing with very sophisticated methods of communication. Outside of school the student is exposed to the skillful, persuasive use of radio, T. V., motion pictures, etc., while in school it is read, read, read, and listen, listen, listen. How can any teacher compete if he ignores audio-visual methods or uses them poorly? (2, p. 290).

¹Giving one choice as opposed to many choices.

²See definition of terms, page 8.

... experience is the key to understanding, yet the lecture and reading methods, which alone won't provide it, still dominate education today... we... close our minds to the fact that many (if not most) students memorize facts in order to pass tests, after which they literally flush their minds so the next set of facts can be memorized. A lot of valuable time is spent teaching forgotten learning (2, p. 290).

Boardman goes on to state that a basic change in the educational system will be necessary if we are to keep relevant.

... our teacher-training institutions should be, but are not, the leaders in promoting the new ways and means of increasing teacher efficiency... The colleges and universities should be the leaders, but their gathering of empirical data is so unending that by the time it is determined educationally safe to move ahead, the public schools have, to the best of their ability, already adapted to the times. And once again the cycle begins as educators collect more data. Unfortunately, while this research is going on, teacher-training in the use of new teaching methods is sadly neglected (2, p. 290).

One way of increasing the effectiveness of education is by the use of media other than the traditional lecture and textbook. The National Defense Education Act did for audio-visual instruction what Sputnik did for education in general. Yet education has much to learn about management of change in classroom practice. Little has been done to cut the 25- to 50-year lag between research and actual practice (14).

Need for the Study

Because of this educational lag, studies need to be made to explore ways to teach subject matter by multi-media on the college level and to expose college students, many of whom become teachers, to subject matter media other than by lecture and textbooks. Some

possible reasons why these studies need to be done can be summarized as follows:

1. Many present day college and university students have been taught by multi-media in elementary and secondary schools.
2. The personnel on the college and university level are not adequately trained in the use of multi-media.
3. The use of multi-media enables instructors to meet the needs of greater numbers of student population.
4. The best of teaching talent can be recorded on various media to reach greater numbers of students.
5. Recorded media provide an opportunity for the student to replay lessons as many times as needed to reinforce knowledge.
6. The use of multi-media makes available choices of well-prepared materials from which a student may learn.

Education by media requires careful planning because of the many possibilities that exist. Some of the more common media are programmed texts, television, closed circuit F. M., recordings, slides, and films. Additional audio-visual equipment and aids such as overhead projectors, opaque projectors, and pictures are often used. Evaluation of these various media is necessary to determine:

1. The most effective media approach to enable students to learn the concepts involved.

2. The most economically feasible media to use in regard to talent, time, and money available.

Television as a possible medium has been studied by Meacham at Ohio State University where a clothing course in which this medium was used was as effective as one using face-to-face lectures. Students often feel that television teaching moves rapidly and information is lost because there can be no interaction between the student and the television teacher. Therefore, supplementary teaching aids would be desirable. At the National Textiles and Clothing Meeting held in Minneapolis in 1968, Dr. Meacham demonstrated the use of a short instructional film (single concept) which would be an alternate to repeated individual tutorial demonstrations in which basic sewing techniques are involved (22, 24).

As a result of Meacham's study and her recommendations, it seemed pertinent to use several combinations of recorded multi-media to determine their effectiveness in teaching concepts of clothing construction.

Statement of the Problem

The purpose of this study was to compare the effectiveness of television lectures and television lectures reinforced with two types of recorded media (audio-slide kits and super 8mm movies with sound) with the traditional lecture method of teaching three selected

lessons of clothing construction.)

Limitations of the Study

This study was limited

1. To students enrolled winter and spring terms, 1970, in CT 213X, a five-hour-credit course offered at Oregon State University.
2. By equipment and services available or easily attained on the Oregon State University campus.
3. To the three selected lessons of body and pattern measurement, pattern alteration, and garment fitting.

Assumptions

The following assumptions regarding the media were:

1. The television lectures will be as effective as the face-to-face lectures.
2. The television lectures plus reinforcing media will be more effective than the face-to-face lectures or the lectures by television only.

Objectives of the Study

The objectives of the study were to

1. Design an experiment to determine the effectiveness

of teaching by the selected combinations of multi-media.

2. Develop and record the lessons on the selected multi-media.
3. Evaluate and analyze the effectiveness of each combination of media by an objective criterion, subjective evaluation of students by laboratory instructors, and by tabulation of student opinions.

Definition of Terms

The following are definitions of terms as used in this thesis.

Alternate questions are questions regarding the same subject matter used on pre- and post-test, which have been rewritten in different form to ensure that students understand concepts involved and are not merely memorizing questions.

Audio-slide kits are kits of 35mm slides with a synchronized sound tape narrating the lecture material. (A beep on the sound tape changes the slide at the appropriate time.)

Audio-tutorial is a method of self-learning by which the recorded sound does the teaching. Students operate and control the machine.

Auto-tutorial is a method of self-learning by which the student teaches himself.

Classroom teacher is the teacher who teaches in the classroom.

Closed circuit is a television program that is distributed to specific television receivers, but is not telecast to the public. In this

study the lectures were viewed by closed circuit from Classroom Television to a classroom in the Home Economics Building.

Director is the television studio co-ordinator of all production elements before and during the on-the-air telecast.

Face-to-face lecture is the lecture given "live" in the traditional manner. For purposes of this study, this type of lecture served as the control. All visual aids and properties were the same as those used on the recorded media.

Film-loop projector is a movie projector in which a film loop in a cartridge may be inserted to show to individuals or to groups. The projector may be silent or with sound.

Films for this study were colored super 8mm movies with sound added on a magnetic stripe of the film. Because of the additional expense and lack of appropriate equipment, these are not single concept films, but are reel-to-reel films.

Learning Resource Center is the area in the Home Economics Building where students may go to use equipment and materials for self-learning.

Magnetically striped film is movie film to which a stripe of magnetic tape has been added to enable one to record sound.

Multi-media are combinations of media that students may use to learn a concept. (For purposes of this study, multi-media does not mean several media being played simultaneously.)

Playback projector is a movie projector that will play back the sound on magnetically striped film. (It will not record the sound.)

Props are properties used for set decorations and by the television teacher.

Rear-view projection is the projection of an image on a screen which is mounted on the rear part of the projector, enabling the projection equipment to be in front of an individual or the classroom.

Recording projector is a projector which contains a recording head which will record sound on a magnetically striped film. It will also play back the sound.

Reel-to-reel projector is a movie projector that utilizes films on reels.

Single-concept film is a short film that teaches one concept or technique. It is in a cartridge in which the film is looped or has a fast rewind.

Single-concept loop is a film in a cartridge with ends joined to form a continuous loop.

Slides are 35mm color transparencies mounted in 2" by 2" frames.

Synchronizer is an electronic device used to add an electronic beep to a sound channel on a recording tape which will trigger the slide projector at the appropriate time. (The beep is not audible when the tape is played.)

Supers are slides which are superimposed on the television picture to describe the action.

Television teacher is the teacher who presents lectures or lessons via the television medium. For the three lessons of this study, the author was the classroom and television teacher.

Treatment "is any induced or selected variation in the experimental procedures, or condition whose effect is to be observed and evaluated" (17, p. 1).

Video-tape is plastic tape for recording video and audio portions of a telecast.

REVIEW OF LITERATURE

General Trends of Research Since 1956Limitations and History of Research

Research in the audio-visual and educational media field is voluminous. Therefore, this review of literature is limited mostly to studies conducted since 1956 and to research pertinent to the media used in or related to the experiment.

General trends in research studies are revealed in the April issues of Review of Educational Research for 1956, 1962, and 1968. These issues are devoted to audio-visual materials. The emphasis in the use of audio-visual materials changed during the period of time from that of an aid to teaching to that of a part of total teaching.

Studies published previous to 1956 dealt with the effectiveness of an aid or how effective one type of aid (i. e., movies) was when compared with another aid (i. e., slides). Some study of audience-learner characteristics was also being done at this time (1).

In 1962 the Review of Educational Research showed a definite change in the use of media. The term "audio-visual aids" disappeared and in its place appeared "educational media and technology." Audio-visuals were no longer thought of as aids but as a part of the input of the total teaching process. Social trends which affected trends in audio-visual research are summarized by

Harcleroad:

... expansion of population, with a higher percentage to be served in the schools... changing occupational needs of society leading to expectations of new educational functions for the schools... concentration of population in urban area... rapid mobility of people, including greatly expanded overseas travel... unprecedented discovery, organization and restructuring of knowledge... a nationwide demand for higher-level education with a greater concern for "excellence" or "quality" (11, p. 119).

He also noted some major audio-visual concepts which were beginning to emerge, such as

... the concrete to abstract relationship... the "cafeteria of materials"... technical theory relating to equipment itself ... "optimum synthesis" or team approach to materials production... optimum use of materials for individual... and group learning (11, p. 129).

Newly developed theories that needed emphasizing were suggested by Harcleroad:

1. The development of a systems approach compatible with Finn's Law of Negative Entropy³.
2. The establishment of models of the communication process.
3. The study of flexibility in design of learning areas.
4. A review of the changing role of the teacher.
5. The study of total teaching done by electronic or mechanical means (8, 11).

In April, 1968 the Review of Educational Research was again

³ More complicated equipment leads to less teacher and student control and more dependence on the outside classroom specialist.

devoted to "Instructional Materials: Educational Media and Technology." The emphasis was on research of the past and what should be done in the future.

Relationship of Educational Objectives to Media

One of the most important effects of educational media is the emphasis it has placed on the educational objective. Until the time of educational media, objectives often have been vague (6).

Instructional conditions can be of two types: the first being extemporaneous design employing "human" on-the-spot objectives, and the other being predesigned which uses "software" or educational materials that must be preplanned and stored for use when required (9).

The predesigned instructional condition requires the use of educational objectives. Mager says that if clearly defined goals are lacking, it is difficult to measure the success or failure of a program. He also says that students must have clearly defined goals to know what behavior is expected of them and to show that they have succeeded in a course. Hence the term behavioral objective is often used.

Three suggested rules are given for writing behavioral objectives:

- identify the terminal behavior by name; you can specify the kind of behavior that will be accepted as evidence that the learner has achieved the objective.
- try to define the desired behavior further by describing the important conditions under which the behavior will be expected to occur.

- specify the criteria of acceptable performance by describing how well the learner must perform to be considered acceptable (20, p. 12).

Preplanning for educational media must be adequate and appropriate. If it is not, it will be necessary for the instructor to change the media or perhaps the objective. There are three dimensions of planning for media. The first is the design level, at which time the objectives are formulated to give direction, focus, and delimit the project. On the next level, or the developmental level, the objectives determine strengths and weaknesses of educational materials, and whether or not the medium is performing in the way intended. On the third level or descriptive level, the objectives should show whether or not proper behavior of the learner is attained to show he has reached his goals (21).

An Example of Multi-media Approach

One example of multi-media approach to teaching using pre-planned behavioral objectives is Postlethwait's freshman botany course at Purdue University. He has developed the course using an audio-tutorial system that emphasizes student learning rather than teaching. The course as now evolved uses an independent study system in which the student guides himself through the laboratory using a recorded audio-tape. Students also use other media when directed to do so, such as 8mm movies, slides, and laboratory materials normally found

in a botany course. Graduate assistants and laboratory instructors are present to help the students who progress individually at their own pace. Each student meets weekly in a small assembly session or seminar at which time he gives a presentation and is given an oral and written quiz. Large or general assembly sessions are held several times a term, but generally instruction is on a small group or individual basis (30).

Suggested Emphasis for Future Research

Recognition of the need for a systematic, scientific approach for instructional design that provides criteria and procedures to match media to a learner was noted. Therefore, research of the future should encompass five broad areas:

1. Design and selection of media
2. Utilization and management factors
3. Learner variables
4. Learning objective variables
5. Effects of media and media systems of school organization and operations (33).

It is the consensus that research in the media field should take the direction of theory, developing guidelines, and studying the effects of using various media to accomplish instructional objectives. More research needs to be done on the learning processes and the

superiority of specific media (42).

Gagne believes that learning occurs because the learner himself puts many of the principles of learning into effect. He analyzes the events of instruction as follows:

... gaining and maintaining attention of the learner and developing it into purpose... Insuring recall of previously acquired knowledge... Guiding the learning by "cues" and "hints"--at least until the learner can take over... Providing feedback to the learner on his accomplishments... Establishing conditions for remembering and for transfer of learning... Assessing outcomes (including the learner's learning to assess and redirect his own learning activities (17, p. 557).

Gagne also feels that no single media is best for all purposes, that one must match media with specific instructional functions. He feels that the most striking effects of media are obtained by a combination of media (not concurrent) each performing a specific function. Research must apply knowledge of the learning processes to media and close the gap that exists between practice and theory (17).

Kemp believes that organization for learning is done by the following process:

1. Students learn by active participation in the learning process.
2. Teachers manage the learning process.
3. Teachers guide the learning process.

He also feels that the personal touch to learning can be accomplished by using the resources of technology to free the teacher

from repetitive work and from the simple presentation of information. Media should not be supplementary but should be in the instructional input itself (16).

Need for a Taxonomy of Instructional Media

A classification of instructional media is needed to provide a systematic approach for the selection and use of media for educational purposes. Meredith suggests a taxonomy can provide the basis for four sets of variables:

... the physical variables in the material and form of the physical medium providing the stimulus... the neuroanatomical variables in the sensory-motor structures involved in the responsive behavior of the learner... the ecological variables... which take account of architectural and environmental factors responsible for the... context of every educational medium... a set of variables which embody the time dimension, the factors of memory, learning, growth, and history from the past, the factors of variable attention and control in the present, and the factors of purpose, expectation, imagination, and design through which the anticipation of the future operates on present behavior (26, p. 384).

Research Related to Selected Media

Instructional Television

Instructional television is defined as "confined to the organized teaching-learning situation and is part of the formal instructional program of an institution of learning" (37, p. 16). It is used in the following ways:

1. Major teaching source
2. Total instruction
3. Supplementary instruction

Used properly, instructional television should strengthen education by increasing student readiness and motivation, using new teaching resources, giving teachers more time for lesson preparation, and by giving teachers resources for continued professional growth (37).

General Research. In 1956, Husband studied the effectiveness of instructional television on four groups of students. Adult home viewers, college students forming the studio audience, college students receiving video-taped series over classroom receivers and college students receiving a kinescope recording with immediate discussions formed the four treatment groups. The criterion test showed the adult home viewers to be the most successful, and college students with the kinescope recordings with immediate discussions were more successful than the other two groups (13).

At that time Carpenter and Greenhill were finding that college students had neutral to negative feelings about television, while teachers and administrators were viewing it as a means to solve enrollment problems (3).

Six years later, Schram reported a summary of 393 research studies comparing the relative effectiveness of conventional classroom teaching and instructional television. Positive results favoring

television were found in 83 of the studies. Two-hundred fifty-five showed no significant differences, and 55 were negative. Television showed greatest success in grades three to nine. It was felt that some subject areas were more successful than others (35).

Students' and teachers' attitudes had changed little as college students showed a less favorable attitude toward television than did younger students; however, college students' attitudes differed with seating arrangements available in face-to-face courses being compared with televised courses and the course materials being presented. Teachers who used the television medium liked it; those who did not use it tended to be negative (36).

The use of instructional television and the results of the studies caused Schram to raise the following questions

1. Are not teachers able to give more preparation to their TV classes than to ordinary classes?
2. Has not the point been neglected that TV teaching has built-in advantages as well as disadvantages?
3. Is it not reasonable that elementary school students are more likely than older students to take the new method in stride? (35, p. 165).

The most interesting new concept regarding television in 1968 was the Zettle classification system of feedback. Feedback is the viewers' reaction to the telecast. It may be direct, indirect or displaced in regard to the originator of the telecast. Direct feedback goes to the originator of the communication. Immediate direct feedback occurs during the television lecture and delayed direct feedback

occurs at the end of it.

Indirect feedback does not involve a reaction to the originator of the telecast but an observation of feedback that is built into the message. Immediate direct feedback occurs when a television class views the studio class reacting to the television teacher, the television teacher reinforces a point, or the viewer participates by note-taking or self-testing with a testing machine. Delayed indirect feedback occurs when the viewer is asked to engage in specific learning activities after the telecast (i. e., reading assignment or using a testing machine).

Displaced feedback is a reaction of viewers independent of the communication source and directed to others not connected with the telecast. Immediate displaced feedback occurs when students ask the classroom teacher questions during the telecast. Delayed direct displaced feedback is the interaction of students and classroom teacher after the program, or is a discussion among the viewers after the program (45).

Selected Research in Clothing and Textiles. Research using television in the area of clothing and textiles is limited.

Stinson, in 1968, developed videotapes to supplement teaching of consumer education related to textiles and clothing in Delaware home economics programs. Her objectives were to determine if instructional television could supplement the consumer education

curriculum, to develop four videotapes applicable to teaching consumer education in relation to clothing, textiles, and related arts, and to develop supplementary instructional materials in order to obtain optimum utilization of educational television (40, p. 3).

She recommended that follow-up studies be done to further determine the effectiveness of the tapes, that the tapes and teacher's guides should be periodically revised to update the content, and that development of tapes be done in other areas of instruction of home economics (40, p. 52).

Meacham taught a clothing course by videotape at Ohio State University in 1963 and proved that it could be as effective as the face-to-face course. She felt that critical standards were developed as well by students who received the television course as those who received the face-to-face course (24, p. 92). In 1969 when the course was revised a series of shorter supplementary videotapes was planned. Students would have dial access to the shorter tapes in the campus listening and viewing center (23). She also called for the development of short single concept films as a supplement to teaching (22).

Techniques. Use of instructional television is sometimes difficult for the student as some feel it moves rapidly while others become bored. The student, therefore, should learn to utilize his time to the best advantage, learning when to listen and when to take

notes. The rate of speech is generally 125 words per minute which gives most listeners surplus time. The student should be taught the following:

1. To understand what specific item for which to listen.
2. The purpose of the telecast, principle ideas, sequences of ideas and relationships.
3. To think ahead and anticipate.
4. To weigh the evidence presented in support of ideas.
5. To take time to summarize mentally and take notes which are clear, brief, and focused on central ideas.

Classroom organization is also important in a television presentation. Recommendations are that the center of the screen should be 5' 6" (minimum) height from the floor. The room should not be darkened, but care should be taken to avoid window glare on the receiving set. Screen size determines seating; a rule of thumb is one foot of room per one inch of screen size.

Classroom equipment should be planned so that reinforcement materials are on hand to supplement the television lesson (28, 37).

Display and visual materials have special proportional requirements when used on television; they should be three units high and four units wide. They also should provide for a loss of 1/6 marginal area during transmission (16).

Slide Series

Through individual study, group viewing, or television, a slide series may convey information, teach a skill and affect an attitude.

General Research. General research reported since 1956 has been meager regarding slides. They were the most economical of audio-visual materials and were found to be as effective as silent movie film and regarded generally as effective as movies or lectures (1).

Selected Research in Clothing and Textiles. Paylor developed a set of slides to determine if she could teach concepts in home furnishings. The slides were used as introductory materials, supplementary materials, review materials, evaluation materials and for interest or enrichment purposes. A questionnaire revealed most of the teachers felt Paylor's slides aided in teaching concepts and that 75 percent of the students who viewed them found the slides interesting. The teachers preferred using slides to other visual materials because the slides were easily updated and allowed for rearrangement and revision (29, p. 19).

Techniques. Steps to consider before making a slide series include:

1. Express ideas clearly and limit the topic.
2. State the objective the series should serve.
3. Consider the audience characteristics.

4. Prepare a content outline.
5. Write a treatment and organize a storyboard to assist in the visualization process.
6. Determine if slides are the best medium.
7. Prepare a scene-by-scene script as a guide.
8. Determine specifications necessary for slides.
9. Select people to assist.

The production of a slide series involves four steps.

1. Taking pictures.
2. Processing the film.
3. Editing the slides.
4. Preparing the slides for use.

Narration for slides may be informal comments while the slides are projected, a formal reading of the narration as the slides are projected, a recorded narration with an audible signal to indicate slide changes, or a recorded narration with an inaudible signal which electronically controls slide changes (16).

8mm Film

General Research. The use of 8mm film for educational purposes is relatively new. Early educational research concerned the use of 16mm or 32mm moving pictures.

In 1956, findings supported previous research that motion

pictures can be used to

1. Impart knowledge of facts.
2. Teach perceptual motor skills.
3. Modify motivations and attitudes (1).

Six years later, a limited amount of research regarding the effectiveness of movies was reported. One highlight was that the saturation point of movies was 20 minutes when they were shown daily to classes for a period of several months (43).

Research has not kept up with the use of 8mm educational films and the literature "is meager and largely hopeful rather than experimental" (41, p. 132). However, in 1968 it was reported in the April Review of Educational Research that there was no significant difference in learning when using conventional projection or rear-view projection (32). Further moving picture research by McCoy seemed to support earlier findings that color was not superior to black and white because cues noticed in black and white were missed in color (20).

History of 8mm Film. Eight millimeter film has evolved into educational films largely due to the fact that during 1961 and 1962, American and Japanese manufacturers introduced 8mm film projectors that were capable of recording and reproducing sound. This was done by applying a magnetic stripe to the film which enabled recording of sound. Although some similar projectors had been available for many

years these were the first to be considered economically feasible and easy to use.

Industry responded to the 8mm film market, using it largely for internal training and sales programs. Rear screen projection made the 8mm format truly portable.

In 1962, Fairchild began to manufacture a rear-screen cartridge projector, and by 1964, both business and education showed increased interest in cartridge loaded film.

The forerunner of super 8mm came into being in 1965 when Fuji Film of Japan introduced 8mm film that was 50 percent larger than conventional 8mm film. This company had developed two projectors, one sound and one silent. The films could be shown at a speed of 18 or 24 frames per second.

In the United States, Eastman Kodak Company developed a film that was 8mm wide but had narrowed sprocket holes giving a larger frame area. This film would not fit in ordinary 8mm cameras or projectors. Projector manufacturers are now designing projectors that will handle regular 8mm and super 8mm films with a "flick of the switch" (36).

Selected Research in Clothing and Textiles. During the past few years, studies have been made concerning the use of 8mm films to teach clothing concepts. Season developed guidelines for producing 8mm continuous loop films for home economics classes (34). Powers

compared teacher demonstration versus single concept films in the development of sewing skills and found that each was equally successful with the small groups tested (31, p. 5, 52).

Losey used a videotape recorder to simulate recorded motion and sound of a film loop. She found no statistical difference between three groups of students who had motion and no sound, motion with sound, and printed instructions to teach them a sewing technique. Mean scores of students on criteria tests indicated that students with recorded sound and motion were most successful, and students using the printed instructions were least successful (19, p. 5, 37).

Techniques. Kemp lists the following checklist for planning a film production:

1. Express ideas clearly and limit the topic.
2. State the objectives to be served.
3. Determine the audience characteristics of the film users.
4. Develop content outline.
5. Determine if motion pictures are the best medium.
6. Determine if film is to be a complete production or a single concept.
7. Write a film treatment.
8. Sketch a storyboard.
9. Prepare a scene-by-scene script.
10. Consider the specifications necessary.

11. Select other people to assist.

The production steps are as follows:

1. Film scenes.
2. Process film.
3. Edit film.
4. Prepare titles and add sound.
5. Prepare to use the film (16).

PROCEDURE

Design of the Experiment

This research was designed to use the students who were enrolled in CT 213X, an experimental basic clothing construction course at Oregon State University. CT 213X is a five credit course which meets daily with three 50-minute lecture periods and two three-hour laboratory periods each week. Normal enrollment consists of 40 students in the lecture section and 20 students in each of two laboratory sections.

The study involved three selected lectures given to four different groups during the lecture sessions. The subject matter chosen for the three lessons were:

1. Body and Pattern Measurement
2. Pattern Alterations
3. Garment Fitting

These topics were chosen because students entering basic clothing construction courses at Oregon State University seem to have little or no understanding of methods used in taking body and pattern measurements, in altering patterns, and in fitting garments, regardless of their previous clothing construction experience. As many students become teachers, a knowledge and understanding of the basic concepts utilized in the selected lessons would seem to be a highly

desirable aspect for background for teaching in the area of clothing construction.

A questionnaire was developed to determine the background of each student. The purpose was two-fold:

1. To determine the amounts and the types of instruction received.
2. To determine the kinds of fibers, fabrics, and construction techniques used.

The information obtained was then converted into a positive numerical score which in turn was used to pair the lecture section into four treatment groups (see Appendix A). The groups were designated as follows:

Group I - Face-to-face lecture only

Group II - Television lecture only

Group III - Television lecture reinforced by audio-slide kits

Group IV - Television lecture reinforced by audio-movie film

An objective pre-test was developed to measure the students' knowledge of the three selected lessons. A post-test using alternate questions was given at the conclusion of the lessons to determine the students' gain of knowledge (see Appendices B and C).

A subjective evaluation of each student's work was done in the laboratory by each laboratory instructor to determine whether students in any one treatment group were more successful than students in

other groups. A record was maintained for each student (see Appendix E).

Development of the Lessons

The three lessons were developed during the summer, 1969, and were recorded on the various media to be used. This was done by writing a master script which was reviewed by the instructor in charge of CT 213X. This script was then taken to the producer at Oregon State University Classroom Television, and the visuals to be used for the television lectures were developed. Both Classroom Television and the Instructional Resources and Materials Center (hereafter referred to as IRAM) cooperated in the development of graphic art, slides, and "supers" to be used. Visuals involving equipment, pattern work and garments were developed by the author. The master script then was reduced to outline form to be used as a guide for the television lectures which then were taped at Classroom Television.

Reinforcement materials for Groups III and IV were photographed by professional photographers from IRAM. The master script was used to plan each 35mm slide and each scene for the super 8mm film. Cards describing each "shot" were made and visual materials arranged to minimize the time required for the photographers. Two three-hour sessions were used to take the 35mm pictures. The following week the super 8mm photography was completed in two sessions.

Titles for each subject were photographed later at the IRAM studio.

The 35mm slides were processed by IRAM. After they were checked for accuracy approximately two dozen were retaken. The audio tape was recorded and electronically synchronized in order that the slide projector would change automatically during the taped lecture. Each of the three lessons contained 80 slides and required 15 minutes to view.

When the super 8mm film was developed, the original film was edited and sent to Eastman Kodak Laboratories to be duplicated and to have a magnetic sound stripe applied. After the film was returned, the audio commentary was added with a recording projector. The original films were kept as a master copy in case of damage to the ones being used by the students.

Management of the Experiment

The experiment was originally scheduled for fall term, 1969, and winter term, 1970. Because a recording projector was not available, audio for the film could not be added for use during fall term, so a "dry run" was scheduled for the group of 38 participating students. At this time a student opinionnaire regarding attitudes about the media used in the experiment was developed. The "dry run" students were asked questions with open-ended answers, which in turn were used to develop the closed answer opinionnaire (see Appendix D).

The experiment was conducted in the winter and spring terms of 1970. Because of an increased enrollment request during winter term registration, an additional laboratory section was added. There were 59 enrolled for the lecture section. Twenty-eight students registered for the course spring term. A final total of 71 students was used in the study.

The face-to-face lecture and the television lecture were presented simultaneously with the face-to-face lecture being conducted in an adjoining classroom. The same visual aids, equipment and model were used for both types of lectures. Groups III and IV then viewed reinforcing materials on an individual basis after each television lecture was presented. This was done at their own convenience in the Home Economics Learning Resource Center.

The pre-test and student experience questionnaire were administered during the first laboratory session. The post-test and student opinionnaire were given about two weeks after the presentation of the third lecture. A mid-term test given during the experiment excluded subject matter covered in the three lectures to insure that the students' gain of knowledge would come from the lessons and not from testing materials.

After completion of the experiment, the data were summarized and evaluated. Evaluation was of three types. The first was a regression analysis of co-variance using the post-test as the dependent

variable and testing covariables with a t-test to determine which were significant. The second was a subjective evaluation of students' work in the laboratory and assignments related to the lessons which was done by each laboratory instructor. As the author feels that evaluation of students' reactions to a teaching-learning situation is important to improve learning, students' reactions to the experimental treatment they received were tabulated.

Data collected for each student profile (see Appendix E) were as follows:

1. Treatment number
2. Laboratory section number
3. Experience questionnaire score
4. Year in college
5. SAT scores and deciles
6. Pre-test scores
7. Post-test scores
8. Gain (post-test score minus pre-test score)

The data were analyzed at the Oregon State University Computer Center. During preliminary "runs" of the regression analysis, some of the data collected were eliminated from the study. SAT scores were eliminated because they were not available for transfer students, and the "runs" using the scores for the 50 students who matriculated at the university as freshman revealed that SAT scores provided no

information additional to the pre-test scores. Three other variables were eliminated because of findings in the early "runs." Experience questionnaire scores were used to place the students in the treatment groups and were eliminated as they were of no other value. Laboratory sectioning was eliminated as a variable as it was determined not to affect students' scores on the post-test. Gain was eliminated because it was the author's and the statistician's opinion that it tends to distort the results. Generally the students who score low on the pre-test gain the most, and students who score high on the pre-test gain less but score highest on the post-test. Data used in the final regression of covariables were treatment group, year in college, pre-test score and post-test score.

The laboratory instructors evaluated students for the following laboratory work and assignments: body measurements, pattern alteration, pattern fitting, and the final basic fitting shell. Students were ranked into five groups: E (excellent), G (good), A (average), F (fair), and P (poor). Criteria for ranking the students were discussed by laboratory instructors before they evaluated the students. Because of time restrictions, laboratory evaluations were done on an individual basis by each laboratory instructor rather than using a panel of judges. An evaluation of the accuracy of pattern measurements was attempted, but abandoned because of change in design of the basic patterns of one company, and an increased number of students winter term, necessitating the use of several brands of patterns.

RESULTS

Objective Evaluation

As the purpose of the study was to determine the effectiveness of the medium used, a regression analysis using the post-test as the dependent variable was conducted to determine significant covariables.

The formula used was

$$\hat{y} = b_0 + b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4 + b_5x_5 + b_6x_6$$

The pre-test score and the year in college were the significant covariables with the post-test score (Table I). For the hypothesis test $H_0: B = 0$ the t-statistic for the pre-test had a value of 5.00 indicating that students with higher pre-test scores generally obtained higher post-test scores. The t-statistic for the covariable year-in-college was a value of -2.26 which was significant at $\alpha \leq .05$. This infers that students with a more advanced year-in-college were apt to have a lower post-test score.

To test the hypothesis that all methods of teaching were equally effective, the final scores in each group were adjusted for initial differences on pre-test scores and student classes. The adjustment was made by forcing both covariables into the regression equation and allowing significant teaching methods to enter the equation. The variable for the television lectures was the only significant variable with a t-value of -2.62. This indicated that the television lectures

Table I. Significant Variables.

Variable	Values of t
Television lecture	-2.62*
Year-in-college	-2.26**
Pre-test	5.00*

* Significant at the 1% level.

** Significant at the 2% level.

Table II. Mean Scores of Pre- and Post-test by Method of Teaching.

Method of Teaching	No. of Students	Mean Score	
		Pre-test	Post-test
Face-to-face lecture	19	33.21	46.84
Television lecture	22	32.77	44.04
Television & slides	14	33.29	46.57
Television & movies	16	33.50	47.18
	<u>Total</u>		<u>Mean</u>
	71	33.15	46.14

Table III. Mean Scores of Pre- and Post-test by Class.

Class	No. of Students	Mean Score	
		Pre-test	Post-test
Freshman	46	32.33	45.98
Sophomore	13	34.54	47.85
Junior	8	35.63	45.88
Senior	4	33.25	43.00
	<u>Total</u>		<u>Mean</u>
	71	33.15	46.14

were less effective than other methods of teaching (Table I).

Subjective Evaluation of Assignments by Instructors

On the basis of four laboratory assignments, students were ranked as excellent, good, average, fair and poor by the laboratory instructors (Tables IV, V, VI, and VII).

Students who received television lectures plus movie reinforcements were ranked "excellent" more often for the body measurements, pattern alteration, and basic shell assignments. Students in the face-to-face lecture ranked "excellent" more often for pattern fitting assignments.

Students who received television plus slide-kit reinforcements ranked least often in the "excellent" ranks for body measurement, pattern alteration, and pattern fitting assignments.

Comparing rankings above average (i. e., those who were ranked excellent and good), students in the group receiving television plus movies were more often ranked "excellent" and "good" than students taught by other methods for the body measurement, pattern alteration and pattern fitting assignments. Students in the television plus slide group had the highest percentage placed in the "excellent" and "good" ranks for the basic shell assignment.

Table IV. Percentage Ranking of Students for Body Measurement.

Method of Teaching	E	G	A	F	P
Face-to-face lecture	36.8	10.5	26.3	15.7	10.5
Television only	18.2	36.3	27.2	9.1	9.1
Television & slides	7.1	42.8	28.6	14.3	7.1
Television & movies	43.8	25.0	18.8	12.5	0.0

Table V. Percentage Ranking of Students for Pattern Alteration.

Method of Teaching	E	G	A	F	P
Face-to-face lecture	26.3	52.6	21.1	0.0	0.0
Television only	13.6	59.1	27.2	0.0	0.0
Television & slides	7.1	71.4	21.4	0.0	0.0
Television & movies	31.3	56.3	12.5	0.0	0.0

Table VI. Percentage Ranking of Students for Pattern Fitting.

Method of Teaching	E	G	A	F	P
Face-to-face lecture	36.8	31.6	10.5	15.7	5.3
Television only	31.8	27.2	31.8	9.1	0.0
Television & slides	21.4	35.7	21.4	14.3	7.1
Television & movies	31.3	50.0	12.5	0.0	0.0

Table VII. Percentage Ranking of Students for Basic Shell.

Method of Teaching	E	G	A	F	P
Face-to-face lecture	26.3	57.7	10.5	5.3	0.0
Television only	22.7	50.0	27.2	0.0	0.0
Television & slides	35.7	57.1	7.1	0.0	0.0
Television & movies	50.0	31.3	6.3	12.5	0.0

Student Opinions

Students were more positive than negative toward media received. The positive reason for liking a teaching method most often mentioned by students in all groups was that materials or media were "easy to see." Students who attended face-to-face and television lectures commented that subject matter was clear and concise (Tables VIII and IX), and both groups of students who viewed reinforcement materials indicated they were helpful because they enabled them to review (Tables X and XI).

Table VIII. Positive Student Opinions of Face-to-face Lectures.

Responses	No. of Students	Percent
Can ask questions	18	95
Easy to see	17	89
Subject matter clear and concise	15	79
Lecture was good quality	14	73
Small group	13	68
Live model	13	68
Visual aids good quality	11	58
Other reasons	7	37

"Other reasons" listed by students for liking the face-to-face lectures were: the "live" lectures were more personal than television, it was a "casual" learning experience, the teacher could react to student feedback, the students like the review of important points at the end, it was easier for students to pay attention with face-to-face contact, and they felt television might be boring.

All students who viewed the television lectures either with or without slides and movies were asked to comment in them. This group totaled 52. Not all students answered all questions. Of the group that did so, 24 indicated they had received course work by television previously, and 24 indicated that they had not. Sixteen had taken one course by television, five had two courses by television, and three students had three courses by television (Table IX).

Table IX. Positive Student Opinions of Television.

Responses	No. of Students	Percent
Subject matter clear and concise	27	52
Use of good visual materials	25	48
Easy to see	24	46
Liked review of subject matter	24	46
Able to complete the lecture without interruptions	23	44
More information covered	16	31
Informal, relaxing	12	23
Other reasons	4	8

"Other reasons" listed by the students were: the television lectures were given in the regular classroom during the scheduled period, the lecturer was good, and the lecture was very clear, well thought out, and planned.

The section on the audio-slide kits was completed by only 12 students. One of the students indicated that she had used slide kits before, and all 12 students found the kits helpful. Nine said they would use the kits even if they were not assigned to do so, two

indicated they would not use them, and one stated she might use them if it were not an assignment (Table X).

Table X. Positive Student Opinions of Audio-slide Kits.

Responses	No. of Students	Percent
They were good for review	12	100
They clarified subject matter	12	100
They were easy to see	12	100
They were easy to hear	12	100
They enabled me to get complete notes	11	92
Other reasons	3	25

"Other reasons" indicated by students for liking the slide kits were: they were available when needed for a particular problem, they made the material easier to understand because of repetition, and the color photography was enjoyable.

Fifteen students completed the section of the opinionnaire regarding the use of super 8mm films. Of these, six students previously had used a film loop or movie that had been designed specifically to go with a course. Fourteen of the students indicated that they found the films helpful (Table XI).

"Other reasons" listed were: the films went over what was missed on television, they were good as a reinforcement, the material in the films wasn't as repetitious as television, and important facts were brought out.

Table XI. Positive Student Opinions of Super 8mm Film.

Responses	No. of Students	Percent
They enabled me to review	15	100
Visuals were easy to see	10	67
The motion was helpful to show how to do a technique	9	60
Materials were presented clearly	9	60
Audio was helpful to clarify concepts	5	33
Other reasons	5	33

The most negative reason for disliking a medium expressed by some students in all groups was that subject matter was presented too fast. However, these students were in the minority in all groups (Tables XII, XIII, XIV, and XV).

Table XII. Negative Student Opinions of Face-to-face Lectures.

Responses	No. of Students	Percent
Lecture material too far ahead of lab	3	16
Material presented too fast	2	11
Other reasons	1	5

The "other reason" in this category was that fast presentation of lecture materials made note-taking difficult for the student.

Only one negative response was checked by a majority of students and that was "unable to ask questions." Sixty percent of the students who viewed the television lectures indicated this "dislike" (Table XIII).

Table XIII. Negative Student Opinions of Television.

Responses	No. of Students	Percent
Unable to ask questions	31	60
Impersonal	20	39
Hard to see	13	25
Subject matter given too fast	12	23
Other reasons	11	21
Dull, boring	11	21
Subject matter too repetitious	4	8
Subject matter given too slow	3	6
Subject matter confusing	3	6

"Other reasons" for not liking television lectures were: students found it hard to concentrate, colors [values] blended, technical problems were distracting, the room was too warm, and the lecturer was ill at ease. One student noted that this was the least impersonal class she had ever had (a positive response).

Negative student opinions of audio-slide kits are summarized in Table XIV.

Table XIV. Negative Student Opinions of Audio-slide Kits.

Responses	No. of Students	Percent
Sometimes they were not synchronized	1	8
Moved too rapidly	1	8
Other reasons	1	8

The "other reason" listed by a student for not liking the slides was that she didn't like to take the time to go to the learning center to review the kits.

Negative student opinions of super 8 mm film are summarized in Table XV.

Table XV. Negative Student Opinions of Super 8mm Film.

Responses	No. of Students	Percent
They presented the subject matter too fast	5	33
Other reasons	5	33
Audio was poor	4	28
Photography was poor	1	7

Dislikes listed by students under the category "other reasons" were: there was not complete enough review of the television lecture, the final film ended abruptly, they did not think material was difficult enough to require review, they were time consuming, and boring.

Students receiving the face-to-face and television lectures were asked to suggest ways of improving the lessons evaluated. Some of the suggestions from the face-to-face groups were: the lessons should be closer together, the class should break into smaller groups more often, a handout sheet should be supplied, lecture material should be presented more slowly, and more time should be allowed for asking questions.

Suggestions for improving the television lectures included: use more color [value] contrasting samples, present lectures more slowly, develop more interesting sets, give the three lessons consecutively, plan for a discussion period, have clearer audio, and have color.

The students who viewed the reinforcing materials were asked if they used them to review for the post-test and if they did not to explain reasons for not doing so. Two students used the slides to review for the post-test; ten did not. Reasons for not reviewing the slides listed by the students were: they did not have enough time, they got the information the first time they viewed the slides, they did not remember to use the slides again, they misunderstood directions, and they disliked going to the learning center.

Twelve of the students indicated they would use the films to study if not required to do so, and four of the 15 used the films to study for the post-test. Reasons given for not using the films to study for the post-test were: students had reviewed notes, they did not have enough time to review the films again, one lost her identification slip, their notes from television lectures were sufficient, it was harder to get use of movie film and projector than slides, and one student didn't study for the post-test.

CONCLUSIONS AND RECOMMENDATIONS

The statistical analysis using the post-test as a criterion revealed that when the four methods of teaching were compared, the television lectures without reinforcement aids were not as effective as the other three methods. Subjective evaluation of students' work by the laboratory instructors also indicated that the lectures by television were the least effective medium.

There were no statistically significant differences among the effectiveness of the face-to-face lectures, the television lectures reinforced with audio-slide kits, and television lectures reinforced with super 8mm sound movies. Mean post-test scores indicated that television lectures reinforced with super 8mm sound movies were the most effective method of teaching. Subjective evaluations indicated the same results with students receiving television lectures and movies being most often ranked "excellent" and "good" by their laboratory instructors.

The tabulation of student opinions revealed that students in general showed more favorable than unfavorable responses toward all media. The audio-slide kits received the highest percentage of favorable comments, and the television lectures the least percentage of favorable comments. The highest percentage of negative responses came from 60 percent of the television viewers who objected to not being able to ask questions after or during the television lectures.

The finding that the television lectures were not as effective as the face-to-face lectures was not expected, although if one were to compare these two media only, the difference would not be as significant as when comparing the four methods of teaching. Reasons for the face-to-face lectures being better than the television lectures probably are that the lecturer tended to be more formal over the television medium which may have "turned off" students. Also, the television lectures and other media were pre-recorded previous to giving the face-to-face lectures, resulting in the face-to-face lectures becoming more highly rehearsed than the normal classroom lecture. Students in the face-to-face lectures may have been more highly motivated to study as some expressed concern about not being permitted to view recorded media.

It is the author's belief that the audio-slide kits were perfected more than the super 8mm movies because of the ease in revising both photography and audio in this particular medium. The super 8mm films were a "first," and as development and the magnetic striping of the film had to be done off campus, a less professional quality was deemed acceptable.

As a result of the study, the following recommendations are made:

1. That additional recorded media be developed in the field of clothing, textiles, and related arts.

2. That the videotaped lectures be shortened to enable classroom discussion after the television presentation.
3. That supplementary guides of handout materials be developed for students receiving television lectures.
4. That the films be made into single-concept films to enable students to review materials more efficiently.
5. That more accessibility to reinforcement materials be implemented, either by having the Home Economics Learning Resource Center open longer hours or by access to media in the laboratory.
6. That further research be done using a multi-media approach to teach clothing concepts.

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APPENDICES

APPENDIX A

Oregon State University
 Clothing, Textiles and Related Arts
 CT 213x

Student Experience Questionnaire

Name _____ Circle One F So Jr Sr G

Corvallis Address _____ Phone No. _____

Year & term entered OSU _____ Major School _____

Are you a transfer student? Yes No If yes, from where _____

High School Attended _____ at _____

Tentative area of interest CTRA H. Ec. Ed. Other _____

Do you expect to take other clothing construction classes? Yes No

Have you had sewing instruction at home? Yes No

Did you have clothing construction in junior high school? Yes No

Number of sewing projects completed in junior high school _____

Check which areas you have studied in high school

Beginning Sewing Advanced Sewing Textiles
 Intermediate Sewing Plane Geometry Color & Design

Number of weeks spent in high school clothing construction _____

Have you had 4-H Club sewing projects? Yes No No. of years _____

Have you taken any Singer Sewing Courses? Yes No How many? _____

Have you taken any Stretch 'n Sew courses? Yes No How many? _____

Name other types of instruction you have had _____

Do you sew for yourself? Yes No Others? Yes No

Do you need advice or assistance from a teacher or experienced person when sewing?

Yes No Sometimes

How do you rate yourself as a sewer? Very experienced Fairly experienced

Fairly inexperienced A real beginner

How many garments have you made in the past year? _____

Do you have a sewing machine available in Corvallis? Yes No

Do you have pressing equipment available in Corvallis? Yes No

Following are listed types of fabric, weaves, and fibers found in various yardage. Check those you have used in your sewing.

<input type="checkbox"/> Cotton	<input type="checkbox"/> Fiberglas	<input type="checkbox"/> Quilted fabric
<input type="checkbox"/> Wool	<input type="checkbox"/> Acetate	<input type="checkbox"/> Felt
<input type="checkbox"/> Acrylic	<input type="checkbox"/> Vinyl	<input type="checkbox"/> Satin
<input type="checkbox"/> Polyester	<input type="checkbox"/> Knits	<input type="checkbox"/> Novelty weaves

- | | | |
|----------------------------------|------------------------------------|---|
| <input type="checkbox"/> Silk | <input type="checkbox"/> Corduroy | <input type="checkbox"/> Lace |
| <input type="checkbox"/> Nylon | <input type="checkbox"/> Velvet | <input type="checkbox"/> Plaids |
| <input type="checkbox"/> Linen | <input type="checkbox"/> Velveteen | <input type="checkbox"/> Checked fabric |
| <input type="checkbox"/> Spandex | <input type="checkbox"/> Brocade | <input type="checkbox"/> Striped fabric |
| <input type="checkbox"/> Rayon | <input type="checkbox"/> Flannel | <input type="checkbox"/> Bonded fabric |
| <input type="checkbox"/> Jute | <input type="checkbox"/> Crepe | <input type="checkbox"/> Woven fabric |

Check the type of garments you have made.

- | | | |
|---------------------------------------|---|--|
| <input type="checkbox"/> A-line dress | <input type="checkbox"/> Slacks | <input type="checkbox"/> Dress with waistline seam |
| <input type="checkbox"/> Shorts | <input type="checkbox"/> Evening dress | <input type="checkbox"/> Culottes |
| <input type="checkbox"/> Pants dress | <input type="checkbox"/> Suit | <input type="checkbox"/> Fitted skirt |
| <input type="checkbox"/> Jacket | <input type="checkbox"/> Gathered skirt | <input type="checkbox"/> Playclothes |
| <input type="checkbox"/> Jumper | <input type="checkbox"/> Children's clothes | <input type="checkbox"/> Coat |
| | <input type="checkbox"/> Men's clothes | |

Check the following experiences you have had in sewing.

- | | | |
|---|---|---|
| <input type="checkbox"/> Straighten grain of fabric | <input type="checkbox"/> Sleeveless dress | <input type="checkbox"/> Zipper |
| <input type="checkbox"/> Shrinking washable fabric | <input type="checkbox"/> Set-in sleeves | <input type="checkbox"/> Invisible zipper |
| <input type="checkbox"/> Shrinking wool | <input type="checkbox"/> Kimono sleeves | <input type="checkbox"/> Machine buttonholes |
| <input type="checkbox"/> French seam | <input type="checkbox"/> Waistline seam | <input type="checkbox"/> Bound buttonholes |
| <input type="checkbox"/> Flat fell seam | <input type="checkbox"/> Waistband | <input type="checkbox"/> Hand-worked buttonholes |
| <input type="checkbox"/> Lapped seam | <input type="checkbox"/> Princess styles | <input type="checkbox"/> Backed or underlined garment |
| <input type="checkbox"/> Welt | <input type="checkbox"/> Applied collar | <input type="checkbox"/> Lined garment |
| <input type="checkbox"/> Body measurements | <input type="checkbox"/> Fitted facing | <input type="checkbox"/> Interfacing |
| <input type="checkbox"/> Pattern fitting | <input type="checkbox"/> Self facing | |
| <input type="checkbox"/> Pattern alteration | <input type="checkbox"/> Bias facing | |
| <input type="checkbox"/> Flat pattern design | | |

APPENDIX B

PRE-TEST

The following questions are to determine your experience in body measurement, pattern measurement, pattern alteration and garment fitting. Please place a check in the box of the best answer for each question. Answer each question to the best of your ability. You will not be graded on this test and are not expected to be able to answer all questions correctly.

- I-5 When taking the pattern measurement for the bustline one should;
1. measure the bodice front and back patterns around the bustline and double the total.
 2. measure the front only around the bustline and double the total.
 3. take the measurement higher in the back.
 4. all above.
 5. none above.
- I-6 When measuring the pattern one should mark the point of bust
1. where the horizontal and vertical bust darts would intersect if extended beyond the points.
 2. one inch above the vertical bust dart
 3. one inch above the horizontal bust dart.
 4. seven inches below the neckline.
 5. none above
- I-7A Fold in darts and measure within seamlines for
1. body measurement
 2. pattern measurement
 3. garment measurement
 4. all above
 5. none above
- I-9 The crotch measurement is taken by
1. measuring between the legs from centerback waist to centerfront waist with the tape held tight.
 2. measuring between the legs from centerfront waist to centerback waist with 1 inch ease.
 3. measuring a garment that is your size.
 4. 2 & 3 above.
 5. none above.
- I-10 Knee girth measurement is taken by
1. measuring snugly around the mid-knee with the tape higher in the back.
 2. measuring snugly around the mid-knee with the tape level.
 3. measuring below the knee cap.
 4. measuring above the knee cap.
 5. none above.

- I-13A Measurements taken at CF, CB, right and left sides from the waist to the floor determine
1. skirt length
 2. if one hip is high
 3. pants length
 4. all above
 5. none above
- I-16A The measurement taken from the shoulder point to the tip of the bent elbow
1. is known as arm length
 2. is known as shoulder to elbow
 3. is known as arm girth
 4. none above
- I-17 A continuation of the bust depth measurement to the waistline is known as
1. bodice front measurement
 2. shoulder to waist measurement
 3. bust to waist measurement
 4. mid-front measurement
 5. front waist length
- I-18A The upper arm girth measurement
1. is taken 1 inch below the armhole
 2. is taken around the armseye
 3. is taken at the elbow
 4. all above
 5. none above
- I-20 When you measure down 4 inches from the prominent neck vertebra and then take a horizontal measurement from armscye to armscye, you have taken the _____ measurement.
1. back width
 2. shoulder width
 3. back girth
 4. armspan
 5. none above
- I-22A Bust alterations are more difficult than hip alterations. Therefore when one's measurements do not "equal" one size, one should use the bust measurement when purchasing a pattern for
1. blouse
 2. dress
 3. separates
 4. pants
 5. all above
 6. 1, 2, 3 above
- I-8 If body measurement plus ease allowance equals pattern measurement
1. alteration is not necessary
 2. alteration is necessary
 3. the garment will be likely to fit
 4. the garment will not fit
 5. 1 & 3
 6. 2 & 4
- I-25 A principle of clothing construction states: "Shaping the flat fabric to conform to body curves requires reducing the perimeter of garment pieces." An illustration of this principle would be:
1. taking darts and tucks to give the fabric shape
 2. shortening the pattern
 3. lengthening the pattern
 4. all above
 5. none above
- I-26A A full-busted girl and a flat-busted girl both measuring 34 inches illustrate a clothing construction principle
1. Principle I - "Shaping the flat fabric to conform to body curves requires reducing the perimeter of garment pieces."

2. Principle II - "The perimeter of an object does not reveal its shape."
3. Principle III - "That which is level may not be even and that which is even may not be level."
4. Principle IV - "In a cone-shaped space, circumferences near the base may be larger."
5. none above.

I-31A Principle II - "The perimeter of an object does not reveal its shape" - illustrates why patterns are

1. different sizes.
2. designed for different figure types.
3. designed by different designers.
4. use variations in basic slopers.
5. 3 & 4.

I-34A The measurement taken from the prominent neck vertebra down to the waistline is known as

1. waist length.
2. back waist length.
3. back length.
4. back width.
5. none above.

II-2 Body bulges are located at

1. bust, elbow, shoulder blades, shoulder, abdomen, side hip, and derriere.
2. bust, arm, abdomen, side hip and derriere.
3. bust, waist, and hips.
4. derriere, hips, bust.
5. none above.

II-4 The three ways to determine if pattern alteration is necessary are by:

1. body measurement + ease = pattern measurement.
2. fitting the pattern on the body.
3. combination of measuring and pattern fitting.
4. 2, 3, & 4 above.
5. 1, 2, & 3 above.

II-7A Tape twice the pattern width plus 4 inches is for

1. making a waist fitting band.
2. taping a paper pattern.
3. reinforcing a paper pattern.
4. all above.
5. none above.

II-8 When one fits the pattern one should check for set of the pattern which means:

1. all the pattern pieces are a set
2. the way the pattern rests or sets on the body.
3. how one can sit in a pattern.
4. 1 & 2.
5. all above.

II-11 "Add fullness where you need it." This means to alter

1. where measurements indicate a pattern may be too small.
2. where a pattern appears tight over a body bulge.
3. on the nearest seam allowance near an area that is too tight.

4. in the middle of a pattern piece.
5. 1, 2, & 3.
6. 1 & 2.
- II-12 "Remove fullness where you don't need it." In a case of a girl with a loose bodice front one would
1. remove fullness by revising the underarm seamline.
2. take bigger darts.
3. fold out width in the bodice front.
4. none above.
5. all above.
- II-13A Revising or transferring darts, revising seam lines, slashing and spreading patterns, and folding and lapping patterns are
1. rules of pattern alteration.
2. methods of fitting patterns.
3. methods of pattern alteration.
4. all above.
5. none above.
- II-16A Use of vertical, horizontal, diagonal, armseye and shoulder darts illustrate
1. different types of darts.
2. how fullness may be around the bodice front.
3. the designer's preference for bodice design.
4. all above.
5. none above.
- II-17A Grain pulling up on one hip may be caused by
1. high hip.
2. low hip.
3. inaccurate cutting.
4. inaccurate stitching.
5. 1 & 2 above.
- II-19 A pattern has been altered properly when it
1. has dimension.
2. lies flat.
3. the alteration is even
4. all above.
5. none above.
- II-21 When slashing and spreading a pattern to add length one must add
1. the total length desired.
2. half of the total length desired.
3. one-fourth of the total length desired.
4. none above.
- II-23A Folding and lapping is most often used to
1. widen a pattern
2. shorten a pattern
3. lengthen a pattern
4. narrow a pattern
5. 2 & 4.
6. 1 & 3.
- II-24A When shortening a pattern the alteration equals
1. 2 times the depth of the fold.
2. 4 times the depth of the fold.
3. once the depth of the fold.
4. none of the above.

- II-26 Slashing and spreading is used to alter patterns
1. to add length.
 2. to add width.
 3. to enlarge a pattern.
 4. all above.
 5. none above.
- II-28 Revising underarm seams to add 2 inches to bust circumference
1. is not a good idea because it enlarges the armscye.
 2. adds fullness in the wrong place.
 3. is easy to do.
 4. is a good idea because the sleeve is too big for the armscye.
 5. 1 & 2 above.
- II-29A Removing fullness at the waist after adding width in the back hip can be done
1. by revising darts.
 2. by revising seamline.
 3. by taking a larger CB seam.
 4. all above.
- II-30A The shoulder to elbow measurement is taken from the top of the sleeve cap to
1. the tip of the elbow dart.
 2. the point between the tips of two elbow darts.
 3. the tip of the middle elbow dart.
 4. all above.
 5. none above.
- II-31 The measurement taken on the scye line is known as
1. upper arm girth.
 2. lower arm girth.
 3. sleeve cap width.
 4. sleeve width.
 5. none above.
- II-32A Seven or nine inches below the waist is where the _____ measurement is taken depending on the type of pattern you have.
1. widest hip
 2. hip
 3. skirt width
 4. none above
- II-33 Shoulder to waist measurement is taken on the pattern by measuring
1. from the mid-shoulder seam to the waist.
 2. where the shoulder and neckline intersect, over the point of bust to waist.
 3. from the shoulder seam and neckline intersection.
 4. none above.
- II-1 When one is to be fitted into her garment she should
1. wear the proper foundation garments.
 2. wear shoes to be worn with the finished garment.
 3. tie up hair that is long.
 4. be barefoot.
 5. 1, 2, & 3.
 6. none above.
- III-4 Diagonal wrinkles in a garment
1. indicate proper fit.
 2. indicate fitting problems.
 3. point to the problem area
 4. none above.
 5. 2 & 3 above.

- III-5 Dart revision or transfer may be done by
1. changing the area to be darted.
 2. increasing or decreasing the size of the dart.
 3. subdividing the dart.
 4. all above.
 5. none above.
- III-6A The ease for the chest area is 1 inch. One should be able to pick up a _____ inch tuck on each half of the pattern.
1. 1 inch.
 2. 1/2 inch.
 3. 1/4 inch.
 4. 1/8 inch.
 5. none above.
- III-8 A guideline for ease around the hips would be
1. 1 or 2 inches while standing.
 2. 1 or 2 inches while sitting.
 3. 4 inches while standing.
 4. 4 inches while sitting.
 5. none above.
- III-10 Usually the final fitting of a garment is for
1. checking design lines.
 2. checking the construction lines.
 3. checking the circumference edges and hems.
 4. checking the waistline.
 5. checking the fit.
- III-11 When fitting to check circumference seams one checks for
1. length.
 2. width.
 3. set.
 4. 1 & 2.
 5. 2 & 3.
- III-12 Pin the skirt on to the fitting band so
1. the top of the band rests on the waistline seam.
 2. the lower edge of the band rests on the waistline seam.
 3. the middle of the band rests on the waistline seam.
 4. none above.
- III-13 The first fitting of a garment is to check
1. silhouette seams for adequate width.
 2. silhouette seams for adequate length.
 3. construction of seams.
 4. curved seams.
 5. none above.
- III-14A A minimum of three fittings is recommended during
1. body measurement.
 2. pattern fitting.
 3. garment fitting.
 4. none above.
- III-15 Ease of a garment should be enough
1. to be fashionable.
 2. to insure freedom of movability and liveability.

3. to be comfortable when standing or sitting.
4. all above.
5. none above.

III-16A The seams that follow the natural curve of the body are known as

1. silhouette seams.
2. construction seams.
3. circumference seams.
4. all above.
5. none above.

III-7 Guidelines for minimum ease at the waistline would be

1. 1 inch.
2. 1 1/2 inches.
3. 2 inches.
4. 3 inches.
5. none above.

III-20A Upper arm girth that is too large for a pattern causes

1. pull at the elbow.
2. pull across the top of the sleeve.
3. elbow dart displacement.
4. all above.
5. none above.

III-24 A definition of ease is

1. the bagginess of a garment.
2. gathering stitches.
3. sufficient looseness or livability to make a garment the right size.
4. all above.
5. none above.

III-26 Line is of the following types

1. silhouette.
2. design.
3. circumference.
4. all above.
5. none above.

III-28A A definition of grain would be

1. lengthwise and crosswise threads in a fabric.
2. crosswise threads in a fabric.
3. bias threads in a fabric.
4. lengthwise threads in a fabric.
5. none above.

III-29 The five factors of fitting are

1. grain, set, line, balance, and ease.
2. grain, set, line, and drapability.
3. grain, line, ease, balance, and comfort.
4. vertical grain, horizontal grain, balance, set and line.
5. none above.

III-32 Using a gingham check to make a fitting shell enables one

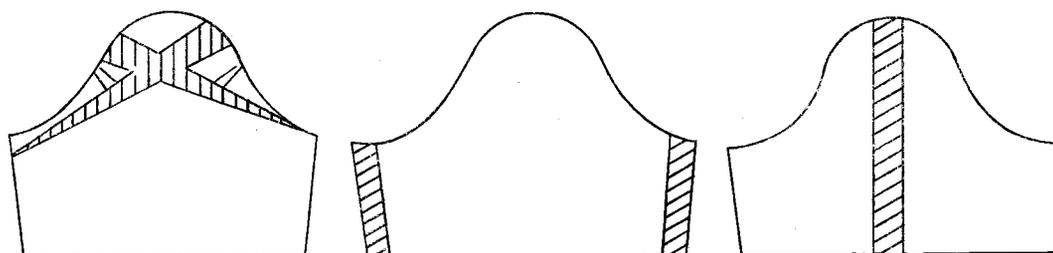
1. to see grainline at all times in all places.
2. to have experience with cutting, stitching, and matching fabrics with horizontal lines.
3. to have a guideline to stitch straight.

- 4. all above.
- 5. 1 & 2 above.

III-33A Garment fitting is necessary because

- 1. paper pattern tissue does not hang or drape like fabric.
- 2. various fabrics used may have different draping qualities.
- 3. some fitting problems do not show up until the garment is in the fabric.
- 4. all above.
- 5. none above.

III-34 The preferred way to alter a sleeve for full upper arm girth is

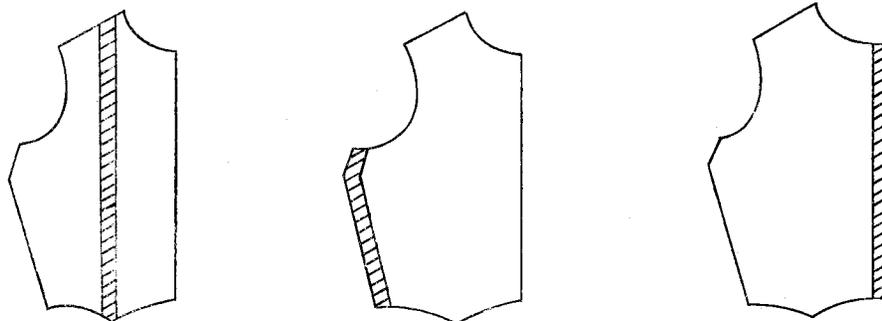


1.

2.

3.

III-35 The preferred way to add width to the bodice is

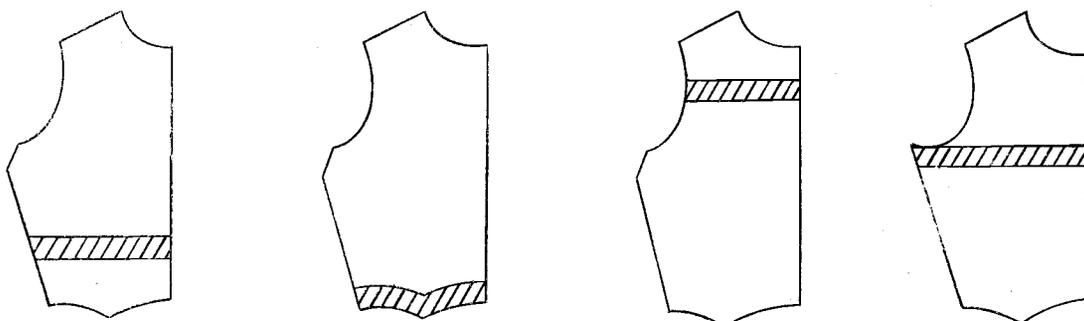


1.

2.

3.

III-36 Bodice length alteration is preferably made by



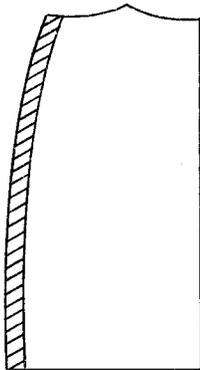
1.

2.

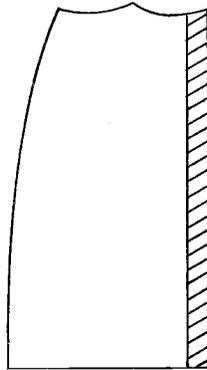
3.

4.

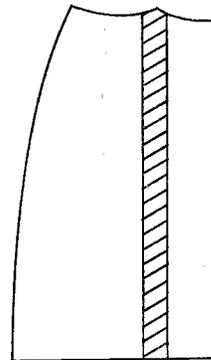
III-37 Skirt width alterations are preferably made by



1.



2.



3.

APPENDIX C

POST-TEST

Name _____

CT 213X
1969-70

The following questions are to determine your experience in body measurement, pattern measurement, pattern alteration and garment fitting. Please place a check in the box of the best answer for each question. Answer each question to the best of your ability. You will not be graded on this test.

- I-5A The pattern measurement taken on the bust line on the bodice front and back is known as:
- | | | | |
|-----------------------------|------------------------|-----------------------------|--------------------|
| 1. <input type="checkbox"/> | scye line measurement. | 3. <input type="checkbox"/> | waist measurement. |
| 2. <input type="checkbox"/> | bust measurement. | 4. <input type="checkbox"/> | none above. |
- I-6A If one extended the vertical dart line and horizontal dart lines on the bodice front, the point of intersection would be known as:
- | | | | |
|-----------------------------|-----------------------------|-----------------------------|-----------------------|
| 1. <input type="checkbox"/> | dart point. | 3. <input type="checkbox"/> | point of bust. |
| 2. <input type="checkbox"/> | bodice point. | 4. <input type="checkbox"/> | point of centerfront. |
| | 5. <input type="checkbox"/> | | none above. |
- I-7 General rules for taking pattern measurements are:
1. measure within the seam allowances.
 2. fold in darts and tucks before measuring.
 3. double circumference measurements on skirt and bodice.
 4. double length measurements.
 5. all above.
 6. 1, 2, 3 above.
- I-9A The measurement which goes from CF waist to CB waist between the legs with 1 inch ease is known as:
- | | | | |
|-----------------------------|-----------------------------|-----------------------------|---------------------|
| 1. <input type="checkbox"/> | waist length. | 3. <input type="checkbox"/> | crotch depth. |
| 2. <input type="checkbox"/> | crotch. | 4. <input type="checkbox"/> | inseam measurement. |
| | 5. <input type="checkbox"/> | | none above. |
- I-10A The measurement taken snugly around the mid-knee is known as
- | | | | |
|-----------------------------|-------------------------|-----------------------------|-------------------------|
| 1. <input type="checkbox"/> | mid-knee measurement. | 3. <input type="checkbox"/> | knee girth measurement. |
| 2. <input type="checkbox"/> | knee width measurement. | 4. <input type="checkbox"/> | knee size. |
- I-13 The following measurements are taken to determine a high hip:
1. CB, CF, right side and left side; waist to floor.
 2. CB, CF, right side waist to floor.
 3. CB, CF, left side waist to floor.
 4. CF, CB, waist to floor.
 5. CB, CF, right side and left side waist to hem.
- I-16 The shoulder to elbow measurement is taken by
1. placing the tape from the shoulder point on the top of the armscye to the tip of the bent elbow.
 2. from the shoulder point to the top of the elbow, when the arm is straight.
 3. from shoulder to inside of the elbow.
 4. none above.

- I-17A The shoulder to waist measurement is taken by
1. continuing the bust depth measurement to the waist.
 2. from the point where the shoulder seam and neckline intersect over the point of bust to the waistline.
 3. from the mid-shoulder to the waistline.
 4. 1 & 2 above.
 5. none above.
- I-18 The measurement taken around the upper arm 1 inch below the underarm is known as:
1. scye line.
 2. upper arm girth.
 3. lower arm girth.
 4. widest arm width.
 5. none above.
- I-20A The back width measurement
1. is taken 4 inches down from prominent back vertebra horizontally to armscye guides.
 2. is taken across the back from shoulder tip to shoulder tip.
 3. is taken from the prominent back neck vertebra to waistline.
 4. is the back bust measure.
 5. none above.
- I-22 If you are buying a pattern for separates, such as skirts, pants, and jackets, and your measurements do not "equal" one size, buy according to _____ measurement because alterations here are most difficult.
1. bust.
 2. waist.
 3. hip.
 4. none above.
- I-8A Pattern alteration is usually necessary when
1. body measurement + garment ease allowance do not equal pattern measurement.
 2. body measurement + garment ease allowance = pattern measurement.
 3. the paper pattern does not fit the body.
 4. 2 & 3.
 5. 1 & 3.
- I-25A Taking darts or tucks to give a flat pattern dimension illustrates
1. Principle I - shaping the flat pattern to conform to body curves requires reducing the perimeter of garment pieces.
 2. Principle II - the perimeter of an object does not reveal its shape.
 3. Principle III - that which is level may not be even and that which is even may not be level.
 4. Principle IV - in a cone-shaped space, circumference near the base may be larger.
 5. none above.
- I-26 Principle II of clothing construction states: "The perimeter of an object does not reveal its shape." This applies to clothing construction as follows:
1. a full-busted girl and flat-busted girl both measure 34 inches.
 2. two girls have hip measurements of 36 inches; one has a large derriere, one has a flat derriere.
 3. two dresses -- one pleated and one gored have hem circumferences of 72 inches.
 4. all above.
 5. none above.

- I-31 Patterns designed for figure types illustrate
1. Principle I - shaping the flat fabric to conform to body curves requires reducing the perimeter of garment pieces.
 2. Principle II - the perimeter of an object does not reveal its shape.
 3. Principle IV - in a cone-shaped space circumferences near the base are larger.
 4. all above.
 5. none above.
- I-34 Backwaist length measurement is taken by
1. measuring from the shoulder down.
 2. measuring at centerback from prominent vertebra to waist.
 3. from collar to waist.
 4. at centerback from prominent vertebra to hip.
 5. none above.
- II-2A Bust, elbows, shoulders, shoulder blades, abdomen, side hip and derriere are known as
1. body curves.
 2. body bulges.
 3. body hollows.
 4. all above.
 5. none above.
- II-4A Body measurements, pattern fitting, or a combination of both, is how one determines if
1. a garment fits.
 2. if pattern alteration is necessary.
 3. if proper sized pattern has been purchased.
 4. all above.
 5. none above.
- II-7 When one tapes a pattern one does it by
1. making the tape the length of the body measurements.
 2. making the tapes twice the length of the part of the paper pattern which is taped + 4 inches.
 3. making the tape exactly the same size as the pattern.
 4. none above.
- II-8A The way a pattern rests on the figure is known as:
1. resting position.
 2. set of the pattern.
 3. pattern fitting.
 4. all above.
 5. none above.
- II-11A When a pattern alteration is made by a vertical slash and spreading of the tissue over the bust area, one is
1. adding fullness.
 2. removing fullness.
 3. revising darts.
 4. revising seamlines.
 5. none above.
- II-12A The best way to remove fullness in the bodice front is to:
1. revise underarm seam.
 2. take a bigger dart.
 3. fold out width in bust area.
 4. all above.
 5. none above.
- II-13 The methods of pattern alteration are
1. revising dartlines.
 2. revising seam lines.

3. slashing and spreading the pattern.
 4. folding and lapping the pattern.
 5. lengthening the pattern.
 6. shortening the pattern.
 7. 3, 4, 5, and 6.
 8. 1, 2, 3, and 4.
- II-16 Fullness may be moved around the perimeter of the bodice front piece by using
 1. darts: horizontal, vertical, diagonal, from the CF, side, waistline, armhole and shoulder seams.
 2. tucks or ease: from the CF, side, waistline, armhole and shoulder seams.
 3. tucks from the shoulder or waistline seams.
 4. gathers from the waistline seam.
 5. all above.
 6. 1, 3, and 4.
- II-17 If one has a high hip it would cause the horizontal grain at the same hip area
 1. to raise. 3. makes no difference.
 2. to drop. 4. none above.
- II-19A When an altered pattern lies flat
 1. the alteration is correct. 3. it has been pressed.
 2. the alteration is incorrect. 4. none above.
- II-21A The total amount of the measurement is added to a pattern piece when slashing and spreading for
 1. width. 3. circumference.
 2. length. 4. all above.
 5. 2, 3 above.
- II-23 The pattern alteration most often used to shorten or narrow a pattern is
 1. revising dartlines. 3. slashing and spreading.
 2. revising seam lines. 4. folding and lapping.
 5. none above.
- II-24 When one folds out tissue to shorten a pattern, the depth of the fold is
 1. 1/4 of the total. 3. all of the total.
 2. 1/2 of the total. 4. none above.
- II-26A Enlarging a pattern is best done by
 1. revising seam lines. 3. folding or lapping.
 2. slashing and spreading. 4. revising dart lines.
 5. all above.
- II-28A Revising the underarm seamlines to add 2 inches to the bust
 1. is a good method because it is an easy alteration.
 2. is not a good method because it makes the armhole larger.
 3. is not a good method because it adds fullness in the wrong place.
 4. none above.
 5. 2 & 3 above.

- II-29 When fullness is added to the hip or bust area with an even alteration
1. it must be darted out at the waistline.
 2. the waistline will have to be eased.
 3. the centerback seam will have to be deeper.
 4. all above.
 5. none above.
- II-30 The measurement that is taken from the top of the sleeve cap to the elbow dart is known as
1. arm length.
 2. shoulder length.
 3. shoulder to elbow.
 4. elbow length.
 5. none above.
- II-31A Upper arm girth measurements are taken
1. halfway between shoulder and elbow.
 2. on the scye line.
 3. 1 inch below the underarm seam.
 4. all above.
 5. none above.
- II-32 The hip measurement for the skirt is taken _____ inches below the waist.
1. 7 inches.
 2. 9 inches.
 3. 7 or 9 inches depending on what type (jr., misses, etc.) pattern you have.
 4. none above.
- II-33A The measurement that is taken from shoulder seam and neckline intersection over the point of bust to the waist is known as
1. point of bust location.
 2. shoulder to waist.
 3. bodice front length.
 4. shoulder length.
 5. none above.
- III-1A Foundation garments and shoes worn with the finished garment should be worn when
1. taking body measurements.
 2. during garment fitting.
 3. doesn't matter.
 4. none above.
 5. 1 & 2 above.
- III-4A Improper fit in a garment may be indicated by
1. soft folds.
 2. pleats.
 3. diagonal wrinkles.
 4. all above.
 5. none above.
- III-5A Changing the area to be darted is an alteration known as
1. seam revision.
 2. dart revision.
 3. removing fullness.
 4. adding fullness.
 5. none above.
- III-6 Guideline for minimum ease through the chest area would be
1. 1/2 inch.
 2. 1 inch.
 3. 1 1/2 inches.
 4. 2 inches.
 5. none above.

- III-8A When fitting a garment one checks for hip ease so they will have
- | | | | | | |
|----|--------------------------|--------------------|--------------------------|--------------------------|--------------------|
| 1. | <input type="checkbox"/> | 4 inches standing. | 3. | <input type="checkbox"/> | 2 inches standing. |
| 2. | <input type="checkbox"/> | 4 inches sitting. | 4. | <input type="checkbox"/> | 2 inches sitting. |
| | | 5. | <input type="checkbox"/> | none above. | |
- III-10A Checking circumference edges and hems is done during
- | | | | | | |
|----|--------------------------|-----------------|--------------------------|--------------------------|-----------------|
| 1. | <input type="checkbox"/> | first fitting. | 3. | <input type="checkbox"/> | last fitting. |
| 2. | <input type="checkbox"/> | second fitting. | 4. | <input type="checkbox"/> | doesn't matter. |
| | | 5. | <input type="checkbox"/> | none above. | |
- III-11A Length and set are checked when one is fitting to check
- | | | | | | |
|----|--------------------------|----------------------|--------------------------|--------------------------|----------------------|
| 1. | <input type="checkbox"/> | silhouette seams. | 3. | <input type="checkbox"/> | circumference edges. |
| 2. | <input type="checkbox"/> | circumference seams. | 4. | <input type="checkbox"/> | design lines. |
| | | 5. | <input type="checkbox"/> | none above. | |
- III-12A The bottom of the fitting band should rest on the waistline seam when pinning it on
- | | | | | | |
|----|--------------------------|-------------|----|--------------------------|---------------|
| 1. | <input type="checkbox"/> | the bodice. | 3. | <input type="checkbox"/> | the neckline. |
| 2. | <input type="checkbox"/> | the skirt. | 4. | <input type="checkbox"/> | none above. |
- III-13A Silhouette seams are checked on the
- | | | | | | |
|----|--------------------------|-----------------|----|--------------------------|-----------------|
| 1. | <input type="checkbox"/> | first fitting. | 3. | <input type="checkbox"/> | last fitting. |
| 2. | <input type="checkbox"/> | second fitting. | 4. | <input type="checkbox"/> | doesn't matter. |
- III-14 Minimum fittings recommended for a garment during construction are
- | | | | | | |
|----|--------------------------|--------|--------------------------|--------------------------|-------|
| 1. | <input type="checkbox"/> | one. | 3. | <input type="checkbox"/> | four. |
| 2. | <input type="checkbox"/> | three. | 4. | <input type="checkbox"/> | five. |
| | | 5. | <input type="checkbox"/> | seven. | |
- III-15A Liveability or movability of a garment is often referred to as
- | | | | | | |
|----|--------------------------|---------------|----|--------------------------|-------------|
| 1. | <input type="checkbox"/> | garment ease. | 3. | <input type="checkbox"/> | both above. |
| 2. | <input type="checkbox"/> | design ease. | 4. | <input type="checkbox"/> | none above. |
- II-16 Circumference seams should
1. be perpendicular to silhouette seams.
 2. be perpendicular to the floor.
 3. be the neckline, armhole, and waistline seams.
 4. follow the natural curve of the body.
 5. all above.
 6. 3 & 4 above.
- III-7A Waistline ease should not be
1. over 2 inches.
 2. over 1 inch.
 3. at all.
 4. greater than the belt that goes over the waist.
 5. 2 & 4.
- III-20 If a sleeve pulls across the top of the sleeve the cause may be
1. grainline is not true.
 2. back width not adequate
 3. arm girth too large for pattern

4. all above.
5. none above.

III-24A Sufficient looseness of liveability to make the garment to appear to be the right size is known as

1. bias. 3. ease.
2. design lines. 4. all above.
5. none above.

III-26A The three words that follow - silhouette, construction, and design - are types of

1. ease. 3. line.
2. balance. 4. set.
5. grain.

III-28 Lengthwise and crosswise threads in fabric are known as

1. grain. 3. set.
2. line. 4. woof.
5. warp.

III-29A Grain, set, line, balance, and ease are known as

1. five rules for pattern alteration.
2. five rules for pattern fitting.
3. five factors of fitting.
4. all above.
5. none above.

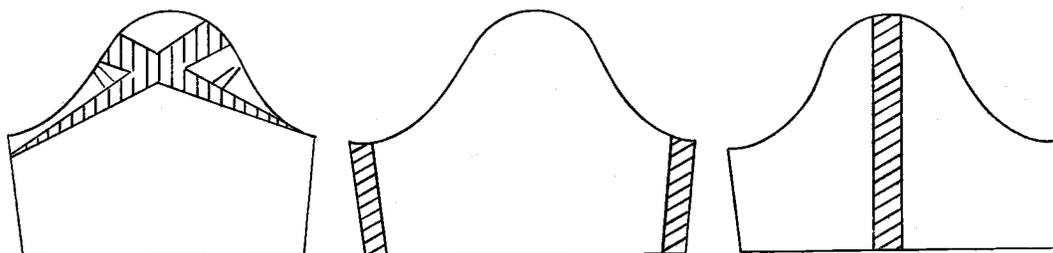
III-32A Grainline is easier to determine when using

1. a plain-colored fabric.
2. a printed fabric.
3. a woven fabric that is striped, checked, or plaid.
4. 1 & 2 above.
5. none above.

III-33 Fitting in the fabric is necessary because

1. fabric hangs differently than paper pattern tissue.
2. different fabrics such as velvet and organdy hang differently.
3. some fitting problems do not show up until the garment is in the fabric.
4. all above.
5. none above.

III-34 The preferred way to alter a sleeve for full upper arm girth is

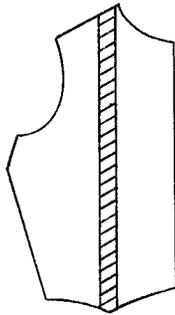


1.

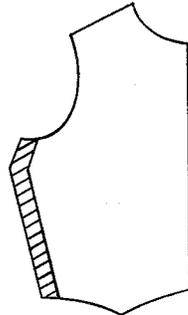
2.

3.

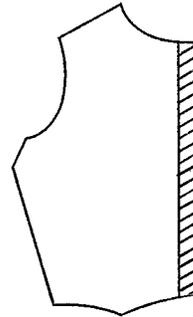
III-35 The preferred way to add width to the bodice is



1.

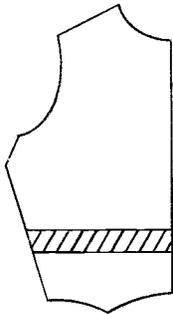


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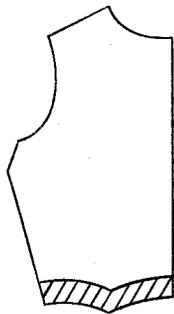


3.

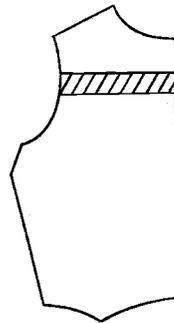
III-36 Bodice length alteration is preferably made by



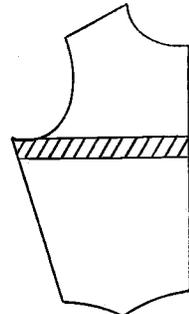
1.



2.

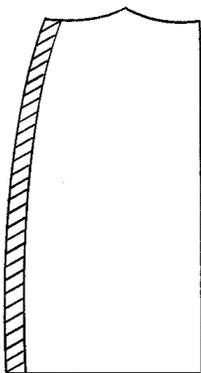


3.

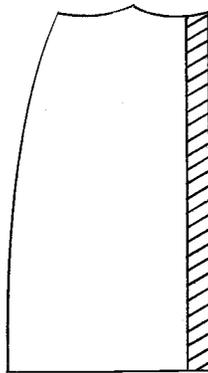


4.

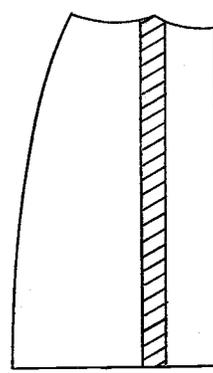
III-37 Skirt width alterations are preferably made by



1.



2.



3.

APPENDIX D

STUDENT OPINIONS

Name _____ Lab Section _____

Instructions: Please read the instructions and questions carefully. Fill in or check the answers which apply to you. Thank you for your cooperation.

1. Indicate which group you were in
- Group I - face-to-face lecture.
 - Group II - television lecture.
 - Group III - television lecture & slides in learning center.
 - Group IV - television lecture & films in learning center.

Instructions: If you are in Groups II, III, & IV, skip question 2 and go on to question 3.

2. Group I only: Check answers which apply to you.
- a. I liked the face-to-face lecture because:
- subject matter was clear and concise.
 - small group.
 - live model.
 - lecture good quality.
 - can ask questions.
 - easy to see.
 - visual aids good quality.
 - other reasons (list).
- b. I disliked the face-to-face lecture because
- material presented too fast.
 - subject matter confusing.
 - lecture material too far ahead of lab.
 - visual aids poor quality.
 - difficult to see.
 - lectures poor quality.
 - other reasons (list).
- c. List any suggestions you have that would improve the three lessons we are evaluating.

Thank You Group I -- you are finished!

3. Groups II, III, & IV - Answer these questions
- a. have you had other T.V. courses? yes no
- b. If yes, how many? _____ at OSU? yes no
- c. I liked the following about the television lectures (check the answers which apply to you):
- subject matter clear and concise.
 - easy to see.
 - use of good visual material.
 - liked review of subject matter.
 - more information covered.
 - informal, relaxing.
 - able to complete lecture without interruptions.
 - other (list).

- d. I disliked the television lectures because:
- subject matter confusing.
 - subject matter given too fast.
 - subject matter given too slow.
 - hard to see.
 - subject matter too repetitious.
 - dull, boring.
 - unable to ask questions.
 - impersonal.
 - other (list).
- e. List any suggestions you have that might improve the television lectures.

Thank You Group II -- you are finished!

Instructions: If you are in Group IV, skip question 4 and go on to question 5.

4. Group III only: check the answers that apply to you.
- a. Have you used audio-synchronized slides before? yes no
- b. Did you find the slides helpful? yes no
- c. Would you use the slides to study if you were not required to do so? yes no
- d. I liked the audio-slide kits because
- they were good for review.
 - they enabled me to get complete notes.
 - they clarified subject matter.
 - they were easy to see.
 - they were easy to hear.
 - other (list).
- e. I disliked the audio-slide kits because
- they were redundant.
 - sometimes they were not synchronized.
 - they were confusing.
 - they were hard to see.
 - the tape was not easy to understand.
 - moved too slowly.
 - moved too rapidly.
 - other (list).
- f. Did you use the slides to review for the test? yes no
- g. If no, why?

Thank You Group III -- you are finished!

5. Group IV only: check the answers which apply to you.
- a. Have you used a film loop or movie film that has been designed specifically for a course before? yes no
- b. Did you find the films helpful? yes no
- c. I liked the films because
- the motion was helpful to show how to do a technique.
 - material was presented clearly.
 - visuals were easy to see.

- audio was helpful to clarify concepts.
 - they enabled me to review.
 - other (list).
- d. I disliked the films because
- they were confusing.
 - they presented the subject matter too fast.
 - they presented the subject matter too slowly.
 - it was hard to determine what was to be done.
 - photography was poor.
 - audio was poor.
 - other (list).
- e. Would you use the films to study if not required to do so? yes no
- f. Did you use the films to study for the test? yes no
- g. If no, why?

Thank You for finishing!

APPENDIX E
STUDENT PROFILE SHEET

Name _____ Class _____

Student Number _____

Major School _____ Year & term entered OSU _____

Transfer _____ from where _____

High School Attended _____ at _____

Area of Interest _____ CTRA _____ H. Ec. Ed. _____ Other _____

SAT Score _____

Experience Questionnaire:

Raw Score _____ Percentile _____ Rank _____

Experiment Group No. _____

Pre-test:

Raw Score _____ Percentile _____ Rank _____

Post-test:

Raw Score _____ Percentile _____ Rank _____

Gain:

Raw Score _____ Percentile _____ Rank _____

Body Measurements: E G A F P

Pattern Measurements: E G A F P

Pattern Alterations: Grade _____

Basic Shell: Grade _____

Pattern Fitting check _____

APPENDIX F

LESSON I - TV OUTLINE

Introduction

Why is garment fitting important

Three lessons

Body and Pattern Measurement

Pattern Alteration

Garment Fitting

Four principles of clothing construction related to measurements, pattern alteration, and garment fitting (10).

Principle I - "Shaping the flat fabric to conform to body curves requires reducing the perimeter of garment pieces. "

Principle II - "The perimeter of an object does not reveal its shape. "

Principle III - "That which is level may not be even and that which is even may not be level. "

Principle IV - "In a cone-shaped space circumferences near the base are larger. "

Today we are going to discuss pattern and body measurements.

Basic four measurements.

Size Alternatives -- Illustrate Principle II -- See Figure Chart.

Review taking body measurements.

Partner

Equipment

Foundation garments

Get-ready -- put on waistband

B, W, H, & BWM

Determine pattern to buy.

Size chart

Size comparisons

Alternatives for dress, skirt, separates

Pattern envelope -- record measurements on measurement sheet.

Go through remaining measurements.

Add column 1 + 2. Enter totals in column 3.

Measuring the pattern.

General rules of pattern measurement

Within the seam allowances.

Darts, tucks, folded in.

Double circumference measures.

Use single length measure.

Total columns 3 & 4 on the measurement sheet. Enter in column 5.

Review

Principles

Basic Body Measurements

General Rules of Pattern Measurement

APPENDIX G

LESSON II - TV OUTLINE

Introduction

Last lesson was on body and pattern measurement.

Today we are going to determine the alterations necessary.

Ways to alter a pattern.

Three ways to determine pattern alteration is necessary.

1 - Body Measurement + ease = pattern measurement.

2 - Fit the pattern and fitting the taped pattern.

3 - Combination of measurements and fitting.

Three general rules of pattern alteration

1 - Add fullness where you need it.

2 - Remove fullness where you don't need it.

3 - Pattern must lie flat.

Go into three rules in depth.

Four alteration methods

1 - Revising darts.

3 - Slashing and spreading.

2 - Revising seams.

4 - Folding and lapping.

Depth dart revision

Bulges - Bust, shoulder blades, shoulder, abdomen, side hip, derriere.

Change area of darts.

Increase-decrease fullness of darts.

Subdivide darts.

Placement-design.

Revise seam lines

Use with little change.

Do not change the shape of the pattern piece.

Slashing and spreading

Can be even or uneven.

Tissue marked.

Under bodice and back hip.

Folding and lapping.

Specific alterations.

Review.

APPENDIX H

LESSON III - TV OUTLINE

Introduction.

Past lessons successful - minimum fitting.

Garment fitting necessary because

1. paper pattern tissue.
2. drapability of individual fabrics.

How to make a fitting band.

When is fitting necessary?

Minimum of three fittings.

1. Silhouette seams for width.
2. Circumference seams for length.
3. Circumference edges.

Discuss standards of fit.

- | | |
|-----------------|---------------------|
| 1. Comfortable. | 3. Fashionable. |
| 2. Becoming. | 4. Allows movement. |
| 5. Hangs well. | |

How do we obtain standards?

1. Five factors of fit.
 1. Grain
 2. Set
 3. Line
 4. Balance
 5. Ease

Guidelines for ease:

Bust 4 inches
 Waist 1 inch
 Hips 2 inches
 Chest 1 inch
 Shoulder blades 1 inch
 Lower arm 1/2 to 1 inch

Specific Fitting Problems

Bodice I - squared shoulders.

Bodice II - rounded shoulders.

Skirt I - hip level.

Skirt II - Sway back.

Review:

Standards
 Factors

Fittings
 Two principles used

APPENDIX I

LESSON I - BODY AND PATTERN MEASUREMENT

<u>Slide No.</u>	<u>Slide Script</u>
1	The following slides were prepared by Mrs. Judy Burrigge to be used in conjunction with CT 213X at Oregon State University. This lesson deals with the subject of body and pattern measurement.
2	First let's talk about body measurement.
3	There are four principles of clothing construction related to body measurement and garment fitting.
4	Principle I states "Shaping flat fabric to conform to body curves requires reducing the perimeter of garment pieces.
5	Here we see an illustration showing the flat pattern. When the darts are sewed in, the pattern takes the shape necessary to fit smoothly over body curves.
6	Principle II states "The perimeter of an object does not reveal its shape."
7	The illustration shows the perimeter of two hems that have very different shapes. Do you see how we girls with the same measurements might actually have very different shapes?
8	Principle III states "That which is level may not be even and that which is even may not be level."
9	This principle illustrates how the figure may vary from side to side--we often find that right and left sides are not mirror image--due to differences in bone structure, deposits of fatty tissue or posture. To insure proper hang of the garment, adjustments are necessary where sizable differences occur.

APPENDIX J - SAMPLE SCRIPT

LESSON I - BODY AND PATTERN MEASUREMENT

Why is body measurement important to obtain correct garment fit? We hope that after the next three lessons we will be able to give you some answers to this question. The lessons deal with body measurement, pattern alteration, and garment fit.

In your syllabus you will find seven principles of clothing construction. When we talk about garment fit and pattern alteration we will be using the first four principles.

The principles of clothing construction are illustrated as follows:

Principle I: "Shaping the flat fabric to conform to body curves requires reducing the perimeter of garment pieces." This is why taking darts and tucks give the flat pattern shape.

Principle II: "The perimeter of an object does not reveal its shape." Here is a simple illustration of two very different shapes which have the same perimeter. How might the principle apply to your figure?

Principle III: "That which is level may not be even and that which is even may not be level." We'll learn later how this principle applies to body measurement and pattern alteration.

Principle IV: "In a cone-shaped space circumferences near the base are larger." This principle should be tucked away in **your** mind for reference later when we are actually doing garment fit.

APPENDIX K

Pre-test Mean Scores by Class and Method of Teaching.

Class	No. of Students	Mean Scores	Face-to-face Lecture		Television Lecture		Television & Slides		Television & Movies	
			No.	MS	No.	MS	No.	MS	No.	MS
Freshman	46	32.33	10	32.20	18	21.67	10	32.80	8	33.38
Sophomore	13	34.54	4	33.75	3	38.67	1	37.00	5	32.50
Junior	8	35.63	3	34.33	1	35.00	2	37.00	2	36.50
Senior	4	33.25	2	35.50	0	--	1	27.00	1	35.00
Totals	71		19		22		14		16	
Means		33.15		33.21		32.77		33.29		33.50

Post-test Mean Scores by Class and Method of Teaching.

Class	No. of Students	Mean Scores	Face-to-face Lecture		Television Lecture		Television & Slides		Television & Movies	
			No.	MS	No.	MS	No.	MS	No.	MS
Freshman	46	45.98	10	47.00	18	43.86	10	46.90	8	48.24
Sophomore	13	47.85	4	48.00	3	50.00	1	48.00	5	46.40
Junior	8	45.88	3	47.67	1	39.00	2	47.50	2	45.00
Senior	4	43.00	2	42.50	0	--	1	40.00	1	47.00
Totals	71		19		22		14		16	
Means		46.14		46.84		44.04		46.57		47.18

APPENDIX L

PREDICTED VS ACTUAL RESULTS

Student No.	Actual	Predicted	Deviation
1	50.00	48.25	1.75
2	52.00	45.32	6.67
3	48.00	49.87	-1.87
4	49.00	49.20	-0.20
5	45.00	48.72	-3.72
6	51.00	49.67	1.33
7	43.00	46.48	-3.47
8	44.00	45.32	-1.32
9	42.00	44.10	-2.10
10	46.00	45.87	0.13
11	37.00	43.50	-6.49
12	51.00	49.67	1.33
13	47.00	47.22	-0.22
14	41.00	42.27	-1.27
15	48.00	47.77	0.23
16	48.00	44.92	3.07
17	54.00	44.65	9.35
18	45.00	46.35	-1.35
19	49.00	50.82	-1.82
20	47.00	44.41	2.59
21	48.00	45.56	2.43
22	50.00	46.79	3.21
23	51.00	43.46	7.53
24	44.00	43.46	0.54
25	43.00	45.36	-2.36
26	44.00	45.36	-1.36
27	39.00	43.46	-4.46
28	37.00	40.14	-3.14
29	43.00	45.84	-2.84
30	52.00	46.31	5.69
31	53.00	45.09	7.91
32	43.00	43.94	-0.94
33	42.00	45.84	-3.84
34	35.00	41.09	-6.09
35	49.00	48.41	-0.59
36	42.00	45.84	-3.84
37	46.00	45.36	0.64
38	41.00	42.04	-1.04

(Continued on next page)

Student No.	Actual	Predicted	Deviation
39	39.00	42.04	-3.04
40	52.00	45.84	6.16
41	39.00	43.39	-4.39
42	49.00	41.91	7.09
43	45.00	44.29	0.71
44	40.00	40.61	-0.61
45	50.00	49.04	0.96
46	48.00	47.81	0.19
47	45.00	43.74	1.26
48	41.00	47.14	-6.14
49	38.00	43.33	-5.33
50	40.00	49.04	-9.04
51	50.00	47.14	2.86
52	52.00	53.31	-1.31
53	52.00	48.56	3.44
54	52.00	46.47	5.53
55	50.00	49.44	0.56
56	43.00	45.02	-2.02
57	46.00	44.74	1.26
58	47.00	49.49	-2.49
59	51.00	49.77	1.23
60	54.00	50.24	3.76
61	47.00	45.14	1.86
62	43.00	46.17	-3.16
63	45.00	47.79	-2.79
64	45.00	49.77	-4.77
65	48.00	44.74	3.26
66	52.00	49.77	2.23
67	44.00	46.92	-2.92
68	48.00	46.17	1.83
69	46.00	47.39	-1.39
70	51.00	45.49	5.51
71	45.00	46.37	-1.37